



Click the Quit button to exit a CoreITUTOR.



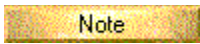
Click the Next button to move to the next topic in a CoreITUTOR.



Click the Previous button to move to the previous topic in a CoreITUTOR.



Click the Tips button to view additional information about a CoreITUTOR. This button is grayed out if there is no Tip available.



Click the Notes button to view additional information about a CoreITUTOR. This button is grayed out if there is no Note available.

When you see green text in the Tutors, it indicates that a pop-up is available. Click pop-ups to display additional information in a window that "pops up" on top of the CoreITUTOR window.

When you see green underlined text, it indicates that an automated action is available. Click this text to have a task completed for you.

Blue text indicates a link to another screen in the CoreITUTOR. Click this text to jump to the topic specified.

Clicking a tool that appears in the Tools Reference area, activates that tool as if you had clicked it on the Toolbox.

WEL - Welcome to Corel PHOTO-PAINT (50)

1a. Corel PHOTO-PAINT

Corel PHOTO-PAINT is a powerful bitmap image editing and painting program that is ideal for retouching photographs, editing images and digital movie files, and for creating original artwork. Corel PHOTO-PAINT combines a vast array of special effects filters with impressive painting, masking, and object handling tools that let you produce effects ranging from the simple to the sublime.

These are just a few of the thousands of things you can do with Corel PHOTO-PAINT

- Adjust the brightness of a photograph.
- Sharpen or blur the focus.
- Remove scratches from the photo and blemishes from faces.
- Remove people and things from the picture.
- Swap details between images.
- Add text and objects.
- Adjust the colors in your image and add new ones using paint and fill tools.
- Colorize black-and-white images.
- Create movies.
- Apply weird and wonderful combinations of special effects.

Welln: note

When describing the location or appearance of features in Corel PHOTO-PAINT, this tutor assumes that your system is using default settings.

2a. Images

The term "image" refers to the contents of your bitmap file.

Unlike CorelDRAW documents, in which you can have neutral areas, every portion of the image is an active part of the overall file; your file size is based on the resolution and dimensions of your image rather than on how many lines it contains.

2b. Image window

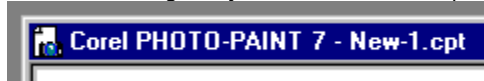
The box around your image is called an Image Window.

There is one Image Window for each image file you open.

Like other windows in the Windows95 work environment, this window includes a Title Bar, a Minimize/Maximize button, and a close window button. Scroll bars and the Image Navigator button appear on the side and bottom of the Image window when a portion of your Bitmap is beyond the boundaries.

3a. Title Bar

The Title Bar gives you the name of the program you are working on as well as the filename of the active image.



At the right end of the Title Bar, you will find three buttons used to reduce the window to its smallest size so that it appears only on the task bar, to maximize the Corel PHOTO-PAINT window to full screen size, or to close the window.

3b. Minimize Button



Click the Minimize button to reduce the size of your working window.

3c. Task Bar

The task bar appears along the bottom of your screen, outside of the Corel PHOTO-PAINT window. It contains a Start button, as well as additional buttons for all applications that are currently open.

4a. Menu Bar

Clicking a menu name displays a list of commands for accessing Corel PHOTO-PAINT's functions.

File Edit View Image Effects Mask

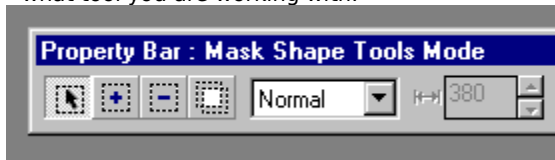
5a. toolbar

A toolbar gives you access to a set of buttons and controls which activate different functions and controls within Corel PHOTO-PAINT.

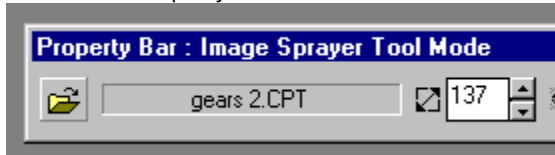
In addition to the Standard toolbar, which appears on your screen by default, there are a number of other toolbars you can choose to display. You can also add and remove controls from these toolbars, or create your own to match the work you are doing. See the [Customize your workspace](#) tutor for more information.

6a. Property Bar

The Property Bar is a context sensitive toolbar that displays different information and controls depending on what tool you are working with.



This is the Property Bar for the Mask tool.



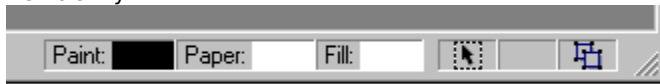
This is the Property Bar for the Image Sprayer tool.

You can use the Property Bar to perform almost any Corel PHOTO-PAINT function from changing the size of an object, to formatting text and positioning objects on the screen.

By default, the Property Bar is docked to the top of your screen, but it can be moved anywhere on the screen.

7a. Status Bar

The Status Bar gives you constant, up-to-date information about your document. You can customize its position, appearance, and content so that you have easy access to the information that you require to work most efficiently.



8a. Color Palette

- To choose a paint color, click the Color Palette with the left mouse button.
- To choose a solid fill color, click it with the right mouse button.
- To choose a paper color, hold down CTRL as you click the color.



9a. Toolbox



You can move the Toolbox anywhere on the screen by clicking and dragging the area that surrounds the tools. Placing it on the screen turns it into a floating toolbox, with a title bar. Placing it on any of the four sides of the window docks the toolbar there, making it part of the window border. To find out the name of a tool, position the mouse over the tool and a pop-up balloon will appear. This pop-up Help is referred to as a ToolTip.

9b. Flyouts

A tool that, when selected, displays two or more additional tools. Tools that have a flyout have a small triangle located in the bottom right corner.



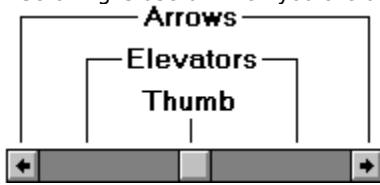
To access the flyout click this triangle, or click and hold the mouse button down anywhere on the tool. The example shown below can be accessed by clicking and holding down the Mask tool.



10a. scroll bars

Use the scroll bars to shift the view in the Image Window to see portions of a bitmap that fall outside the current viewing area.

Scrolling is useful when you are using a zoomed-in view.



11a

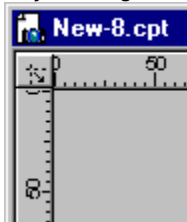


To launch the Navigator pop-up, click the button that appears on the bottom right of your Image Window when some areas of the image aren't visible. Use the Navigator pop-up to move to different areas of your image.

To return the Image Window to the center of your screen, hold down SHIFT and press F4.

12a. rulers

Corel PHOTO-PAINT's movable on-screen rulers provide a visual reference that can help you determine the size and position of objects and masks in your image. You can set the rulers to display different units of measurement by clicking Tools, Grid and Ruler setup.



13a. Grids and Guidelines

- A grid is a set of evenly-spaced non-printing lines, horizontal and vertical, that appear in the image window.
- Guidelines are non-printing lines that are used to align objects. The guideline begins in inverted image colors and turns red when you release the mouse button.

BIT Bitmap and Vector Graphics (100)

3a. Vector

Vector graphics are graphics created in programs such as CorelDRAW which create shapes as a series of lines and curves. Vector graphics are also referred to as object-based graphics or line art. This contrasts with bitmap graphics which are created pixel by pixel in paint programs and by scanners.

3b. Node

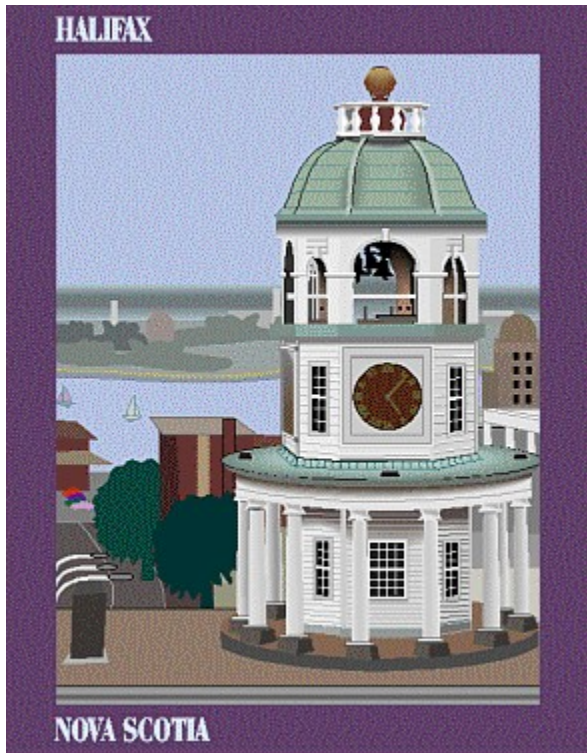
A node is a square point located at the end of each line and curve segment that makes up a vector path (line). There are three types of nodes: smooth, symmetrical and cusp.

3c. Object

An object is the basic building block of a vector graphic.

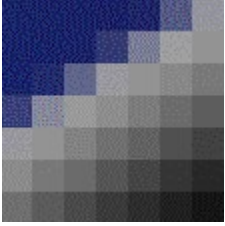
Each CorelDRAW illustration is composed of simple shapes — such as circles, rectangles, and lines — each of which is considered an object. Each object is a discrete unit that can be positioned independently of other objects, and each object can have its own fill and outline.

3d. Graphic: a vector image as well as a zoom.



Notice the clean, illustration-like appearance of the graphic.

4a. Bits and pixels



In bitmap editing, the terms "bit" and "pixel" refer to one unit of an image.

A pixel (from "Picture Element"), is a single digital square which is arranged with other pixels on grids that combine to form an image. Computer images are created as an array of pixels, each having a specific color.

4b. Bit Depth

Bit depth refers to the number of binary bits used to define the shade or color of each pixel in an image. For example, a black and white image has a pixel depth of 1 bit (1 or 0 in binary terms). To determine the number of color values a given bit depth can produce: 2 to the power of the bit depth.

Common bit depths:

4-bit:	16 colors (e.g. standard VGA)
8-bit grayscale:	256 shades of gray.
8-bit color:	256 colors.
24-bit:	16 million colors.
32-bit:	4.3 billion colors.

4c. bitmap resolution

When you work with bitmaps, the quality of your output depends on decisions you make about resolution early in the process. "Resolution" refers to the amount of information an image file contains, and thus, the level of detail it can show. When you work with bitmaps, resolution affects both the quality of your final output and the file size. Bitmap resolution is separate from printer resolution.

4d. A bitmap graphic as well as a zoom.



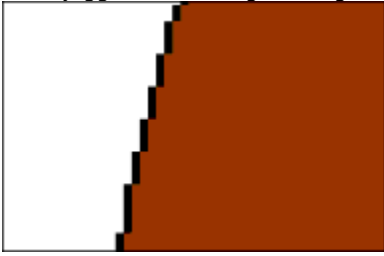
Notice the smooth transitions between areas of color that can be achieved in a bitmap graphic.

5t. Tip

It is probably helpful to open the file circle.cdr in CorelDRAW at the same time as it is open in Corel PHOTO-PAINT so that you can compare the two versions.

8a. graphic

The jagged lines along the edges in the image below are called "jaggies".



9a. Normal anti-aliasing

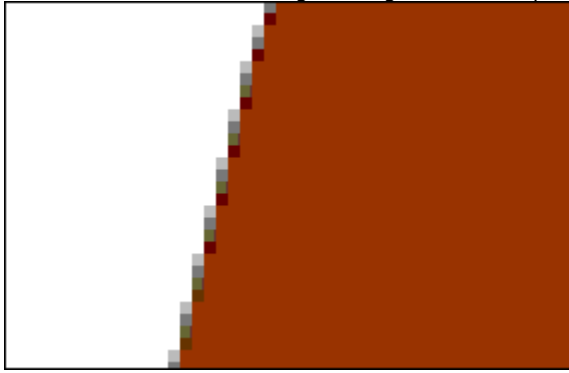
Anti-aliasing is a method of smoothing the edges of shapes, objects, and mask selections. Anti-aliasing creates intermediate pixels that smooth the transition between colors and sharp edges.

9b. Super sampling

Super sampling is a different method of anti-aliasing: as it is opened, the resolution of the image is increased then decreased again. The results are generally more satisfying, but the action is very memory intensive and takes longer to apply.

9c: Smoother edges

Notice that the black along the edges has been partially replaced with two shades of gray.



10a: OCR-Trace

Corel OCR-TRACE is a program in the CorelDRAW 7 suite that electronically "traces" bitmap images, converting areas of bitmap color to outlined objects. The result is a vector graphic that you can import into CorelDRAW for editing.

Among its many features, Corel OCR-TRACE also performs OCR (optical character recognition) on text files, allowing you to scan a text document and convert the bitmap into readable text. See the online help in Corel OCR-TRACE for a full list of features.

MEM - Memory Tutor (150)

1a. System Memory settings.

Your system memory settings regulate how Corel PHOTO-PAINT manages image files and information. These settings also allow you to enable or disable a number of options that use memory, especially with respect to undoing and redoing image-editing actions.

2a. Microprocessor.

A microprocessor, also called a chip, is the device in your computer that carries out the data processing tasks required by programs like Windows 95 and Corel PHOTO-PAINT. Some microprocessors are faster than others because they can more efficiently carry out more instructions on more data.

