
Ulead
VERSION 3.0
COOL 3D™
The Coolest Way to Hot 3D Graphics!

First English edition for Ulead COOL 3D Version 3.0, March 2000

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Contents

Welcome to Ulead COOL 3D 3.0

Unparalleled 3D titling capabilities puts Ulead COOL 3D at the vanguard of its kind. With this latest version, new tools, plug-ins, and other enhancements let you delve further into the unlimited depths of your creativity to produce still and animated 3D titles and other fun projects that you can use to liven up Web pages, videos, and presentations. Experiment and take advantage of all the power that Ulead COOL 3D has to offer, and discover why it remains the industry leader in 3D titling software.

What's new

Ulead COOL 3D brings you a wide range of new features that give you increased flexibility when creating and outputting your 3D projects. New plug-in effects add extra spice to your animation, and new tools let you do just what you've always wanted to do - create graphic objects and simple geometric 3D shapes that you can use in your projects.

- **Path Editor** With this new tool, you can create customized graphic shapes that you've always wanted to use in Ulead COOL 3D projects, without having to use external vector graphics software. This feature offers you a multitude of tools for creating and editing shapes, and tracing images. It even lets you convert simple raster graphics to vector graphics.
- **3D Geometric Shapes** The Geometric Toolbar makes it easy to insert and edit simple three-dimensional geometric objects into your projects. You can put spheres, cones, cylinders, cubes, and pyramids into the picture, all of which you can customize.
- **New plug-ins** This new version expands your creative potential with whole new plug-ins. *Transition* plug-ins make one string of text move to another in amusing and unexpected ways, and a new *Bevel* plug-in lets you apply special bevel shapes to your objects for eye-catching results. The *Distort* effect stretches your title to new perspective, while the *Motion Path* plug-in lets your text string move in unusual ways along specially designed paths.
- **Enhanced GIF animation output** You now have additional options when outputting your project as an animated GIF. Among others, you can create a global palette, remove redundant pixels, and loop the animation.
- **Object Manager** This convenient tool lets you easily determine how the various objects in your project are grouped together, giving you more control when editing.

- **VIO support** More options are available to you when creating videos. Among other things, you can preview the final video file, make advanced video settings, and output your project to the QuickTime file format.
- **New file formats supported** Ulead COOL 3D lets you take advantage of the latest in 3D technology - with this version, you can output your project to the RealText 3D format for convenient use on the Web, and you can also import complex 3D images in the DirectX file format (*.X).
- **Key frame control improvement** Create animations with even greater control by taking advantage of modifications in key frame controls. These let you manipulate the first and last key frames (for plug-in effects) and show/hide your 3D objects as well.
- **Enhanced preview performance** With the new playback cache, you can now preview your 3D animations with greater speed.

Getting help

The best way to familiarize yourself with Ulead COOL 3D is to experiment with all of the options provided. To help you get started, this manual offers basic tutorials as well as a glimpse into advanced techniques. If you should get stuck at any time, you can use one of the following methods for more assistance:

- Click the **Help button**, then move the cursor to the object in question, and click again to find out more on that feature.
- Go to the **Help: Help Topics** menu command to get more detailed information on a certain subject.

- If you are a registered user, you are entitled to Ulead technical support. This can be accessed through the **Help: Ulead Technical Support** menu command, or go to our Web site by clicking the **Ulead Homepage** button on the Standard Toolbar. Other helpful information is available through the newsgroup at **comp.graphics.apps.ulead**.

Installation

It's easy to install Ulead COOL 3D. In the installation process, the Installation Wizard will guide you through the steps and the options.

To install Ulead COOL 3D:

1. Place the Ulead COOL 3D CD into the CD-ROM drive.
2. When the Setup screen appears, follow the instructions to install Ulead COOL 3D onto your computer.

Note: *If the Setup screen doesn't appear after loading the CD, then you can manually start it by double-clicking the My Computer icon on your desktop, then double-clicking the icon for the CD-ROM drive. When the CD-ROM window opens, double-click the Setup icon.*

Running Ulead COOL 3D

There are two ways that you can run the program:

- Double-click the Ulead COOL 3D icon on your Windows desktop, or click the icon on the Quick Launch toolbar.
- Select the Ulead COOL 3D icon from the Ulead COOL 3D program group on the Windows Start menu.

Getting updates and free downloads

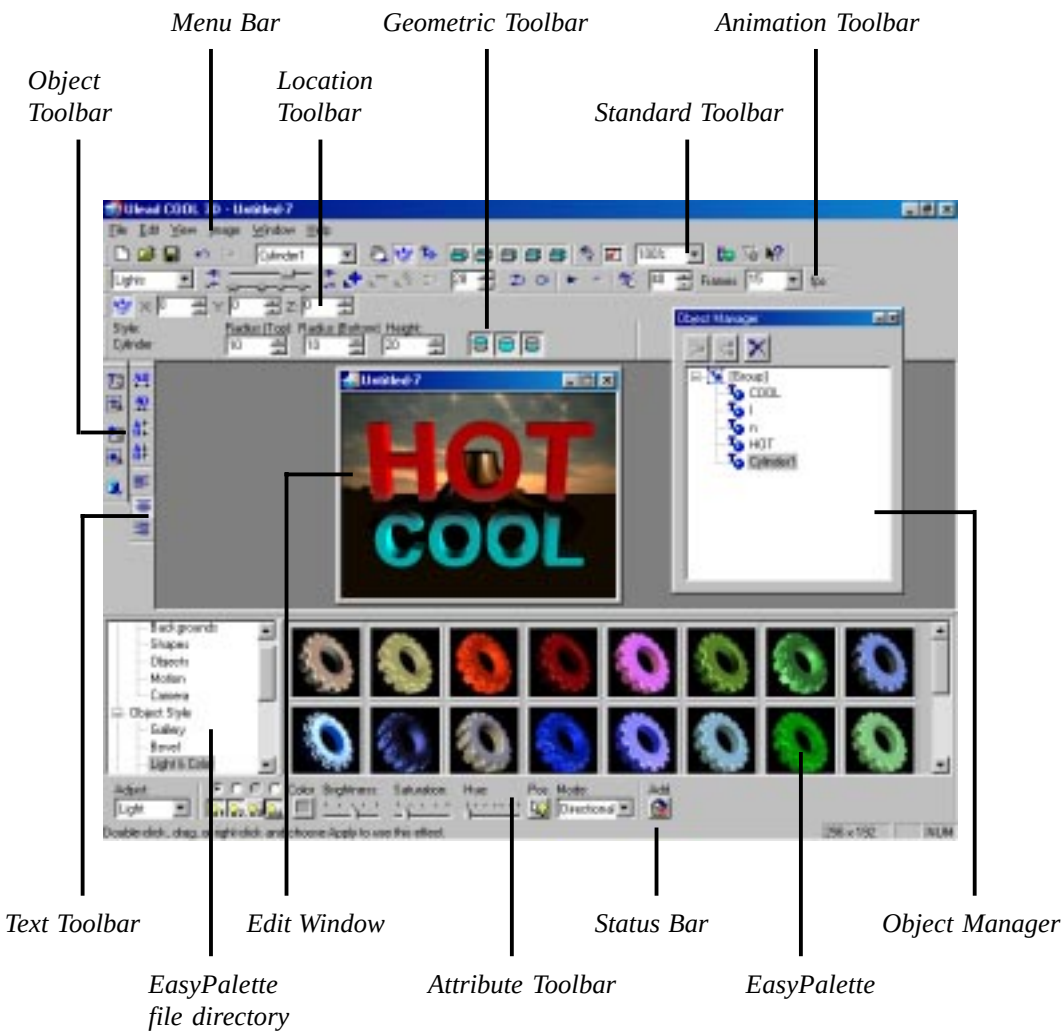
Keep apace with the latest in Ulead COOL 3D news, updates, and free downloads - the program automatically detects and notifies you of any new events in the Ulead COOL 3D homepage. You can also:

- Click the **Free Downloads** button located on the Standard Toolbar to check for updates at your leisure.

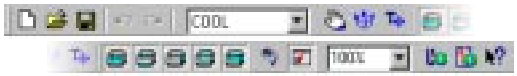
- Click the **Ulead Homepage** button to read about other Ulead news and products.

Workspace

The intuitive design of Ulead COOL 3D makes it easy to use the program. In this version, there are more toolbars and buttons that allow you to really take advantage of all the program's increased capabilities and new features. The following section should help you quickly familiarize yourself with all of the main functions.

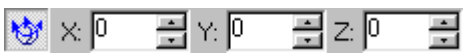


- **Standard Toolbar** Contains all of the most commonly used functions and commands. In addition to the typical file commands, it also has object and bevel face selection buttons, as well as the three basic movement controls: Rotate, Move, and Size.



- **Animation Toolbar** Displays all the controls you need to manipulate an animated project, including extensive key frame and timeline controls, animation looping modes, frame numbers, and frame rate. See page 28.

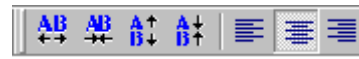
- **Location Toolbar** Shows the position, size, rotation, light, and texture coordinates of the selected 3D object. Allows you to enter values yourself, or displays the changing values of the object as you drag it in the Edit Window.

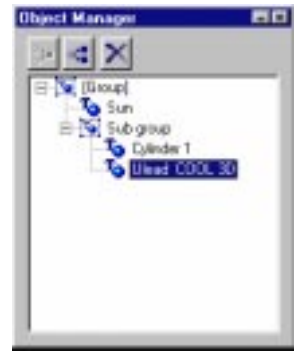


- **Geometric Toolbar** Activated when you insert a basic 3D geometric shape. Lets you customize its dimensions and select individual faces to edit. See page 27.

- **Object Toolbar** Allows you to place and edit text, graphics, and basic 3D shapes in your project. This is where you really begin your project.

- **Text Toolbar** Allows you to adjust the alignment of the text within a text object, as well as the spacing between lines and characters.
- **Edit Window** Lets you preview the 3D project as you work. You can also drag objects directly within the the window to customize basic aspects, such as position, rotation, and size, among others.
- **EasyPalette** Contains a file directory of all the aspects that you can apply to your 3D object, including plug-in effects. Click on any item within each category to access dozens of preset effects in the thumbnail pane. These can be quickly and easily applied to your project. See page 11.
- **Attribute Toolbar** Lets you customize many aspects of your projects, including plug-in effects. Once you understand the available options, you have the potential to create projects like a pro!
- **Object Manager** A floating panel that lets you group, rename, and delete objects for improved editing control. See page 16.



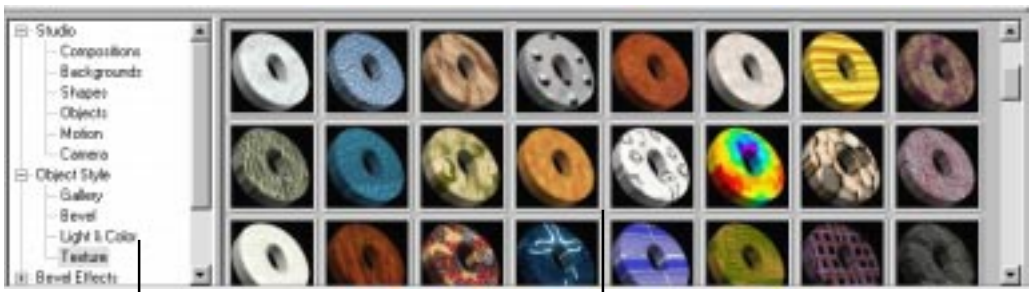


Getting started

Starting a project in Ulead COOL 3D is simple. The following section takes you through the steps of beginning a first project.

Using the EasyPalette

The EasyPalette provides you with the fastest way to create astounding titles and graphics with Ulead COOL 3D. With its vast number of presets, this is where you can add color and life to your project with just a few clicks.



EasyPalette file directory *EasyPalette thumbnail pane*

The EasyPalette **file directory** lists all of the effects that you can apply to your project. When you click on a category or a specific plug-in name, the thumbnail presets for that particular item appear in the **thumbnail pane**. To apply a preset, use one of these methods:

- Drag and drop the preset into the Edit Window.
- Double-click the preset.
- Right-click a preset, and select *Apply* from the menu that appears.

Using Studio presets

Studio is the first category of presets that appears in the EasyPalette file directory. By using its collection of presets, you can easily complete a project with special animated effects, shapes, and backgrounds in no time. The following section briefly describes its preset categories and how to customize them to your needs.

- **Compositions** Completed animated projects that you can apply to blank projects, including special effects. See the next section for a tutorial.
- **Backgrounds** A collection of patterned, photographic, and solid color backgrounds.
- **Shapes** A group of three-dimensional objects inspired by objects familiar to us in daily life.
- **Objects** A variety of graphic objects that you can insert into your project. Some include texture attributes and animation effects.
- **Motion** Animation presets designed using the basic Position, Orientation, and Size controls.
- **Camera** Effects that simulate the motion of a camera and its specific lens type to zoom in and out of the entire project.

To create a finished title in a few minutes:

1 Drag a *Composition* preset to the workspace, or double-click it. The entire composition appears in the Edit Window.

2 On the Standard Toolbar, select a text that you want to change from the **Object List**.

3 On the Object Toolbar, click the **Edit Text** button. The Ulead COOL 3D Text dialog box appears, displaying the text object that you selected.

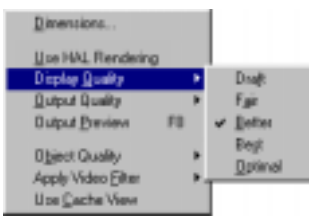
4 Change the text as desired, then click **OK**. The new text appears in the project, replacing the original text.

5 On the Animation Toolbar, click **Play** to preview the animated project.

Dimensions and display quality

When you set up a 3D project, the dimensions and quality of your project depend on how you plan to use it. You might want to use it as part of a video, include it as a GIF animation on your Web site, or save it as a still 3D image. Regardless of your plans, try using smaller dimensions and lower display quality while editing. This allows your computer to render the project at a faster rate when you are experimenting with different effects and settings. Then, when you have exactly what you want, increase the dimensions of the project. Some commands accessible on the **Image** menu are listed below:

- **Dimensions** Click this command to access the Dimensions dialog box. The ***User defined*** option lets you customize the dimensions. If you have inserted your own image as the background, click the ***Use Background Image Size*** button to have the dimensions of the project match the background. If you plan to output your project for the video or the Web, the ***Standard*** list has a range of commonly used dimensions.
- **Use HAL Rendering** Select this to have your computer directly access the DirectX 6.1 Hardware Abstraction Layer (HAL) to render your project. Selecting this option enables better performance with your animations. (Available only if your display card supports this. Check your display card's specifications).
- **Display Quality** Choose from several display qualities, ranging from Draft to Optimal. However, while you are editing your project, use a lower display quality to shorten rendering time. This is particularly recommended for larger-sized projects or projects that use multiple plug-in effects.
- **Output Quality** Similar to Display Quality, this menu lets you select the quality of your project when you convert it to its final format as a still image or an animation sequence.



- **Object Quality** Specify how smooth the 3D shapes and forms are. The higher the precision, the slower the rendering time, so wait until you're finalizing your project before setting this.
- **Cache View** Select this option and play your animation once to store the frames of your animation in a cache. This allows the animation to be played at approximately the specified frame rate the next time you preview the project.

Lower object precision (left) and higher object precision (right)

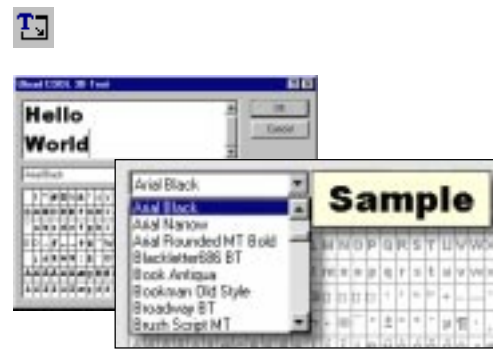
Adding and editing text

When you create your project, the first step is to insert an object. To add and edit a text object, follow the next tutorials. (For information on adding and editing graphic objects, see page 25.)

To insert a text object:

1. On the Object Toolbar, click the **Insert Text** button. The Ulead COOL 3D Text dialog box appears.
2. Select a font from the list. When searching for a font, a ToolTip appears to give you a preview of the font currently highlighted. After selecting your font, set the size and style of your text, and then enter the actual text in the text box.
3. Click **OK**. The text appears in the Edit Window of the main program.
4. If you want to insert another text object, click the **Insert Text** button again. To edit the existing text, see the following tutorial.

