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# Getting started with Corel OCR-TRACE

**W**elcome to Corel OCR-TRACE™, a fast, flexible program with which you can convert bitmap images to editable vector graphics and text characters.

Bitmaps are images made up of a series of individual dots (pixels). The major drawback with bitmaps is their fixed resolution, a limitation that can result in the deterioration of image quality when bitmaps are scaled to different sizes. For example, straight lines become jagged when enlarged. Vector graphics are created by mathematical equations that describe each line and curve of an object. Vector graphics can be scaled, and even rotated, with no distortion or loss of quality, and lines remain sharp at any size. Additionally, when bitmaps are printed on high-resolution output devices, the image quality does not improve. Vector graphics, on the other hand, appear sharper the higher the resolution of the printer.

With Corel OCR-TRACE, you can create vector copies of your bitmap images using several tracing methods. You choose the tracing method most appropriate for the result you want. Some of these methods add special effects to your images. The tracing methods available are Outline, Centerline, Woodcut, Sketch, Mosaic, and 3D Mosaic.

Corel OCR-TRACE also has an Optical Character Recognition (OCR) feature that converts bitmap text characters into editable text characters. When a document is scanned into digital format, it produces a bitmap image of the pages. Text characters are then treated as pictures and, as such, cannot be edited. The OCR feature translates the bitmaps back into text characters so the document can be exported to and edited in applications such as Corel WordPerfect and Corel Quattro Pro.

You can select portions of the bitmap image to be converted using the trace and OCR features, create and save templates to use with multiple images, and work with multiple documents simultaneously.

You can also print vector graphics or converted text from Corel OCR-TRACE. You cannot, however, print the bitmap image. The Corel Print dialog box is used when printing the vector graphic and converted text and provides you with full printing capabilities.



## Finding source files and acquiring images

**B**efore you can begin using OCR Trace, you must select the files you want to work with. Corel OCR TRACE supports many different file formats and even lets you convert images to digital format using a scanner or digital camera.

The Scrapbook feature of OCR TRACE 8 allows you to view a thumbnail of all your images in a Docker( window. You can double-click or drag the image from the scrapbook into the work area to view in full size.

### Finding source files

The source files you convert using Corel OCR-TRACE can be any bitmap image produced by scanners, video board captures, screen captures, and image-editing applications such as Corel PHOTO-PAINT.

If the image has not yet been digitized, you can place it on the bed of your scanner and scan it directly into the Corel OCR-TRACE bitmap area or you can use a digital camera to take a picture and import it. The source image can be scanned into a new document or added as a new page to an existing document. You can also scan multiple pages into Corel OCR-TRACE. Once scanned, you can convert the bitmap image to an editable vector graphic or editable text.

You can also use Corel OCR-TRACE to convert multiple pages in a single operation. You can add multiple pages to a new document by choosing the files in the Add Pages dialog box. You can always add pages to or remove pages from a document already in Corel OCR-TRACE. New pages are always added at the end of the document, and you cannot change their order.

When you trace or perform Optical Character Recognition (OCR) on a document with multiple pages, the Trace Multiple Pages or OCR Multiple Pages dialog box automatically opens. You can specify the pages you want to convert or accept the pages currently selected.

### Opening bitmap images to convert

Opening files from Corel OCR-TRACE is the easiest method to obtain the bitmap images you want to trace or convert to editable text. Each file you choose is opened as a separate document, even if you're opening several files at the same time.

❖ To open one bitmap image to convert

1. Click File, Open.
2. Choose the drive where the file is stored from the Look In list box.
3. Double click the folder where the file is stored.
4. Double-click the filename.

❖ To open several bitmap images to convert

1. Click File, Open.
2. Choose the drive where the files are stored from the Look In list box.
3. Double-click the folder where the files are stored.  
All files must be in the same folder to open them at the same time.
4. Hold down CTRL or SHIFT, and click each filename you want to open.
5. Click Open.

All selected files are opened as separate documents.



- To display only the files of a specific format, choose a file type from the Files Of Type list box.
  - To preview a file before you open it, enable the Preview check box.
  - For more information about the selected file, click the Options button.
- 

## Dragging and dropping bitmap images to convert

Dragging is an alternative method for opening the bitmap images you want to trace or convert to editable text. Any file management utility, such as Corel Media Folder, that supports dragging can be used.

❖ To drag a bitmap image to convert

1. Launch a file management utility.
2. Double-click the folder where the file is stored.
3. Click the file's icon and do one of the following:
  - Drag the icon to a document window in Corel OCR-TRACE to add the file as a new page of the active document.
  - Drag the icon anywhere outside the document windows to open the file as the only page of a new document.

❖ To drag and drop several bitmap images to convert

1. Launch a file management utility.
2. Double-click the folder where the files are stored.  
All files must be in the same folder to open them at the same time.
3. Hold down CTRL, and click the icons associated with each file you want to open.
4. Do one of the following:
  - Drag the icons to a document window in Corel OCR-TRACE to add them as new pages of the active document.
  - Drag the icons anywhere outside the document windows to open them as individual documents.

### Adding bitmap images to an active document

You can add bitmap images to an active document when you want to convert several images to vector graphics or editable text at once.

