



## **Sign Wizard 7.0:**

Upgrade Guide

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## Sign Wizard 7.0: Upgrade Guide

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### **Worldwide Headquarters:**

Aries Graphics International  
1834 Palma Dr., Suite E  
Ventura, CA 93003 USA

**[www.signwizard.com](http://www.signwizard.com)**

805 642-2650  
800 294-7273  
805 642-2653 Fax

[sales@aries-graphics.com](mailto:sales@aries-graphics.com)  
[support@aries-graphics.com](mailto:support@aries-graphics.com)

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## Welcome to Sign Wizard 7



Sign Wizard 7 represents a major step forward for sign designers and graphic artists who want to do more in less time. If you are a long time Sign Wizard user, you'll appreciate the many new features and capabilities that are consistent with what the software has always delivered: powerful capabilities that are easy to use.

If you are a brand new or relatively new user, you'll be amazed at all that this software can do, all the various combinations of capabilities that go into making some of the examples in this guide.

As we work through this guide, you'll notice that while the focus is on the new features in version 7, we also cover how they integrate or augment existing features to deliver new design capabilities. Some prior knowledge of Sign Wizard is assumed, and if you get lost at any point, please access the Online Help.

One important set of improvements in version 7 is the underlying text engine, which has been dramatically enhanced, especially for large amounts of text. Sign Wizard has always been very strong with text editing, and this continues with lots of new capabilities. Some of the other new features are actually enabled with this new text engine. You'll be amazed at how far you can go with a design, and then go back and change the font or change the copy.

Another focus of this release has been on "dynamic" effects and functions that have some "memory." This means that you can create an Effect, or perhaps several Effects, and still go back into the settings and adjust them later. Nothing is set in stone, and as a result, the design process is more "non-linear." The particular order of steps in the design doesn't matter as much anymore, so that you can experiment with fresh ideas and mix things up a bit.

Another tangent with version 7 is that of libraries for design elements that can be accessed at any time to augment your designs. There are libraries for Effects and for Image Fills that let you save your favorites for future use. The items in the Effects Library can incorporate several Design elements, saving you many steps should you decide to use them again in the future. The Image Fills library lets you save and categorize bitmaps that you can use as fills for text and graphics, such as gold leaf, various textures,



repeating patterns, etc. This is consistent with what we've done with Blends, Warp, and other features, but to a new level.

The management and editing of bitmap images has also been a focus of this release. The Brush Tool, the Eraser Tool, and the Clone Stamp Tool are new, giving you additional ways to edit your bitmaps for situations like removing an existing sign in a picture and replacing it with yours!

The new Dynamic Contour Cut Path feature makes it easy to create a cut path for a print and cut output, and the path will update as you make changes to the design or even add new elements to it. There is also a new feature for creating a cut path around an irregularly shaped bitmap.

Sign Wizard 7 has a unique set of abilities for both vector and bitmap images, enabling you to include both types of graphics in the same designs for increased creativity. In fact, much of the power in the software comes in the ability to handle both bitmap and vector graphics with rich features that can add up to more than the sum of the parts. For example, the new Easy Bevel tool starts with a line of text that is vector-based and adds highlights and shadows to give it depth, a bitmap-based feature. Then you can add a Soft Shadow to separate it from the background, and add a Contour Cut path tightly around the object for your print/cut enabled machine.

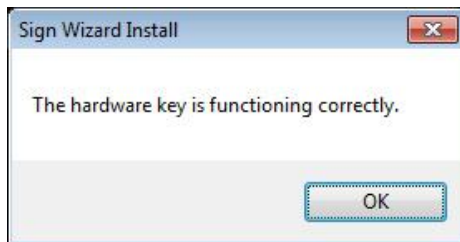
Never before has so much design power been available to the sign industry. Sign Wizard 7 is at your disposal, what will you create?

## Installation and Basics

If you are installing from a Sign Wizard 7 disk, put the disk in your CD/DVD drive on your computer.

Depending on your operating system, security software, and other variables, you may be asked if you want to continue. Click Yes or Continue. Your system may automatically run the “setup.exe” file, in which case this setup screen will appear. If this does not happen, then you must run the “setup.exe” file on the CD to install the program.

If this is your initial installation of Sign Wizard, and you do not also have a current version of Sign Wizard and/or Neon Wizard installed on your system with a USB Key, then you must install the **Key Driver**. First place the USB Key in an available USB port on your computer, and then click on **Install/Check Key**.