Note: *Create a text string of multiple lines by creating a line break in a string of text. In the Ulead COOL 3D Text dialog box, simply press* ***Enter*** *where you want a line break to occur.*



To edit a text object:

1 Click the **Edit Text** button.The Ulead COOL 3D Text dialog box appears with the selected text object.

2 Edit the text in the text box, then click **OK** once you've made your changes. The edited text appears in the Edit Window.

You can also adjust the character spacing as well as the line spacing and alignment with functions on the Text Toolbar.

Note: *If you have added more than one text object, be sure to first select the one you want to edit from the Object List on the Standard Toolbar, or select it from the Object Manager (see page 16.)*

Selecting and grouping objects

Ulead COOL 3D allows you to insert more than one object into your project, whether it be text or graphics. After you have created the individual objects, you can edit and animate each one individually just by first clicking on it in the Edit Window to select it. Or you can use the Object List on the Standard Toolbar to select the object that you want to edit. An even more convenient way to keep track of objects is to use the Object Manager (see the following section).

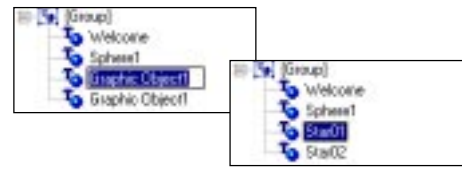
Multiple text objects

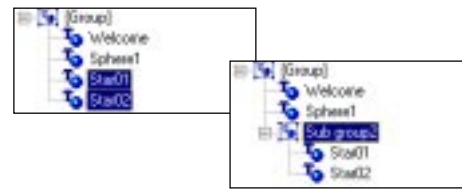
A text object and a graphic object

Using the Object Manager

The more objects you create, the more of a challenge it can be to keep track of them. The Object Manager makes it easier for you to organize and edit your objects. Here are some of the basic functions:

- **Select objects** Each time you create a text or graphic object, it appears as an individual item in the directory. Click on that item in the Object Manager to select it. This allows you to edit only that object.
- **Rename objects** Do this by selecting the object in Object Manager, and then clicking it again to edit the name. This is convenient when you want to do the following:
  - Change the name of an object to be more specific. Otherwise, it will receive a generic name by default.
  - Differentiate between two or more of the same text or graphic objects in a project. Otherwise, they will receive the same name by default.
- **Group multiple objects** To edit several objects together as a group, select the desired items by clicking them with the mouse while holding either the **Shift** key (for a row of items) or the **Ctrl** key (for individual items), then click the **Group Objects** button. The selected items then form a *Subgroup*. To see which objects are in the *Subgroup*, click the + symbol.
- **Divide a group of objects** To have a group of objects form separate objects again, select that *Subgroup* from the list, and then click the **Ungroup Objects** button.
- **Delete selected objects or groups** Simply select the desired object or group of objects, and click the **Delete Object(s)** button.





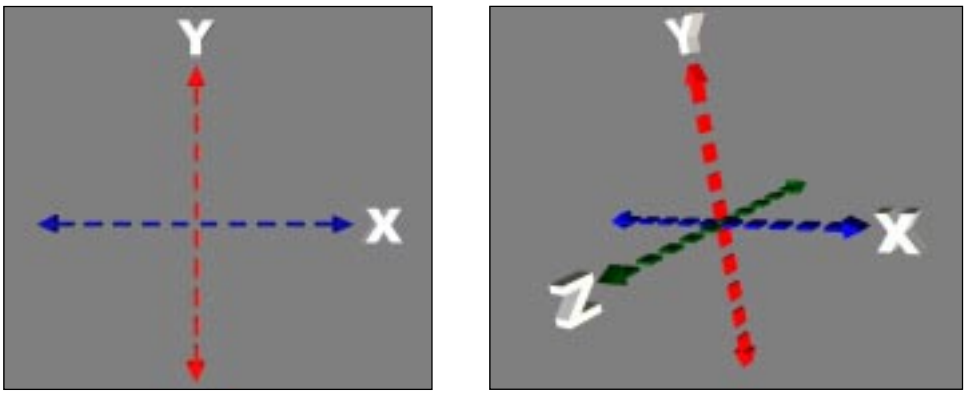
Moving, sizing, and rotating an object

Ulead COOL 3D makes it easy to manipulate and animate 3D objects in three-dimensional space. For basic motions that combine changes in position, rotation and size, use any of the *Motion* presets located in the *Studio* category of the EasyPalette. Eventually, you will probably want to customize objects using your own settings using the **Move Object**, **Rotate Object**, and **Size Object** buttons on the Standard Toolbar. You can use these to make an animation, or simply to enhance your title in a still composition.

To begin adjusting your object, first click one of these basic positioning controls, then either drag the object directly in the Edit Window, or get more precise results by entering coordinate values in the **Location Toolbar**.

The basic object controls (left) and the Location Toolbar (right)

The variables in the **Location Toolbar** all involve values for *X*, *Y*, and *Z*, which are the three axes in three-dimensional space. The *X* and *Y* axes refer to the position of the object as it moves horizontally and vertically, while the *Z* axis refers to the object as it moves towards you and away from you.



Two-dimensional space (left) and three-dimensional space (right)

Move

Insert a text or graphic object, then click the **Move Object** button. Notice that it is inserted by default where the X, Y, and Z axes intersect. The values of X, Y, and Z at this intersection are 0, which you can also see on the Location Toolbar. Try some of the following steps to orient yourself:

- Drag the object upwards in the Edit Window, and notice that the value for Y increases. Drag the object downwards, and the Y value decreases.
- Drag the object left and right to see how the X values change on the Location Toolbar. As the object moves towards the left, the value for X decreases. When it moves to the right, the value increases.
- Drag the object along the Z axis by holding the **right mouse button** while dragging. This makes the object come towards you or move away from you. If you have not already rotated the object, then it will simply appear larger as you move it toward you or smaller as you push it away. (To rotate the object for a better view, see the following section.)
- Hold the **Shift** key down while dragging the object along any one of the three axes. Notice that the object will move only along the axis that you drag it along.
- For more exact control over the position of the object, enter values directly in the Location Toolbar.

Rotate

Insert an object, then click the **Rotate Object** button. The default rotation value is 0 for X, Y, and Z. In this state, the object stands upright facing you. When you rotate an object, you rotate it around one of the three axes. The values in the Location Toolbar represent the angles of rotation. For example, a value of 360° equals one complete rotation, while a value of 180° is half of a complete rotation. A value of 720° is equal to two complete rotations. This concept becomes important when you start animating objects.

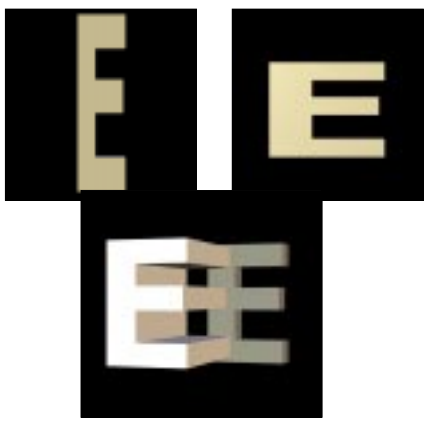
- Drag to the left and right with the mouse, and the object rotates accordingly. Notice how values become negative when you drag to the left and positive when you drag to the right.
- Drag up and down with the mouse, and the object rotates backwards away from you and towards you.
- Hold the right mouse button down, then drag up and down in the Edit Window. The object spins counterclockwise and clockwise.

Note: *The axes around which objects rotate are determined by the center point of the object. For text objects, this often depends on the font used, and if the character is lower or upper case.*

Size

Insert a text object, then click the **Size Object** button. The default size value for X, Y, and Z is 100. A larger X value increases the width of the object, while a larger Y value increases the height. Z values affect the thickness of the object. Again, you can enter values in the Location Toolbar, or you can either drag on the object itself in the Edit Window.

- Drag upwards in the Edit Window to decrease height and downwards to increase it.
- Drag the cursor left to decrease width and right to increase it.
- Hold the right mouse button down, then drag towards the left or right to adjust the thickness of the object. (To see this effect best, rotate the object slightly.)



Editing object style

There are many ways to customize the physical appearance of your object in Ulead COOL 3D. The controls are accessed in the EasyPalette file directory, under the *Object Style* category. The easiest way to style an object is to use one of the presets in *Object Style: Gallery*, all of which combine many attributes. Or you can control each attribute individually with extensive options on the Attribute Toolbar. This section shows you how to customize color, light, texture, and bevel attributes.

Color

It's easy to apply color to your object. You can use one of the presets that include both light and color settings, or customize the color yourself.

To apply color to an object:

1. In the EasyPalette file directory, select the *Object Style: Light & Color* category.
2. On the Attribute Toolbar, select ***Surface*** from the **Adjust** list, then click on the **Color** square to the right of it. A standard Windows Color dialog box appears. Select a color.
3. To the right of the **Color** square, adjust the **Brightness**, **Saturation**, and **Hue** of the color until you have the effect that you want.

Light

With Ulead COOL 3D, you can adjust different types of light that affect the look of your object. Here is a brief description of the types of light that you can control:

- **Specular** Commonly known as the highlights that are reflected from an object when a light source shines on it. By adjusting the specular light of an object, you basically determine the quality of the object's surface.
- **Light** The light source itself. You can have up to four light sources and set them to be directional or diffuse. (See the following page for a tutorial.)
- **Ambient** The general light that surrounds the object. The light source for ambient light comes from several sources in addition to the light itself, for example, the light reflected from other objects.

To apply Light to an object:

1 In the EasyPalette file directory, select the *Object Style: Light & Color* category.

2 On the Attribute Toolbar, select ***Light*** from the **Adjust** list. The attributes for Light appear.

3 Click a **Light Source** button to activate it. Then click the radio button above it to edit its properties.

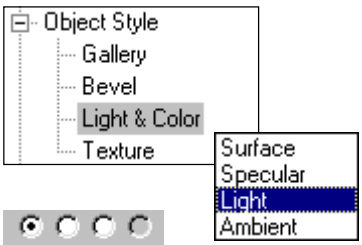
4 Click the **Color** square to open the Color dialog box and change the color of the currently selected light.

5 Select a **Mode** for the light:

- ***Directional*** Shines a direct beam of light with a constant strength on the object. The light source position is based on the angle of rotation around the X and Y axes.
- ***Point*** Shines diffused light with variable strength on the object. The further the light is from the text, the weaker the light appears. The light source position is based on its position along the X, Y, and Z-axes.

6 Click the **Position Light Source** button to adjust the direction from which the light shines. Then drag your mouse in the Edit Window until you have reached the desired effect, or specify values on the Location Toolbar.

7 Repeat steps 3 through 6 for any additional light sources that you want to use.

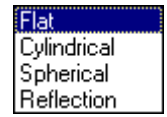


Texture

By applying a texture map to your 3D object, you can give it the appearance of being made from a specific material, such as wood or metal, or you can apply a pattern or design to it. A texture map is a bitmap image that is wrapped around the surface of a 3D object. Apply a preset, or use your own bitmap image and apply that to the surface.

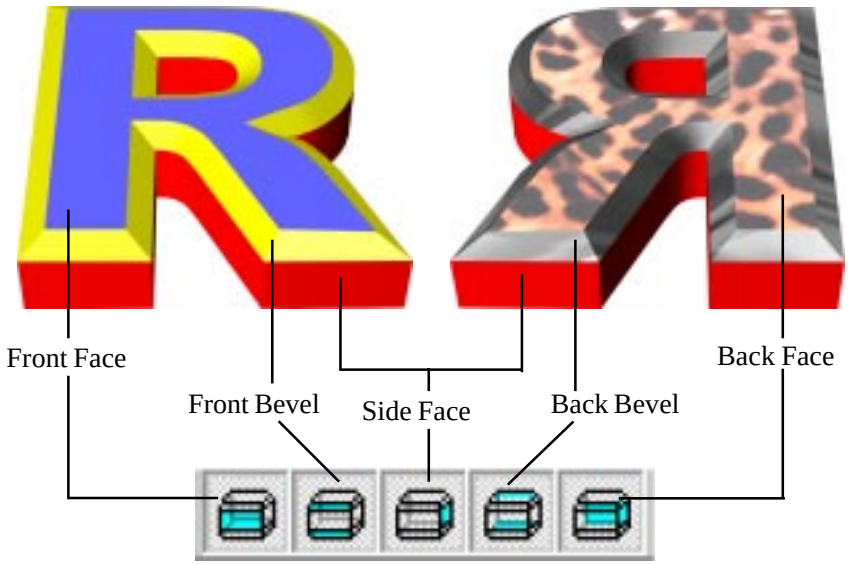
To apply an image texture to an object:

1. In the EasyPalette file directory, select the *Object Style: Texture* category. The Attribute Toolbar changes to display Texture options.
2. On the Attribute Toolbar, click the **Load Texture Image File** button. In the dialog box that appears, browse for an image file that you want to use for your texture (*.BMP or *.JPG), then click **Open**. The image is applied to the object.
3. Select a **Wrap Mode** for your texture. This determines how the image is applied to the object. For instance, if you have an object with a cylindrical shape, you might want to choose ***Cylindrical***. For shiny or metallic textures, using ***Reflection*** often produces best results.
4. Use the **Mapping** tools to place the image exactly where you want on the 3D object. **Position**, **Rotate**, and **Resize** the image by clicking the desired button, then drag the mouse in the Edit Window until the image is the way you want it, or enter values on the Location Toolbar.
5. Click the **Clear Tint** option if you want to remove any color that was already applied to the 3D object, leaving you with just the color in the texture map itself.



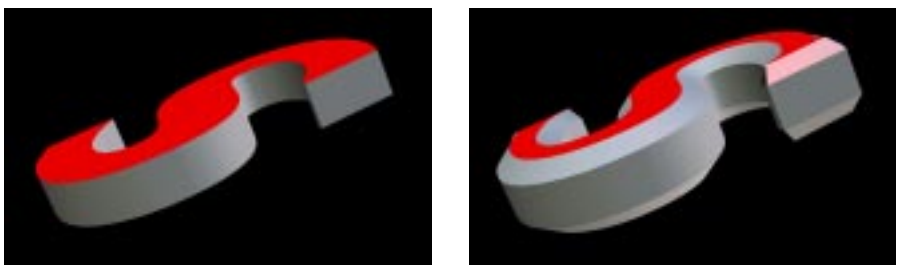
Modifying individual faces of an object

The great thing about applying texture and color in Ulead COOL 3D is that you can apply them to individual faces of your object. Click a **Bevel Face** button on the Standard Toolbar to select the side of the object to edit. Then, drag a color or texture from the presets to the Edit Window. Try applying different colors and textures to the different bevel faces of an object. The illustration below shows you this effect when applied to an object with a *Flat* bevel style (see the following section for more on bevel styles).



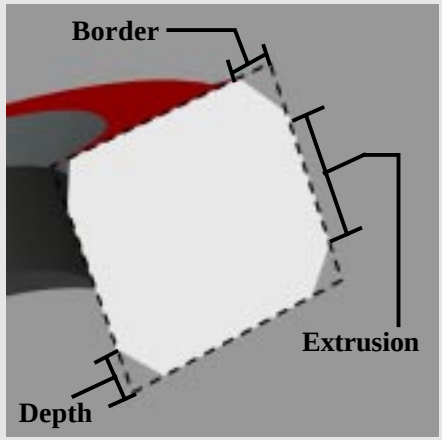
Basic bevel styles

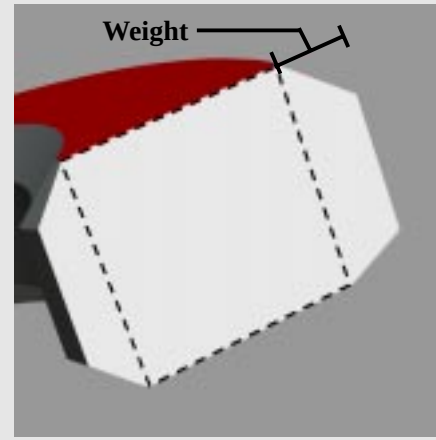
A bevel refers to the edge of a 3D object. By adjusting its characteristics on the Attribute Toolbar, a bevel can be part of what makes objects really interesting. Once you become familiar with bevel attributes, you can even animate them. This section gives you a glimpse into the anatomy of a bevel as well as basic bevel styles.



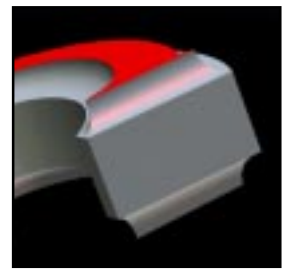
An object with no bevel (left) and the same object with a flat bevel (right)

Precision Determines the fineness of the bevel. A higher value creates a more precise bevel. This is useful if you have a rounded bevel and want smoother curves.