2b. RAM

Random Access Memory (RAM) is a block of memory which acts as a temporary storage area for programs and data which may be needed by the processor as you work.

Both Windows 95 and Corel PHOTO-PAINT are loaded into RAM when launched.

2c. Swap Disk

A swap disk is hard disk space used by software applications to store temporary files not currently in use.

Corel PHOTO-PAINT creates temporary files in the root directory of the Swap Disk. The use of swap disks to store information allows you to work on image files much larger than the amount of available RAM. Fast hard drives with large amounts of contiguous disk space work best. When an entire image file cannot be loaded into RAM, more Swap Disk space must be available for the temporary file.

By default, Corel PHOTO-PAINT uses your startup drive as the Primary Swap Disk; the Secondary Swap Disk is used when the Primary Swap Disk is full. The choice of which hard disk is to be used as a Swap Disk is made in the Options dialog box.

3a. Options dialog box

The Options dialog box allows you to set preferences for display, marquee selection, plug-in filters, memory, advanced user options, and general options. This dialog lets you optimize Corel PHOTO-PAINT to work with your system.

4a. Hard drive

A hard drive is a high-capacity storage device where software and other information is stored.

A partitioned hard drive is a hard drive that has been divided into a number of logical sub-drives. Each of these sub-drives behaves like a separate hard drive.

4b. Undo level

Corel PHOTO-PAINT allows you to set multiple levels of undo by storing copies of your image in system memory; they are recalled by choosing the Undo command from the Edit menu.

5t. Tip

Repeat the instructions on the last screen (Step 4) for the Secondary Swap Disk if you want to change its location.

6a. less than 32 megabytes of RAM

Use the default setting of 50%. In systems with less than 32 megabytes of RAM, changing the default setting will have little impact on overall system performance.

6b. more than 32 megabytes of RAM

Set the maximum value between 40% and 60%. If you run other applications at the same time as Corel PHOTO-PAINT, system performance can benefit from reducing the maximum value. You will have to access your system's performance under real operating conditions to determine the suitable setting.

7a. Undo Command

The Undo command allows you to reverse the effects of the last change you made to your image. However, because it must store a previous version of your image to do so, it requires some of your system memory.

7b. Multiple levels of undo

Multiple levels of undo allow you to select Undo from the Edit menu a number of times to undo the effects of a number of successive commands. Corel PHOTO-PAINT does this by storing one copy of your image for each level of undo: when you select Undo, the program reverts to one of the previous copies.

7t. Tip

More levels of undo require more memory and will slow down your system's performance, so be conservative when setting the number of undo levels.

7n. Note

The Undo levels box is not available when Undo is disabled.

8a. Undo List

The Undo List is a record of the image processing commands applied to your image during an editing session in Corel PHOTO-PAINT. It can be used to reprocess the last saved version of the image to an earlier stage in the session. This record is stored in system memory. If you perform many operations on your image during a single session, the Undo List becomes very long and can degrade overall system performance.

RMB - Mouse Shortcuts (200)

RMB1a. Pick Tool



The Pick Tool is the arrow that appears when you move your mouse over a tool bar.

RMB4a Toolbar. Mapped to Wel5a

RMB 5a. Object Picker Tool



The Object Picker Tool lets you select, move, and resize objects using the mouse.

RMB 5b.Mask Selections

When you apply a mask to your image, the mask selection is the area that is not protected by the mask: this area can be edited. Mask selections can also be "floated" (moved within your image) or pasted to other images as objects.

RMB 6a. Transformation modes.

These are the transformation modes that you can use to manipulate the shape and position of objects in your image:

What each click does

- First click: the position mode allows you to move, resize, and stretch your object
- Second click: in the rotate and skew mode, the corner arrows allow you to rotate your object; the middle arrows allow you to skew your object.
- Third click: the distort mode allows you to perform a non-proportional reshaping of the object.
- Fourth click: the perspective mode symmetrically resizes to create the illusion of perspective.

CUS - Customize your workspace (250)

4a. Accelerator Table

When you change the shortcuts that are assigned to keyboard keys, the changes are saved in an Accelerator Table, a file that contains a set of keyboard customizations. Corel PHOTO-PAINT includes two accelerator tables; Main Table (for graphics objects) and Text Editing (for text objects).

11t. Tip

You can also drag any menu command from the Command box to the Menu box.

11n. Note

To remove a menu command from a menu, choose the command, then click Remove.

13a. Color Palette mapped to wel 8a

14a. color swatch

A color swatch is a single square of color that appears on a color palette, color table.

18a. toolbars mapped to wel 5a

21a. Status Bar mapped to wel7a

CLR - Color Manager (300)

1a. Calibration

Calibration is the process of tuning a device to ensure that it is performing its function accurately.

Corel Color Manager can help you calibrate the devices in your system by adjusting their output to match a standards set by manufacturers, industry conventions, or other devices. Corel Color Manager also supports a number of third-party calibration devices such as densitometers and colorimeters which offer you an even greater level of precision.

1b. Color Manager

Corel Color Manager is an application that works with your Corel software to ensure that color is consistent across system devices.

You can use Corel Color Manager in one of two ways. You can quickly set up Corel Color Manager to work with your system by choosing your devices from the list boxes provided. You can also use Corel Color Manager's sophisticated calibration tools.

Once it is familiar with your devices, Corel Color Manager is able to perform the following functions within your Corel applications:

- fine tune scanned input based on your scanner's characteristics
- ensure that on-screen simulation of printer colors is accurate
- enable the gamut alarm
- manage color channels
- handle color printing and separation
- regulate conversion between color modes

1c. Device Profiles

Once your device is calibrated to your satisfaction, Corel Color Manager builds a mathematical model of the device called a device profile. A device profile is a file which defines the nature of a device for Corel Color Manager. All the device profiles for your system are in turn compiled into a system profile.

2a. Color gamut

Any device that detects or produces color is limited to the colors in its color gamut. For example, since the human eye can detect the color purple, it is within our gamut; whereas ultraviolet is outside our gamut. Typically, desktop devices can produce a far narrower range of color than the eye can detect, and since each device uses a different technique, color model, or set of inks, each has its own gamut which might not include colors included by the other devices.

2b. Color space

A color space is a geometric representation of gamut, containing all of the colors in a device's color gamut plotted as points on color models like RGB or L*A*B*. When different color spaces are "mapped" to the same model, it becomes easy to see where the capabilities of different devices differ.

Corel Color Manager acts as a mediator between your hardware and all of the Corel graphics applications you use. It uses the CIE standard to map the color spaces of individual devices together to plot a common color space for your system. The result is that all of your devices can speak the same color language, and more importantly, they produce the same colors.

4a. Composite and separations printers

- A composite printer produces output that includes all image, line art, and text elements. Color composites are often printed on color PostScript printers in order to check artwork before it is color separated for four-color process printing. Also called a "comprehensive", "proof", or "comp".
- A separations printer splits colors in a composite image to produce a number of separate grayscale images, one for each primary color in the original. In the case of a CMYK image, four separations must be made: one of cyan, magenta, yellow, and black

4b. Auto Color Profile

The Auto Color Profile Button on the main screen of Corel Color Manager automatically searches for installed color devices. If it is familiar with your devices, Corel Color Manager will activate them and select the appropriate device profile for each.

5a. Generate or Edit A Profile

This option allows you to use the custom calibration features in Color Manager, so that you can fine-tune profiles for devices in your system.

This process is not recommended for most users, as it is quite complex and generally unnecessary if your device is present in the list of profiles.

SCN Scan an image (400)

1a. Scan

The term "scan" refers to the process of converting an image from a paper format into a digital, bitmap format. To do this, a mechanical device called a scanner "reads" color and tone information from a page and translates this information into pixels of color data which can be displayed on a computer monitor, edited in a bitmap editing program like Corel PHOTO-PAINT, and printed.

2a. bitmap editing

Because the data from a scanner is in bits (pixels), it is best to manipulate and edit scanned images in a program designed to deal with bitmap images. There are two programs in the CorelDRAW suite that can be used for this purpose: Corel PHOTO-PAINT and CorelSCAN.

CorelDRAW and CorelDREAM, while they do include some bitmap functions, are designed to deal primarily with vector-based data.

2n. Note

To find out more about the differences between bitmap and vector graphics, see the [Tutor Bitmap and Vector Graphics](#) in the Getting Started section.

2t. Tip

To ensure that your scanner is producing accurate color data, you should calibrate it using the Corel Color Manager and ensure that the scanner profile is enabled.

3a. CoreISCAN features

CorelSCAN can do the following for you:

- run a compatibility test for your scanner hardware to ensure CorelSCAN can be used to optimize the resulting scans.
- ensure reliable and consistent color reproduction by the scanner using the Corel Color Management system.
- scan an image.
- retouch your image, including covering scratches or rips in an image, removing red eyes, performing tonal correction.
- choose an output option for the scanned image, its resolution and color depth.
- save both the original scanned image (unprocessed, also called a raw image) and the processed image, which has been improved using CorelSCAN's features.

3b scanner types

There are several types of scanners on the market. Each offers advantages over the others. High-end scanners are very expensive and are usually found only in service bureaus; they produce the highest resolutions. Others are specialized to scan 35 mm slides, negatives, or transparencies. The following is a brief description of the most common scanner types:

- Flatbed: the most common scanner, it looks like a small photocopier; the image is placed face down on the glass plate, the cover is closed and the image is digitized by a moving CCD array. Allows the scanning of irregular shaped or sized originals. Current models offer a minimum of 300 dpi optical resolution, while several models are at 400 or 600 dpi.
- Digital cameras: as the name indicates this type of scanner looks and works very much like a regular camera, but it includes a CCD device. You take a picture of the item you want represented digitally. It allows you to scan three-dimensional objects in addition to images on paper. Resolution of digital cameras is expressed in the total amount of horizontal and vertical dots, 680 by 480 for example.
- Hand scanners: very popular when flatbed scanners were still high-priced, hand scanners were the affordable alternative. This small scanner is manually passed over the image to scan. Hand movements can affect the quality of the scan.
- Slide and/or Negative scanners: specialized scanners that digitize images on 35 mm slides and/or 35 mm negatives. In the case of a negative, the scanner converts the negative into a positive. They offer optical resolutions ranging from 1000 to 5000 dpi.
- Drum scanners: a high-end scanner with a rotating transparent drum on which the image is attached. Drum scanners can scan images on paper or transparency material. They typically offer the highest optical resolution (5000 dpi). They produce very high quality scans used in top-quality prepress output, and are significantly more expensive than their flatbed counterparts.

PRN Sending a PRN to a service bureau (450)

1a. Service bureau

A service bureau is a company that prepares files and artwork for printing by a commercial printer.

Many service bureaus will prepare your work for a printing press, but require a print shop to produce the final output. However, service bureaus and print shops are not necessarily separate establishments. Many print shops can perform the same services as a service bureau. Whatever arrangements you make, ensure that the service bureau and print shop are aware of all the circumstances surrounding your particular print job.

1b. PRN file

A .PRN file contains all image and separation information for a print job you are sending to a service bureau. Corel lets you exercise full control over prepress settings and save the artwork and color separation instructions in a .PRN file. This print file will be sent directly to an output device by your service bureau.

2a. imagesetter

An imagesetter is a printing device that produces high resolution output on film.

2b. Postscript

PostScript is a page description language used to send instructions to a PostScript device about how to print each page. All the objects in a print job (e.g., curves, fills, and bitmaps) are represented by lines of PostScript code that the printer uses to produce your work.

PostScript is not the only method for sending a printer instructions, and some printers are not compatible with PostScript; however, there are several functions that are unavailable if you are not using the PostScript printer language. For example, without PostScript, you cannot adjust color separations and halftone screens.

4a. Mac

PostScript files created using the Print to File option contain two Control-D (^D) characters that prevent them from printing on any PostScript device controlled by Macintosh computers. Enabling the For Mac option removes the ^D characters from the files.

Emulsion this one was taken from DRAW at the last moment

The emulsion is the light-sensitive coating of material on a piece of film. When you print with the emulsion down, your image is flipped horizontally.

6a halftone screen

A halftone screen creates the illusion of shading by breaking up shaded images into many tiny dots.

Four-color commercial printing presses are unable to print different shades of gray or colors; they must use halftone dots to create gradations. The size of these dots determines the different levels of shading (i.e., the bigger the dots, the darker the shade). A halftone screen is necessary to break up shaded bitmaps into little dots.

To ensure that halftone bitmaps look good, each bitmap's resolution, measured in dots per inch (dpi), should be no less than twice the halftone screen frequency, measured in lines per inch (lpi). For example, if you are using a 150 lpi screen, each bitmap should have a resolution of at least 300 dpi.

7a. color separations

Color separation is the process of breaking an image into a set of primary colors so that the image can be reproduced on a printing press using a limited number of inks.

Color separations are necessary because a printing press applies one color of ink to a sheet of paper at a time.

A Color separation is created by first isolating each color element in an image. Then, each color element is used to create a sheet of film. Each sheet of film is used to apply one color of ink to the sheet of paper.

8a. Postscript Level 2

PostScript Level 2 is a more advanced PostScript language, and using it can reduce printing errors.