❖ To add bitmap images to an active document

1. Click File, Add Pages.
2. Choose the drive where the files are stored from the Look In list box.
3. Double-click the folder where the files are stored.
4. Do one of the following:
  - Click a filename.
  - Hold down CTRL or SHIFT, and click multiple filenames.
5. Click Open.

### Deleting bitmap images from an active document

You can remove a bitmap image that you don't want to convert from the active document.

❖ To delete a bitmap image from an active document

1. Right-click the bitmap image you want to delete.
2. Click Remove Page.

## Acquiring images

If you have an original image that you need to trace or convert to editable text and it isn't already in digital format, you can scan the image directly into the Corel OCR-TRACE bitmap area. The source image can be scanned into a new document, or added as a new page to an existing document. You can also scan multiple pages into Corel OCR-TRACE. Once scanned, you can convert the bitmap image into an editable vector graphic or editable text.

A digital camera can also be used to capture an image and convert it into digital format. To use the digital camera, select the camera drivers as the source then acquire the images into Corel OCR TRACE.

You can choose between using TWAIN or CorelSCAN utilities to scan your original images. These utilities can be accessed from the File menu in Corel OCR-TRACE. TWAIN is an interface that lets you scan images directly into Corel OCR-TRACE without accessing any additional applications. CorelSCAN is a wizard-based utility that guides you through the steps necessary to produce a high-quality scanned image without having to use a photo-editing application.



## Viewing in document windows

**D**ocument windows are divided into two viewing areas: the bitmap area and the result area. Bitmap images are always displayed in the bitmap area, while traced vector graphics and editable text are always displayed in the result area. By default, the viewing areas are arranged horizontally, with the bitmap area on the left and the result area on the right. However, the viewing areas can also be arranged vertically and adjusted in size to suit your preference. In addition, each document window can be resized and positioned so that you may view several documents simultaneously. You can also use menu commands or tools in the Toolbox to control how you view your source files.

The View menu contains the commands that control the document view, including commands that allow you to view all pages of multipage documents simultaneously, browse through individual pages of a document, arrange document window layout, and view images at actual size.

The Toolbox contains two tools that allow you to adjust the view. The Zoom tool is used to set the level of magnification for your image, which is useful if you need to edit small details in the image. For large images that do not entirely fit in the bitmap area, the Pan tool allows you to quickly drag the image in any direction so that you can see the hidden areas.

You can also view additional data about the bitmap image or conversion result in the Document Information Docker window.

### Zooming in and out on images

You can set the desired level of magnification for your image using the Zoom tool.

#### ❖ To zoom in on an image



1. Click the *Zoom* tool.
2. Position the cursor in the area you want to zoom.
3. Click until you've zoomed in on the area.

You can also drag the mouse to draw a marquee around the area you want to magnify. When you release the mouse button, the area inside the marquee fills the entire bitmap area.



❖ To zoom out on an image

1. Click the *Zoom* tool.
2. Position the cursor anywhere on the image.
3. Right-click until you've zoomed out of the area.

❖ To view an image at actual size

- Click View, Actual Size.

## Panning images

Using the Pan tool in the Toolbox is the easiest way to move an image that is too large to fit in the bitmap area. The Pan tool allows you to drag the image in any direction to view the hidden areas.

Scroll bars automatically appear if an image is too large to fit in the bitmap area. You can also use the scroll bars to view hidden areas of the image. Movement, however, is restricted to horizontal and vertical directions only.



❖ To pan an image

1. Click the *Pan* tool.
2. Click anywhere in the image.
3. Drag to view hidden areas of the image.

❖ To scroll an image

- Drag either the horizontal or vertical scroll box or both.  
You can also click the scroll bar arrows to move the image.

## Viewing pages

You can display each page of multipage document at the same time or individually using the commands in the View menu.

❖ To view all pages simultaneously

- Click View, All Pages.

A check mark appears beside the All Pages command when it's enabled.  
To disable the command, click it again.

❖ To view the next page

- Click View, Next Page.



- ❖ To view the previous page
  - Click View, Previous Page.



- You can also press the PAGE UP and PAGE DOWN to view the previous or next page.

## Adjusting, resizing, and arranging document windows

Document windows are divided into two areas: the bitmap area and the result area. These areas can be displayed either horizontally or vertically and adjusted in size. Also, each document window can be resized and placed in any arrangement so that you can view several, documents at the same time.

- ❖ To adjust the size of the document window areas
  - Drag the separator bar.
- ❖ To resize and arrange document windows
  1. Open each document you want to view.
  2. Drag the lower right corner of each document window until the window is the size you want.

Scroll bars automatically appear if the document window becomes smaller than the image.
  3. Drag each document window's Title Bar to reposition the window.

## Viewing document information

You can view additional information about a bitmap image, traced graphic, or converted text in the Document Information Docker. The Docker window is divided into four pages; Bitmap Info, Path Info, OCR Results, and Layers.

- ❖ To view document information
  - Click the tabs to access the information on each page of the Docker window.



## Enhancing and modifying bitmap images

**I**n Corel OCR-TRACE, you can enhance or modify bitmap images using the basic retouching tools in the Toolbox or the commands in the Image menu. The Zoom and Pan tools allow you to view and position the bitmap image so that you can retouch even its smallest details. To retouch, use the Eraser and Pencil tools. The Eraser tool deletes parts of the image or image anomalies such as noise. The Pencil tool adds simple lines.