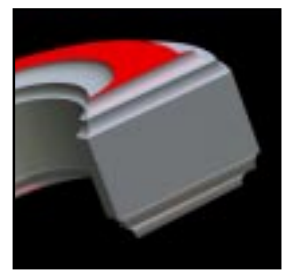
Round



Chiseled

Round-Chiseled

Chiseled-Round



Chiseled-Chiseled

Round-Round

Adding a background

Once you've inserted and styled an object, you're ready to add a background to your project. You can use a preset in the EasyPalette, or use your own image. For solid color backgrounds, simply adjust the controls for Color, Brightness, Saturation, and Hue located on the Attribute Toolbar for the *Studio: Background* category of the EasyPalette file directory.

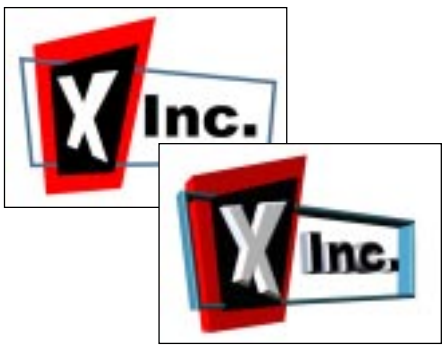
To insert an image into the background:

1. On the Attribute Toolbar, click the **Load Background Image File** button.
2. Select an image file (*.JPG or *.BMP) in the dialog box that appears, and click **Open**.
3. If you want, you can adjust the dimensions of your project to match the size of the image that you are using. To do this, use the *Image: Dimensions* menu command, click the **Use Background Image Size** button in the dialog box that pops up, and click **OK**.

Adding and editing 3D graphics and shapes

Everyone wants to use customized graphics in Ulead COOL 3D to create outstanding 3D logos and images. With this latest version, importing and editing graphic objects has become that much easier. There are four ways to do this:

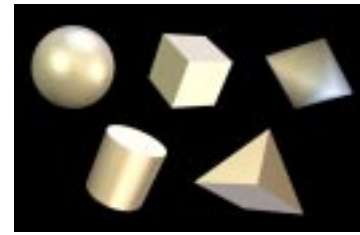
- **Insert vector graphics with Path Editor** A vector graphic is different from the bitmap graphics that are most widely known (for example, those in BMP, JPEG, GIF formats). Vector graphics are composed of paths and often stored in EMF and WMF formats. The easiest way to create these graphics is to use Path Editor, accessed by clicking the **Insert Graphics** button on the Object Toolbar (see page 62 for details). You can also convert elements



Bitmap of a logo (top), and the same logo converted to 3D with Path Editor (bottom).

of a bitmap image to become vector graphics, as well as import pre-existing vector graphics into Path Editor to use in your project.

- **Create simple 3D geometric objects** Insert spheres, cubes, cones, cylinders, and pyramids by using the Geometry Toolbar (see the following section). This is convenient for making still or animated props for other 3D text and graphic objects in your project.
- **Import 3D objects in the DirectX file format (*.X)**. These are special files that contain complex 3D shapes and textures. Included with the program are a number of these samples that can be used in your project. If you are already using this format in other 3D modeling software, you can create your own shapes to use in a Ulead COOL 3D project. Import these files by using the *File: Import X Model* menu command. In the dialog box that appears, you can import them as ***C3D data type*** (without color, lighting, or texture attributes) and then customize its attributes yourself. Or you can import them as ***D3D data type*** (with its inherent color, lighting, and texture attributes intact).
- **Insert symbol-type fonts** (such as Wingdings). Then, you can either use them as they are, or adjust the shape by clicking the **Edit Graphic** button on the Object Toolbar and working with Path Editor (see page 62.). You can also change the shape of text with the **Edit Graphic** button. However, once you edit it, the text will be converted to graphics, meaning that you will no longer be able to change the text content itself.



3D geometric objects

Objects in the X file format, as C3D data type (top), and as D3D data type (bottom)

Examples of symbol-type fonts.

Making basic 3D objects

Ulead COOL 3D lets you insert 3D geometric objects into your project with just a click of the mouse. The fun part is when you use them with text and graphics to create unique 3D animations and stills. You can use several 3D shapes together to create an alien object, or just a few as props for an animated title. In this tutorial, learn how to edit a cylinder.

To insert and edit a geometric shape:

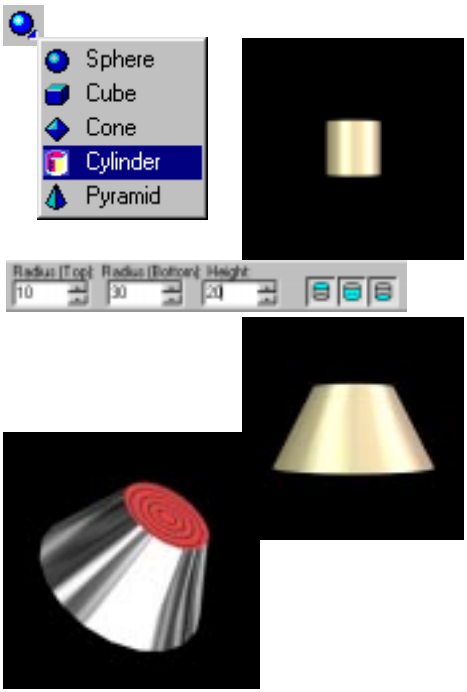
1 On the Object Toolbar, click the **Insert Geometric Object** button.

If the current icon doesn't display the desired shape, click on the bottom right corner to view a menu with other shapes on it. Select the shape you want, then click the button to insert it. The object appears in the Edit Window.

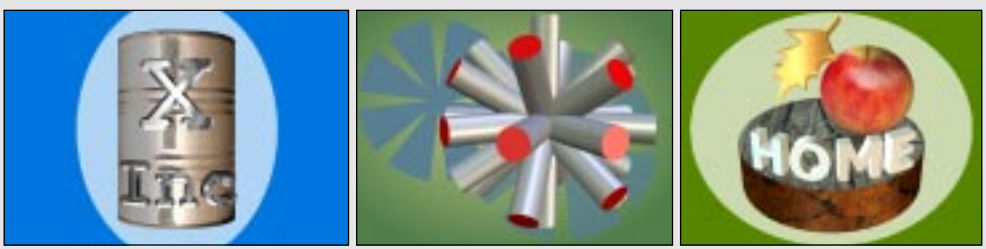
2 On the Geometric Toolbar, enter values to adjust the dimensions of the object. Then, select the desired **Face** buttons to edit Color and Texture attributes individually or as a group.

3 You can now apply plug-ins to it, or use the basic animation buttons on the Standard Toolbar to create an animated sequence.

Note: *Bevel attributes and plug-ins cannot be applied to geometric shapes.*

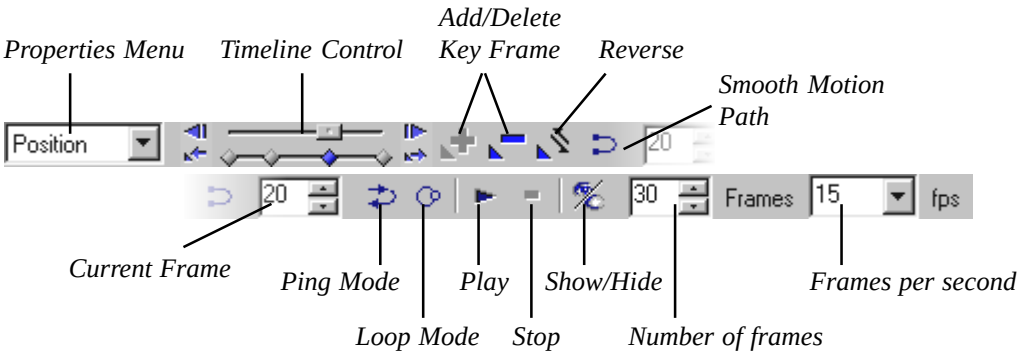


Other things you can do with geometric objects



Animation basics

After familiarizing yourself with three-dimensional space, you're ready to start making fun animations. While there are many factors you have to take into consideration when creating an animated project, it's definitely worth taking time to learn some basic ideas. From there, it will be easy for you to learn to create stunning and complex animation sequences. The Animation Toolbar is what you will work with the most when you start animating your objects. Brief descriptions of its functions are listed below.



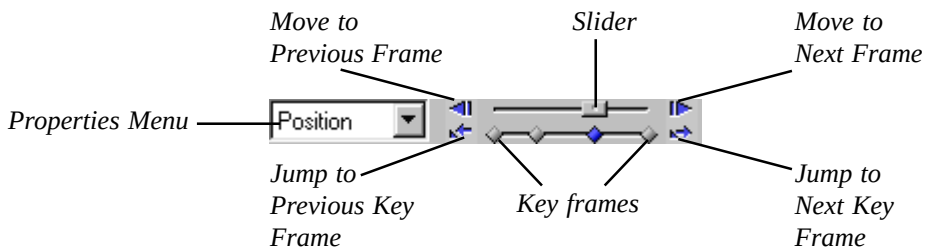
- **Properties Menu** Lists all of the basic properties of the 3D object. If you have applied a plug-in effect to the object, this will be listed as well. The Timeline Control, just to the right of it, shows the timeline and key frames that are related to only the property that you have selected from the list.
- **Timeline Control** Allows you to choreograph your animation with key frames. The top line represents the frame-by-frame position, while the bottom line displays any key frames. **Key frames** are those frames in which you specify an attribute or behavior of an object. For plug-in effect timelines, an additional **Control Line** (in red) appears between these two lines (see page 37 for details).
- **Add/Delete Key Frame** Lets you add or remove a key frame from the Timeline Control. Each time you add a key frame, you can change the attributes or behavior of an object. When you remove a key frame, all attributes associated with that key frame are also removed.
- **Reverse** Allows you to reverse the sequence of key frames on the Timeline Control, so that the animation starts with the last frame and ends with the first.
- **Smooth Motion Path** Plays the animation smoothly, where the transition from one frame to the next becomes less noticeable.
- **Current Frame** Denotes the frame number that is currently displayed.

- **Ping Mode** Plays the animation forwards and backwards infinitely.
- **Loop Mode** Plays the animation repeatedly in its normal sequence, skipping the last frame.
- **Play/Stop** Plays and stops the animation.
- **Show/Hide** Allows you to display or hide the selected object. Use it to hide the object for certain parts of the animation or simply for convenience when editing multiple objects.
- **Number of frames** Sets the total number of frames in the animation sequence.
- **Frames per second (fps)** Sets the speed at which the animation plays.

Working with key frames and timelines

When you start to create an animation, you begin with a **timeline**. The timeline represents a number of frames in the animation. In Ulead COOL 3D, you use the **Timeline Control** to edit the attributes of timelines. Many properties of the 3D object (such as size, position, color, and any plug-in effects) have individual timelines that you can edit independently. These are listed in the **Properties Menu**.

Key frames let you choreograph your animation sequence as you work with the timeline. By adding key frames and editing attributes in those key frames, you can, for instance, set your object to move from left to right, and then rotate. Any adjustments you make to your object at a given key frame determines the state of the object at that frame of the animation (for example, the position, size, color, etc.). The following describes some basic controls of the Timeline Control:

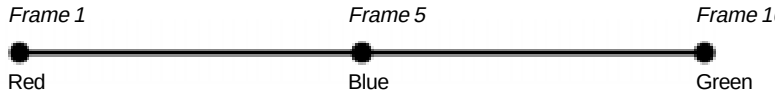


- **Properties Menu** Use this to select the timeline for a specific object property that you want to edit. By default, the basic attributes are listed (i.e. Position, Rotation, Color, etc.). If you apply a plug-in effect to the object, that will be added to the list. Once you select a property, the timeline for that property will appear.

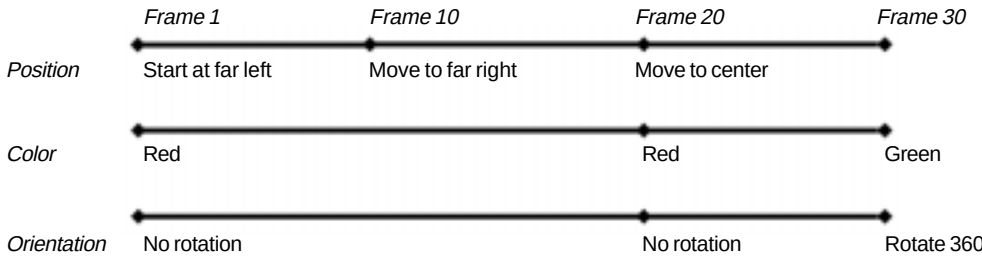
- **Slider** Drag this to move to any frame in the animation, or click the **Move to Next/Previous Frame buttons**.
- **Jump to Next/Previous Key Frame** Click these buttons to move from one key frame to the next, or directly select a key frame by clicking it.

Below is a simplified diagram of the default timeline for an object's color. It contains 10 frames and always has a key frame at frame 1 of the animation. At this key frame, the object is set to be red. When you preview the animation, the object remains red in all frames.

In the next diagram, two key frames have been added to the color timeline. At key frame 1 the object is red, at key frame 5 it is blue, and at key frame 10 the object is green. When previewing the animation, you see the object's color start out at red, gradually transform to blue and finally to green.



Because each property has its own timeline, you can control multiple timelines in your animation, as shown in the following illustration. Not only can you set the timing within each timeline, but you can also control the timing of events between the many timelines by coordinating their key frames, as if you were a director telling your various actors what to do and when to do it. After you familiarize yourself with timelines and key frames, you can also work with multiple objects that have multiple key frames.



Creating a simple animation

The best way to understand key frames is to actually create an animation. The following section shows you how to create simple animated sequences with a single object and a single timeline, as well as some more complicated sequences involving multiple objects and timelines.

To create a simple animation (I):

1 Insert an object to the Edit Window. On the Animation Toolbar, the default frame number should be 10, and the default fps should be 15. Change the frame number to 15. Notice that the current frame is 1, and that the timeline already contains a key frame.

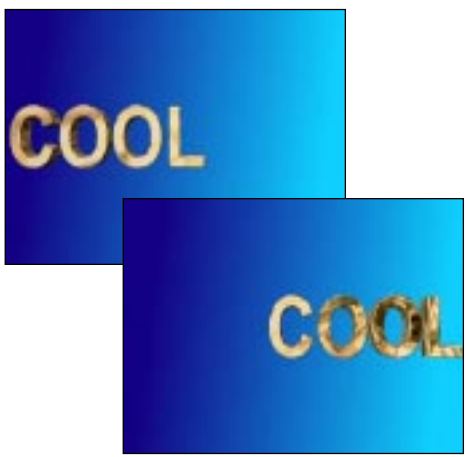
2 On the Standard Toolbar, click the **Move Object** button. In the Edit Window, drag the object to the left side of the window. On the Location Toolbar, the coordinates change to show the object's position at the first key frame.

3 Drag the Timeline Control slider to the last frame of the timeline, or type 15 as the current frame number. Click the **Add Key Frame** button to add a key frame.

4 Drag the object to the right side of the Edit Window. The coordinates on the Location Toolbar change to reflect the position of the object at frame 15 of the animation.

5 Click the **Play** button to view the animation. The object should move from the left to right in the Edit Window.

6 Save the project by clicking the **Save** button on the Standard Toolbar. This allows you to save it in the Ulead COOL 3D file format (*.c3d). You can open this file later from within the program to edit the project.



To create a simple animation (II):

1 Open the project that you created on the previous page (part I).

2 In the Properties Menu, select ***Position***. On the Timeline Control, move the slider to frame 7 of the animation.

3 Add a key frame by clicking the **Add Key Frame** button to the right of the Timeline Control.

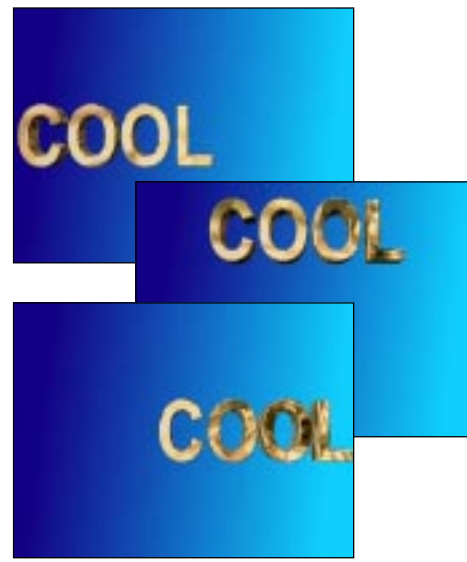
4 On the Standard Toolbar, click the **Move Object** button, and drag the object in the Edit Window so that it is at the top and center of the window.

5 Click **Play**, and notice how the object now moves in a triangular path.

6 Now you have key frames at frames 1, 7, and 15 of the animation. If you want to change the position of the object at any of these key frames, click one of the key frame controls. Then, drag the object to another position. Click **Play** to view the animation.