EYE -removing redevye (500)

eye1a

"Redeye" is the appearance of an undesirable red glare in the eyeballs of a person or animal in a photograph. This is a common problem when you take photos using electronic flashes or flash bulbs.

eye2a



The Zoom tool is used to zoom in or out on an area. Click the left mouse button on an area to magnify it. Right-clicking zooms out.

TER Rips and Tears 600

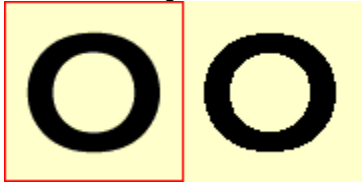
1a Clone Tool

Corel PHOTO-PAINT's Clone tool allows you to fill in missing areas of your image with pixel information taken from other areas on the image, or even from a different image altogether. Use the Clone tool to repair rips, tears, and holes, or to perform even more involved editing procedures.

The Clone tool is one of the brush tools, so you can adjust the size, shape, and texture of the brush you use to apply it.

6a Anti-aliasing

Anti-aliasing makes the edge pixels of an object or mask partially transparent so that they blend more smoothly with the background.



DUO Duotone Tutor (700)

1a. Graphic

You will use three inks to make the sample photo look like the one below: a navy blue ink, a burgundy ink, and a gold ink. Notice how these three colors combine in the image to create a range of colors beyond blue, burgundy, and gold. These variations in tone and color are achieved by carefully adjusting tone curves for each of the inks.



1b. Grayscale images

A grayscale image looks like a black and white photograph. The grayscale image mode uses 256 shades of gray to produce images.



1c. Duotone Color mode

An image in the duotone color mode is a grayscale image enhanced with one to four additional colors: images are composed of 256 shades of one ink (monotone), two inks (duotone), three inks (tritone), or four inks (quadtone).

1n. Note

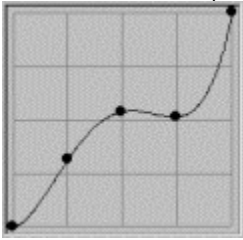
You can only create duotones from grayscale images. The option will be grayed out for all other color modes.

2. Tip

Your duotone image will turn out better if you ensure that tones are well balanced before you convert to duotone mode. Try clicking Image, Adjust, Auto Equalize.

3a. Tone curve

The response curve is a visual representation of the balance between shadows, midtones and highlights. Choose from a number of preset response curves or create and save your own.



3b. Duotone Inks

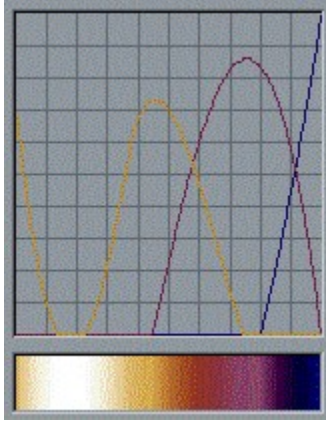
Refers to the different colors you use in your duotone.

The term "inks" comes from commercial printing where duotones are created by applying inks of different colors to paper.

4a.Null Curve

On the tone curve, a straight diagonal line from the lower left to the upper right is called a null curve. A null curve indicates that the ink will be distributed evenly from dark to light.

5a. Graphic



This is the correct set of duotone tone curves for your image. Each colored line represents the distribution of one ink in the image.

7a. RGB Color Model

In this color model, all colors are produced by mixing three primary colors: Red, Green, and Blue. You can define any color visually on your screen by picking it from one of the visual color selection features in Corel PHOTO-PAINT. But using the RGB model, you can define any color by entering color component values for Red, Green, and Blue.

7b. Ink colors

These are the three ink colors that are used in this Tutorial with their component RGB values. Notice how the component colors combine to produce the colors you see on the screen.

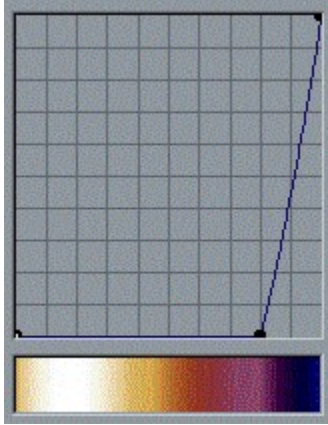


Navy Blue: R:0 G:0 B:102

Burgundy: R:115 G:30 B:75

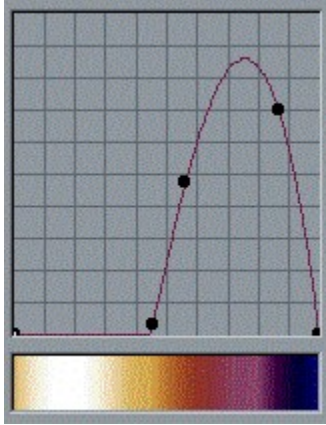
Gold: R:200 G:140 B:10

8a. Graphic



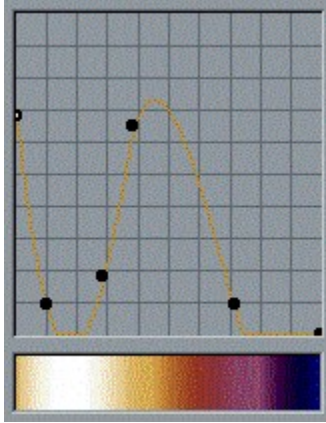
This is the correct blue curve for your image.
Notice that most of the curve is along the bottom of the chart with a high point at the far right. This means that navy blue will only affect the very darkest values (to the right) in your image.

9a. Graphic



This is the correct burgundy curve for your image.
The burgundy curve peaks toward the upper right, but fades by the time it reaches the far right of the tone curve, so burgundy will appear only in the darker midtones of your image. Because this curve dips to the bottom of the chart before it reaches the far right, the darkest tones in your image will be pure navy blue.

10a. Graphic



This is the correct gold curve for your image. The gold curve peaks just to the left of halfway on the chart but rises again in the far left. Lighter will be either gold or a mixture of gold and burgundy. Whites will also become gold because of the appearance of the curve at the far left.

12a. Edit your duotone

Duotones retain the curve information you use to create them as part of their file information. This means that you can edit the curves of your duotone image again and again.

You can do this by simply choosing **Convert To, Duotone**, from the Image menu.

Warning: this curve information is lost when you alter the curve or convert to another color mode, so if you find a curve you like, save it before you continue editing.

12b. Invert the colors

To invert the colors of your image – making it appear to be a negative version of itself, choose Image, Transform, Invert.

This works particularly well with the sample image.

12c. Add further colors

You can create interesting color effects by venturing a little deeper into the Convert To Duotone dialog box: the Overprints tab allows you to change the color that appears in the areas where two colors in your duotone overlap.

For example, using the sample you edited for this Tutor, you could change the overprint color for inks 2 (burgundy) and 3 (gold) from orange to an electric blue with some interesting results.

BLN Blend two Images (750)

Read my lips: no new pop-ups!

SCA Enhance a scanned image (900)

2a. Jaggy

A jaggy is a jagged edge in a bitmap image.

4a. Gaussian Blur

This filter produces a softening effect, blurring the image according to a Gaussian distribution of the pixel values. A pixel near a lower end of the Gaussian bell curve will not be averaged (blurred) as much as one at the top of this curve. The quality of the Gaussian Blur filter is higher than that of the other blur filters but requires additional processing time to apply.

4b. Radius Slider

The Radius slider adjusts the number of pixels used in the filter equation. It is best to set the radius value to that of the width of the scratch or dust particle (in pixels). This will ensure that a proper sampling of color and tone has occurred.

4t. Tip Radius Slider

Keep the radius below ten pixels or so, or you will distort your image too much for this retouching technique to work.

5a. Objects Roll-Up

The Objects Roll-Up lists all objects in the current image, and provides a thumbnail representation of each one. Its purpose is to facilitate object management and editing. It also gives you access to three object editing modes: Multi, Single and Layer.

In the objects list, you can select objects, change their position in the stacking order, and assign descriptive names to each one. Controls in the Roll-Up allow you to hide objects from view, lock them to protect them from change, change their overall opacity, and choose the editable object when working in Single or Layer mode.

6a. thumbnails

A small-sized graphic representation of all objects (and the background) in the current image appearing in the Objects Roll-up. A highlight box appears around the thumbnails of selected objects. Grouped objects are connected by a solid line. You can change the size or turn off the display of thumbnails altogether from the small flyout menu in the Objects Roll-Up. Reducing the size of thumbnails or turning them off can improve overall performance, especially with large files containing many objects.

7a. Sharpen Filter

The Sharpen filter accentuates the edges in the image by finding the edges and increasing the contrast between adjacent pixels.

9t. Tip (black velvet)

Try using the Difference merge mode with an opacity of 100%. This will give you the appearance that your image has become a black velvet painting.

TXT Adding text to your image (1000)

1a. Graphic add some text to a textured background image

In this Tutor, you'll create a nameplate for a person named K. Kong. This is what it should look like when you're finished.



1b. Text Object

A text object is an object created with text that is either typed in using the Text Tool, or pasted in from the clipboard. A text object can be converted into text by clicking on it with the text tool.

2a. Editable text mode

When you click the text cursor on your image and begin to type, the text you enter appears in a transparent box that expands to fit your text. This box indicates that you are in editable text mode and the box will remain around your text until you click outside of the box or select another tool. When you do this, your text becomes a text object.

While your text is in this mode, you can add and remove characters, and choose the text attributes you want from the Property Bar: change the font of your text, the point size, line spacing and alignment.

You can convert a text object to editable text mode by clicking the text object with the text tool cursor.



2b. Text Object mode (reference: ne01a)

After text has been entered, it becomes a text object. Apart from the way it is created, a text object is like any other object in Corel PHOTO-PAINT. You can move it, warp it, fill it, or apply transformations to it. The image pixels located underneath the text remain unaffected.

The object below is a selected object.



2c. Merged with image

When you combine your text object with the image pixels, you are no longer able to edit the text or move it around as you would an object. The object's pixels replace underlying pixels of the image when the two are combined.

Because the text is now part of your image, brushes, color correction, and effect filters can be applied.



3a On-screen color palette Mapped to wel8a

4a. Property Bar **Mapped to wel6a**

5a. Select object

Selected objects appear with eight control handles around them. When an object is selected, it is "active" you can scale it, stretch it, flip it, or change its transparency settings.

To select an object, click it using the Object Picker Tool.



6n: Note

This assumes that you have Preserve Image enabled under the Image menu. If you don't, the Object disappears when you convert your object to a mask.

7a. Edit Fill And Transparency dialog box

The controls in this box allow you to apply a fill of any kind to your image with different levels and kinds of transparency.

9a. merge mode

The method by which the selected paint, object, or fill color combines with the colors in the image. Normally, when you apply color to a page or merge an object into the background, the applied color(s) simply replace the original colors in the image. Corel PHOTO-PAINT's merge modes give you an alternative to just replacing colors. For instance, choosing the Add merge mode combines the paint and paper colors to produce a brighter resultant color. Corel PHOTO-PAINT offers 16 to 21 merge modes, depending on the color depth of the image, for you to experiment with.

10a. Multiply

This merge mode creates a result color by multiplying the color of each pixel in the object by each underlying pixel in the background image and dividing the result by 255. This has a darkening effect, unless you are painting on white. Multiplying black with any color results in black. Multiplying white with any color leaves the color unchanged.

NEO Neon Text Tutor (1200)

1a. Text Object txt 2b

1t. Tip

If you try this Tutor with your own text, choose fonts with thick bold characters and a large point size. This procedure can also be used to make any object glow like neon around the edges.

2a. Mask Selection

Selections are areas of an image that are not protected by any current mask. This area is available for editing. In this case, the selection corresponds to the shape of the text.

2b.Preserve Image

The Preserve Image option protects your base image when you convert between masks and objects.

- Mask to object: with Preserve Image enabled, the object is copied onto a separate level so that you are not actually removing the pixels from the base image. Disable this option when you want to remove the object from your image and leave a paper-colored hole.
- Object to mask: with Preserve Image enabled, the object remains in place. With Preserve image disabled, the object is replaced by the mask.

2t. Tip

You can perform both of these commands quickly by clicking the Preserve Image button and the Create Mask button located on the Standard toolbar.

3a. Mask Channel

A temporary storage area for masks. When you create a mask channel, Corel PHOTO-PAINT makes a copy of the current mask and stores it in a channel where you can access and re-use it in the image as many times as you wish. You can also save a mask channel to a file or open a previously saved channel into the current image. Mask channels make it possible to work with several masks in a given image.

The easiest way to work with Mask Channels is to use the Channels Roll-Up.

3b. Thumbnail

A thumbnail is a miniature reproduction of an image or image element.

4a. New object **GRAPHIC (cross section)**

A new object is an empty transparent layer that covers the entire image. The New Object command is available in the Object menu when in Layer object editing mode and appears as a button on the Objects Roll-Up. Elements are added to the layer to create a visible object. The underlying image is not affected by the elements you add to the new object.

4b. Layer Mode

Layer mode places the editable object in the image on a transparent layer that covers the entire image; any change applied to the object in this mode only affects this transparent layer, not the underlying image.

Corel PHOTO-PAINT offers three different modes in which you can select, edit, delete and organize objects in your image. They are called Multi (default), Single, and Layer.

5a.. Editable layer'

In layer mode, the editable layer is the "active" layer to which you can apply changes. In the Objects Roll-Up, the Layer Mode is indicated with a pencil in the column beside it.