If you get this message, then you’re all set. Otherwise, remove the key, follow the directions for installing the driver, then reattach the key.



You can also **Browse this CD** if you are looking for something particular on the disk, but otherwise you need to click on **Install Sign Wizard**. This will launch the Sign Wizard 7 Installer.

If you are installing from a downloaded file from the Aries Graphics web site, the exact procedure will depend on your operating system, browser, and security software. You may be asked if you trust the company and if you want to continue, so click Yes or Continue to these questions. The downloaded file will be single “.exe” file, and these types of files are sometimes flagged as “suspicious” by some

browsers when downloaded from the internet. When you run this file, you will be presented with this **Sign Wizard 7 Installer**. From here on, the installation from a disk and from a download are the same.



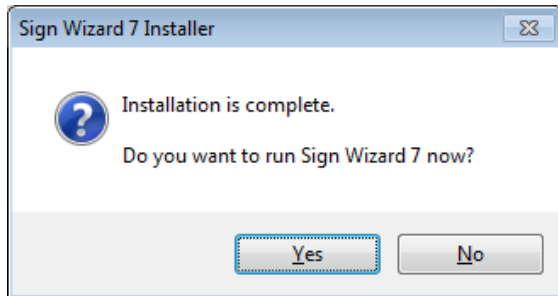
For your initial installation, this is what the Installer will look like. You can change the Installation Folder to another location on your computer just by typing in the path of the location you prefer. The “default path” is **C:\Sign Wizard 7**. The buttons **Install Clipart**, **Install Fonts**, **Install Program**, and **Fresh Install** will automatically be checked. Click on **Install** to continue.

If you are installing an Update, meaning that you already have a prior version of Sign Wizard 7 installed on your computer, then the following dialog box will appear instead. You have to install the update over your current installation, so keep the Installation Folder the same as your current folder.



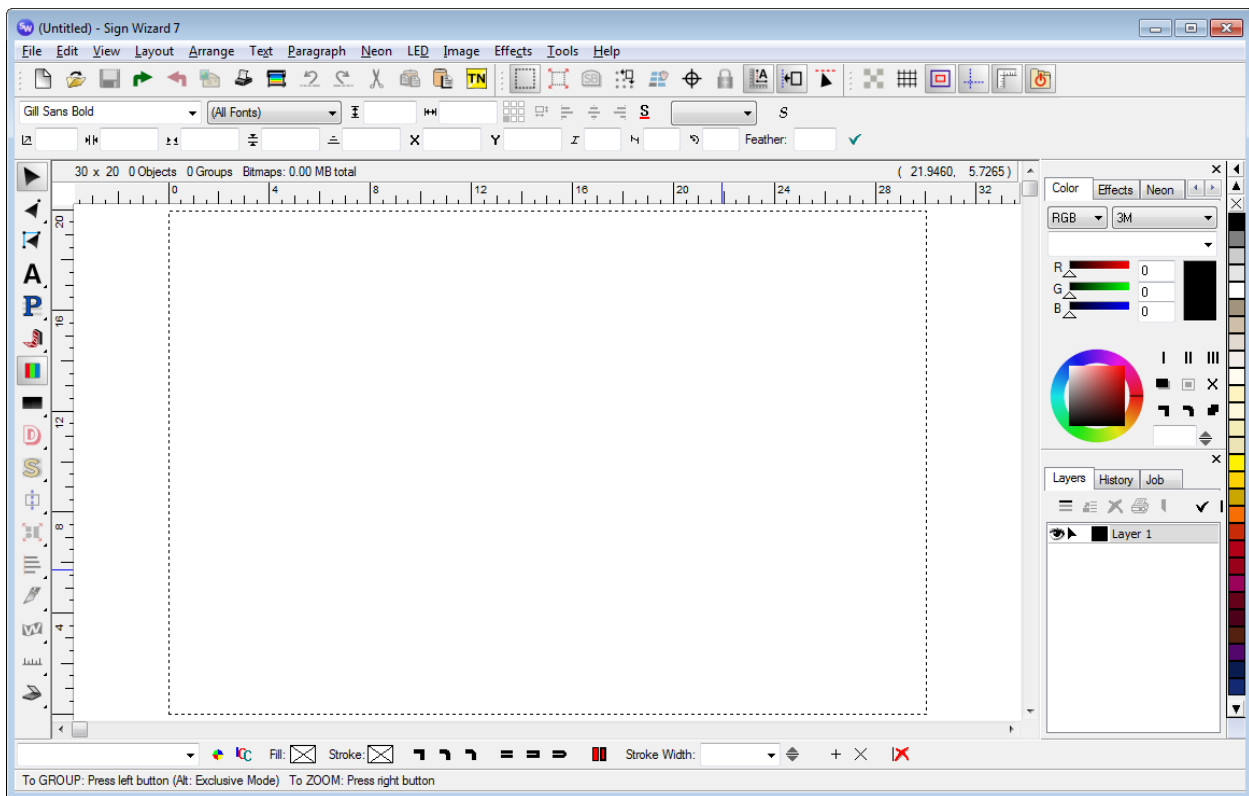
You cannot install into Program Files in Vista or later because Sign Wizard modifies data files in its program folder, which is no longer permitted.