7 Increase the number of frames to 30. Notice how the motion of the object becomes smoother.

8 On the Standard Toolbar, click the **Save** button to save the animation. Your project will be saved in the Ulead COOL 3D format (*.c3d).



Animating light and color

The most obvious thing to do when you want to animate an object is to make it move. To animate the color and light of an object itself is less obvious, but can result in interesting effects. In these tutorials, learn how to make light and color change on a stationary object. Try animating texture as well.

To animate light on an object:

1 Insert an object, and at frame 1 of the animation, define the Light settings (see pages 20 and 21).

2 Add a key frame at the last frame of the timeline, then apply a different Light setting to the object. You can change the color, brightness, hue, saturation, and position of the light(s).

Note: *The number of lights and the light mode remain constant between key frames. If you change these, they will be changed in all key frames. These are called* ***global attributes*** *(see page 37).*

3 Click **Play** to preview the animation. Experiment with inserting more key frames into the animation.

To animate the color of an object:

1 Insert an object, and apply a color at key frame 1 (to apply a color, see page 20).

2 Add a key frame control at the last frame of the animation, then apply a different color to the object. Remember that you can also apply different colors to individual bevel faces.

3 Click the **Play** button to preview the animation.

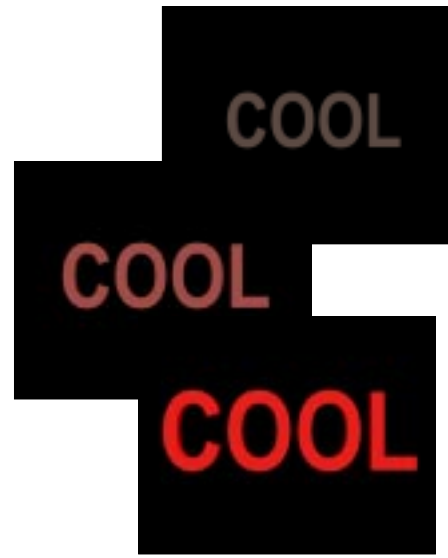
Animating with multiple timelines

Inevitably, you will want to animate more than one aspect of your object. This means that you must work with multiple timelines. When you are working with multiple timelines, keep your eye on the *Properties Menu* - this will tell you which timeline you are currently editing. This example shows you how to make a basic animations with two timelines.

To animate position and color:

1. Insert an object in a blank project (with a black background). At frame 1, set the object color to be black.
2. On the Properties Menu, select ***Color***. Then, on the Timeline Control, add a key frame at the last frame of the animation. Set the color to red.
3. Click **Play** on the Animation Toolbar to preview the color animation.
4. Click the **Move** button on the Standard Toolbar. The Properties Menu changes to display ***Position***. The timeline that appears pertains only to Position.
5. On the Position timeline, select the first key frame, then on the Location Toolbar, enter 200 for the Z coordinate.
6. Add a key frame at the end of the Position timeline, and then enter -200 for the Z coordinate.
7. Preview the animation. The object should emerge from the background color and come straight towards you.

Note: *If you want to change the color or position for specific key frames, make sure you select the relevant property in the Properties Menu first before you edit the key frames and their attributes.*



Animating with multiple objects

Working with more than one object can result in a stunning project. The next tutorials show you how to coordinate two objects. In the first one, make a second object appear after the first one completes its action. In the second one, learn how to make two objects chase after one another.

To animate two objects (I):

1 Insert an object, then set the total number of frames to 30.

2 At frame 1, on the Standard Toolbar, click the **Move Object** button, then on the Location Toolbar, set the Y coordinate to 50.

3 Click the **Rotate Object** button. The Properties Menu displays ***Orientation***. On the Location Toolbar, make sure that all coordinates are set to 0.

4 Move the Timeline Control slider to frame 25 of the animation, or enter 25 as the current frame. Click the **Add Key Frame** button to add a key frame.

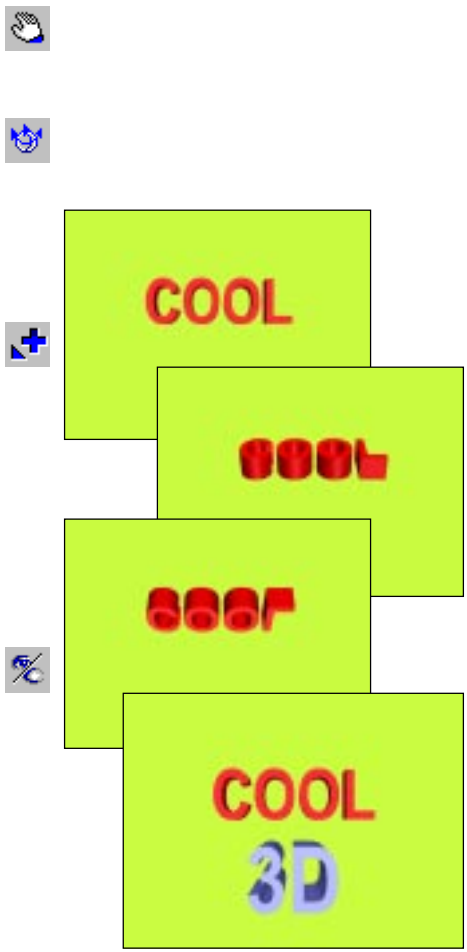
5 Set the X coordinate to -720, then click **Play** to preview the animation. The object should rotate 2 times.

6 Insert a new object. On the Standard Toolbar, at frame 1, click the **Move** button. Enter -100 for the Y coordinate on the Location Toolbar.

7 At frame 1, click the **Show/Hide** button on the Animation Toolbar to make the text object disappear.

8 At frame 30, add a key frame. Click the **Show/Hide** button to make the text object appear.

9 Click **Play**. The second object should appear just after the first object has completed 2 rotations.



To animate two objects (II):

1 Insert an object into the project and set the total number of frames to 30.

2 Select ***Position*** from the Properties Menu. On the Timeline Control, add key frames at frames 10 and 20.

3 Click key frame 1 of the animation to select it.

4 On the Standard Toolbar, click the **Move Object** button. On the Location Toolbar, set the X and Z coordinates to -350 and -200 respectively. The object disappears off the screen.

5 At frame 10, set the X coordinate to 0. Do not adjust the Z coordinate. At frame 20, set the X and Z coordinates to 100 and 3000. The Y coordinate should remain at 0.

6 Click **Play** to preview the animation. The object should move to the right and away from you.

7 Insert a second object into the project, then select ***Position*** from the Properties Menu. Add key frames at frames 10, 20, and 30.

8 Click the **Move Object** button. On the Location Toolbar, at frames 1 and 10, set the X and Z coordinates to -350 and -200 respectively. At frame 20, set the X coordinate to 0, and do not adjust the Z coordinate. At frame 30, set the X and Z coordinates to 100 and 3000.

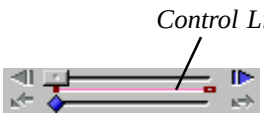
9 Click **Play** to preview the animation. The second object should chase after the first one, following the same motion path.

Plug-in effects

Plug-in effects are what make your still or animated title extra special. In Ulead COOL 3D, you can give objects a unique edge with Bevel plug-ins, switch to different sentiments with Transition effects, make objects move in special patterns with Object plug-ins, and give them a unique flair with Global effects. The various categories are located in the EasyPalette file directory. Click a category or plug-in name to view and apply the presets that come with it for instant results. If you have a specific effect you want to achieve, try applying different presets, and see how the attributes change on the Attribute Toolbar. This gives you a better idea of how the variables affect the object. To view the Attribute Toolbar, click the **Attribute Toolbar** button on the Standard Toolbar. 

Key frames and plug-ins

All plug-in effects (except for Bevel Effects) have a special red **Control Line** that appears on the Timeline Control. This is a special feature that lets you move the first and last frames of the timeline, so that you can determine exactly when the plug-in effect is applied within the animation sequence. To adjust the length of the Control Line, click and drag on either end until you have reached the desired length.



Understanding Global and Key attributes

When you are working with the Attribute Toolbar to make an animated project, it's a good idea to take note of the ToolTips that pop up when you move the cursor over each variable. These contain a brief description of the variable in question, followed by a **(G)** or **(K)**. These stand for **Global** and **Key** attributes.

A **Global attribute** is valid for the entire duration of the animation. For instance, if you set a Global attribute to have the value "x" at frame 1, the value "x" will be applied throughout the animation. For instance, if you change this value at frame 5, then this new value will be changed accordingly in all frames of the animation.

A **Key attribute** can vary with individual key frames. For example, Color is a Key attribute because at frame 1 you can have an object be red, then at frame 5 you can set the same object to be green, and at frame 10 you can make the object change to red again.

Bevel Effects

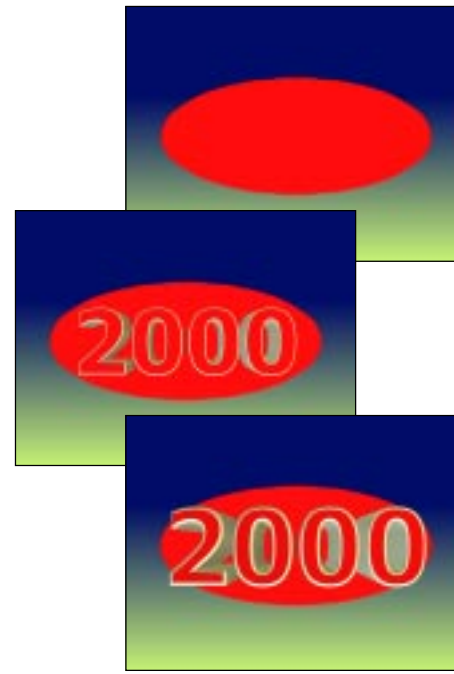
You can create interesting still and animated titles with these plug-ins. These allow you to add a frame, a special hollow or engraved board, or a shape preset to your object. Once applied, you can further customize them by adjusting the standard bevel attributes.

Board

This effect is perfect for stunning rotating signs and banners. Not only can you put different objects on the front and back of the board, you can adjust basic bevel attributes for the text and board independently. This tutorial shows you how you can create an animated effect with the bevel. (Settings: 30 frames, 15 fps)

To animate the Board effect:

1. Insert a text or graphic object into the Edit Window. In the EasyPalette file directory, select *Bevel Effects: Board*. The Board presets appear.
2. On the Attribute Toolbar, select ***Board*** from the **Bevel Mode** list. The Attribute Toolbar displays the Board options, and the Edit Window displays the object on the default rectangular board. To use a different board shape, drag a Board preset to the Edit Window.
3. On the Timeline Control, add a key frame at frame 30.
4. At frame 1, on the Attribute Toolbar, click the Text button to make basic bevel settings to the text. Enter 0 for **Extrusion**, **Weight**, **Border**, and **Depth**. The text object should disappear on the board.
5. At frame 30, enter 1000 for **Extrusion**, 5 for **Weight**, 20 for **Border**, and 20 for **Depth**.
6. Click **Play** to preview the animation. The text should appear to grow from the board.

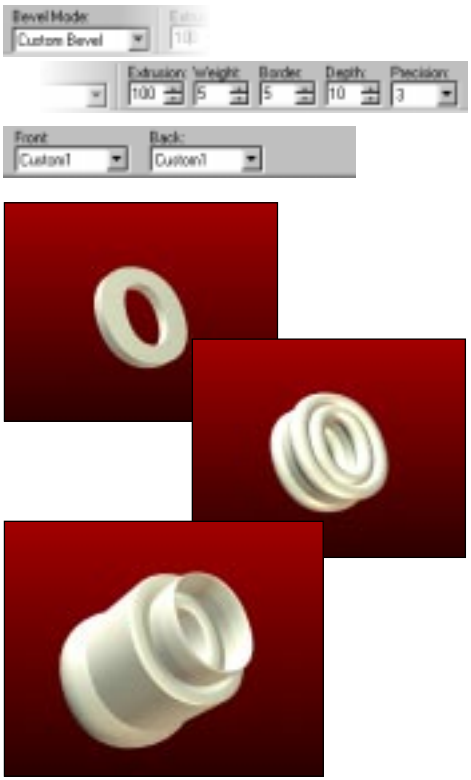


Custom Bevel

Create unique and wild three-dimensional forms by applying one of the dozens of preset bevel shapes to any of the objects in your project. When working with this plug-in, experiment freely with applying various Custom Bevel presets to various objects.

To apply a custom bevel effect:

1. Insert an object into the Edit Window. In the EasyPalette file directory, select *Bevel Effects: Custom Bevel*. The presets for Custom Bevel appear.
2. On the Attribute Toolbar, select ***Custom Bevel*** from the **Bevel Mode** list.
3. Apply a Custom Bevel preset to the object. Each preset represents a single bevel design that is applied to both the front and back faces of the object.
4. Scroll down to the next set of attributes. Choose a different bevel design for the **Front** or **Back** face. The object changes accordingly.
5. To further customize the custom bevel, scroll back to the first level of attributes and adjust values for basic bevel attributes.



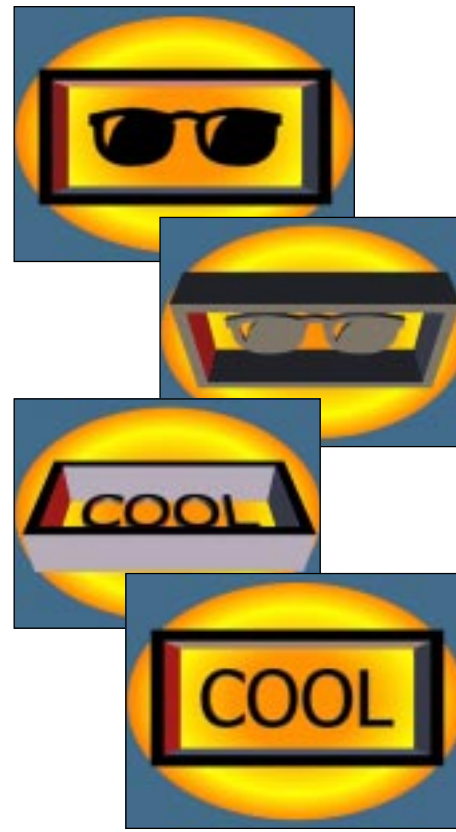
Things you can do with Custom Bevel shapes

Frame

This bevel effect not only offers you interesting visual options for your project, but gives you some animation possibilities as well. In this tutorial, work with a Bevel timeline and an Orientation timeline to create an animated project. (Settings: 30 frames, 15 fps)

To rotate a frame with different text on each side:

1. Insert an object into the Edit Window. In the EasyPalette file directory, select *Bevel Effects: Frame*.
2. On the Attribute Toolbar, select ***Frame*** from the **Bevel Mode** list. The Frame options appear, and a default rectangular frame appears around the object.
3. On the Attribute Toolbar, click the **Text** or **Frame** button under **Target** to customize the Text and Frame bevels if desired.
4. On the Standard Toolbar, select the **Rotate Object** button. ***Orientation*** appears on the Properties menu.
5. On the Timeline Control, add a key frame at frame 30 of the animation. On the Location Toolbar, enter an X value of 180. This flips the frame directly to its other side.
6. Select ***Bevel*** from the Properties Menu, and move to frame 15 of the animation, and add a key frame.
7. On the Attribute Toolbar, scroll down to the second level of attributes. Clear the **Use Front** option, and click the **Text** or **Import Graphic** button under **Object** to put a different text or image on the other side of the frame. Then select the **Flip Text** option.
8. Click the **Play** button to preview the animation.



Hollow

This plug-in effect lets your text or graphic penetrate right through the board for an interesting title. This tutorial shows you how to create a fun yet simple animation using two of the same text or graphic object. (Settings: 30 frames, 15fps)

To make an object break through a board:

1 Insert an object into the Edit Window. In the EasyPalette file directory, select *Bevel Effects: Hollow*.

2 On the Attribute Toolbar, select ***Hollow*** from the **Bevel Mode** list. The Edit Window displays a rectangular board with a hollow object.

3 Scroll down to the next level of attributes and select ***None*** for **Board Bevel**.

4 Insert a second object (the same as the first) to the project. In the EasyPalette file directory, select *Object Style: Bevel*, then select ***None*** for **Bevel Mode** on the Attribute Toolbar. In the Edit Window, you should see a seamless and flat board.

5 On the Object List, select ***[Group]***, then rotate the board and object so that they lean backwards, allowing you to better view the results.

6 Select the second object from the Object list. Select ***Position*** from the Properties Menu. On the Timeline Control, add a key frame to frame 30 of the animation.