6t. Tip

You can click and drag an object name in the Objects Roll-Up. Use this feature when you have multiple objects to quickly change the arrangement of the objects.

7a. Feathering

Feathering a selection changes the transparency of the pixels located near the mask marquee. When the selection is filled with color, the color becomes progressively more transparent – softer – towards the edge of the selection.

8b. Uniform color palette

A collection of 256 colors evenly spread across the visible spectrum.

8c. Status Bar

The Status Bar displays information about the current state of your document and Corel PHOTO-PAINT. By default, the Status Bar appears at the bottom of the screen.

11a. Neon example

RADIUS

BVB - Create Beveled Buttons (1300)

1a. Examples of bev. Buttons



8a. Align

The Align command lets you align objects precisely to each other, to the center of the image, or to a grid. Objects can be aligned horizontally or vertically in many combinations. When you align objects to each other, the top-most selected object keeps its position, and all other objects are aligned to it according to the horizontal and vertical options that are chosen.

10a. Drop shadow

The Drop Shadow command creates an object that has the same shape as the selected object and places it behind the original. The Drop Shadow dialog box offers additional controls for choosing the color of the shadow object and its precise location relative to the original.

TNT-Simulate Hand Tinting (1550)

1a. Hand tinting

Hand tinting was a commonly practiced in the 19th century as a means of colorizing black and white photographs. Photographic prints were tinted by hand with dyes applied to the surface of the print. Today it is popularly employed in the production of greeting cards and other memorabilia.

Almost all of Corel PHOTO-PAINT's tools, effects, and image commands can be used to change the shape of an object, the color of all or some of the pixels it includes, or the transparency of those pixels. The changes you make to an object can be very discreet or quite dramatic. Experimentation is the key. Many tools and commands offer previews so you don't have to commit to a change if you are not completely satisfied with it.

2. Objects Roll-Up **linked to liq2a**

3a. RGB Color.

In the RGB color model, all colors are produced by mixing three primary colors: Red, Green, and Blue. You can define any color visually on your screen by picking it from one of the visual color selection features in Corel PHOTO-PAINT. But using the RGB model, you can define any color by entering color component values for Red, Green, and Blue.

4. Tool settings roll-up **linked to pic2a**

CAR - Persian Carpet of Butterflies Tutor (1650)

1a. Graphic

When you are finished this Tutor, your image might look something like this. However, since the appearance of your final image depends on the random distribution of butterflies, your butterfly carpet will be unique.



1b. Image Sprayer tool

The Image Sprayer allows you to load one or more images, and then spray them across your image.

1c. Terrazzo Effect Filter

This special effect filter takes a single tile – a portion of your image cropped into a simple shape – and repeats, reflects, or flips it a number of times in interlocking symmetrical patterns over the surface of your image.

2t. Tip

You can click CTRL + F8 to open the Tool Settings Roll-Up quickly, or double-click the tool icon.

2a.Tool Settings Roll-Up

The tool settings Roll-Up gives you a range of options for changing the properties of the active tool in the toolbox. The options available in the Roll-Up change when you click a new tool.

3a. The flyout button



This is the flyout button

3b. Image List

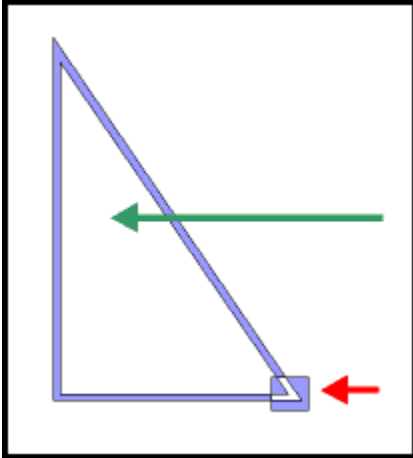
An Image List contains a series of independent objects. When this list is loaded into Image Sprayer tool, the objects can be "sprayed" to your image.

5a. Turnstile Symmetry



Turnstile is one of 17 Symmetry options.

6a. Size and Placement



A triangle – representing the tiling pattern to be used – appears in the Original preview window. The Result preview window shows you what the final image will look like.

Click inside the triangle (the green arrow above) to move it around on your image. Drag the handle on the lower right corner of the triangle (the red arrow above) to resize the tile. Notice how the results change as you do this.

9a. seamlessly tiled wallpaper bitmaps



Find repeating elements in your image that will line up on all four sides of a repeating tile. Then crop the image as shown above (the yellow square) using the Crop Tool.

To check how well your tiles line up, use the Effects filters Tile or Offset found in the Effects menu, 2D Effects.

9b. three-dimensional depth

To apply an embossed texture using lighting effects:

- Click Effects menu, Render, Lighting Effects.

The Lighting Effects dialog appears.

- Click the Style list box and select Texturize from the list of preset styles.
- Click OK.

URE Paint with texture

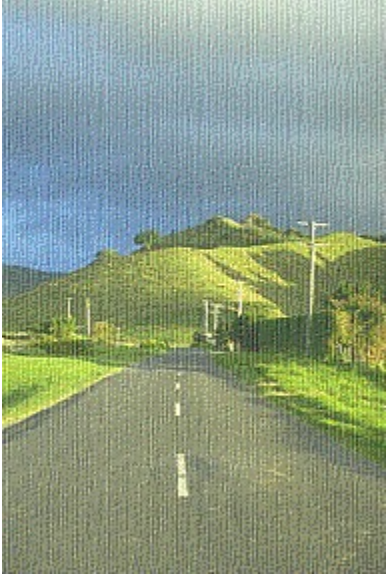
3a. Nib



This is the nib selector button.

SUR - Apply Surface Texture (1900)

1a. Example



3a. Canvas map.

A canvas map is a bitmap image that is used to create a surface texture on another image using the Canvas filter. Any bitmap can be used in this way.

4n. Note

The canvas files are found in the Draw7/Photopnt/Canvas file folder.

5a. Transparency

Move the Transparency slider to control the transparency of the effect. A transparency setting of 100 % will allow emboss values to be applied without significantly affecting the colors in your image.

5b. Emboss

Move the Emboss slider to set the depth of the effect. A value of 100 will give you emboss values as they appear in the canvas map, while values between 100 and 200 will exaggerate dark and light values in the map for a greater illusion of depth.

5c. X and Y Offset

Move the X and Y Offset sliders to control the amount that the entire canvas map pattern will be offset horizontally (X) and Vertically (Y).

5d. Tile Offset

Move the Offset slider to set the amount of offset.

Click a Tile Offset button to determine the percentage by which each row or column of tiles will be offset from the others.

FFX - Filter Effects (1500)

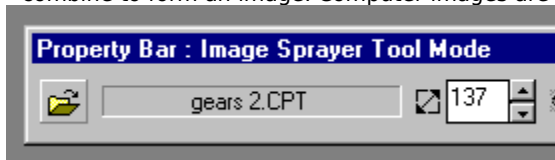
1a. Filters

"Filter" is the general name for a program that translates digital information from one form to another.

- **Import/Export filters** convert files from one format to another. For example, in order to import a Corel DRAW image into Corel PHOTO-PAINT, it must be converted from a vector file into bitmap form. By selecting a file format in the Export dialog box of DRAW, you are automatically activating the appropriate filter program which takes care of the translation.
- **Special Effects Filters** process image information and alter it according to preset specifications in order to produce a special effect. For example, the Median filter in Corel PHOTO-PAINT analyses all the pixels in an area of your image and applies an average color across the area, creating a smooth, slightly blurry effect with less detail.

3a. pixel

A pixel (from "Picture Element"), is a single digital square which is arranged with other pixels on grids that combine to form an image. Computer images are created as an array of pixels, each having a specific color.



3b. Motion Blur filter

The Motion Blur effect filter creates the illusion of movement in your image; your image will resemble a photograph of a fast-moving object taken with a camera set on a low shutter speed.







Image before radial blurring.



Image after motion blurring.

4a. Common Effect controls

Before and After preview windows have been included in all effects dialog boxes, allowing you to see the impact of an effect before applying it to your image. The following tools are used with the preview windows:

-  The Zoom tool is used to zoom in or out on an area. Click the left mouse button on an area to magnify it. Right-clicking zooms out.
-  The Hand tool allows you to move the image around in the preview window. Click inside the window (the cursor changes to a hand) and drag the image to display the desired area.
-  Enable the Auto Preview button to update the After preview window continuously as controls are adjusted and options are selected.
-  Enable this button to switch between the before and after preview windows and a single large preview.

4b. Motion Blur controls

The Direction dial sets the direction of motion.

The Speed slider controls the intensity of the effect: the higher the value, the more blurring occurs.

4t. Tip

The following shortcut keys are very helpful when applying and removing effects from your image:

Key	Action
CTRL + Z	Undo (multiple undo if enabled)
CTRL + SHIFT + Z	Redo (multiple redo if enabled)
CTRL + F	Repeat Last Effect

5a.Graphic: Dali lighthouse

In the example below, the lighthouse image was altered using the Displace filter and the Dust and Scratch filter to create the image at the bottom.



The Displace filter uses one image as a displacement map for transforming another image. The result is that values from the displacement map appear as forms, tones, and patterns in your image.

Dust and Scratch was used to give the image an artistic, painterly feeling.



5t. Tip

To begin with it is recommended that you apply each filter preset and undo it so that you can see how it effects the image.

6a.The Lighting Effects filter

The Lighting Effects filter offers a range of tools for adding up to 19 light sources to your RGB images. This allows you to add dramatic special effects: shine a spotlight on the subject of your image, or use colored lighting to set a mood. The controls in the Lighting Effects dialog box provide control over the color, brightness, and contrast; it even allows you to use the light source as a way to define embossing texture values.

6b. The Ripple filter

The Ripple filter creates vertical or horizontal rippled waves throughout the image. You can select the distance between the wave cycles, the angle the waves travel through your image, and the amount of displacement the waves create.

6c. The Wind filter

The Wind filter blurs your image in a specific direction, creating the effect of wind blowing across your image. You set the direction, opacity, and strength of the wind effect.

6d. The Radial Blur filter

The Radial Blur filter allows you to create a blurring effect that radiates outward from a central point. You can reposition the center point, set the intensity of the effect, and choose between two blur modes.

LIQ - Liquid Text Tutor (1250)

1a. Sample Image



1b. Object: (Linked to 8a)

An object is an independent bitmap that is layered above the base image. Objects can be created by using the mask tools and then choosing the Create From Mask command (Object menu), and by using the Text tool.

Text is by default an object that floats above the image background. Use the Property Bar to change the font, style, size and effects. You can manipulate, edit, format and transform the text object while it is still an object. Once you've combined the text object with the background, you can no longer edit it as text. The Render Text To Mask option automatically makes new text you type become a mask selection.

1n. note on speed (I mean, the note is on speed rather than the note is on speed, you know?)

The effects in this tutor will take some time to apply, but give them a chance to work their magic: the final result is worth the wait.

2a. Object Roll-Up

The Objects Roll-Up lists all objects in the current image, and provides a thumbnail representation of each one. Its purpose is to facilitate object management and editing. It also gives you access to three object editing modes: Multi, Single and Layer.

In the objects list, you can select objects, change their position in the stacking order, and assign descriptive names to each one. Controls in the Roll-Up allow you to hide objects from view, lock them to protect them from change, change their overall opacity, and choose the editable object when working in Single or Layer mode.

Several menu commands are also provided in the Roll-Up as buttons.

The Objects Roll-Up is also where you choose the merge mode to use when combining an object with the image background. The merge mode determines how the color of the object mixes with the color of the background.

2b. Object Editing Modes

Layer mode places the editable object in the image on a transparent layer that covers the entire image; any change applied to the object in this mode only affects this transparent layer, not the underlying image.

Corel PHOTO-PAINT offers three different modes in which you can select, edit, delete and organize objects in your image. They are called Multi (default), Single, and Layer.

3a. beveled

A "beveled" object has the appearance of having been carved in three dimensions.

3b. Difference Merge Mode

The Difference merge mode creates a result color by subtracting the paint color from the base color and multiplying by 255. If the paint value is 0, the result will always be 255.

Merge modes (also called Paint modes) determine the way colors in your image combine. You can simply replace the base image's colors with an object's color (Normal), or you can combine the two using any of the 19 other modes.

4a. New Object Layer

The New Object command creates an empty transparent layer that covers the entire image : this layer is an object that is invisible. You can add elements to the layer to create visible elements in the new object. When you create an object using these instructions, the underlying image is not affected by any of the tools you use.

5a. Duplicate Object

You can create an exact copy of an object with the Duplicate command found in the Objects menu. The duplicate is superimposed on the original is a separate object; it has its own thumbnail in the Objects Roll-Up.

5b. Effects Filters

Effects filters are small programs that execute a predefined series of commands to produce a specific effect. They automatically calculate the values and characteristics of every pixel in your image and then alter the pixels according to these new values. For example, if you applied the Motion Blur filter to an image, the filter would analyze all pixel values, then "smear" the values in a specified direction, creating the illusion of motion.

5c. Gaussian Blur Effect

This filter produces a softening effect, blurring the image according to a Gaussian distribution of the pixel values. A pixel near a lower end of the Gaussian bell curve will not be averaged (blurred) as much as one at the top of this curve. The quality of the Gaussian Blur filter is higher than that of the other blur filters but requires additional processing time to apply.