At the end of the installation, you will be asked if you want to run Sign Wizard 7 now. Click on Yes and the program will launch.



## Sign Wizard Layout Window Overview

This is how the screen will look when you first run Sign Wizard 7 after installing:



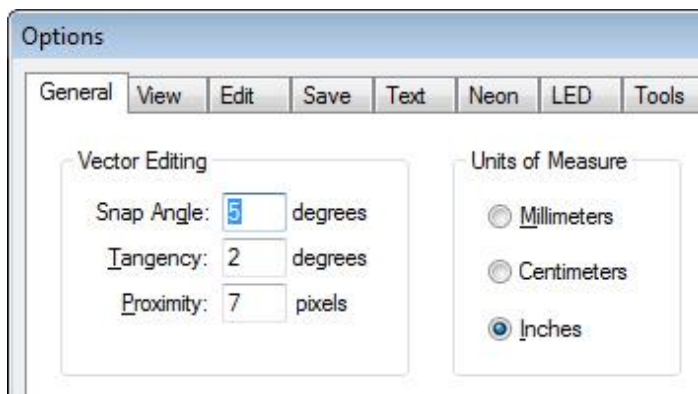
We'll first do a quick overview of the main sections of the program. The first thing to notice is the **Workspace**, which is outlined with a dotted line. The default workspace is 30" wide by 20" tall (see below for information on working in Metric units). This area can be resized by clicking and dragging on one of those dotted lines. Try to keep your designs within the workspace, although you are allowed to work outside the dotted lines.

Along the left of the screen is the **Toolbox** of icons, which can be customized to your liking. If you don't know what an icon does, hover the mouse over it and a "**Tool Tip**" will appear. On the right side of the screen, we have the various **Tabs**, including Color, Effects, and Neon at the top, and then Layers, History, and Job at the bottom. You can switch which tab is visible by clicking on the name at the top.

At the far right of the screen is the Color Palette, which lets you add color to your objects.

At the very top of the screen, we have the drop-down **menus**, such as File, Edit, View, etc. Some of these menu items have sub-menus (indicated with an arrow) with additional options. (We will use the convention “**Menu | Command**” when describing where to find features in the menus.) Below the menus are a set of **Icons** that are customizable. Below these icons is the standard **Text Property Bar**, which will display information when a text object is selected. Finally, at the very bottom of the screen is the **Help Bar**, which will display instructions and options depending on what you are doing in the software. It is a very good idea to keep an eye on this Help bar if you are unsure of what to do next!

If you are working in **Metric** units, you can change the Units of Measure in **Tools | Options, “General”** tab to either **mm** or **cm**. **Please note**: not every value is displayed with “mm” or “in,” for example, so please remember which unit of measure you have selected!



## Sign Wizard Basics

Here is a quick overview of the basic operation of the software. These descriptions are common to all levels of Sign Wizard; more advanced options will be covered below.



### Zooming and Scrolling

There is one global function that we should mention first, and if you are a previous Sign Wizard, Neon Wizard, or LED Wizard user, you know all about it: using the **right mouse button** exclusively for **Zooming**. To **Zoom In**, draw a box around what you want to see closer with the right mouse button. To **Zoom Out**, hold the mouse still and click once with the right mouse button. The right mouse button is only used for this purpose, across all functions and modes. There is no mode or icon to click for zooming.

You can, if you prefer, also zoom with the mouse wheel, or use the various options in **View Menu|Zoom**. Once you are zoomed in, try the Spacebar to scroll. When you are holding the Spacebar, you can move the mouse and the screen will scroll. As soon as you release the Spacebar, the scrolling will stop. Another option for scrolling is the scroll bars that appear at the bottom and left of the work area.

### Text Entry and Editing

There are two modes for direct text entry into the layout window: **Basic Text** and **Paragraph Text**. We will cover Basic Text here, as Paragraph Text is covered in detail later in this document.