The commands in the Image menu allow you to make other modifications to the bitmap image. You can convert color images to grayscale or black-and-white invert colors, flip images horizontally or vertically, and rotate images to any angle.

Also, if you're scanning your source file, you can use the features in the scanning utility to make color enhancements to your image.

If your bitmap image requires more complex retouching however, you should use an image-editing application such as Corel PHOTO-PAINT which can be launched directly from Corel OCR-TRACE.

Before you begin to trace your bitmap image, it's important that you first prepare it in Corel PHOTO-PAINT. Preparing your image involves reducing its color complexity and potential for generating small objects when it's converted to a vector graphic. For example, color bitmap images may consist of many different shades of a particular color that when traced result in many separate objects. By reducing the number of color shades, you can reduce the image's complexity and, thereby, reduce the number of objects created in the vector graphic.

In Corel PHOTO-PAINT, the most effective way to reduce an image's color complexity is to convert the image to a paletted color image with no dithering. By converting the bitmap to a paletted color image, you can specify the total number of colors to be used in the converted image.

Complex images take much longer to convert, result in larger file sizes, and can potentially generate many small objects. Many of the generated objects may be unnecessary to the overall appearance of the vector graphic.

### Inverting an image

You can create interesting effects quickly and easily by inverting black-and-white or color images. Also, if you scan a negative image, it can be inverted to a positive image using this procedure.

❖ To invert an image

- Click Image, Invert.

Black becomes white and vice versa, and colors change to their complementary colors.

## Converting a color image

You can convert your color images to a color mode (black and white or grayscale) that better suits the tracing method you'll be using or your specific requirements.

❖ To convert a color image to black and white

1. Click Image, Convert To Black And White.
2. Type a threshold value in the Threshold box.

Colors in the image that have a greater brightness value than the threshold become white; colors with a lesser value become black. Therefore, the greater the threshold value, the more black areas there are in the converted image.

❖ To convert a color image to grayscale

- Click Image, Convert To Grayscale.



- If you want to try different threshold values before applying one to your image, enable the Preview check box.
- 

## Rotating an image

You can rotate an image by preset degrees or a custom amount in Corel OCR-TRACE. Rotation is a useful feature for correcting images that have been mistakenly scanned at an angle.

❖ To rotate an image by preset degrees

- Click Image, Rotate and click a preset rotation degree.

❖ To rotate an image by a custom amount

1. Choose Image, Rotate, Custom.
2. Type a rotation degree value in the Degrees box.

3. Enable a rotation direction button.
4. Disable the Maintain Original Size check box.



- If you're working with multiple pages, the image thumbnails do not display differently, even if the actual images have been rotated.
- 

## Flipping an image

You can flip an image horizontally, vertically, or both, using the commands in the Image menu.

- ❖ To flip an image
  - Click Image, Flip Horizontal to flip the image from left to right, or Flip Vertical to flip it from top to bottom.



- If you're working with a multipage document, you can flip only one image at a time, and that image must be the only one displayed. Double click the image you want to hide any other images.
- 

## Erasing parts of an image

Using the Eraser tool, you can easily remove unwanted portions of your image or image anomalies such as noise.

- ❖ To erase part of an image



1. Click the *Eraser* tool.
2. Position the eraser cursor where you want to erase part of the image.
3. Do one of the following:
  - Click to erase an area the size of the cursor
  - Drag to erase a larger area.



- If you want to erase pixel by pixel, zoom in on the image until each pixel is the size of the eraser cursor.
-

## Adding lines to an image

You can draw simple lines on your bitmap image using the Pencil tool.



### ❖ To add lines to an image

1. Click the *Pencil* tool.
2. Position the pencil cursor where you want the line to begin.
3. Click and drag to draw the line.



- Clicking the mouse button once adds a single point to the image.

## Performing advanced image editing

Although Corel OCR-TRACE contains some basic image-editing tools, it's not a suitable application for major retouching jobs. If you need to perform complex image retouching to your bitmap image, use an application designed for this purpose, such as Corel PHOTO-PAINT.

### ❖ To perform advanced image editing

- Click Image, Advanced Editing.

Corel PHOTO-PAINT automatically launches if it's installed on your computer; otherwise, the default Windows retouching application launches. The choice of which application to launch can be specified on the General page of the Options dialog box.



- For assistance with advanced editing features, refer to the online Help in your image-editing application.

## Preparing a bitmap image for tracing

Before you begin to trace your bitmap image, it's important that you first reduce its color complexity in Corel PHOTO-PAINT. Complex images take much longer to convert, result in larger file sizes, and can potentially generate many small objects. Many of the generated objects may be unnecessary to the overall appearance of the vector graphic.

The most effective way to reduce an image's color complexity is to convert the image to a palleted color image with no dithering. By converting the bitmap to a

paletted color image, you can specify the total number of colors to be used in the converted image.

❖ To prepare a bitmap image for trading

1. Open your bitmap image in Corel PHOTO-PAINT.
2. Click Image, Convert To, Paletted (8-bit).



- Refer to the Corel PHOTO-PAINT online Help for information about converting to paletted color images.
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## Creating templates to use on multiple pages

**C**orel OCR-TRACE allows you to create custom templates (.CTT files) that you can save and reload to simplify the conversion of multiple page documents with similar layouts. Templates are created using the areas around which you draw selection marquee. These areas are known as selection blocks.