5d. Offset effect filter

The Offset filter lets you correct image positioning. It shifts the image according to the values set using the horizontal and vertical shift sliders. When the image is shifted, an empty area is produced where the image was previously positioned. There are three options for filling the area left empty: you can fill the empty area with the paint color, use the Wrap Around option to produce a tiling effect, or the Repeat Edges option to produce a stretched effect.

7a. Merge mode

Merge modes determine the way an object's pixels blend with background pixels. You can simply replace the background colors with the paint color, or you can combine the two using any of the 19 modes in the Merge list box in the Objects Roll-Up.

The Difference merge mode creates a result color by subtracting the object's pixel colors from the background colors and multiplying by 255. If the paint value is 0, the result will always be 255.

7b. Invert filter

The Invert command reverses all colors in an image, making it appear to be a film negative of itself.

8a. Desaturate

The desaturate command "uncolors" an image with a single click by converting color values to their grayscale equivalents.

9a. Opacity Slider

The transparency level of all pixels included within an object can be adjusted by moving the Opacity slider at the bottom of the Objects Roll-Up. Moving the slider to the left increases the level of transparency; the object becomes less opaque.

10a. Tone Curve filter

The Tone Curve filter allows you to apply value adjustments to an image with precise, local control over any individual level of values in relation to all other levels of values. Graphical, curve-based editing allows you to pinpoint an area and produce subtle or pronounced change in that area that dissipates according to the slope of the curve. The tone response curve is a visual representation of the balance between shadows, midtones, and highlights. You can choose from a number of preset response curves or create and save your own.

11a. Masks

A layer over the entire image that is used to define areas in the image that are protected from editing changes and those that are editable. The editable area(s) is called the selection. The mask marquee separates the selection from the protected areas. In regular masks, the selection is defined by creating a shape in the image. In a color-sensitive mask, the selection and protected area include pixels whose color is either in or out of the defined color tolerance range.

12a. Paint On Mask mode

Paint on mask mode is one of the many ways to edit masks in your images. Because all masks are grayscale images, with black areas being completely protected, white areas completely editable, and gray areas partially editable, Paint on Mask Mode allows you to apply new masked areas to your image by editing the grayscale mask channel directly.

12b. The Clipboard

A temporary storage area that contains information you have cut or copied. You can paste the contents of the Clipboard into other programs (provided that program supports that type of information). Information remains on the Clipboard until you replace it with the information from another cut or copy command.

13a. Mask channel

Mask channels are often called Alpha channels. Once saved in a channel, a mask can be loaded and reused within the same image repeatedly. This allows you to switch from one mask to another in a single image without having to recreate the masks each time.

13b. Stroke the mask

The stroke mask command allows you to apply a paint stroke to your image using the edge of a mask as a guideline.

For the purposes of this demonstration Tutor, we used the following settings: Size, 10; Soft Edge,15; Spacing, 10.

14n. Note

Notice how the white areas in Paint on Mask Mode are selected while the black areas are protected.

14t. Note

This is the last time you will need the "Fat Mask" layer or mask in this procedure. However, since either of these might be useful later, simply make the layer invisible and save the mask to a mask channel.

TEX - Applying textured Fills(1800)

1a. Fractally Generated

A pattern based on fractal geometry is generated from mathematical descriptions of shapes that can be subdivided into parts, each of which is a reduced-size copy of the whole. Fractal geometry can be used to describe many real-world objects, such as clouds, minerals, mountains, wood-grain turbulence, and other naturally occurring forms.

2a. Gaussian Blur filter

This filter produces a softening effect, blurring the image according to a Gaussian distribution of the pixel values. A pixel near a lower end of the Gaussian bell curve will not be averaged (blurred) as much as one at the top of this curve. The quality of the Gaussian Blur filter is higher than that of the other blur filters but requires additional processing time to apply.

2b. Fill Tool

Found on the Fill tool flyout (Toolbox) and the Fill toolbar. Use to fill areas with any of four fill types. You can access the Uniform, Fountain, Bitmap, and Texture fill dialog boxes from the Property Bar or Tool Settings Roll-Up, which allow you to create and customize fills.

2c. Tool Settings Roll-Up

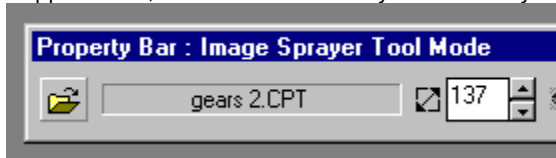
The Tool Settings Roll-Up gives you a range of options for changing the properties of the active tool in the toolbox. The options available in the Roll-Up change when you click a new tool.

3a Texture Button

The Texture Fill icon button selects texture fill as the current fill type. If you wish to modify the fill, click Edit.

5a. Status Bar

The Status Bar gives you constant, up-to-date information about your document. You can customize its position, appearance, and content so that you have easy access to the information you require to work most efficiently.



5b. Tolerance Level

Tolerance is an adjustment for controlling the color range sensitivity of the Fill tool. Tolerance is used to determine which pixels will be affected when a fill is applied to an image. Tolerance values range from 0 to 100. A pixel is included if its grayscale value falls within the defined tolerance range. Grayscale values are defined on a scale ranging from 0 to 255.

7a. Directional Smooth

The Directional Smooth filter analyzes the value of pixels of similar tonal values to determine the direction in which to apply the greatest amount of smoothing. This subtly smooths edges and surfaces, giving them anti-aliased edges (soft, blended edges) without distorting the image.

8a. Edit Fill and Transparency

The controls in this box allow you to apply a fill of any kind to your image with different levels and kinds of transparency. Unlike the Fill tool, which adds a fill from a point of insertion outward, the Edit Fill and Transparency.

8b. Filled Shapes

Use the Shape tools to draw outlined or filled shapes on your image. If you want to create the shape as an object, enable the Render to Object check box in the Tool Settings Roll-Up for the Shape tools. This allows you to reposition or edit your object before you merge it into your image. If you do not create the shape as an object, it will instantly merge into the background, so ensure you set the color, fill, and outline the way you want to in the Tool Settings Roll-Up before you begin to use this tool.

PIC - Spray a Picture (1850)

1a. Image Sprayer tool Steal from Butterfly thang



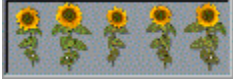
The Image Sprayer allows you to load one or more images, and then spray them across your image.

1b. Result graphic



1c. Image List

An Image List contains a series of independent objects. When this list is loaded into Image Sprayer tool, the objects can be "sprayed" to your image. The image below is an image list you will use in this Tutor as it appears in the Objects Roll-Up.



2a. Tool Settings Roll-Up

The tool settings Roll-Up gives you a range of options for changing the properties of the active tool in the toolbox. The options available in the Roll-Up change when you click a new tool.

3a. The flyout button ([Linked to 8b](#))



This is the flyout button

3b. Object Mapped to liq3b

5t: Tip

Although it is more time-consuming than applying a continuous stream of sunflowers, your picture will look more natural if you apply individual sunflowers in random patterns across the image.

5n: Note

When you click Show Me in this dialog box, It will take a few moments to apply this effect.

6t: Tip

If you open the Objects Roll-Up and enable the Layer mode, you can create a separate layer for each row of sunflowers. This will allow you to go back and edit individual rows. Experiment with shifting the rows up or down in relation to each other. You could even insert other objects between the rows of sunflowers to give the impression that they are standing in the field.

Working in Layer Mode will also be helpful in later steps to position the airplanes

7b. CPT file format

CPT is the native bitmap file format for images created in Corel PHOTO-PAINT. This format stores not only basic bitmap image data (i.e. the placement and color of pixels), but mask, object, and channel information as well.

7c. Object **LINK TO liq3b**

8b.Flyout menu [LINK TO pic3a](#)

9a. Distribution Tab (for the Image sprayer)

The distribution tab appears behind the General Tab in the Tool Settings Roll-Up when you open the Image Sprayer. Change options for the Spread, Spacing, and Image Choice.

9b. General Tab (for the Image sprayer)

The General tab (marked with the Image Sprayer Icon) contains the basic options for the Image Sprayer Tool: Choose an image list here, change the image size or the transparency of the tool.

11a. The Property Bar LINK TO [wel6a](#)

11b. Fade-Out rate (for the Image sprayer)

The Fade-Out rate setting allows you to have the image fade from fully opaque to fully transparent as you spray.

DST - Dust and Scratch (550)

DST 1a. Continuous color

An area is continuous in color when it consists of smooth graduated zones of similar hue and tone.

DST 2a. Marquee

Zooming in can also be achieved by selecting the Zoom tool and clicking and dragging around an area. In this case, the zoom level will depend on the size of your image window and the area you select. The area within the inverse color outline will, upon release of the mouse button, zoom to fit inside the image window.

DST 2b. Pixels

When you magnify an image you can see that it's made up of many squares of color. These squares are called pixels (picture elements).

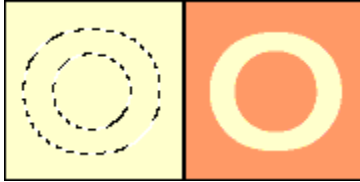


DST 3a. Shape cursor for brush tool

When brushes are used on an image, it is often preferable to use the Shape cursor as an aid to visualizing the actual dimension of the brush nib. For this purpose, a checkable item has been added to the General tab in Options dialog. This option will cause the Shape cursor to override the present cursor type when using brush tools only.

DST 4a. Mask

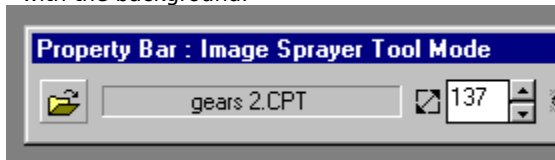
Masks are used to define selections within an image that you wish to modify and areas you wish to protect from modification. In the picture below you see the dashed black outline "marquee" that's created when a text character is rendered to a mask. The red overlay illustrates the non-editable area corresponding to the mask marquee.



DST 4b. Flyout MAPPED TO WEL9B

DST 6a. Anti-aliasing

Anti-aliasing makes the edge pixels of an object or mask partially transparent so that they blend more smoothly with the background.



6t. Tip

Soft edge, transparency, and anti-aliasing are all used to make sure that there are no harsh edges on your mask. Sharp transitions between masked and unmasked areas can lead to unnatural edges appearing on your image when you apply a tool or effect over the mask.

DST 9a. Threshold

The Threshold slider adjusts the effect origin (the amount of change which must occur to a pixel before the effect is applied). Setting a low threshold, will insure that more pixels are altered.

DST 9b. Radius

The Radius slider adjusts the number of pixels used in the filter equation. It is best to set the radius value to that of the width of the scratch or dust particle (in pixels). This will ensure that a proper sampling of color and tone has occurred.

EXP - Photo exposure (650)

EXP 1a. Overexposure

The step within the photographic process in which an image is produced on a light sensitive emulsion, is called exposure. When film emulsion receives too much light, it is overexposed. Overexposure will produce an image with areas of reduced contrast (light shadow and bleached out highlights).

EXP 1b. Underexposure

The step within the photographic process in which an image is produced on a light sensitive emulsion, is called exposure. When film emulsion receives too little light, it is underexposed. Underexposure will produce an image with areas of increased contrast (heavy shadow and dull highlights).

EXP 1c. Tonal Corrections

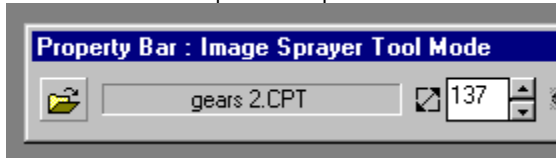
Tonal corrections allow you to control the relationship between the shadows, midtones and highlights in your image, and adjust the brightness, intensity, lightness and darkness of your colors. Use tonal corrections to restore contrast, to correct under or over-exposure, and to generally improve the tonal quality of your image.

EXP 2a. Tone Curve

The Tone Curve filter takes current pixel brightness values as input and outputs them at different values. This filter allows you to perform global tonal and color corrections, but offers more precise, local control over individual levels of values in relation to all other levels of values. Curve-based editing allows you to pinpoint a problem area and produce subtle or pronounced change.

EXP 2b. Response curve

The response curve is a visual representation of the balance between shadows, midtones and highlights. Choose from a number of preset response curves or create and save your own.



EXP 2c. RGB Channel

A channel is an 8-bit grayscale version of your image. Color channels are automatically generated by Corel PHOTO-PAINT when you create or open an image file. Each component of the image's color model has its own color channel. An RGB image, for example, has three separate color channels, one for each color component, i.e., red, green, and blue (RGB). Individual channels determine how much red, green, or blue is used in each image pixel to produce the colors of the image. When the color channels are seen together, the resulting composite image is a display of the entire range of colors in the image.

EXP 3a. Gamma

Gamma is a measure of contrast in photographic terms. Gamma allows you to adjust the midtones without affecting the proportional distribution of shadows and highlights. You can further enhance detail by making gamma adjustments.

EXP 1n. Notes

Underexposed images should be altered using inverse settings to that of overexposure.

CST - Remove a color cast (800)

CST 1a. Color Cast

The unintentional addition of color due to lighting errors in the original photo or processing is called a color cast. Color correction lets you compensate for improper hue, contrast and lack of saturation by neutralizing (balancing) with a complementary hue.