7 Enter a negative value for the Z coordinate on the Location Toolbar. Try something like -200.

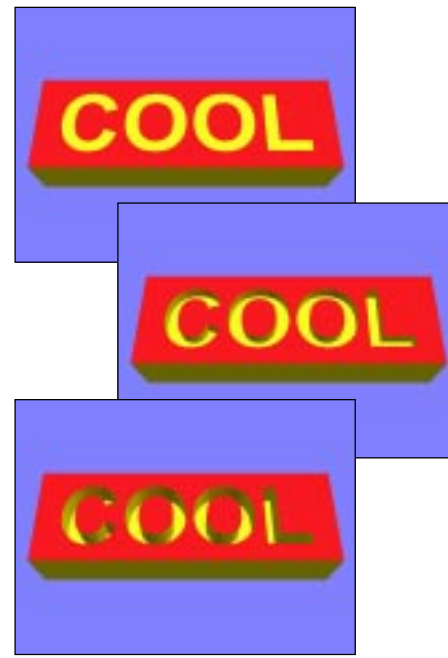
8 Click the **Play** button. The object should tear itself away from the board to reveal the hollow board and the three dimensional letters.

Imprint

Make a deeper impression by engraving a title or banner on a board with this plug-in effect. You can also make an animated effect using this plug-in. Learn how to make a basic title sink into a board in the following tutorial. (Settings: 30 frames, 15 fps)

To apply Imprint to an object:

1. Insert a text or graphic object into the Edit Window. In the EasyPalette file directory, select *Bevel Effects: Imprint*. The Imprint presets appear.
2. On the Attribute Toolbar, select ***Imprint*** from the **Bevel Mode** list. The Attribute Toolbar displays the Imprint options, and the Edit Window displays the object on the default rectangular board. To use a different board shape, drag an Imprint preset to the Edit Window.
3. On the Timeline Control, add a key frame at frame 30 of the animation.
4. At frame 1, on the Attribute Toolbar, enter 500 for **Extrusion** and 1 for **Imprint**.
5. Scroll down to the next set of attributes. Under **Board Bevel**, select ***None***. Enter values for **Extra Width** and **Extra Height** if you want to increase the dimensions of the board.
6. At frame 30, enter 250 as the **Imprint** value.
7. Click **Play** to preview the animation. The title should slowly sink into the board.



Object Effects

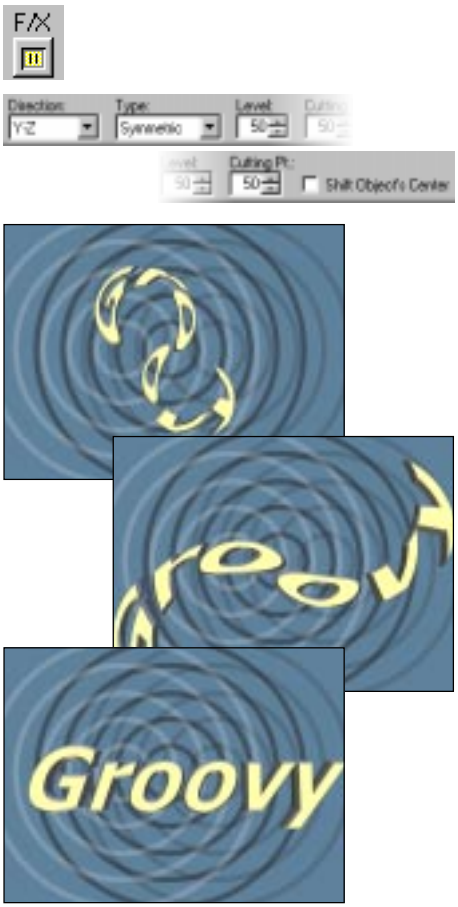
The control you have in animating individual objects is one of the things that makes Ulead COOL 3D remarkable. Some plug-in effects let your objects dance and explode in customizable patterns, while others let you choreograph the actions between individual letters with ease. Use the many presets to quickly create stunning effects, or use the Attribute Toolbar to create custom effects. This section shows you basic projects for each plug-in. For detailed information on all plug-in attributes, please refer to the Help Topics.

Bend

Use this plug-in effect to bend your title in any direction, then animate the bending movement to attract special attention. In this tutorial, learn how to combine this effect with basic rotation settings. (Settings: 30 frames, 15fps)

To apply the Bend effect to an object:

1. In the EasyPalette file directory, select *Object Effects: Bend*. Click the **F/X** button on the Attribute Toolbar. ***Bend*** appears on the Properties Menu.
2. On the Timeline Control, add a key frame at frame 30.
3. At frame 1 on the Attribute Toolbar, set the **Direction** of the bend to ***Y-Z***, and select the **Type** as ***Asymmetric***. Set the **Level** to 100 to completely bend the object, and set the **Cutting Point** to 50 so that the object bends at the center.
4. At frame 30, set the **Level** to 0. This allows the object to unbend.
5. On the Standard Toolbar, click the **Rotate Object** button. ***Orientation*** appears in the Properties Menu. On the Timeline Control, add a key frame at frame 30.
6. At frame 1, on the Location Toolbar, the rotation coordinates should all be 0. At frame 30, set the Z coordinate to -720. This rotates the object twice in a clockwise direction.
7. Click **Play** to preview the animation.



Dance

This effect brings out the buoyancy in your title. Choose from several dance styles - Shake, Scatter, Wave, and Bounce. The following tutorial shows you how to make a bouncing project. (Settings: 30 frames, 15 fps)

To make a title bounce:

1. In the EasyPalette file directory, select *Object Effects: Dance*. Click the **F/X** button on the Attribute Toolbar. ***Dance*** appears in the Properties Menu.
2. On the Timeline Control, add a frame at frame 30.
3. At frame 1, select ***Bounce*** as the **Dance Mode**, and for **Sequence**, select ***Random***.
4. Set **Ground** to 1. This is the minimum distance that the letter will fall in order to bounce. Specify 100 for **Rebound**, which makes the letters bounce highest.
5. Specify 10 as the **Tempo** for fastest bouncing speed. Set the **Variation** to 0. This means that the letters will start out in their normal stationary position - standing up and facing forward.
6. At frame 30 of the animation, set the **Variation** to 50. This means that by the last frame, the letters will be facing in widely differing directions, as if they were bouncing out of control.
7. Click **Play** to preview your project. Try using different values for **Seed**. This generates a slightly different variation of the Dance effect.

Distort

Put a new perspective on your title by using the Distort plug-in. You can either distort the perspective of the entire object, or distort the letters individually. When applied in an animated sequence, this can be useful for emphasizing the noteworthy. Create a basic Distort animation in this tutorial. (Settings: 30 frames, 15fps)

To distort an object:

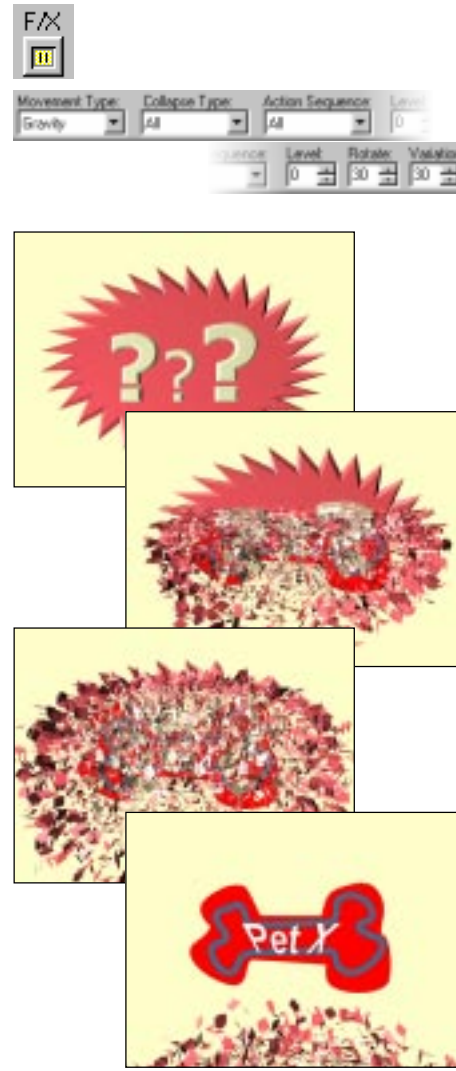
1. In the EasyPalette file directory, select *Object Effects: Distort*. Click the **F/X** button on the Attribute Toolbar. ***Distort*** appears on the Properties Menu.
2. On the Timeline Control, add key frames to frames 15 and 30.
3. At frame 1 on the Attribute Toolbar, select ***Individual*** for **Action Sequence**, and select ***Y-Z*** as the **Plane** along which the perspective will be distorted. Leave all other distortion variables at their default values (100).
4. At frame 15, set the **Y1** and **Z1** values to 50, and set the **Y2** and **Z2** values to 300. Frame 30 should have the same values as frame 1.
5. Click **Play** to preview the animation.

Explosion

The power you have when blasting a title to pieces makes this plug-in a favorite. If you are not so destructively minded, try reversing an explosion effect, having all the small pieces come together to form a whole. In this tutorial, learn how to disintegrate your title. (Settings: 30 frames, 15 fps)

To disintegrate your title:

1. In the Easy Palette file directory, select *Object Effects: Explosion*. Click the **F/X** button on the Attribute Toolbar. ***Explosion*** appears on the Properties Menu.
2. On the Timeline Control, drag the leftmost end point of the Control Line to frame 5. This ensures that the explosion effect will not take place right away. Add a key frame to frame 30 of the animation.
3. At the first frame of the plug-in effect (frame 5), set the **Movement Type** to ***Left***, the **Collapse Type** to ***Ascending***, and the **Action Sequence** to ***Forward***. Set the **Level** to 0 and the **Rotate** value to 30.
4. At frame 30, set the **Level** to 100 for a complete explosion. Enter 100 for the **Rotate** value.
5. Select ***Position*** from the Properties Menu, and add key frames to frames 25 and 30 on the Timeline Control.
6. At frames 1 and 25 for Position, all coordinates on the Location Toolbar should be 0. At frame 30, set the Y value to -300.
7. Click **Play** to preview the effect. Experiment with different values for **Variation**. Each number you enter produces a slightly different variation of the explosion effect.

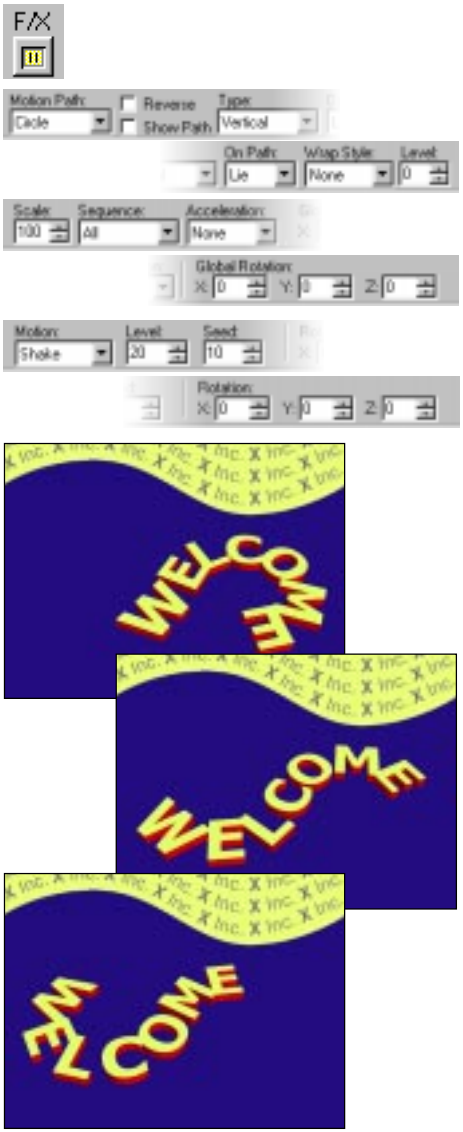


Motion Path

Move your title along specially designed paths with this plug-in. Have it zigzag in space, or let it zip along sweeping curves in roller-coaster fashion. The Attribute Toolbar lets you further customize how the title moves - you can twist it around the path, make it move in wave form, mold itself to the path, and have each character move in sequential order. In this tutorial, learn how to make your object travel along a figure 8. (Settings: 30 frames, 15fps)

To apply Motion Path to an object:

1. In the EasyPalette file directory, select *Object Effects: Motion Path*. Click the **F/X** button in the Attribute Toolbar. ***Motion Path*** appears on the Properties Menu.
2. On the Timeline Control, add a key frame to frame 30 of the animation.
3. At frame 1, on the Attribute Toolbar, select ***Figure 8*** as the **Motion Path**. Select the **Show Path** option. A model of the path appears in the Edit Window.
4. Select ***Horizontal*** as the **Type** of path, then set **On Path** to ***Stand***. Set the **Wrap Style** to ***Position***, and enter 100 as the **Level**.
5. Scroll down to the second level of attributes. Increase the size of the path by entering 500 for **Scale**. Then, under **Global Rotation**, adjust the orientation of both the path and the object by setting the X value to 45.
6. At frame 30, set the **Level** to 0 and the **Scale** to 500. Under **Global Rotation**, set the X value to 45.
7. On the Attribute Toolbar, clear the **Show Path** option to see the object on its own without the path. On the Animation Toolbar, click the **Loop Mode** button, then click **Play** to preview the animation. The object should travel continuously along the figure 8.

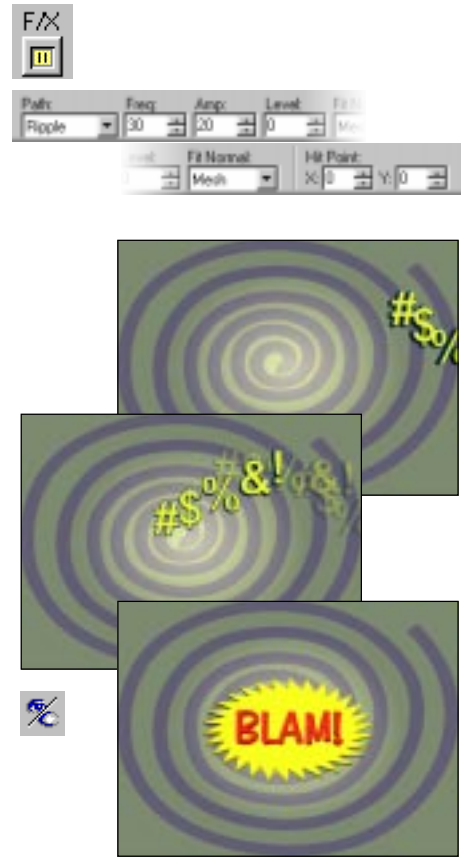


Path Animation

This plug-in lets your text move in ways that simulate the natural laws of gravity in the real world. You can let your object get caught in a tornado, ripple on water, or swing like a pendulum. In this tutorial, learn how to toss your object in an arc, and then have it change into another object upon impact. (Settings: 30 frames, 15 fps)

To throw an object in an arc:

1. In the EasyPalette file directory, select *Object Effects: Path Animation.* Click the **F/X** button on the Attribute Toolbar. ***Path Animation*** appears on the Properties Menu.
2. On the Timeline Control, add a key frame at frame 30.
3. At frame 1 on the Attribute Toolbar, select ***Arc*** as the **Path**, and enter 25 as the value for **Speed**.
4. Set the **Ground** to 0 (default), and enter 75 for the **Level** to start the object at mid-throw. Enter 40 as the value for the **Angle** of the arc.
5. At frame 30, set the **Level** to 0.
6. Click **Play** to preview the Arc animation. The object should be thrown in from the right of the screen.
7. Insert a new object into the project, and click the F/X button to deactivate the effect for that object. At frame 1, click the **Show/Hide** button to hide the object, and at frame 30, click it again to make the object appear.
8. Click **Play** to preview the animation.



Surface Animation

With this plug-in, you can let your object move and wrap around the form of different three-dimensional shapes. This tutorial shows you how to wrap your object around a small sphere, have it travel twice around the sphere, and then unwrap at the end. (Settings: 30 frames, 15 fps)

To animate an object around a sphere:

1. In the EasyPalette file directory, select *Object Effects: Surface Animation*. Click the **F/X** button on the Attribute Toolbar. ***Surface Animation*** appears on the Properties Menu.
2. On the Timeline Control, add key frames to frames 25 and 30.
3. At frame 1, select ***Sphere*** as the **Surface** around which the object is wrapped, set the **Path** to ***V Line*** to make the object travel vertically, then set the **Wrap Style** to ***Mesh*** to mold the object to the surface of the sphere.
4. Scroll down to the second level of attributes. Enter 10 for all **Size** coordinates so that the text is wrapped around a small sphere. Set the **Level** to 0.
5. At frame 25, enter 10 for all **Size** coordinates, and enter 200 as the **Level** so that the object travels twice around the sphere's surface.
6. At frame 30, set all **Size** coordinates to 100 so that the size of the ball increases drastically. Set the **Level** to 200 so that the object does not move from the previous key frame.
7. Click **Play** to preview the animation.