Selection blocks are created using the Draw OCR Block and Draw Trace Block tools in the Toolbox. Each selection block is rectangular but can be scaled to a size that best suits your needs. You can have an unlimited number of selection blocks per page, including a combination of trace and Object Character Recognition (OCR) blocks. Also, each selection block can be renumbered so that they appear in the result area order you want.

You have three options for applying templates to multipage documents: you can specify that the document uses the same template throughout, a different template throughout, or a different template for only the first page.

### Creating and saving a template

If you need to convert identical areas on many pages consistently, creating and saving a template as a preset is a great way to speed up your work. Once it's saved, you can reload the template and apply it to the necessary pages.

#### ❖ To create and save a template

1. Click a selection tool.
2. Click and drag around the area(s) to include in your template.
3. Click File, Save Template.
4. Choose the drive and folder where you want to save the template.
5. Type a new filename for the template in the File Name box.



- The template retains all of the information about the selection blocks, such as the specific parameters for each block and whether the blocks are Trace or Object Character Recognition (OCR) blocks.

## Loading a template

If you need to convert identical areas on multiple pages in a document, load a preset template. In this case, loading a preset template will save you from having to create separate templates for each page.

### ❖ To load a template

1. Do one of the following
  - Open a document
  - Import an image into a new document.
2. Click File, Load Template.
3. Choose the drive and folder where the template is saved.
4. Double click the template name.

A rectangular Text And Graphics or Trace template appears on the image.



- Templates are a fixed size in pixels. If you load a template onto an image that is different in size than the one from which it was created, the template may not include the areas you expect.

## Using the same template on all pages of a multipage document

If you need to convert identical areas on each page of a multipage document, you can specify that the same template be used on all pages.

### ❖ To use the same template on all pages of a multipage document

1. Click Tools, Options.
2. Enable the Same For All Pages button in the Template section of the General page.
3. Click OK.
4. Draw or load a template on any of the pages in the document.

The same template is automatically applied to all of the pages.

## Using a different template on the first page of a multipage document

You can specify that a different template be used on only the first page of a multipage document. This option is useful when you want to convert identical areas on all pages of a document except for the first page.



❖ To use a different template on the first page of a multipage document

1. Click Tools, Options.
2. Enable the Different First Page button in the Template section of the General page.
3. Click OK.
4. Draw or load a template on the first page of the document.
5. Draw or load a template on any one of the other pages in the document.

The same template is applied to all pages except the first.

### Using a different template on each page of a multipage document

If you don't need to convert identical areas on each page of a multipage document, you can specify that a different template be used on each page.

❖ To use a different template on each page of a multipage document

1. Click Tools, Options.
2. Enable the Different For All Pages button in the Template section of the General page.
3. Click OK.
4. Draw or load templates on the pages you want.



- To use the same template on some but not all of the pages, enable the Different For All Pages button and draw the common template on one page, save it, and then load it onto the other pages that require the same template.
-



## Working with vector graphics

**T**he traced vector graphic is made up of one or more layers of individual objects. The number of layers and objects is determined by the complexity of the bitmap image and the tracing method used.

The Outline method of tracing produces multiple layers, in which each color represents one layer. There can be a maximum of 257 layers produced during the trace (256 colors plus one hole-filling layer). You can edit individual nodes in each layer directly in the result area. To do more extensive editing, you can import the drawing into an illustration program such as CorelDRAW, where you can separate the layers into individual objects.

The Centerline method creates one layer of multiple curves, the Woodcut method produces one layer of multiple objects, and the Sketch method produces multiple layers of straight lines.

The Mosaic and 3D Mosaic methods produce one layer of multiple objects. You can move, hide, delete, or change the color of objects.



- These tracing methods allow you to edit an object's nodes to change the object's size and shape.
- For any of these methods, you can add curves to a layer using the Create Bezier and Rubber Band tools. You can also add and delete individual layers in the Layer Manager dialog box.

### Viewing vector graphic information

You can view information relating to the vector graphic on the Docker window on the right side of the application window.

#### ❖ To view vector graphic information

1. Click a tab on the Docker window.
2. Click the Path Info and Layers tabs to access information relating specifically to the vector graphic.



- Click the Bitmap Info tab to view information about the bitmap image used to generate the vector graphic.

## Displaying the bitmap image under the vector graphic

You can view the bitmap image under the traced vector graphic.

- ❖ To display the bitmap image under the vector graphic
  - Click View, Objects, Show Bitmap.

## Displaying the vector graphic in Wireframe mode

You can display the vector graphic in Wireframe mode.

- ❖ To display the vector graphic in Wireframe mode
  - Click View, Objects, Wireframe.

## Displaying only one layer of the vector graphic

You can display your vector graphic layer by layer to see specific portions of the graphic individually.

- ❖ To display only one layer of the vector graphic
  1. Click the layer tab on the Docker window.
  2. Double-click the name or any of the icons beside the layer you want to display.

All other layers are hidden.



- If the Wireframe/Fill icon is in Fill mode, double-click it to display the layer in Wireframe mode.

## Showing or hiding layers in the vector graphic

You can easily show or hide any combination of layers in the vector graphic by selecting the combination in the Layer Manager.