CST 2a. Color Balance filter

This filter lets you shift the colors in your image between complimentary colors (CMY and RGB color values). This is useful for correcting color casts in your image, for example, if someone's face is too red in your photograph, you could shift values from red to cyan. You can also use the Color Balance filter to change the hue values for your entire image.

CST 2b. Complimentary Pairs

RGB and CMY are the two complementary color models used by the color balance dialog to control the balance of image color.

For example, if you were to remove all of the red light from pure white light, the result would be a greenish-blue color, cyan. If you were to remove the green light from pure white light the result would be a reddish-purple color, magenta. Finally, if you were to remove the blue light from pure white light the result would be yellow.

CST 3a. Tonal Ranges

The tonal range encompasses the range of brightness values in the image:

- Highlight: the lightest color values in an image
- Shadows the darkest color values in an image
- Midtones the areas between lightest and darkest areas in the image

ADD - Add to Area (1450)

ADD 1a. Layer Object Editing Mode

Corel PHOTO-PAINT offers three different modes in which you can select, edit, delete and organize objects in your image. They are called Multi (default), Single, and Layer. You select the mode in the Objects Roll-Up (View menu). Extensive information is provided in the Working with Text and Objects section of the Corel PHOTO-PAINT documentation.

- Multi mode makes it possible to edit several objects at once using a variety of brush and painting tools. It includes a lock feature that protects all locked objects from change.
- Single mode automatically locks all objects in the image except one. You can change which object is editable in the Roll-Up. Only one object can be edited at a time.
- Layer mode places the editable object in the image on a transparent layer that covers the entire image; any change applied to the object in this mode only affects this transparent layer, not the underlying image.

ADD 2a. Object Roll-up

The Objects Roll-Up lists all objects in the current image, and provides a thumbnail representation of each one. Its purpose is to facilitate object management and editing. It also gives you access to three object editing modes.

In the objects list, you can select objects, change their position in the stacking order, and assign descriptive names to each one. Controls in the Roll-Up allow you to hide objects from view, lock them to protect them from change, change their overall opacity, and choose the editable object when working in Single or Layer mode.

ADD 2b. Marquee

The dashed line that looks like marching ants, used by Corel PHOTO-PAINT to represent the boundary of a mask selection or an object, in an image. By default, object marquees are blue and mask marquees are black.

ADD 3a. Transformation Handles

Objects can be sized, scaled, rotated, skewed, distorted, flipped, mirrored, and have perspective applied to them. Most of the transformations can be performed using the tabs of the Tool Settings Roll-Up, or the modes of the Property Bar associated with the Object Picker tool. The Tool Settings Roll-Up tabs, and the Property Bar modes, let you make very precise adjustments to the object. The object distortion and perspective transformations cannot be applied using the Roll-Up or the Property Bar; they are applied directly to the object by using the handles that appear along the object's highlighting box when it is selected.

You can also perform all other transformations directly in the Image Window by using the handles of the highlighting box. Transformations can be applied to one object, to several selected objects, or to a group of objects in all object-editing modes.

ADD 4a. Clone Tool

Found on the Toolbox and the Clone toolbar. Use to duplicate part of an image and apply it to another part of the image or to another image altogether. The Property Bar and Tool Settings Roll-Up provide specialized cloning brushes that create a duplicate in the pointillist style (dots) and impressionist style (lines). You can achieve different effects by customizing the brush you use to apply the effect.

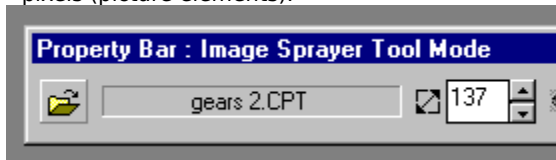
ADD 1n. Notes

Corel PHOTO-PAINT provides several methods to create objects.

The content of a mask selection can easily be converted to an object. The Paste As New Object command found in the Edit menu allows you to paste data from the clipboard and automatically make it an object in any editing mode. Rectangles, ellipses, polygons, and lines that you create using the Shape tools can automatically be made into objects. By default, text typed with the Text tool is an object. Layer mode gives you access to the New Object command found in the Object menu.

ADD 4b. Pixels

When you magnify an image you can see that it's made up of many squares of color. These squares are called pixels (picture elements).



BEV - Emboss text (1050)

Bev 1a. Embossing

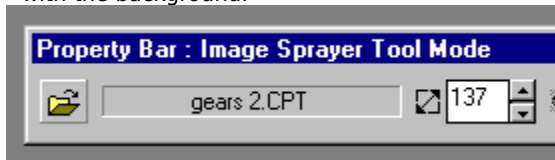
Embossing is the technique of making parts of an image appear lighter and darker to create the illusion of 3-dimensional depth.

The Boss filter makes areas of highlight and shadow along the outside edges of a mask. By varying the brightness of these pixels according to the position of a directional light source, a sense of vertical dimension – relief – is created.



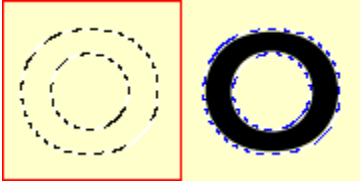
Bev 2a. Anti-aliasing

Anti-aliasing makes the edge pixels of an object or mask partially transparent so that they blend more smoothly with the background.



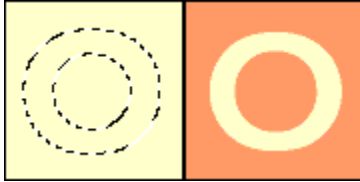
Bev 2b. Render to mask

The Render to mask option causes text to be created as a mask rather than as an editable, moveable object. A mask defines protected and editable areas on an image and is identified by a dashed black outline "marquee." A text object has color and is identified by a dashed blue outline marquee.



Bev 3a. Mask

Masks are used to define selections within an image that you wish to modify and areas you wish to protect from modification. In the picture below you see the dashed black outline "marquee" that's created when a text character is rendered to a mask. The red overlay illustrates the non-editable area corresponding to the mask marquee.

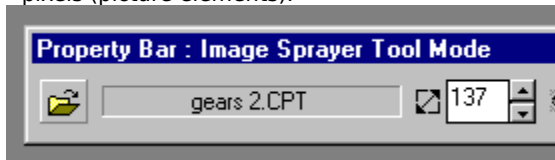


Bev 3b. Render to mask.

The Render to Mask option causes text to be created as a mask rather than as an editable, moveable object. A mask defines protected and editable areas on an image and is identified by a dashed black outline "marquee." A text object has color and is identified by a dashed blue outline marquee.

Bev 4a. Pixels

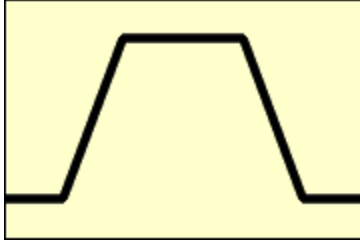
When you magnify an image you can see that it's made up of many squares of color. These squares are called pixels (picture elements).



Bev 6a. More about The Boss filter controls

The diagram below represents some of the qualities you can control when creating the look of chiseled text with The Boss filter. Right-click on the controls in the effect dialog to "pop-up" context-sensitive help windows.

The graphic below illustrates the dimensions that will be affected by adjusting the controls in the dialog box. The vertical dimensions are controlled by the Height slider. The width of the slope (the shaded area between masked and unmasked sections) is controlled by the Drop Off slider. The width of the top is adjusted with the Width slider.



CHS - Chiseled text (1100)

Chs1a. Embossing

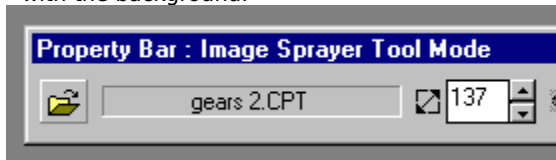
Embossing is the technique of making parts of an image appear lighter and darker to create the illusion of 3-dimensional depth.

The Boss filter makes areas of highlight and shadow along the outside edges of a mask. By varying the brightness of these pixels according to the position of a directional light source, a sense of vertical dimension--relief--is created.



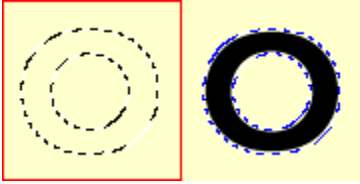
Chs 2a. Anti-aliasing

Anti-aliasing makes the edge pixels of an object or mask partially transparent so that they blend more smoothly with the background.



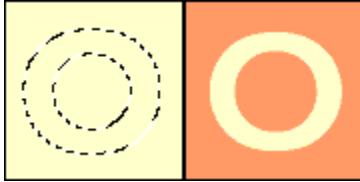
Chs 2b. Render to mask

The Render to mask option causes text to be created as a mask rather than as an editable, moveable object. A mask defines protected and editable areas on an image and is identified by a dashed black outline "marquee." A text object has color and is identified by a dashed blue outline marquee.



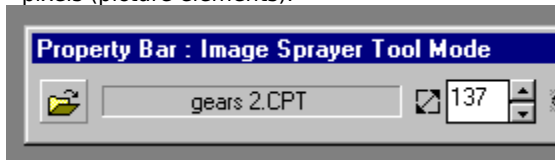
Chs 3a. Mask

Masks are used to define selections within an image that you wish to modify and areas you wish to protect from modification. In the picture below you see the dashed black outline "marquee" that's created when a text character is rendered to a mask. The red overlay illustrates the non-editable area corresponding to the mask marquee.



Chs 4a. Pixels

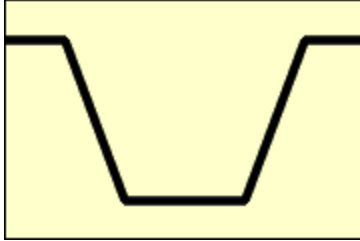
When you magnify an image you can see that it's made up of many squares of color. These squares are called pixels (picture elements).



Chs 6a. More about The Boss filter controls

The diagram below represents some of the qualities you can control when creating the look of chiseled text with The Boss filter. Right-click on the controls in the effect dialog to "pop-up" context-sensitive help windows.

The graphic below illustrates the dimensions that will be affected by adjusting the controls in the dialog box. The vertical dimensions are controlled by the Height slider. The width of the slope (the shaded area between masked and unmasked sections) is controlled by the Drop Off slider. The width of the base is adjusted with the Width slider.



NET - Introduction to the Internet (2500)

3a. HTML

Hypertext Markup Language. The World Wide Web authoring standard. HTML is comprised of markup tags that define the structure and components of a document. You use the tags to tag text and integrated resources (such as images, sound, video, and animation) when creating a Web page.

HTML has changed radically over the last few years. The number of HTML tags has grown, allowing Web authors to greatly enhance the design of pages.

9a. hyperlink

A hyperlink is an active graphical or textual element, keywords or graphic images which will connect you with another Internet resource (a Web pages, for example) when you click it.

TRA GIF transparency (2050)

4t: Tip on background for image

Ensure that the area of the original image that you want to make transparent is the same color as the background you'll be placing the image against in your Web page.

8t. Tip

By clicking the background area of the thumbnail, the index number is shown in the Index number box. It is generally more accurate to determine this value before converting the image, especially when the background is multicolored or of a non-continuous color.

MAP - Image Map (1950)

1a. URL

A URL is an address where the HTML document resides and looks like this:
<http://www.corel.com/corelWeb/index.htm>

1b. Object

An object is an independent bitmap that is layered above the base image. Objects can be created by using the mask tools and then choosing the Create From Mask command (Object menu), and by using the Text tool.

2a. browser

An Internet browser is a software application that allows you to view pictures, data, and Web pages from the Internet.

3a. hyperlink

A hyperlink is an active graphical or textual element, keywords or graphic images which will connect you with another Internet resource (a Web pages, for example) when you click it.

3b. http://

http identifies the kind of resource requested. For Web pages, the resource protocol is HTTP (Hypertext Transfer Protocol). FTP, Gopher, Telnet and Usenet are other protocols which might appear in a URL.

3c: www.corel.com

www.corel.com is the network address of the server, the actual computer, or host, that the Web page is stored on.

3d. corelWeb/index.htm

corelWeb/index.htm is the actual path to the directory where the named file is located.

4a. Object Picker Tool **Mapped to RMB5a**

4b. Tag WWW URL.

The Tag WWW URL dialog box is used to tag objects with image map references.

5a. URL box

Type the URL that you want to create a hyperlink to in the Location (URL) box.

5b. Comments

The Comments section allows you to set alternate text that will appear automatically when the image cannot be loaded. Some of the older Web browsers are non-graphical and do not support the display of images. Some people choose to disable image viewing.

5c. Define Area As

You can choose what shape the clickable areas in your image will be.

The area's shape can be a:

- Polygon
- Bounding rectangle
- Bounding oval
- Circle

7a. inline image

Inline images are bitmap graphics, usually GIF and JPEG format images, which are displayed directly on a Web page. No program other than a Web browser that supports the display of such images is required to view them. Inline images are often used as "clickable links" by which you can access other "Web sites" (other Web pages).

7b. GIF

The .GIF format (Graphics Interchange Format) is ideal for line bitmap images with few colors or sharp edges. It supports up to 256 colors (8-bit), a "lossless" compression scheme that reduces file size, the selection of a single image color for "transparency", and an "interlaced" viewing option. An interlaced GIF loads completely into a Web browser but at low resolution, building more resolution until finally the full image is displayed. Of the Web browser-supported file formats, GIF is the quickest to display due to its limited color range.