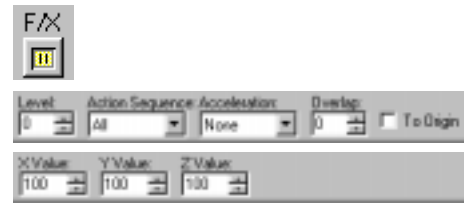
Tip: *Try using the Surface Animation plug-in with the Board bevel effect, as in this example. This allows you to actually see the "object" around which your object wraps.*

Token Move (G)

It's easy to choreograph individual letters to move sequentially. This plug-in lets you do this in any direction and in just a few steps. This tutorial shows you how to have individual letters jut out at you for emphatic expression. (Settings: 30 frames, 15 fps)

To apply the Token Move (G) effect:

1. In the EasyPalette file directory, select *Object Effects: Token Move (G)*, and click the **F/X** button on the Attribute Toolbar. ***Token Move (G)*** appears on the Properties Menu.
2. On the Timeline Control, add a key frame to frame 30 of the animation.
3. At frame 1 on the Attribute Toolbar, set the **Level** of the animation to 0, **Action Sequence** to ***Forward***, **Acceleration** to ***None***, and **Overlap** to 30. Select the **To Origin** option to make individual characters return to their original positions upon completing the specified action.
4. Scroll down to the next level of attributes. On this level are the coordinates for position. To make the title come towards you, enter -500 for **Z Value**.
5. At frame 30, set the **Level** of the animation to 100.
6. Click **Play** to preview the animation.



Token Rotate (G)

With this effect, you have the ability to make letters and objects spin and twirl, either all at once or in an elegant sequence. Here, learn how to make a simple wave effect. (Settings: 30 frames, 15 fps)

To apply the Token Rotate (G) effect:

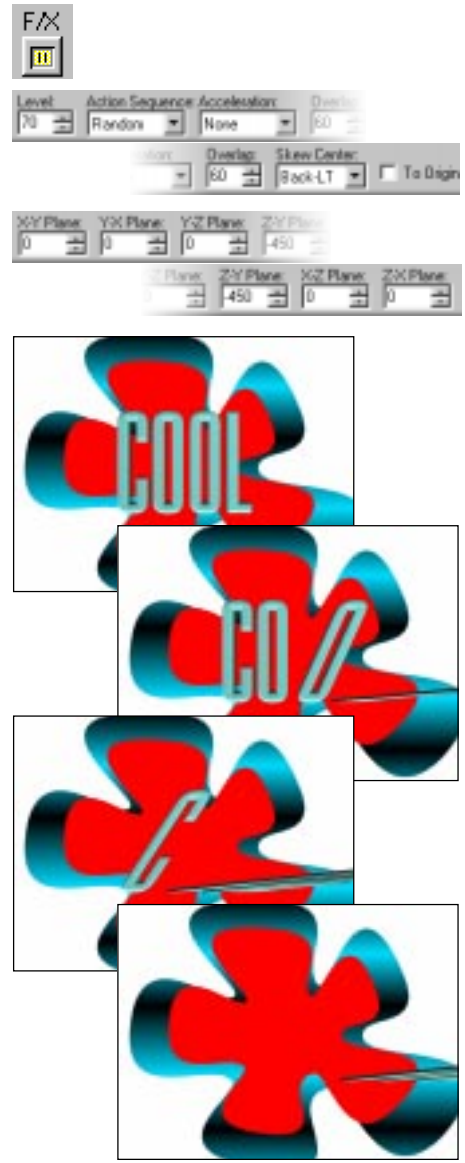
1. Adjust the Orientation of the object so that the Y coordinate is approximately 45.
2. In the EasyPalette file directory, select *Object Effects: Token Rotate (G)*, then click the **F/X** button on the Attribute Toolbar. ***Token Rotate (G)*** appears on the Properties Menu.
3. On the Timeline Control, add a key frame at frame 30.
4. At frame 1 on the Attribute Toolbar, set the **Level** of the animation to 0, the **Action Sequence** to ***Forward***, and **Acceleration** to ***None***.
5. Set the **Overlap** to 90 so that the individual letters move almost immediately one after the other. Under **Rotation Center**, select ***Front-LT*** (the front left top of each character).
6. Scroll down to the next set of attributes. These are the axes around which your title can rotate. Enter -360 for the **X Angle**.
7. At frame 30, set the **Level** of the animation to 100.
8. Click **Play** to preview the animation.

Token Skew (G)

You can stretch text and objects in any direction with this plug-in effect. In this tutorial, combine the Skew effect with a simple Position animation to make an object appear as if it were being sucked away off the screen. (Settings: 30 frames, 15fps)

To apply the Token Skew (G) effect:

1. In the EasyPalette file directory, select *Object Effects: Token Skew (G).* Click the **F/X** button in the Attribute Toolbar. ***Token Skew (G)*** appears on the Properties Menu.
2. On the Timeline Control, add a key frame to frame 25.
3. At frame 1 on the Attribute Toolbar, set the **Level** to 0, and select ***Backward*** as the **Action Sequence**. Set the **Acceleration** to ***Oscillate***.
4. Enter 30 as the **Overlap** value. Choose ***Front-LB*** as the **Skew Center** to fix a point from which letters skew.
5. Scroll down to the next level of attributes. These are the planes along which objects can be skewed. Under **Y-X Plane**, enter 1000, and leave all the others at 0.
6. At frame 25, set the **Level** to 100.
7. Next, animate the position of the object. Select ***Position*** from the Properties Menu, and add key frames at frames 20 and 30.
8. At frames 1 and 20, view the coordinates in the Location Toolbar for Position. They should all be set to 0. At frame 30, set the X coordinate to 1500.
9. Click **Play** to preview the animation.



Token Size (G)

The Token Size (G) effect is especially easy to use because you only have to make most of the settings once, and then all you have to change in the key frames is the value for Level. Learn to make your money grow in this tutorial. (Settings: 30 frames, 15 fps)

To apply the Token Size (G) effect:

1 Insert a string of dollar signs, divided up in 3 rows. Rotate it slightly on the X axis so that it leans back.

2 In the EasyPalette file directory, select *Object Effects: Token Size (G)*. On the Attribute Toolbar, click the **F/X** button. ***Token Size (G)*** appears on the Properties Menu.

3 On the Timeline Control, add key frames to frames 15 and 30.

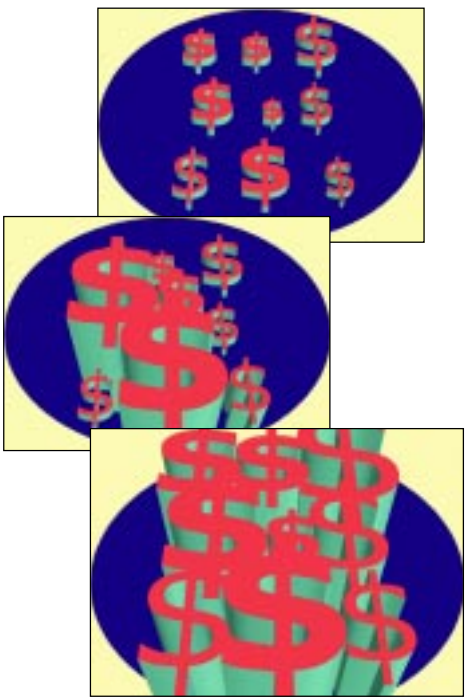
4 At frame 1 of the animation, set the **Level** to 0. Select ***Random*** for the **Action Sequence**.

5 Under **Acceleration**, select ***Normal***. Set the **Overlap** to 50, which makes each object begin moving after each previous object has completed half of its motion. Select ***Center*** as the **Scaling Center**.

6 Scroll down to the next level of attributes. Here's where you specify how large and in which direction your objects grow. For **X** and **Y Values**, enter 200. For **Z Value**, enter 500.

7 At frame 15, set the **Level** to 100, and at frame 30, set the **Level** to 75.

8 Click **Play** to preview the animation. The dollars should grow fully to the specified size in random order, and then some of them should shrink again.

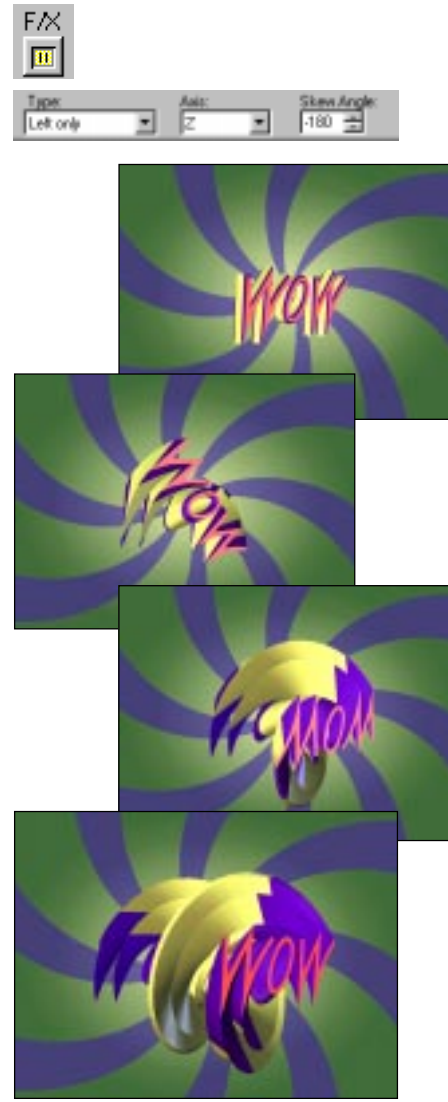


Twist

This effect lets you coil up a title in a number of different directions and styles. Twist the object beyond recognition along the X or Y axis, or make the title coil out towards you along the Z axis. In this project, learn how to combine the Twist effect with a basic Size animation for extra impact. (Settings: 30 frames, 15 fps)

To twist an object:

1. Rotate the object slightly on the Y axis.
2. In the EasyPalette file directory, select *Object Effects: Twist*. Click the **F/X** button on the Attribute Toolbar. ***Twist*** appears on the Properties Menu.
3. On the Timeline Control, add a key frame at frame 30.
4. At frame 1, on the Attribute Toolbar, select ***Left only*** as the twist **Type**. This twists the object starting with its left side. Select Z as the **Axis** so that the depth of the object is twisted, and set the **Skew Angle** to 0.
5. At frame 30, set the **Skew Angle** to -360.
6. On the Standard Toolbar, click the **Size Object** button. ***Scale*** should appear on the Properties Menu. On the Timeline Control, add a key frame at frame 30.
7. At frame 1, the Size coordinates on the Location Toolbar should be 100 (default). At frame 30, set the Z coordinate to 1000.
8. Click **Play** to preview the animation. The title should twist clockwise and coil towards you.



Transition Effects

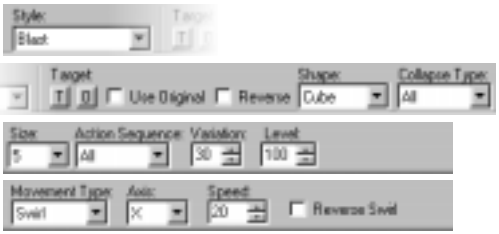
This new plug-in category lets you make a striking statement by replacing one text or graphic object with another in a variety of entertaining ways. Explode your text to form a completely different text, or have one text squash another. You can also make one text bump the other one off the screen. All this can be done in a few easy steps with the Blast, Bump and Jump effects.

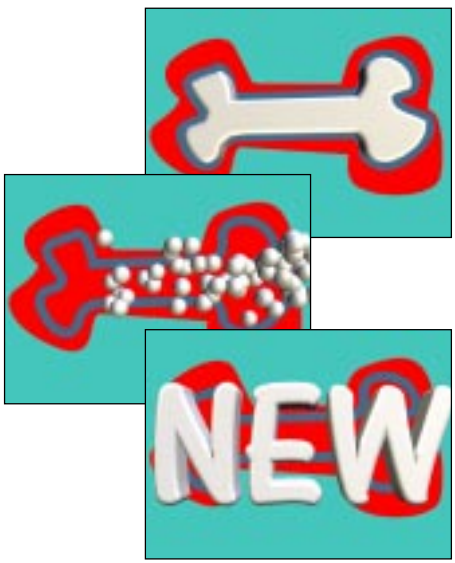
Blast

Have fun exploding an object, and then have the pieces come back together to form something new. The easiest way to apply this effect is to apply a Blast preset from the EasyPalette. For more advanced users, the many variables on the Attribute Toolbar allow you to control the effect to amazing detail. In the following tutorial, we'll explode a graphic and have it turn into text.

To apply a Blast transition:

1. Insert a graphic object into the Edit Window. Select *Transition Effects: Blast* from the EasyPalette file directory, then on the Attribute Toolbar select ***Blast*** from the **Style** list.
2. On the Attribute Toolbar at frame 1, clear the **Use Original** option. Then, under **Target**, click the **Text Object Target** button. In the dialog box that appears, enter the text object that you want to replace the original object.
3. Set the **Shape** to ***Sphere,*** *and the* **Collapse Type** to ***All***.
4. Scroll down to the next level of attributes. Set the **Size** of the pieces to 5 and the **Action Sequence** to ***All***. The **Level** should be 100 by default.
5. Scroll down to the next level of attributes. Select ***Swirl*** as the **Movement Type**.
6. Click **Play** to preview the animated sequence.





Bump

This transition effect can add expression to those pressing statements that simply must be made, or simply emphasize the main point by having it push another object away. In this example, have the main text bump a graphic out of the way.

To apply a Bump transition:

1. In the EasyPalette file directory, select *Transition Effects: Bump*, then on the Attribute Toolbar, select ***Bump*** from the **Style** list.
2. On the Attribute Toolbar at frame 1, clear the **Use Original** option, then click the **Text** or **Graphic Object Target** button under **Target** to insert an object that you want to replace the original.
3. Make sure that the **Level** is 0, and set the **Compression** value to 50.
4. If the target object appears on the screen, set the **Initial Position** of the target object to 300, or until it disappears off the screen.
5. Scroll down to the next set of options on the Attribute Toolbar, and select ***From Left*** as the **Direction** in which you want the transition to take place.
6. Move the Timeline Control to the last frame of the animation. Set the **Level** to 100.
7. Click **Play** to preview the transition.

Jump

Stomp out one text object with another with the Jump effect. You can also give it a realistic bounce and rebound as one text falls on the other. This example shows you how to combine this effect with the Show/Hide function so that a second message shows up at the end of the transition.

To make one object stomp on another:

1. Insert an object, then select *Transition Effects: Jump* from the EasyPalette file directory. On the Attribute Toolbar, choose ***Jump*** from the **Style** list.
2. On the Attribute Toolbar, clear the **Use Original** option, then click the **Text** or **Graphic Object Target** button under **Target**. Insert an object to replace the original. The object above the original changes in the Edit Window.
3. On the Attribute Toolbar at frame 1, set the **Bounce** value to 30. If the target object is visible, set the **Initial Position** to about 300, or so that it disappears off the screen.
4. Move to the last frame of the animation, add a key frame, and set the **Level** to 100.
5. Insert a new object. On the Attribute Toolbar, select ***None*** as the transition **Style**. Adjust the object's position at frame 1 so that it doesn't overlap with the first object.
6. Choose ***Show/Hide*** from the Properties Menu, and add a key frame to frame 30 of the animation.
7. At frame 1, click the **Show/Hide** button on the Animation Toolbar, so that the object disappears. At frame 30, click it again so that the object reappears.
8. Click **Play** to preview the animation.

Global Effects

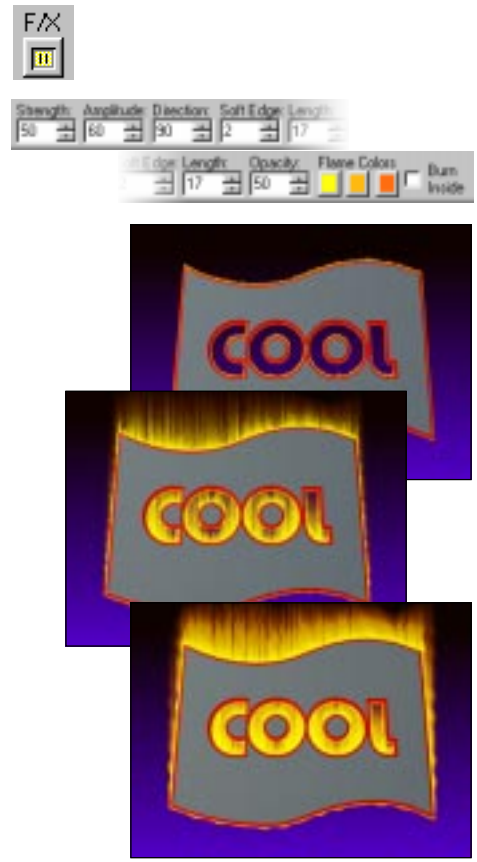
This category of effects can enhance the quality of your text or graphic object. A wide variety of options lets you give your 3D objects an eerie aura, set them on fire, or cast a shadow, among others. These effects are different from Object effects in that when you apply one of them to your project, it is applied to all of the objects in it.