To enter text, click on the **Text Icon** , select the **Font** from the drop down list, and then click in the layout window and begin typing. When you are finished typing, click on the **Layout Tool**  and a series of control points will appear around the text.



Basic Text

You may be familiar with these kinds of control points, but Sign Wizard has a few extra options that you might not be aware of or normally see. Experiment with these so that you can see how easy it is to edit the text.

Top Left and Top Right = **Scale** (Proportionally)

Middle Left and Middle Right = **Extend/Condense**

Top Center = **Italicize**

Bottom Center = **Rotate**

Bottom Left and Bottom Right = **Letter Kerning/Spacing** (Uniform)

Below and Right of each Letter = **Individual Letter Kerning**

With the SHIFT key, there are a few more options:

SHIFT+Top Left/Top Right = **Heighten**

SHIFT+Bottom Middle = **Arc Text**

SHIFT+Middle Left/Middle Right = **Vertical Shear**

SHIFT+Lower Left/Lower Right = **Word Spacing**

In addition to these options for graphically editing the text, you can also numerically edit the text using the Text Property Bar along the top of the screen:




Note here that the numerical values for this text are displayed. When you move the mouse over each field, the Tool Tip will tell you what the value defines. The pertinent data is Letter Spacing -3%, Word Spacing at 80% of normal, and Italicization at 10%.

*Basic Text*



## The Layout Tool


We briefly mentioned the Layout Tool  above and we'll expand on it here. This is the main operating tool in Sign Wizard 7, located at the top of the toolbox on the left. When this tool is selected, you are in Layout Mode, and you can **Select** objects, **Move** them, **Scale** them, **Group** them, and **Combine** them, among many other tasks. This is the default mode when you start the program. When you click on an object, you will see control points around the outside. These control points are not limited to text as described above, but any object will have control points. Obviously not all functions will be available with all objects.

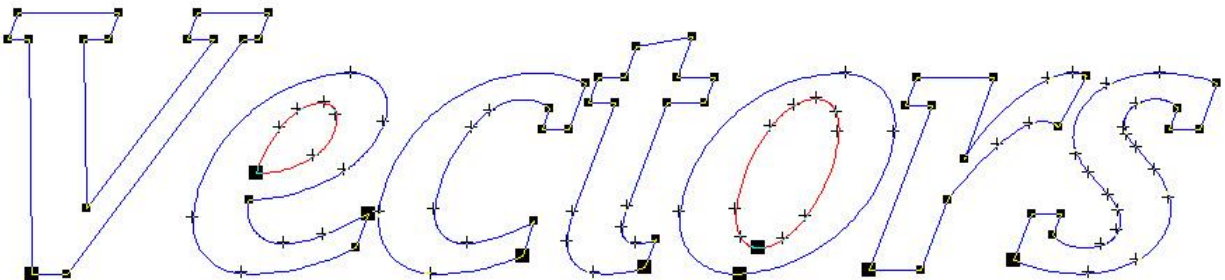
You can also make a **Group** by selecting multiple objects. Just draw a box with the left mouse button around all the objects you want to include in the Group. Groups can be nested, meaning a Group can be comprised of other Groups. You can **Ungroup** to manage each object individually.

To make a permanent object, use **Combine** instead.

This is a  
**GROUP**  
of text.

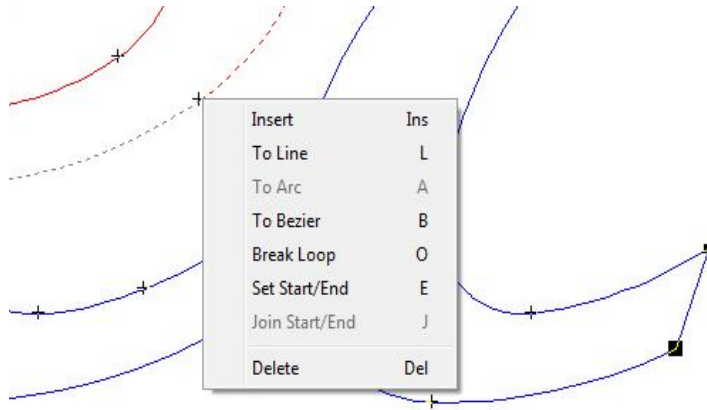
## The Vector Edit Tool

Sign Wizard has a rich set of tools for editing the vectors/nodes that make up all objects. When you select the Vector Edit Tool , you'll see the individual vectors that define the object. A vector can either be an arc, a line, or a Bezier curve, and there are tools to convert between any of these. A node, or a point, is the end of one vector and the beginning of another one. If the two vectors are tangent, then the point will have a plus "+" sign, otherwise it will have a black square.