- ❖ To show or hide a layer in the vector graphic
  1. Click the layer tab on the Docker window.

2. Click the eye icon beside a layer to show or hide the layer in the result area.  
A layer is displayed when the eye icon is visible.

## Adding new layers to the vector graphic

You can add layers to your vector graphic, on which you can create additional objects using the Pencil, Create Bezier, and Rubber Band tools.

### ❖ To add a new layer to the vector graphic

1. Click the layer tab on the Docker window.
2. Click the New icon.

A new, empty layer appears at the top of the layers list and becomes the active layer.

## Deleting layers from the vector graphic

You can delete layers that contain objects which are unnecessary to the appearance of your vector graphic in the Layer Manager.

### ❖ To delete a layer from the vector graphic

1. Click the layer tab on the Docker window.
2. Click the name of the layer you want to delete.
3. Click the Trash icon.

If the deleted layer was the active layer, the layer immediately below it becomes active.

## Creating new objects in the vector graphic

You can create a new object on a layer in the vector graphic using the Create Bezier and Rubber Band tools.

### ❖ To create a new object in the vector graphic

1. Click the layer tab on the Docker window.
2. Click in the pencil column beside the name of the layer to which you want to add an object.
3. Click either the Create *Bezier* or *Rubber Band tool*.
4. Position the cursor where you want to begin drawing, and click to place the starting node of the new object.



5. Drag the mouse to create curves or click to create straight lines.
6. Click again to close the object when a small circle appears beside the cursor as it nears the starting node.

The new object is filled with the selected color from the color palette.



- Since layers reside on top of each other, make sure that the layer on which you're drawing resides is above the other layers; otherwise, the object will be hidden by the layers above it.
- 

## Editing objects in the vector graphic

You can edit objects in the vector graphic using the Node Reshape tool.



### ❖ To edit an object in the vector graphic

1. Select the object you want to edit with the *Node Reshape tool*.

Nodes appear around the object.

2. Do any of the following
  - Select a node and drag to move it
  - Hold down SHIFT, select multiple nodes, and drag to move them
  - Select a node's control point and drag to move it
  - Right-click a node to change the type of selected nodes
  - Delete selected nodes
  - select a line segment and drag to move the segment



- The nodes associated with straight line segments do not have control points.
  - In Outline mode, each layer is one object.
  - In Mosaic or 3D Mosaic mode, the entire vector graphic is one object. You can move, delete, or change the color of individual tiles, but you cannot edit their nodes.
-



## Working with converted text

To convert bitmap text characters into editable text characters, the Optical Character Recognition (OCR) feature tries to identify the correct character. However, sometimes there are characters it doesn't recognize (rejected characters), or isn't sure about (suspected characters). You can set a confidence level that determines how many characters will be considered suspect. As you increase the confidence level from 0 to 255, more characters are treated as suspect. You choose the level of confidence and the type of rejected character to use on the Language page of the OCR Settings dialog box.

After the bitmap text is converted to editable text characters, you can locate rejected and suspected characters and replace them with the correct characters. You can also spell check the converted text to correct spelling errors that were in the original document. Use the Verification dialog box to correct rejected or suspected characters and misspelled words.

You can edit the converted text directly in the result area using the standard Cut, Copy, and Paste commands, and the Find and Replace commands. You can also change the text font, style, paragraph alignment, and indentation.

The converted text can be exported to common text file formats, and then opened or dragged into other applications, such as Corel WordPerfect, where you can perform more extensive text editing.

### Viewing text information

You can view information about your converted text in the Document Information page of the Docker window.

#### ❖ To view text information

- Click View, Dockers, OCR Results.

For information about the bitmap image used to generate the text, click the Bitmap Info tab.

### Verifying and correcting mistakes in the converted text

You can verify and correct unrecognizable characters and misspelled words in the converted text in the Verification dialog box.

❖ To verify and correct mistakes in the converted text

1. Click OCR Verification in the OCR Trace menu.

If you enable the Display Verification Dialog Box On OCR check box on the General page of the Options window, the Verification dialog box opens automatically after converting the bitmap text.

2. Enable any of the following check boxes for the types of text you want to verify: Rejected Characters, Suspected Characters, Misspelled Words.

The first occurrence of the character type or word in the converted text.

3. Do one of the following:

- Click the Ignore button if the text is correct.
- Type the correct characters in the Change To box, then click the Change button to change the text.

4. Click the Close button to stop the verification process.



- Click the Ignore All and Change All buttons to instruct the verification feature to ignore or change any further occurrences of the same character or word in the document.
- 

## Cutting, copying, and pasting text

You can edit the converted text directly in the result area using the standard Cut, Copy, and Paste editing commands(Edit menu).

❖ To cut text



1. Select the text you want to cut in the result area with the *Select Block* tool.
2. Choose Edit, Cut.

The selected text is removed from the document and placed on the Clipboard.

❖ To copy text

1. Select the text you want to copy in the result area with the select Block tool.
2. Choose Edit, Copy.

The selected text remains in the document and a copy is placed on the Clipboard.



- You can select all of the converted text by clicking Edit, Select All.

#### ❖ To paste text

1. Place your cursor at the location in the converted text where you want to paste the contents of the Clipboard.
2. Choose Edit, Paste.

## Finding and replacing characters in the converted text

You can search your converted text quickly for specific characters or words using the Find and Replace commands.