7c. JPEG

JPEG (Joint Photographic Experts Group) is a still image format that supports 24-bit color (true color), allows for variable levels of "lossy" compression and progressive loading. A progressive JPEG loads completely into a Web browser, but at low resolution, building more resolution until finally the full image is displayed.

As a rule of thumb, JPG images start to visibly degrade at about a 20 to 1 (20:1) compression ratio. JPEG is the file format of choice for storing true-color (24-bit) and grayscale images which exhibit continuous variation in color. A photo-realistic subject, with the right amount of compression, will be represented more faithfully in less space by JPEG than by GIF.

7d. PNG

PNG (Portable Network Graphics) is a new image format with lossless compression that supports indexed color (8-bit paletted), grayscale, and true color (24- and 48-bit) images, alpha channels and blended transparency. As yet, PNG is not as widely used as the more common GIF and JPEG. Ensure your Web browsers support this format before completing your Web project.

8t. tip

To verify the image's color mode, click the Info button on the Standard toolbar, or click Image menu, Info.

9a. 8-bit color mode

An 8-bit color mode includes 256 colors or less. In Corel PHOTO-PAINT, Grayscale, Duotone, and Paletted are all 8-bit color modes.

9b. Paletted Image mode

Paletted images are in an 8-bit color mode that stores and displays images using up to 256 colors. Images must be in this color mode before they can be saved in the GIF format.

Converting a complex image to paletted color mode is useful for reducing file size, especially in preparation for Internet publishing. Paletted color mode also allows you to use the Color Table.

9c. Palette Type

The Optimized palette contains colors that are centered on the image's spectrum of colors.

The Uniform palette uses the uniform color palette that provides a complete 256-color spectrum even if the colors are not used by the image.

The Adaptive palette samples those colors that appear most in the image and creates a palette that is based on these samples.

The Custom palette lets you create your own color table by using the Color Table dialog box.

9d. Dither Type

Dithering mixes pixels of various colors to simulate a wider range of colors on display devices with 256 color capabilities.

- Error Diffusion dithering gives the best results by spreading the dithering across a wider area and tailoring the dithering pattern to the transition being simulated but it requires more time to convert an image.
- Ordered dithering approximates color blends using fixed dot patterns.
- None disables dithering altogether.

You can experiment with the different dithering options by undoing the conversion and trying again, or by converting a duplicate image and comparing it to the original and other copies.

9t. Tip

The "Reduce image file size" Tutor teaches you about optimizing image color and size for the Internet.

10a. 24-bit RGB color mode

A color mode is the way Corel PHOTO-PAINT produces the color of a bitmap image. The color mode of your image determines how your computer system displays.

The 24-bit RGB color mode defines by the number and kind of colors that make up an image of this type. The RGB image is broken down into Red, Green, and Blue values and requires 24 bits of numeric information to store the color of a single pixel. Images of the type can exhibit upwards of 16 million different colors in a single image. Also, the RGB color model is used for monitor display.

11a. Warning: Objects will be combined with the background

Conversion to an image map involves "flattening" your image so that it contains no objects. The objects that you have mapped with URL's will still appear in your image, but they will no longer be independently editable.

12a. Image map types

Map type	Description
Client-side	The coordinate references defining the clickable areas on an image are saved in an .HTM file along with the URL's that each link to, and HTML references to the location and name of the image file they correspond to. You add these references to the HTML document that defines a Web page. Client-side image maps can be processed by Web browsers like Netscape Navigator and Microsoft Internet Explorer that support the HTML 3.0 standard, or better.
Client/Server-side NCSA	Both an .HTM file with client-side reference and a specific type of server side map are created. When the lines of HTML code from the client/server-side are added to a Web page document, a browser that supports the use of client-side maps will process the client side references. If the browser doesn't support this function, it will ignore the client-side references and use the server-side map instead to create and process the clickable areas. Server-side image maps (.MAP) are specially formatted according to the kind of server protocols (NCSA or Cern) that are used to process them.
Client/Server-side Cern	See Client/Server-side NCSA (above).
Server-side NCSA	Unlike client-side image maps, server-side map files are stored separately from the HTML document that defines the Web page and contains references to the image file they're used with. When a Web page is loaded into a browser, it calls the server to locate and process the server-side image map and create clickable areas on the Web page being displayed. They are stored in a special directory on the server separate from the Web page (HTML document). Server-side image maps (.MAP) are specially formatted according to the kind of server protocols (NCSA or Cern) that are used to process them.
Server-side Cern	See Server-side NCSA (above).

12b. Map Name

The Client-side and Client/Server-side types require a name to access map attributes in the .HTM file. It is not required for Server-side only map files.

12c. Default URL

Some Internet service providers request that your clickable images have a default URL.

12d. File Header options

The File Header Options items are very useful for maintenance purposes. This information is not displayed on your Web page, but is embedded in the map file itself.

- Type the name of the author in the Created By box.
- Type a short description of the image file in the Description box.
- Type the server link, if applicable. You can also save:
 - the Image File Type and Name,
 - the Date that the image was saved, and
 - the Map file type, by enabling the check boxes.

14a Transparent color (see GIF 6a. transparent)

All bitmap images are rectangular in shape, but you can specify transparent areas in the graphic to create the illusion that it is a different shape when it appears in your HTML document. This technique of producing transparency is particularly useful when you want to make text or buttons appear to "float" above a background. The transparent areas appear in the color and pattern (if any) of the browser's background color. Corel PHOTO-PAINT allows you to specify a transparent color.

You can identify a single color in the image to become transparent when it's displayed in a Web browser. Corel PHOTO-PAINT provides two options for creating this transparency:

- Choose an image color by clicking in the preview or clicking a swatch in the color picker.
- When a selection mask is current to the image, you can select the Masked Area option. In this case, you can define a unique color for the masked area to become transparent.

14b. Interlacing

Although an interlaced .GIF file doesn't load faster than the non-interlaced GIF file, it does allow the user time to preview the low-resolution image, thus allowing the opportunity to cancel the load before the entire file has been decompressed and displayed in the Web browser.

15a. Progressive

Although the progressive JPEG file isn't faster loading than the non-progressive JPEG file, it does allow the user time to preview the low-resolution image, thus allowing the opportunity to cancel the load before the entire file has been decompressed and displayed in the Web browser.

RED - Reduce Image File Size (2300)

1a. inline images

An inline image appears alongside text on a Web page.

1b. Paletted color mode

An 8-bit color mode that stores and displays images using up to 256 colors.

Converting a complex image to paletted color mode is useful for reducing file size, especially in preparation for Internet publishing. Paletted color mode also allows you to use the Color Table.

1n. Note

This Tutor is structured to work with a 24-bit (true color) image that you want to reduce in size by converting it to an 8-bit, 256 color (or less) image. Because of the limited 256 color palette, the subtly of tonal variation within a photo-realistic 24-bit image may be lost. The success of any conversion to 8-bit is largely a trial-and-error process.

2t. Tip - Duplicate

You may want to make several duplicates of the original image before proceeding. You can experiment with different settings on each copy and compare the results as you proceed with this Tutor.

3a. downsampling

The process of reducing the dimensions and resolution of an image file is called "downsampling"; doing this will decrease file size and the amount of time required to load the image into a Web browser like Netscape Navigator and Microsoft Internet Explorer. It is recommended that you downsample your image before decreasing the number of colors, since this process affects the colors in the image.

3b. Absolute number of colors

This is the number of colors that the image file is composed of, not necessarily the number of colors in the image. For example, even if it only displays only two colors, a 24-bit RGB image file will still contain an absolute number of 16 million colors.

4a. Width and Height in pixels

The display or "screen" resolution for most PC's is 96 pixels per inch. So, for example, if your image is 384 pixels wide, it will appear 4 inches wide in the Web browser (on the computer monitor).

4b. X and Y resolution in dpi

X and Y resolution is mapped to the display resolution when you work. In Corel PHOTO-PAINT:

- A 96 dpi image will display at the same size as in a browser at 100% magnification.
- A 300 dpi image will display very large at 100% magnification on your monitor.
- A 10 dpi image will display very small at 100% magnification on your monitor.

4c. Type or color mode

Type and color mode refer to the color characteristics of an image—the color mode determines how images are displayed and printed in Corel applications.

- Black and White (1-bit)
- Grayscale (8-bit)
- Duotone (8-bit)
- Paletted (8-bit)
- RGB color (24-bit)
- L*a*b* color (24-bit)
- CMYK color (32-bit)

5a. Maintain Aspect

If you have enabled the Maintain Aspect Ratio check box, entering a value for one dimension will adjust the other dimension automatically.

5b. 96 dpi.

This is the optimum resolution for Internet Browsers. Images at this resolution are identical in image quality to images at higher resolutions, so saving images at even 100 dpi wastes space and browsing time.

5n. Note

At the bottom of the Resample dialog box, you'll see the original file size of your image, as well as the resampled file size. Notice what happens to the file size as you make changes.

5t. Tip - browser resampling

As an option, many Web page creation programs allow you to adjust dimensions of an image. This is accomplished by a process called resampling. The resampling occurs when the image is loaded into a browser. Resampling slows down the time it takes to load the image. If you set this option to display the image smaller than the physical dimensions of the saved file, your file will contain image data that's never actually displayed.

6a. Palette Type

- The Optimized palette contains colors that are centered on the image's spectrum of colors.
- The Uniform palette uses the uniform color palette that provides a complete 256-color spectrum even if the colors are not used by the image.
- The Adaptive palette samples those colors that appear most in the image and creates a palette that is based on these samples.
- The Custom palette lets you create your own color table by using the Color Table dialog box.

6b. Dither Type

Dithering mixes pixels of various colors to simulate a wider range of colors on display devices with 256 color capabilities.

- Error Diffusion dithering gives the best results by spreading the dithering across a wider area and tailoring the dithering pattern to the transition being simulated but it requires more time to convert an image.
- Ordered dithering approximates color blends using fixed dot patterns.
- None disables dithering altogether.

You can experiment with the different dithering options by undoing the conversion and trying again, or by converting a duplicate image and comparing it to the original and other copies.

6n. Note - color reduction

You can specify up to 256 colors (8 bit color) but file size can be reduced by keeping the number of colors to these maximum values:

- 128 colors (7-bit): 12.5% smaller than the same image with 256 colors.
- 64 colors (6-bit): 14.3% smaller than the same image with 65-128 colors.
- 32 colors (5-bit): 16.7% smaller than the same image with 33-64 colors.
- 16 colors (4-bit): 20% smaller than the same image with 17-32 colors.
- 8 colors (3-bit): 25% smaller than the same image with 9-16 colors.
- 4 colors (2-bit): 33.3% smaller than the same image with 9-16 colors.
- 2 colors (1-bit): 50% smaller than the same image with 9-16 colors.

7a. browser color palette

Many computer systems are only capable of displaying 256 colors at any given time. Of these 256 colors, only 216 are common to both PC and Apple Macintosh platforms. Netscape and Microsoft have created color palettes out of these common colors. Images made of these colors will always display correctly when viewed in the popular Web browsers, Netscape Navigator and Microsoft Internet Explorer.

8t. Tip - make duplicate

The changes you make at this stage may affect the appearance of your image quite dramatically. It's a good idea to work on one or more duplicates, keeping the original on-screen for comparison.

8a. Color Table dialog box

The Color Table dialog box displays every color of the paletted image you are working with. Use Color Table to edit individual colors or blocks of colors, to choose an alternative color table in order to apply an entirely new palette of colors to the image, or to open, create, and save custom palettes.

TIL - Seamless Background Tiles (2100)

1a. Texture

In Corel TEXTURE, a texture is a surface produced by slicing a three-dimensional solid. Depending on the type of object, and the angle of cut, a wide range of different textures can be produced. For example, by slicing a block of wood from different angles, you can create surface textures showing growth rings, straight grain, or a veneer effect. With Corel TEXTURE, you can create patterns from rock, marble, wood, a cloudy atmosphere, or other materials. You control the shape of the cutting knife, the direction of the cut, and how the edges of the cut are beveled. You can also enhance a texture's appearance by adding colors and lighting effects.

Each texture is built by combining a series of layers, each layer providing a different quality, texture, or surface. By looking down through all the layers, a final, composite texture is created.

1b. Corel TEXTURE

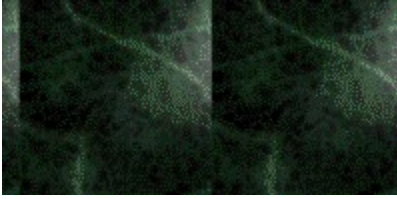
Often, textures can only be created by making a photo-scan of a textured surface and importing it into a graphics program. Images created in this manner are static and can only be changed by creating a new scan.

Corel TEXTURE, however, is a much more powerful tool for texture production as it re-creates textures algorithmically, giving you freedom to design and edit them at any time. It can recreate the natural textures of wood, clouds, stone, ripples, bumpy surfaces, and much more. It can make orderly, man-made patterns of checkers, dots, and lines, and can combine natural textures with man-made patterns to create unique images and effects.

Corel TEXTURE provides immense control over color and design, and gives you a dimension of freedom and creativity not available with scanned textures. In addition, your textures will have consistent characteristics over their entire surface and can be produced at resolutions suitable for either electronic or paper productions.