To edit the vectors or nodes, you can simply click and drag on a vector or node to move it. If you want to move a selection of vectors/nodes, hold the SHIFT key and draw a box around what you want to make the selection, and then move it. If you want to **Delete** a point or a selection of points, simply draw a box around the point or points with the left mouse button.

For other vector editing options, double click and hold the left mouse button to bring up this menu.



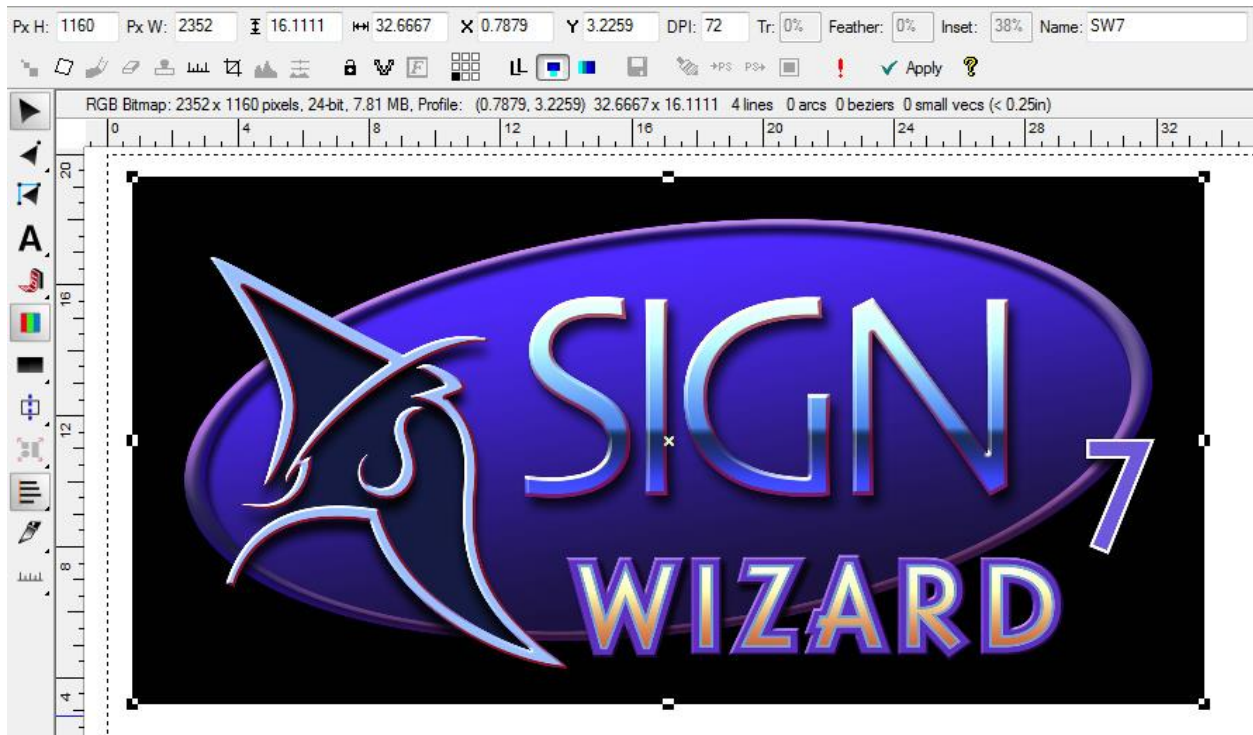
Here you can Insert a point, convert a vector to a Line, Arc, or Bezier curve, Break the Loop open, Set the Start/End Point to that position, Join a Start/End Point, or Delete the vector.

Please also note the shortcut keys to the right of the function. Knowing these will speed up this kind of vector editing!

### Images and the Image Menu

Much will be covered in this document about working with image files, so this will just be an introduction. There are many terms used for this kind of file, including “raster,” “bitmap,” and “pixel.” Common file formats include JPG, TIFF, PSD, PCX, BMP, GIF, and others. These files contain pixel data, which are very small shapes with a color, and are often described in “pixel dimensions,” such as 3000x2000 pixels. It is common for bitmap files to have a DPI (dots per inch), or more accurately, PPI (pixels per inch) of 300 if the file is for printing, and 72 if the file is for online display.