#### ❖ To find characters in the converted text

1. Click Text, Find.
2. Type the text you are looking for in the Find What box.
3. Enable the Match Case check box to find only the text with the same characteristics as the text in the Find What box.
4. Click the Find Next button.

#### ❖ To replace characters in the converted text

1. Click Text, Replace.
2. Type the text you are looking for in the Find What box.
3. Enable the Match Case check box to find only the text with the same characteristics as the text in the Find What box.
4. Type the replacement text in the Replace With box.
5. Click the Find Next button.
6. Do one of the following:
  - Click the Replace button to replace the found text with the replacement text.
  - Click the Find Next button again to keep the found text as is, but search for the next occurrence of the text.
7. Repeat step 6 until all of the text has been replaced.





- To replace all occurrences of the same text with the replacement text, click the Replace All button.
- 

## Formatting the converted text

You can apply various formatting styles to the converted text. You can change the font, style, size, alignment, and paragraph indentation properties of columns, tables, and table borders.

### ❖ To format the converted text



1. Select the converted text with the *Select Block* tool.
2. Click Text, Format Text.
3. Choose the text formatting properties that you want to apply from the Format Text dialog box



## Converting bitmaps to vector graphics and text

**F**or source documents that contain both text and graphics, the OCR-Trace feature can distinguish between the two and perform the appropriate conversion on each. The traced vector graphic and the editable text both appear in the result area as separate layers, with the text layer on top of any graphic layers.

Corel OCR-TRACE allows you to limit graphic and text conversion to specific areas of a page if you draw rectangular marquees around the areas you want. These areas are known as selection blocks.

There are two tools available in the Toolbox for drawing selection blocks: the Draw OCR Block tool and the Draw Trace Block tool. If you use the Perform OCR or Perform Trace commands (OCR-Trace menu), the application converts only those areas selected with the relevant tool. If you use the Perform OCR-Trace commands (OCR-Trace menu), the application converts all of the selected areas appropriately. If you don't preselect the text and graphic areas of your page and you use the Perform OCR-Trace command, the application automatically analyzes the page and selects the appropriate areas before proceeding with the Optical Character Recognition (OCR) or trace.

You can specify the order in which the OCR results are displayed in the result area using the Number Block tool. By default, the OCR blocks are numbered in the order in which they are drawn, but you can renumber them at any time using the Number Block tool.

You can also create templates to convert parts of pages that are located in the same place from page to page or from document to document. For example, you may want to save the text from a monthly newsletter that you've scanned but not the newsletter's masthead. You can draw a selection block around the text, save the block as a template, and when the next issue comes, reload the template without having to redraw selection blocks.

The General category of the Options dialog box provides you with three choices for using templates:

- All pages can use the same template. Creating, loading, or editing the template on any page causes the same action on all of the pages.
- All pages except the first can use the same template. This is a good choice for documents with title pages that differ in format from the rest of the pages.
- All pages can use different templates, or none at all.

## Tracing graphics

There are six methods for tracing graphics in Corel OCR-TRACE and each method has its own complement of tracing options. For each method, multiple settings can be defined and saved to file for future use. This file is known as a preset. You can add and delete presets for each tracing method as required. Also, you can specify that your favorite trace preset is used by default for all graphic conversions unless other trace settings are defined.

### Outline method

This method produces a vector graphic that closely resembles the original image. The Outline method can create from 2 to 256 colors, with objects of the same color grouped into layers. You can predefine the number of colors to be used before the trace is initiated or allow the application to optimize the result. Optimization determines the best colors for the specified number of colors. If you import the resulting vector graphic into an illustration program, such as CorelDRAW, you can separate the layers and edit individual objects. Use this method when you want to maintain the appearance of the original image but need to manipulate its size or shape.

### Centerline method

This method converts your bitmap image into a line drawing. You can specify the resulting line thickness and color, and determine whether closed paths are filled with black. Use the Centerline method to trace engineering drawings, scientific schema, maps, or any other images that are mainly line drawings. The bitmap image must be black-and-white. If you're working with a color source, it is automatically converted to black-and-white based on the black and white threshold value in the Options dialog box, before the trace is initiated. You can also convert a color image to black-and-white using Image menu.

### Woodcut method

This method produces a vector graphic that contains objects of varying width, depending on the intensity of the original image at any given point.

### Sketch method

This method produces a vector graphic that contains separate layers of lines, with each layer crossing at a different angle to create a mesh-like effect. You can set a line spacing value that is applicable to all layers. The Sketch method is mainly used for special effects.

## Mosaic method

This method produces a vector graphic consisting of an array of symmetrical objects. Each object's color is based on the average color of the original image in that area. You can vary the number of tiles used, and, as the number increases, the original image becomes more recognizable.

## 3D Mosaic

This method is very similar to the Mosaic method. In both these methods, the traced graphic is comprised of an array of tiled symmetrical objects. However, for the 3D Mosaic method, you choose the shape as well as the number of tiles. 3D Mosaic tiles look as if they are embossed.

The Centerline, Woodcut, and Sketch tracing methods use intensity thresholds to determine which part of the bitmap image is traced.

The intensity of a color refers to its pureness on a scale of 0 to 255, with 0 being black and 255 being the pure color. On a grayscale image, 255 would be white.