Fire

Make red hot titles that burn and mesmerize, make a cool title that drips with icicles, or even make the title ooze with neon green goo. All this is possible with the Fire plug-in. In this tutorial, learn how to animate a basic fire effect. (Settings: 30 frames, 15 fps)

To burn an object:

1. Select *Global Effects: Fire* in the EasyPalette file directory, then click the **F/X** button on the Attribute Toolbar. ***Fire*** appears on the Properties Menu.
2. On the Timeline Control, add a key frame to frame 30.
3. At frame 1, set the **Strength** to 10 and the **Amplitude** to 10.
4. Set the **Direction** to 90 to make the flames go straight up, and enter 2 for the **Soft Edge** value.
5. Enter 10 for **Length** and 1 for **Opacity**. Then customize the colors of the flame by clicking on the color boxes.
6. At frame 30, set the flame to full blast by entering 200 for **Strength** and 100 to **Amplitude**.
7. Set the **Length** of the flames to 50, and increase the **Opacity** to 75.
8. Click **Play** to preview the animation.

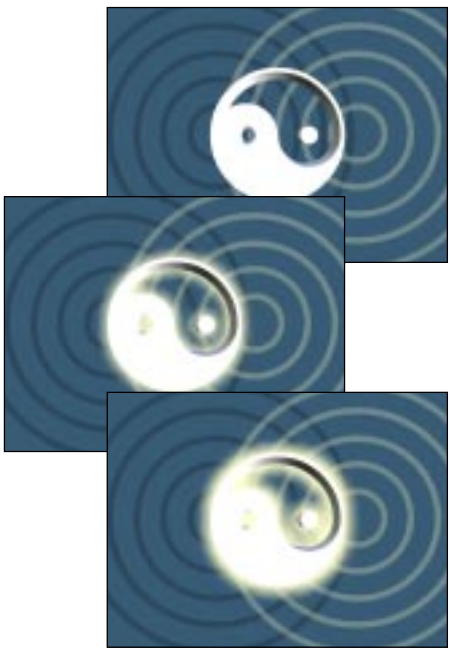


Glow

This plug-in lets you give any type of aura to fit the mood of the project. Make your object radiate with a luminous glow of the nuclear age, or you can give it a halo of goodness. One of the things you might want to try with your object is to have it shine like a light. The following tutorial demonstrates how to make an object blink on and off. (Settings: 30 frames, 15 fps)

To make a blinking title:

1. Make a bright-colored title against a dark background.
2. Select *Global Effects: Glow* from the EasyPalette file directory, then click the **F/X** button on the Attribute Toolbar. ***Glow*** appears on the Properties Menu.
3. On the Timeline Control, add key frames to frames 1 and 30. At these key frames, set the **Width** of the glow to 2, the **Transparency** to 0, and the **Soft Edge** to 6. Select a bright **Color** for the glow.
4. Add key frames at frames 5, 15, and 20. These should all have the same attributes as those in frame 1.
5. Add key frames controls to frames 7, 13, 22, and 28. At these key frames, set the **Width** of the glow to 0. This makes the glow disappear.
6. Click **Play** to preview the animation.

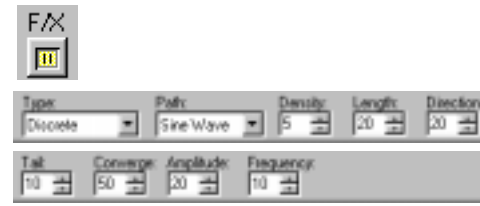


Motion Blur

With this effect, you can make an object look as if it were zipping around at super speeds bouncing with energy. These and many more whisks of motion are possible with this plug-in. If you want to try this with an animated project, it is recommend that you use the least complicated settings for the animation. The following tutorial takes a look at combining object position with the Motion Blur effect. (Settings: 30 frames, 15 fps)

To apply Motion Blur to an object:

1. Select ***Position*** from the Properties Menu. On the Timeline Control, add key frames to frames 12, 18, and 30.
2. At frame 1, set the X coordinate to -600. The Y and Z values should be 0. At frames 12 and 18, change the X coordinate to 0. At frame 30, change the X coordinate to 1000.
3. In the EasyPalette file directory, select *Global Effects: Motion Blur*. Click the **F/X** button on the Attribute Toolbar. ***Motion Blur*** appears on the Properties Menu.
4. At frame 1, on the Attribute Toolbar, select ***Continuous*** as the **Type**, and set the **Path** to ***Straight***.
5. Set **Density** to 5, and **Length** to 20. Set the **Direction** to 180, which makes the lines horizontal.
6. Scroll down to the next level of options on the Attribute Toolbar. Set **Tail** to 30 and the **Converge** value to 0.
7. Add key frames at frames 10, 12, 18, 20, and 30. They should all have the same attributes as in frame 1.
8. For frames 12 and 18, change the **Tail** length to 0.
9. Click **Play** to preview the animation.



Shadow

You can give your object a shadow, then animate it easily after making just a few settings. In addition to making the gray shadows of real life, you can make colorful shadows, or have an object cast a negative shadow on a dark background. In the following tutorial, make an object float away, leaving its shadow behind on the ground. (Settings: 30 frames, 15 fps)

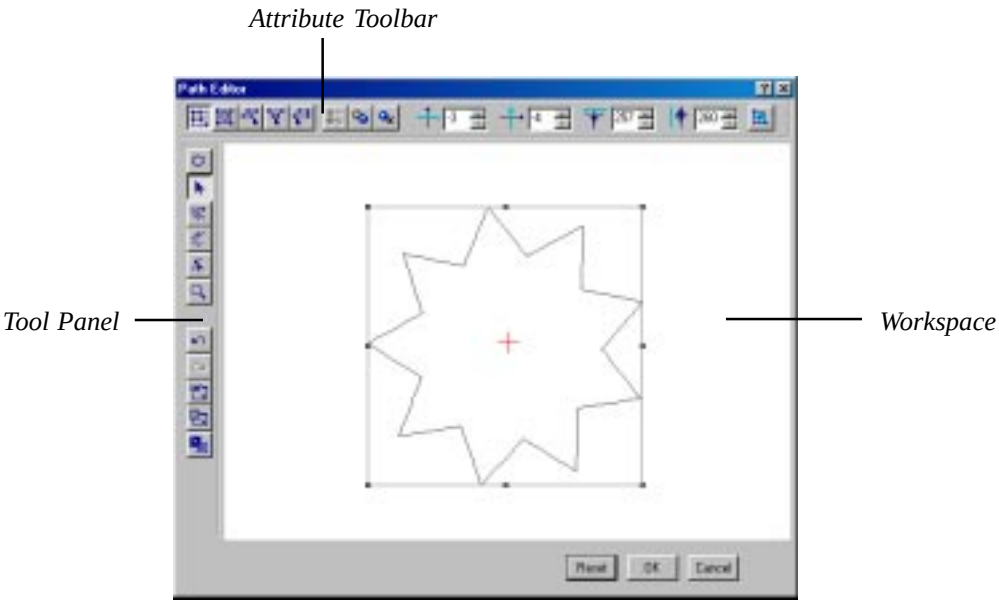
To animate an object and its shadow:

1. Rotate your object so that it appears to lie somewhat flat on a surface.
2. On the Standard Toolbar, click the **Move Object** button. On the Timeline Control, add a key frame to the last frame of the animation.
3. At frame 1, the X, Y, and Z coordinates should remain 0. At frame 30, enter 270 for the Y coordinate, or enter any other value that makes the object move off the screen.
4. Select *Global Effects: Shadow* from the EasyPalette file directory. Click the **F/X** button on the Attribute Toolbar. ***Shadow*** appears on the Properties Menu.
5. On the Timeline Control, add a key frame to the last frame of the animation.
6. At frame 1, on the Attribute Toolbar, enter 5 for **X Offset** and **Y Offset**. Enter 3 for **Soft Edge**.
7. At frame 30, enter 600 for **Y Offset**. Enter 40 for **Soft Edge**.
8. Click **Play** to preview the animation. The object should float up and off the screen, while the shadow remains behind. If it looks like the shadow is moving up and down, adjust the **Y Offset** value for the last key frame.

Path Editor

With Path Editor, Ulead COOL 3D now makes it possible to create and edit vector graphics without having to worry about importing images from other programs. Not only can you create your own shapes, but you can also take letters that you've typed in, and edit them as vector graphics. And of course you have the ability to import a background, such as a logo, so that you can trace over the section that you want, then enhance the original logo with 3D flair.

To access Path Editor, click the **Insert Graphics** button on the Object Toolbar. This opens the Path Editor window. 

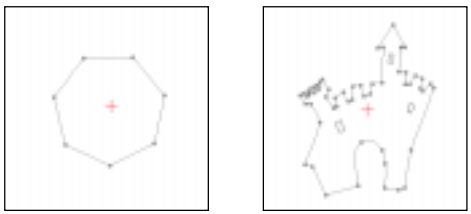


The basics of vector graphics

In Path Editor, you create shapes that are vector graphics. Vector graphics differ from raster graphics, or bitmaps, in that they are composed of lines, or **paths**, that are connected to one another by **nodes**. Therefore, when you create or edit them, you work only with the paths and nodes, rather than with the color and texture attributes that you may want them to have. Simple shapes are composed of a path with few nodes, while more complex shapes are composed of a path with many nodes.

Path Editor gives you many tools that you can use to draw and edit paths and nodes, and even to convert raster to vector graphics. The **Tool Panel** gives you a variety of functions

that you can use to edit and create a shape. Every time you select one of these tools, the **Attribute Toolbar** changes to give you the options for that tool. Familiarize yourself with some of the tools in the following pages.



A simple shape with few nodes (left) and a complex shape with many nodes (right)

Using the Shape tool

With the Path Editor, you can create both regular symmetrical shapes, such as squares and circles, as well as more complex polygons and stars.

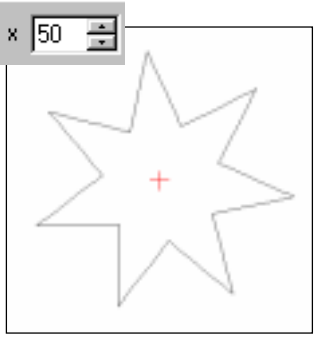
To create a shape object:

1 Click the **Shape** tool from the Tool Panel. The Attribute Toolbar changes to display the various shapes you can choose from, as well as how the shape is created.

2 Select the shape you want to use from the Attribute Toolbar, then select the drawing options for creating that shape by clicking any of these three buttons:

   - **Draw From Center** Creates the shape from the center moving out. If not selected, the shape is created from the top left corner down as you draw.
   - **Equal Sides** Ensures that the sides of the shape are all of equal length.
   - **Fixed Size** Allows you to specify the exact width and height of an object in the neighboring Width and Height boxes.

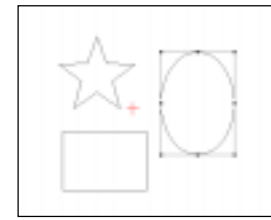
3 Click on the area of the workspace where you want the shape to appear, and drag. As you drag, a shape is created based on the attributes that you specified.

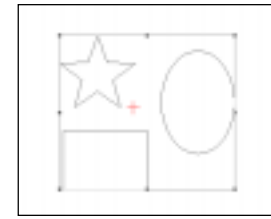


Using the Object tool

Once you have created an object, you can move and manipulate it in a variety of ways with the **Object tool**. This allows you to select objects and then move, resize, and distort them anywhere within the workspace.

- **To select a single object**, click the **Object** tool button on the Tool Panel, and then click anywhere along the path of the object that you want (a hand icon appears whenever your cursor moves over a path).
- **To select multiple objects**, hold down the **Shift** key as you click each object. The bounding box changes each time to encase all the selected objects. You can also drag in the workspace to form a selection area that includes all of the desired object. Once selected, you can move them as one, or resize them equally.





The Object tool provides five options on the Attribute Toolbar for resizing, rotating, and reshaping objects:

- **Resize** Allows you to drag on the nodes of a bounding box to enlarge or reduce the size of an object. Click the **Keep Aspect Ratio** button to maintain the proportion of the object when resizing.
- **Rotate** Lets you rotate the object by directly dragging a corner of the object's bounding box. As you rotate, the degree of the rotation is displayed in the **Rotation Angle** spin box at the end of the Attribute Toolbar. For finer adjustments, use this spin box or enter the degree of rotation directly. To set a different center of rotation, drag the crosshair to the desired position. To reposition it at the center of the object, click the **Reset Rotation Center** button.
- **Slant, Perspective, Distort** Allow you to adjust and skew your object by dragging on the control nodes of an object's bounding box.

Using the Path tool

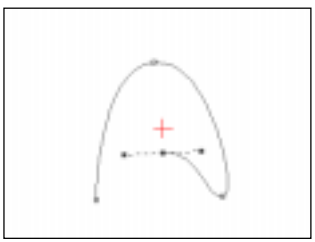
The Path tool allows you to create shapes based on a series of straight or curved lines. You can manipulate these lines as you draw or edit them at a later time.

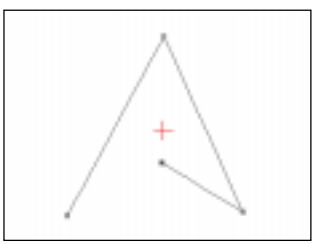
To create a path object:

1 Click the **Path** tool button on the Tool Panel. The Attribute Toolbar changes to display the options for drawing a path.

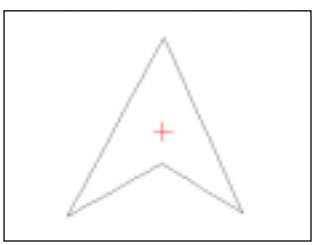
2 Select the type of path you want to draw from the Attribute Toolbar. Draw either in straight or curved line segments by clicking the appropriate button on the Attribute Toolbar. (You can switch between linear or curved segments as you draw, depending on the type of path you want to create.)

3 In the Edit Window, begin drawing the shape you want to create. Each time you click your mouse, a node is placed in the Edit Window, and a line segment is automatically drawn connecting the two nodes. If you select the **Draw Line** option, then only straight line segments are created every time you click on the workspace. If you select the **Draw Curve** option, curved segments are created each time you click and drag on the workspace. When you do this, two handles appear on either side of the node, allowing you to stretch, pull or turn the curve.





4 Click the **Close Path** button on the Attribute Toolbar to end your shape. Path Editor automatically draws a line connecting the end of the last segment to the beginning of the shape.

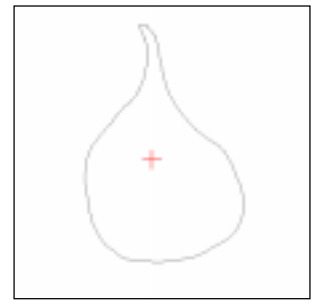


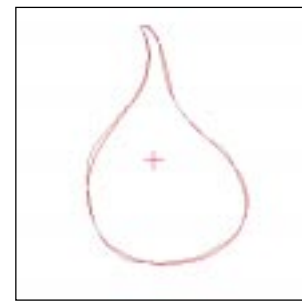
Using the Freehand tool

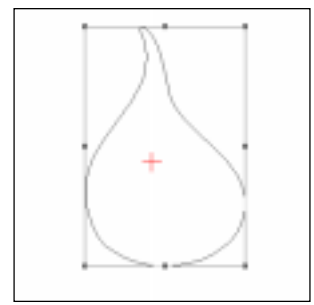
The Freehand tool allows you to create any kind of shape you want by allowing you to draw it with your mouse or pressure sensitive pen tablet. This can be useful for tracing over elements in a background image, such as a logo. Once you have finished drawing your path, Path Editor then places nodes in positions on the path based on the accuracy that you specify on the Attribute Toolbar.