2a. Seamless tile

Seamless tiling describes a smooth transition between bitmaps when a number of duplicates of the same image are "tiled" beside each other. With a textured background, this gives the impression that there is a single texture making up the background rather than a number of small blocks.



Seamed tiling



Seamless tiling

GIF - Save your image as a GIF (2350)

1a. GIF file format

The .GIF format (Graphics Interchange Format) is ideal for line bitmap images with few colors or sharp edges. It supports up to 256 colors (8-bit), a "lossless" compression scheme that reduces file size, the selection of a single image color for "transparency", and an "interlaced" viewing option. An interlaced .GIF loads completely into a Web browser but at low resolution, building more resolution until finally the full image is displayed. Of the Web browser-supported file formats, GIF is the quickest to display due to its limited color range.

1b. HTML

In order for your images to appear in Web pages, you must save the image in a file format that is readable by Web browsers (.GIF and .JPG are the most common file formats), and make a reference to the image in an HTML page.

HTML (Hypertext Markup Language) is the World Wide Web authoring standard. HTML is made up of markup tags. You use the tags to code text and integrated resources (such as images, sound, video, and animation) to create a Web page. The number of HTML tags has grown, allowing Web authors to greatly enhance the design of pages.

1c. Paletted images

Paletted images are in an 8-bit color mode that stores and displays images using up to 256 colors. Images must be in this color mode before they can be saved in the GIF format.

Converting a complex image to paletted color mode is useful for reducing file size, especially in preparation for Internet publishing. Paletted color mode also allows you to use the Color Table.

3a. true 24 bit

Any 24-bit true color image can contains millions of subtle variations in color. Although diffusion dithering can help to enhance the appearance of photographic images when converting them to the paletted image type, some may not reproduce with acceptable quality. When color fidelity to an original image is paramount, .JPEG or .PNG formats may be preferable to .GIF.

3b. JPEG

JPEG (Joint Photographic Experts Group) is a still image format that supports 24-bit color (true color), allows for variable levels of "lossy" compression and progressive loading. A progressive JPEG loads completely into a Web browser, but at low resolution, building more resolution until finally the full image is displayed.

As a rule of thumb, JPG images start to visibly degrade at about a 20 to 1 (20:1) compression ratio. JPEG is the file format of choice for storing true-color (24-bit) and grayscale images which exhibit continuous variation in color. A photo-realistic subject, with the right amount of compression, will be represented more faithfully in less space by JPEG than by GIF.

3c. PNG

PNG (Portable Network Graphics) is a new image format with lossless compression that supports indexed color (8-bit paletted), grayscale, and true color (24- and 48-bit) images, alpha channels and blended transparency. As yet, .PNG is not as widely used as the more common GIF and JPEG. Ensure your Web browsers support this format before completing your Web project.

5a. Image color or Masked Area

- Choose an image color by clicking in the preview or clicking a swatch in the color picker.
- When a selection mask is current to the image, you can select the Masked Area option. In this case, you can define a unique color for the masked area to become transparent.

5c. Interlaced check box

An interlaced GIF loads completely into a Web browser but at low resolution, building more resolution until finally the full image is displayed.

5b. Transparent

All bitmap images are rectangular in shape, but you can specify transparent areas in the graphic to create the illusion that it is a different shape when it appears in your HTML document. This technique of producing transparency is particularly useful when you want to make text or buttons appear to "float" above a background. The transparent areas appear in the color and pattern (if any) of the browser's background color. Corel PHOTO-PAINT allows you to specify a transparent color.

You can identify a single color in the image to become transparent when it's displayed in a Web browser. Corel PHOTO-PAINT provides two options for creating this transparency:

5n. Note

A mask can be used to define the area for transparency when saving to the .GIF format. When the Masked Area option is chosen, click the Select Color button to open the Color dialog box. Make sure you choose a color that doesn't appear in your image. Otherwise that color will display as a transparent area.

**JPG - Save your image as a JPEG
(2450)**

1a. the JPEG (.JPG) file format

JPEG (Joint Photographic Experts Group) is a still image format that supports 24-bit color (true color), allows for variable levels of "lossy" compression and "progressive" loading. A progressive JPEG loads completely into a Web browser, but at low resolution, building more resolution until finally the full image is displayed.

As a rule of thumb, JPG images start to visibly degrade at about a 20 to 1 (20:1) compression ratio. JPEG is the file format of choice for storing true-color (24-bit) images which exhibit continuous variation in color. A photo-realistic subject, with the right amount of compression, will be represented more faithfully in less space by JPEG than by GIF.

1b. HTML

In order for your images to appear in Web pages, you must save the image in a file format that is readable by Web browsers (.GIF and .JPG are the most common file formats), and make a reference to the image in an HTML page.

HTML (Hypertext Markup Language) is the World Wide Web authoring standard. HTML is made up of markup tags. You use the tags to code text and integrated resources (such as images, sound, video, and animation) to create a Web page. The number of HTML tags has grown, allowing Web authors to greatly enhance the design of pages.

2a. the new PNG format

PNG (Portable Network Graphics) is a new image format with lossless compression that supports indexed color (8-bit paletted), grayscale, and true color (24- and 48-bit) images, alpha channels and blended transparency. As yet, PNG is not as widely used as the more common GIF and JPEG. Ensure your Web browsers support this format before completing your Web project.

2b. the 8-bit (...)GIF format

The .GIF format (Graphics Interchange Format) is ideal for line bitmap images with few colors or sharp edges. It supports up to 256 colors (8-bit), a "lossless" compression scheme that reduces file size, the selection of a single image color for "transparency", and an "interlaced" viewing option. An interlaced GIF loads completely into a Web browser but at low resolution, building more resolution until finally the full image is displayed. Of the Web browser-supported file formats, GIF is the quickest to display due to its limited color range.

4a. "lossy compression"

Lossy compression uses mathematical formulas to remove repetitive data within a JPEG file. This method of compression decrease the file size of a file. JPEG compression allows for varying levels of compression quality resulting in different file sizes. As a rule of thumb, images can be compressed to about 20:1 before image quality significantly degrades.

4t. Tip - Duplicate

You may want to make several duplicates of the original image before proceeding. You can experiment with different settings on each copy and compare the results as you proceed with this Tutor.

5n. Note

The JPEG export file format does not save Corel PHOTO-PAINT objects. If you click OK to proceed with the save any objects will be merged into the background.

6a. Progressive check box

When the progressive check box is enabled, data in the JPEG file is stored as a series of "scans" of increasing quality. The final image is identical to that of a regular JPEG file with the same quality factor.

Although the progressive JPEG file isn't faster loading than the non-progressive JPEG file, it does allow the user time to preview the low-resolution image, thus allowing the opportunity to cancel the load before the entire file has been decompressed and displayed in the Web browser.

6b. Quality Factor Slider

You can choose the display quality, from high quality to very low quality reproductions. The higher the image quality, the larger the file size. JPEG images do require some decompression time when displaying on screen, but can be displayed progressively.

IZE - Colorizing a b&w photograph (850)

1a. Transparency Brush Tool

Some tools, such as the Object Transparency tool and the Object Transparency Brush, were designed specifically with object editing in mind. Other general purpose tools such as the Paint or Eraser tools, can be used to edit objects, but they also affect the image background. General purpose tools, however, can be limited to only affect selected objects. This is done by using the lock feature included in the Objects Roll-Up, or choosing the an editing mode that protects all image components except the object you want to edit.

2a. Desaturate

Allows you to "uncolor" your image with a single click by converting color values to their grayscale equivalents.

3a. Lock

Clicking the lock icon in the Objects Roll-Up protects all locked objects from change.

4a. Transparency

Move the Transparency slider to control the transparency of the effect. A transparency setting of 100 % will allow emboss values to be applied without significantly affecting the colors in your image.

5a. Soft edge

The Soft edge feature controls the transparency of the nib's edges. As you increase the value of this setting, the soft edge expands to eventually reach the center of the paint stroke. Low values affect only the rim of the brush stroke.

CLG - Create a photo collage (1400)

3a. Mask Wand Tool

Defines a mask selection that includes all adjacent pixels that are similar in color to the pixel you first clicked.

Adjust the color tolerance to set the range of colors that should be included in the selection. Use this tool when you want to apply an effect to an area that is irregular in shape but that includes many shades of the same color. You can invert the mask to protect the area and manipulate the rest of the image.

3b. Mask modes

Mask modes are states to which you set Corel PHOTO-PAINT when creating or editing masks.

There are four mask modes: Normal, Additive, Subtractive, and XOR.

Mask modes are used to fine-tune an existing mask by adding or removing areas from its area. The behavior of the mask tools is affected by the mode currently enabled.

4a. Feathering

Feathering is the gradual blending of pixels between a mask selection or object and the surrounding background. Feathering produces a softer, more natural-looking edge.

The Property Bar and the Tool Settings Roll-Up for mask tools each provide a Feathering box in which you choose the width, in pixels, of the feathered edge. If you forgot to feather when creating the mask, or you thought you did not need to, you can always feather afterwards as described in *Altering the edges of a selection*. The feathered edges of a selection are not apparent on the marquee; to see the result of feathering, apply the mask overlay and zoom in on the edge of the selection to see how it fades gradually into the protected area(s), or look at the mask edge in Paint On Mask mode.

5n. Note

- If the mask is not exactly what you wanted, you can remove it and start again with a different tolerance value.
- To remove certain colors from the selection, use the Subtractive mode, and, with the Magic Wand mask tool, click a color in the selection that is different from the one that you clicked to create it. This removes certain pixels from the selection and produces a hole in the selection, i.e., an area within the selection that is protected from editing changes.

6a. Transformation handles

Objects can be sized, scaled, rotated, skewed, distorted, flipped, mirrored. Most of the transformations can be performed using the tabs of the Tool Settings Roll-Up, or the modes of the Property Bar associated with the Object Picker tool.

The Tool Settings Roll-Up tabs, and the Property Bar modes, let you make very precise adjustments to the object. The object distortion and perspective transformations cannot be applied using the Roll-Up or the Property Bar; they are applied directly to the object by using the handles that appear along the object's highlighting box when it is selected.

You can also perform all other transformations directly in the Image Window by using the handles of the highlighting box. Transformations can be applied to one object, to several selected objects, or to a group of objects in all object-editing modes.

PNG, Save as (2250)

1a. PNG file format (MAP - Image Map (1950), 7d. PNG)

PNG (Portable Network Graphics) is a new image format with lossless compression that supports indexed color (8-bit paletted), grayscale, and true color (24- and 48-bit) images, alpha channels and blended transparency. As yet, PNG is not as widely used as the more common GIF and JPEG. Ensure your Web browsers support this format before completing your Web project.

1b. HTML

In order for your images to appear in Web pages, you must save the image in a file format that is readable by Web browsers (in this case the new PNG format; GIF and .JPG formats are the more commonly supported ones), and make a reference to the image in an HTML page.

HTML (Hypertext Markup Language) is the World Wide Web authoring standard. HTML is made up of markup tags. You use the tags to code text and integrated resources (such as images, sound, video, and animation) to create a Web page. The number of HTML tags has grown, allowing Web authors to greatly enhance the design of pages.

2a. plug-in

A plug-in is a software program that extends the capability of a Web browser in a particular way. In this case, a plug-in is required by many Web browsers to decode and display PNG format image files on Web pages. Many plug-ins are available free of charge and can be downloaded from sources on the Internet.

2b. JPEG and GIF

JPEG (Joint Photographic Experts Group) is a still image format that supports 24-bit color (true color), allows for variable levels of "lossy" compression and progressive loading. A photo-realistic subject, with the right amount of compression, will be represented more faithfully in less space by JPEG than by GIF.

The .GIF format (Graphics Interchange Format) is ideal for line bitmap images with few colors or sharp edges. It supports up to 256 colors (8-bit), a "lossless" compression scheme that reduces file size, the selection of a single image color for "transparency", and an "interlaced" viewing option. Of the Web browser-supported file formats, GIF is the quickest to display due to its limited color range.

3a. "lossless" compression

Lossless compression reduce the size of a saved file but always recreate the original file exactly, preserving the visual integrity of the image data originally saved. "Lossy" compression schemes look for repetitive data structures and excludes them when an image is saved. When uncompressed, the image is recreated as close as possible to the original image but will exhibit some "loss".

3b. Soft mask transparency

A soft mask (any selection mask with an anti-aliased or feathered edge) can be used to define an area on the image to become transparent when loaded into a Web browser. The area protected from change by the mask in Corel PHOTO-PAINT will become "invisible" when the image loaded into a Web browser.

3c. Hard mask transparency

A hard mask (any selection mask that has a crisp, "stair-stepped", non-blending edge) can be used to define an area on the image to become transparent when loaded into a Web browser. The area protected from change by the mask in Corel PHOTO-PAINT will become "invisible" when the image is loaded into a Web browser.

4a. clickable areas as hyperlinks

Specific regions on a Web page graphic can be identified as hyperlinks that you click to access more information (other Web pages, for example) on the World Wide Web. Currently, this feature is not supported for PNG format images. You can define clickable areas in GIF and JPEG images using objects and the Tag WWW URL command in Corel PHOTO-PAINT.

6a. Interlace check box

Although an interlaced PNG file doesn't load faster than the non-interlaced PNG file, it does allow the user time to preview the low-resolution image, thus allowing the opportunity to cancel the load before the entire file has been decompressed and displayed in the Web browser.