The threshold is a value you set between 0 and 255 that determines when the tracing stops. For example, if you set a threshold of 128, any area in the original image that falls below 128 is traced, and any area above 128 is not traced. If the threshold were set at 0, only those areas that are pure black would be traced. If the threshold were set to 255, the entire image would be traced (since every part of the image has some intensity).

## Tracing an entire page

You can trace an entire page using the Trace Method flyout.

### ❖ To trace an entire page

1. Open the bitmap image you want to convert to a vector graphic.
2. Open the Trace Method flyout and click a tracing method.
3. Adjust the controls for the tracing method you want to use.
4. Click the Apply button.



- If you use the same settings for particular tracing methods frequently, save the settings as presets and load the appropriate preset when it's required.
-

## Tracing selected areas of a page

You can trace selected areas of a page using the commands in the OCR-Trace menu.



### ❖ To trace selected areas of a page

1. Click the *Draw Trace Block* tool.
2. Click and drag around the areas of the bitmap image to be traced.
3. Do one of the following on the Property Bar
  - Adjust the controls for the tracing method you want to use.
  - Choose a preset from the Presets list box.
4. Click the Apply button to begin tracing the image.

## Tracing multiple pages

You can trace multiple pages at the same time using the Property Bar and the Trace Multiple Pages dialog box.

### ❖ To trace multiple pages

1. Do one of the following on the Property Bar
  - Adjust the controls for the tracing method you want to use.
  - Choose a preset from the Presets list box.
2. Click the Apply button.
3. In the Trace Multiple Pages dialog box, do any of the following:
  - Enable the page icons you want to trace.
  - Disable the page icons you don't want to trace.



- You can select or cancel the selection of all of the page icons simultaneously by clicking the All Pages icon.

## Stopping a trace in progress

You can stop a trace that is already in progress using the Stop OCR-Trace command.



#### ❖ To stop a trace in progress

- Click the *Stop* button on the Standard toolbar.

## Converting bitmaps into editable text

When a document is scanned into digital format, a bitmap image of each page is produced. If the document contains text, the characters are treated as pictures and, as such, cannot be edited. The Optical Character Recognition (OCR) feature converts the bitmap image back into text characters so that the document can be exported and edited in word processing and database programs. For acceptable OCR results, your source text document should be at least 200 dpi. The best OCR results, however, are obtained with a text document of 300 dpi.

Before you convert the bitmap image to editable text characters, you can set numerous options on the Property Bar. The options you set can be saved to a file (creating what's called a Preset) and can be reloaded for use with all documents requiring the same OCR configuration.

The OCR feature can convert multiple columns, graphics, bullets, and tables in normal, dot matrix, and fax-quality texts. It can convert text in five languages and includes a Spell Checker for each language. The OCR feature can detect and deskew a document that was scanned at an angle. It can also distinguish the characters' size (from 6 to 72 points), pitch (fixed or variable), and whether the character is serif or sans serif. You can set options that change text characteristics such as font and size during the OCR process.

The converted text is put into paragraph text frames similar to those in CorelDRAW. Many formatting options such as the ability to add bullets, indents, tabs, and columns are available for Paragraph text in the Format Text dialog box.

### Converting an entire page into editable text characters

You can convert an entire page to editable text characters using the Property bar.

#### ❖ To convert an entire page into editable text characters

1. Open the bitmap image containing the text you want to convert.
2. Adjust the controls to define how to recognize the text.
3. Click the Apply button on the Property Bar.

### Converting selected areas of a page into editable text characters

You can convert selected areas of a page to editable text characters using the Property Bar.



❖ To convert selected areas of a page into editable text characters

1. Click the *Draw OCR Block* tool.
2. Click and drag around the areas of the bitmap image to be converted.
3. On the Property Bar choose settings for performing the Optical Character Recognition (OCR) and click Apply to begin tracing the selection.



- To change the OCR type for a selection block, right-click inside the appropriate block and click a content option (i.e., Text And Graphics, Text Only, or Table).

## Renumbering the selected Optical Character Recognition areas

You can change the order in which selected Optical Character Recognition (OCR) areas are converted to editable text characters using the Number Block tool.

❖ To renumber the selected Optical Character Recognition areas

1. Click the Number Block tool.
2. Click the OCR block that you want numbered as “1.”
3. Click the remaining OCR blocks in the order that you want them displayed in the result area.

If you change to another tool before all of the OCR blocks have been renumbered, the remaining blocks maintain their previous order.

## Converting multiple page documents into editable text characters

You can convert multiple page documents into editable text characters using the Property Bar.

❖ To convert multiple page documents into editable text characters

1. Open the Trace Methods flyout, and click OCR.
2. Adjust the controls to define how to recognize the text.
3. Click the Apply button.
4. In the Trace Multiple Pages dialog box, do any of the following:
  - Enable the page icons you want to convert.
  - Disable the page icons you don't want to convert.



- You can select or cancel the selection of all of the pages by clicking the All Pages icon.

## Converting single-column pages into editable text characters

You can convert pages that contain only single columns of text by clicking the Single Column Text button in the Content flyout on the Property Bar.

### ❖ To convert single-column pages into editable text characters

1. Open the Tracing Methods flyout, and click OCR.
2. Click Single Column Text on the Content flyout.
3. Click the Apply button to begin tracing the image.