Sign Wizard 7 can create and import/export bitmap files, and use them alongside vector files to create some exciting effects. When you have a bitmap file selected, the property bar changes to display information about the file.




This particular bitmap has pixel dimensions of 2352x1160 and is 32.67 inches wide by 16.11 inches tall at 72 DPI. Basic operations on bitmaps include **Scaling**, **Cropping**, **Rotating**, and **Flipping**. Depending on the Sign Wizard level, many additional options are available.

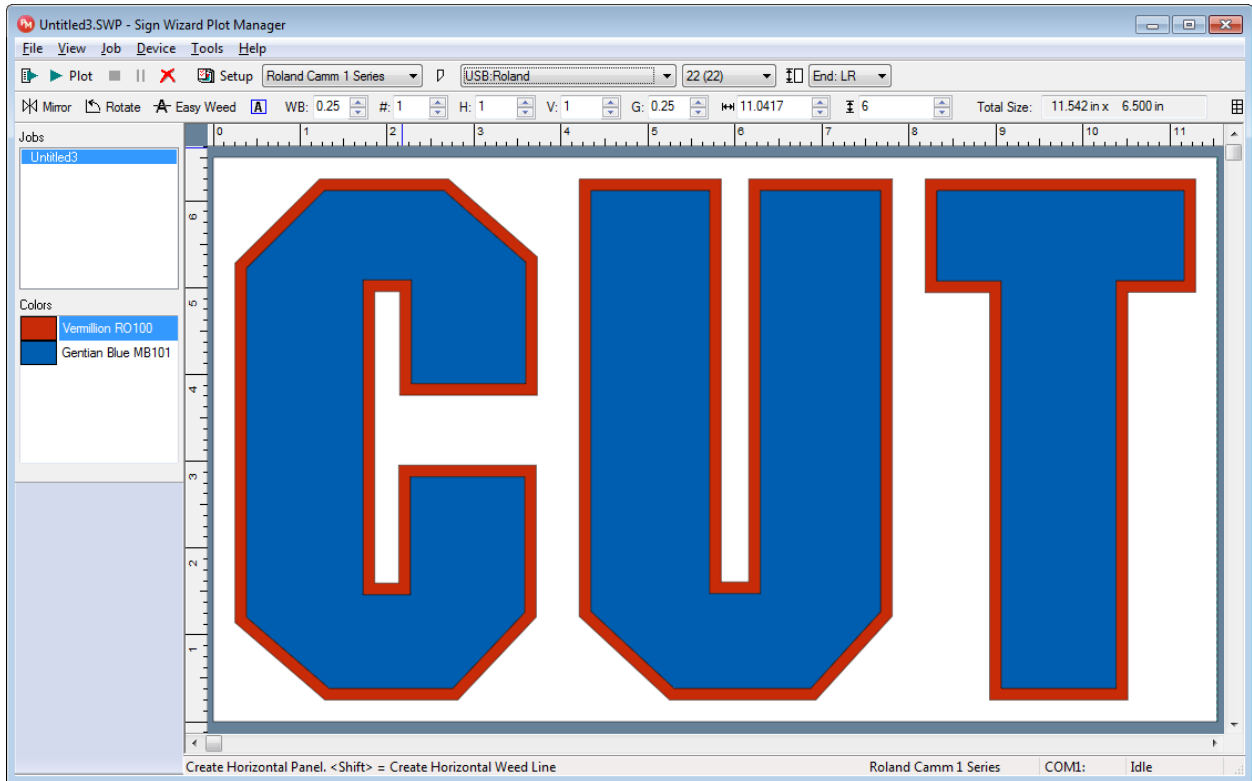
### Printing and Plotting

Depending on your design and the mix of vector graphics and bitmap graphics, when it comes time to produce your work, you will either be sending the data to a plotter/vinyl cutter, a printer/large format printer, or both.

Here we'll discuss the Sign Wizard Plot Manager, because it is common to all levels of Sign Wizard. When you are ready to plot or cut your file, select what you want to output and click on the Plot

Manager icon  or use the shortcut key F2.

This will launch the Plot Manager and bring in your design. In this example, we have the text "CUT" in blue vinyl and an outline in red vinyl.



Before we talk about cutting vinyl, we have to make sure that the software is able to communicate with the plotter/cutter. This is done using the correct Driver, the correct Port, the correct Cable, and the correct Settings on the machine. There is obviously a lot to this, so we won't cover it here, but please see the appendices at the end of this document titled **Configuring Your Plotter or Cutter in Sign Wizard** and **How to Configure WPD Plotting**.