To create a freehand object:

1. Click the **Freehand** tool button from the Tool Panel. The Attribute Toolbar changes to display the options for drawing a path.
2. Move to the Edit Window and begin drawing the shape you want to create or trace. As you draw, a line appears in the Edit Window. To draw continuously, keep your mouse button down as you drag. If you release the mouse button you end a segment. You can then create a new segment by clicking in another area of the Edit Window. When you create a new segment, it automatically connects to the end of the previous segment.
3. Click the **Close Path** button on the Attribute Toolbar to end your shape. A red line appears following the path you have drawn. Path Editor uses this line to determine how many nodes to place on the resulting path. To have the line more closely follow what you have drawn, increase the value in the **Accuracy** spin box on the Attribute Toolbar.
4. When you are satisfied with the accuracy of your path, switch to the **Object** tool, or click outside the area.







Adjusting paths

Whenever you create an object, its shape is defined by the path you draw. Once created, you always edit it using the Adjust tool.

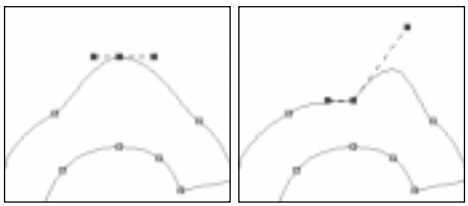
To adjust a path:

1 Select the **Adjust** tool from the Tool Panel. The Attribute Toolbar displays the options for adjusting a path. Nodes also appear on the path of the selected object.

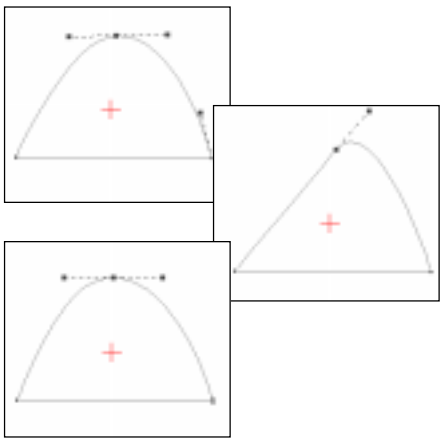
2 Select the **Adjust Path** button, and click any node on the path of the object. The node changes to black to indicate it is active, and control handles appear on either side of the node.

3 Change the shape of the path by dragging the node or one of the control handles. Dragging the node repositions it, while dragging a control handle changes the curvature of the path around the active node and between its adjacent nodes. Control the behavior of these nodes and curvatures with one of five buttons on the Attribute Toolbar:

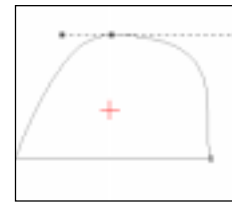
- **Curve Segment** Changes the curvature of a path between the active node and its adjacent nodes.
- **Line Segment** Changes the shape of the path to a straight line segment between the preceding node and active node.
- **Symmetric Curve** Changes the curvature of the path between the active node and its adjacent nodes, keeping the control handles fixed in a linear path and equal in length. This option is best for making general changes to a path's curvature.



Adjusting a node (left) and a control handle (right)



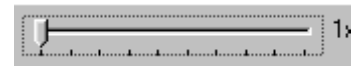
- **Smooth Curve** Changes the curvature of the path between the active node and its adjacent nodes, allowing you to change the length of the control handles independently from each other (they still remain on a linear path). Use this option for greater control over the curvature with respect to the adjacent nodes.
- **Cusp Curve** Changes the curvature of the path between the active node and its adjacent nodes, allowing you to move one control handle at a time. This is useful when you want to change the curve on one side of the path without affecting the other.

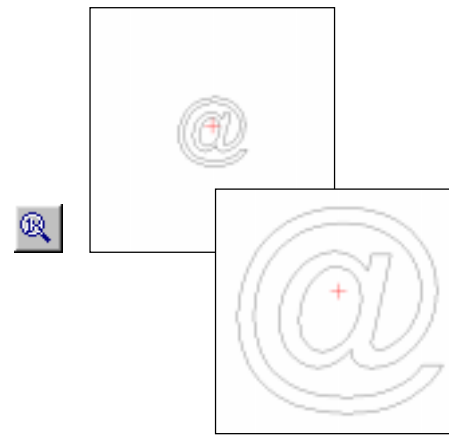


Viewing paths and images

Click the **Zoom** tool to move in and out of your images as you trace them or to get a better view of path nodes as you edit them.

- Drag the **Zoom Ratio** slider on the Attribute Toolbar until you have the view you want. Once you have zoomed in, use the scroll bars on the edges of the workspace to navigate your image.
- Drag the cursor directly in the workspace to create a rectangular zoom selection. This zooms automatically into the desired area.
- Click the **1x1** button to go back to an actual view of the path you are editing.



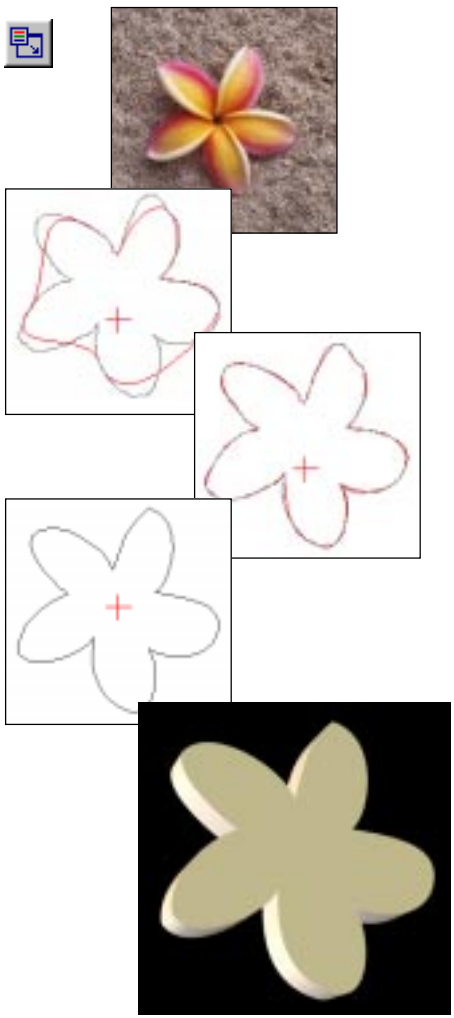


Tracing and converting raster images

Path Editor makes it easy to create a 3D object that is tailored to your specific design needs. By giving you the ability to trace over a background image or to convert a raster image to a vector graphic, you have many creative possibilities for incorporating 3D elements seamlessly into your original graphic or logo.

To trace over a background image:

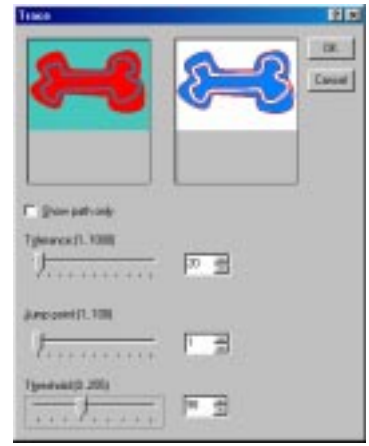
1. Click the **Insert Background Image** button. In the dialog box that appears, select an image file that you want to trace (*.BMP or *.JPG). Click **Open**, and the image appears in the Edit Window.
2. Trace the desired part of the image with the **Shape**, **Path**, or **Freehand** tools. You can use a combination of these methods.
3. After you have roughly traced the shape, clear the **Show background** option to get a clearer view of the path. Then, use the **Adjust** tool to refine the path. You can always select the **Show background** option to check your adjustments against the background image.
4. When you have finished making adjustments and closed all paths, click **OK**. The graphic you just traced appears in the workspace of the main program.



To convert raster graphics to vector graphics:

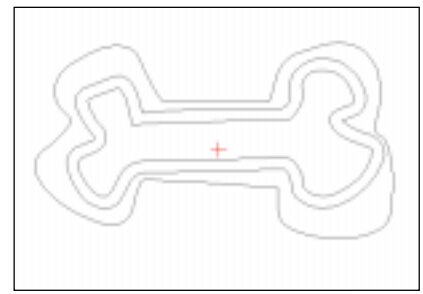
1 Click the **Convert to Vector** button. In the dialog box that appears, select an image file that you want to convert, then click **Open**.

2 In the Convert To Vector dialog box, a preview of the traced path is displayed on the window to the right. Adjust the following variables to get as close as possible to the tracing that you want:



- **Tolerance** Sets the accuracy of the tracing. A lower value results in greater accuracy.
- **Jump point** Determines the smoothness of the curves used for tracing. A lower value creates smoother curves.
- **Threshold** Sets a luminance value for deciding which pixels to include in the trace. All pixels whose luminance value falls below this are included.

3 After you have made your settings, click **OK**. The raster image appears in the background with the vector tracing on top of it.



4 Deselect the **Show background** option at the bottom of the Path Editor window. The raster image disappears, leaving the vector path clearly visible.

5 Edit the path if required, then click **OK**.

Tip: *For best conversion results, use simple, flat images with little or no complex shading. When making* ***Convert to Vector*** *settings, try specifying slightly higher values for* ***Tolerance*** *and* ***Jump point****. This will expedite the tracing process.*

Outputting your project

Ulead COOL 3D offers you great flexibility in how you output your project. Whether you want to use your project in a video, on a web page, or simply as a graphic element for a document, you have a large variety of options to choose from.

Saving your project

When you have finished editing your work, you can save it in the Ulead COOL 3D format (*.c3d). This allows you to reopen the project in Ulead COOL 3D for further editing and revision. If you want to output your project as an image, Web animation, or video file, take a look at the following pages for more information.

Creating image files

You can output your saved project to a variety of image formats: BMP, GIF, JPEG, and TGA. The following section will give you an idea of what quality you can expect with each file type, along with some of the options you have for the respective formats.

- **BMP** saves your image with high quality and no data loss. However, the trade-off is that you end up with a large file size. Generally, this is the most appropriate format if you want to make high quality and high resolution graphics.
- **GIF** saves the image at small file sizes, depending on the compression you apply to it. This is the format most commonly used for Web pages and is most appropriate for graphics and illustrations that are relatively small and do not contain a lot of tonal nuances. When saving an image in this format, you can choose how many colors you want the engine to recognize. A smaller number of colors generally results in smaller file sizes, but in some cases might compromise the quality of the image. You can also set the background to be transparent, so that when you place the image on a Web page, the background of the Web page will appear as the backdrop for the image.

- **JPEG** saves your image in a compressed format resulting in a small file size, but the data loss inevitably results in decreased quality. This is also commonly used with Web pages because of the file size. Photographic images and images that contain many tonal gradations are most suitable for this format. When saving in this format, you have the options of setting the resulting quality of the image and the image resolution, among others.
- **TGA** saves your image or project with an alpha channel. What this means is that you can use it in a video clip, in the title for example. When you select the ***Transparent Background*** option, an alpha channel blocks out the entire image except for the 3D object. You can then use this as an overlay for your base video with your video editing program.

Creating video files

One of the great things you can do with Ulead COOL 3D projects is output them as videos (AVI and MOV formats) to be used in your digital videos. Using a video editor, such as Ulead's award-winning MediaStudio Pro, you can add your animated project to your video clip. To save your project as a video file, click **File: Create Animation Files: Video File**. New extended video output options allow you to tailor exactly how you want to output your project in the video format of your choice. These are accessed in the ***Save As Video*** dialog box by clicking the **Options** button. The following gives you a brief description of the four categories.

- **Frame** Allows you to select the type of frames you want for your video (digital or analog). With the new DirectX Media 6.0 installed, you also have the option to automatically view the video after it has been generated.

- **General** Lets you specify key aspects of your video, such as frame rate and frame size.
- **Advanced** Contains options to optimize playback of the video file, based on the intended output device.
- **Compression** Lets you specify options particular to the selected video codec.

Creating animations for the Web

Ulead COOL 3D lets you output your animated projects in formats appropriate for viewing on Web pages: GIF and RealText 3D. If used wisely, these can be a good way to attract the attention of Internet surfers or simply to enliven your Web pages.

GIF animation

Many animations that you see on the Web are animated GIFs. This version of Ulead COOL 3D provides you with extra controls to create a GIF animation that suits your needs. Here's an introduction to some of the new features that you can find, all of which are accessed by clicking **File: Create Video Files - GIF Animation File**.

- **Colors** Specifies the number of colors to create in the global palette of each frame, based on the colors in that image. A smaller number of colors helps to reduce file size, but sometimes at the cost of image quality.
- **Frame delay** The time that each frame is displayed before moving to the next one.
- **Looping** Sets the number of times that the animation plays. If this is not selected, the animation plays infinitely.
- **Transparent background** Removes the background of the GIF, so that only the 3D objects can be seen. When placed on a Web page, the background of that page shows through instead.

- **Preview after saving** Gives you a preview of the animation in your default browser after saving.
- **Create global palette** Builds a global palette, based on the colors of all of the images in the animation combined. Doing this can reduce size, but again, you should see if this produces the quality that you want.
- **Remove redundant pixels** Takes away pixels that are common to all frames in the animation. This reduces file size.
- **Show status report** Displays file size and other vital stats of the animation before and after optimization.
- **Launch Ulead SmartSaver** Lets the program automatically detect and run Ulead Smart Saver, a program that helps you create and optimize animations saved in JPEG, GIF, and PNG formats.

RealText 3D

You can now output your animations in the RealText 3D file format (*.r3t). This new format stores your animation while maintaining small file sizes, thus making it optimal for display on a Web page. To output an animation in this format, use the **File: Export To RealText 3D** menu command. Once you've saved it, you can preview it in your default browser.

***Note**: Exporting your project to this file format can result in the loss of the following attributes: texture, bevel, light, color, background image, and camera.*

Shortcuts

Main Program

Function	Shortcut keys	Description
File: New	**Ctrl** + **N**	Opens a new document
File: Open	**Ctrl** + **O**	Opens an existing project file (*.C3D)
File: Save	**Ctrl** + **S**	Saves the current file (in *.C3D format)
File: Import Graphics	**F5**	Imports vector graphics (*.WMF or *.EMF)
File: Print	**Ctrl** + **P**	Prints the current document
Edit: Undo	**Ctrl** + **Z** OR **Alt** + **Backspace**	Undoes the previous action
Edit: Redo	**Ctrl** + **Y**	Redoes the previous action that was undone
Edit: Cut	**Ctrl** + **X** OR **Shift** + **Delete**	Cuts the selected object from the current document and places it in Windows Clipboard
Edit: Paste	**Ctrl** + **V** OR **Shift** + **Ins**	Pastes an object from Windows Clipboard into the current document
Edit: Delete	**Ctrl** + **Del**	Deletes the selected object
Edit: Insert Text	**F3**	Opens the Ulead COOL 3D Text dialog box and inserts text from Windows Clipboard
Edit: Edit Text	**F4**	Opens the Ulead COOL 3D Text dialog box containing the text of the selected object
Image: Output Preview	**F8**	Renders the current frame at the selected Output Quality
Move Object	**A**	Selects the Move Object tool from the Standard Toolbar
Rotate Object	**S**	Selects the Rotate Object tool from the Standard Toolbar
Size Object	**D**	Selects the Size Object tool from the Standard Toolbar
Select Front Face	**Q**	Selects/Deselects the front face of the object
Select Front Face exclusively	**Ctrl** + **Q** OR **Shift** + **Q**	Selects the front face of the object and deselects all other faces

Select Front Bevel Face	**W**	Selects/Deselects the front bevel face of the object
Select Front Bevel Face exclusively	**Ctrl** + **W** OR **Shift** + **W**	Selects the front bevel face of the object and deselects all other faces
Select Side Face	**E**	Selects/Deselects the side face of the object
Select Side Face exclusively	**Ctrl** + **E** OR **Shift** + **E**	Selects the side face of the object and deselects all other faces
Select Back Bevel Face	**R**	Selects/Deselects the back bevel face of the object
Select Back Bevel Face exclusively	**Ctrl** + **R** OR **Shift** + **R**	Selects the back bevel face of the object and deselects all other faces
Select Back Face	**T**	Selects/Deselects the back face of the object
Select Back Face exclusively	**Ctrl** + T OR **Shift** + T	Selects the back faces of the object and deselects all other faces
Stop animation	**Esc**	Stops playing the current animation sequence
Help	**F1**	Displays Ulead COOL 3D help topics for menu items
Context Sensitive Help	**Shift** + **F1**	Displays brief help topic upon clicking any one of the features in the program
Limit object movement to single axis	**Shift** + **Move/Rotate/Size Object by dragging in edit window**	Fixes the object's position on all axes except the axis of the initial motion

Path Editor

Function	Shortcut keys	Description
Delete path	**Ctrl** + **Del**	Deletes the selected path
Undo	**Ctrl** + **Z**	Undoes the previous action
Redo	**Ctrl** + **Y**	Redoes the previous action that was undone
Zoom in	**Ctrl** + **"+"**	Zooms in on the path or image in the workspace
Zoom out	**Ctrl** + **"-"**	Zooms out of the path or image in the workspace

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