- Optical Character Recognition (OCR) will still work if you enable the Multi-Column Text And/Or Graphics button. This option determines the proper formatting for your converted text.

## Converting multiple-column pages into editable text characters

You can convert pages that contain multiple columns of text in the Multi-Column Text And/Or Graphics flyout on the Property Bar.

### ❖ To convert multiple-column pages into editable text characters

1. Open the Tracing methods flyout, and click OCR.
2. Click Multi-Column Text And/Or Graphics on the Content flyout.
3. Click the Apply button to begin tracing the image.



- If you click the Single Column Text or Table button on the Content flyout, the application can still perform the Optical Character Recognition (OCR); however, there may be some errors in the converted text.

## Converting tables

You can convert pages that contain tables if you click the Table button in the Content flyout on the Property Bar.



❖ To convert tables

1. On the Property Bar select OCR from the Trace Methods flyout.
2. Click the tables button on the Content flyout.

Enabling this button removes the horizontal and vertical lines from the table to make conversion more accurate. Tabs are used to separate the columns.

3. Click Apply to begin tracing the image.

## Stopping Optical Character Recognition

You can stop Optical Character Recognition (OCR) before the result is complete.

❖ To stop Optical Character Recognition

- Click the Stop button on the Standard toolbar.

## Converting bitmaps using the OCR and Trace features simultaneously

At some point, you'll need to convert a document that contains both text and graphics. Corel OCR-TRACE contains a feature that can automatically distinguish between text and graphics contained on the same page and perform the appropriate conversion on each. If you need to select specific areas of the bitmap image before using the OCR-Trace feature, you can use the Draw OCR Block and Draw Trace Block tools. The traced vector graphic and the editable text will both appear in the result area as separate layers, with the text layer on top.

## Converting text and graphics on the same page

You can convert text and graphics on the same page of a document using the Optical Character Recognition (OCR) and trace features simultaneously.

❖ To convert text and graphics on the same page

1. Choose a tracing method from the Trace Method flyout.
2. Choose settings for tracing the graphic portions of the page.
3. Click the OCR-Trace button.



## Saving, exporting, and clearing files

**Y**ou can save bitmap images and vector graphics in Corel OCR-TRACE. As you edit a bitmap, it's a good idea to occasionally save your work so that you won't have to recreate your edits. Also, after you obtain a satisfactory trace or edit of the vector graphic, you'll need to save these results to file so that you can use the file in other applications. You have numerous choices of file formats to which you may save, however, saving the vector graphic to a file format other than the default .CMX format may result in lost layer information and more objects being generated in the graphic. If the vector graphic is a multipage document, it can be saved as a single file. If you decide to cancel the save procedure, you'll have the choice of canceling for only the current page or all of the pages.

Converted text can be exported to most text file formats. If the converted text is a multipage document, it is also exported as a single file and you can choose which pages to export. The text file can then be opened and edited in a word processing application such as Corel WordPerfect.

You can easily delete the contents of the result area using the Clear All command and start again if you're not satisfied with the outcome of a tracing or Optical Character Recognition (OCR) procedure.

### Saving a vector graphic or bitmap image

You can save a vector graphic or bitmap image using the same procedure. For multi-page documents, you can choose the pages you'd like to save. The pages you choose are saved in a single file.

#### ❖ To save a vector graphic or bitmap image

1. Click File, Save, Vector or Image.
2. Choose the drive and folder where you want to save the file from the Save In list box.
3. Choose a file format from the Save As Type list box.

For vector graphics, the .CMX file format is the default format. Saving the vector graphic in a file format other than .CMX results in loss of layer information and more objects than necessary in the graphic.

4. Type a new filename in the File Name box.

❖ **To save a multipage vector graphic document**

1. Click File, Save, Vector.
2. Click on the appropriate page icon to choose the pages you want to save.  
When a page is selected, a check mark appears on the icon.
3. Click OK.
4. Choose the drive and folder where you want to save the file from the Save In list box.
5. Choose .CMX from the Save As Type list box.

You can save multipage documents to other file formats; however, there may be a loss of layer information, more objects than necessary may be included in the graphic, and all of the graphics will appear on a single page. Only the .CMX file format supports multiple pages.

6. Type a new filename in the File Name box.

## Exporting converted text

You can export converted text or multipage text documents to a variety of text file formats. Your exported text file can then be opened and edited in a word processing application such as Corel WordPerfect.

❖ **To export recognized text**

1. Click File, Export Text.
2. Choose the drive and folder where you want to save the file from the Save In list box.
3. Choose a file format from the Save As Type list box.
4. Type a new filename in the File Name box.

❖ **To export a multi-page text document**

1. Click File, Export Text.
2. Click the appropriate page icon to choose the pages you want to export.  
When a page is selected, a check mark appears on the icon.
3. Click OK.
4. Choose the drive and folder where you want to save the file from the Save In list box.
5. Choose a file format from the Save As Type list box.

All text formats support multipage documents.

6. Type a new filename in the File Name box.

## Clearing the vector graphic or converted text

You can clear the vector graphic or converted text from the result area using the Clear All command.

### ❖ To clear the vector graphic or converted text



1. Click the *Select Block* tool.
2. Click the result area.
3. Click Edit, Clear All.



- If you're working with a multipage document, the result area for each page is cleared.

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