Once you have your machine correctly configured, there are a few options you can set prior to clicking on **Plot**, including setting the **Material Height** (shown in this example as 22"), adding **Easy Weed** lines, **Step and Repeat**, **Rotation**, **Mirror**, and more. You can also select the **Color** that you want to plot just by clicking on it in the Colors list. As you bring in files to the Plot Manager, they will be listed in the **Jobs** list.

If you have a large job, you can return to the Layout Window as your job is cutting.


## Import and Export

Here is a table of the more common **File Formats** that you can import to and export from Sign Wizard 7.

Format	Type	Import	Export	Comments
PDF	Raster +Vector	Yes	Yes	Preferred format for import and export.
EPS	Vector	Yes	Yes	Good format.
AI	Vector	Yes	Yes	Good format.
DXF	Vector	Yes	Yes	Avoid “exploded” data from AutoCAD.
PLT	Vector – HPGL	Yes	Yes	Watch out for large file sizes with chords.
JPG	Raster	Yes	Yes	Common for photographs, web content.
TIFF	Raster	Yes	Yes	Typically the highest quality raster format.
PSD	Raster	Yes		Native Photoshop format.

We realize that many customers do not know or care about the difference between a vector format and a raster format, and all of the subtleties that go with these formats and files. But it is important to know the difference and when a particular format is better than another.

When you are importing artwork to be used in Sign Wizard 7, there are certain observations you should make and certain rules that must be followed to get the best results.

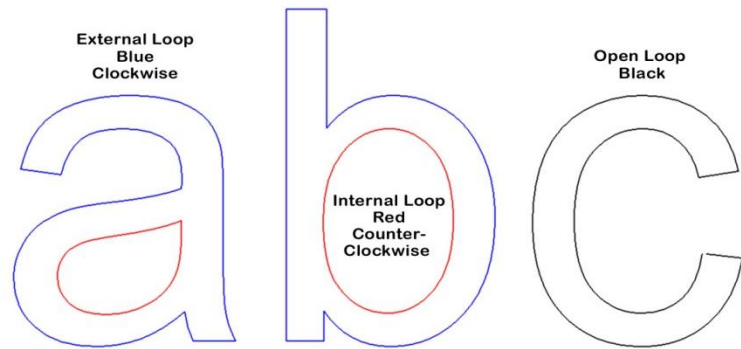
The very first observation that you have to make is *Do I have a vector file or a raster file?* If it isn't obvious by the format, go to the **Color** icon  in the toolbox on the left and click it. If the object disappears, and just a rectangle remains, then it is a raster file. If the vectors turn blue, red, and possibly black, then you have a vector file. Let's continue on the basis that you have a vector file for now.



### Loop Direction, Open and Closed Loops

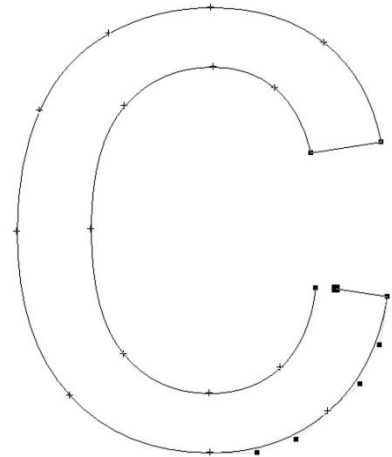
The colors of the vectors indicate **Loop Direction** and whether or not a loop is **Open** or **Closed**. This is very important, because **an object that you are going to cut must have closed loops, and these loops must be in the correct direction**. The outside loop must be **blue**, indicating a clockwise loop direction, and an inside loop must be **red**, indicating a counter-clockwise direction. An open loop is **black**, and must be closed prior to using many of the tools in the software. So the first step you want to take when

analyzing an imported file is **turn off the colors**  and look at the colors of the loops.

If the loops in your design do not follow these rules, select the letters or logo and select **Edit Menu | Reorder Loops**. An alternate approach is to use the **Combine** function on the selection, which is in the **Arrange Menu | Combine**. This will create one object from all the loops that were in the selection, and reorder the loops at the same time.



If you notice that a loop is black, then we have to do some additional investigation. We want to see what the individual vectors look like for the object, so click on the **Vector Edit Tool** , which is the second tool on the left below the **Layout Tool** . Here is the “C” from the above example, which is comprised of Bezier curves and a couple lines. You can see where the loop is open. The quick way to close this loop is to select **Arrange Menu | Close All Loops**. This may not work if the gap is too big, so...



An alternate and more precise method is to manually close the loop. While in the Vector Edit Mode, just select the end point of the line where the loop is open, hold down **SHIFT**, and move the point over the end point of the Bezier curve. The program will click, and the two points will snap together. Just release the mouse and the points are now connected.

### **Raster to Vector Conversion and “Rasterize”**

Now that we have talked about vector files and raster files, and since merging these two kinds of files together in compelling ways is an important part of the software, let’s talk about converting between one format and the other. Converting a bitmap file into a vector file is usually called “Raster to Vector Conversion” and is either done in Sign Wizard with the function **Vectorize** or the function **On-Screen Digitize**. The choice will depend on the quality and characteristics of the file. If the file is good quality, with enough detail and contrast, then Vectorizing is preferred. If the file is poor quality, then On-Screen

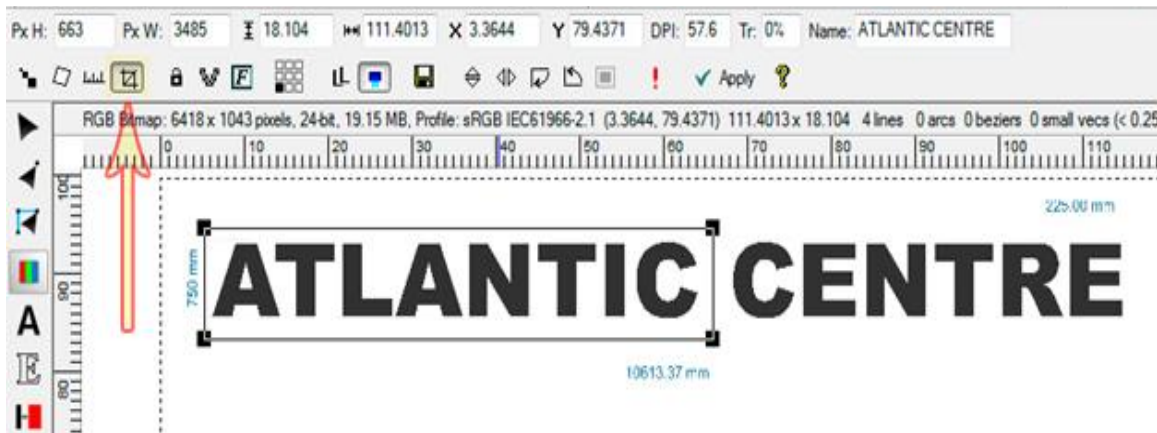
Digitizing would be the preferred method. Converting a vector file into a bitmap file is usually called **Rasterize**.


### Vectorizing

**Vectorizing** is an automated process that figures out where the vector path should go, based on the file and the input parameters.

Here is a bitmap file, “Atlantic Centre.” Let’s say that we want to crop this just to “ATLANTIC” for Vectorizing. Take note of the vertical dimension before cropping.

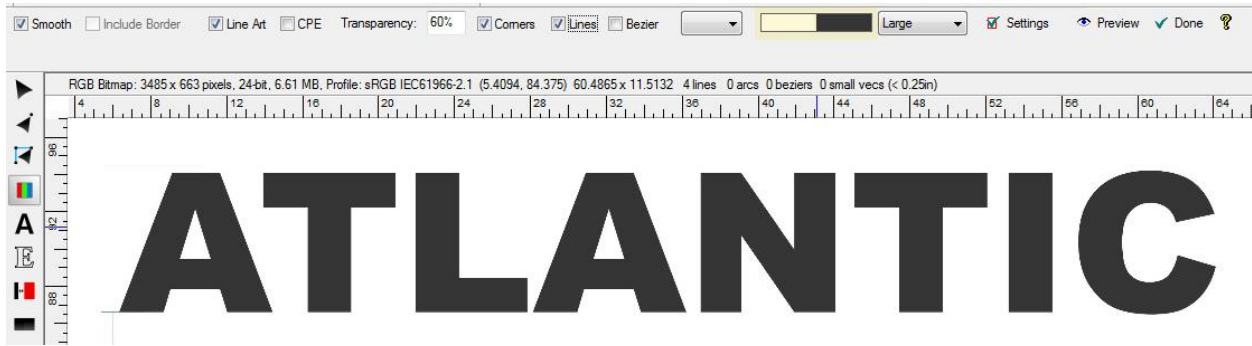
When you have a bitmap file selected, the toolbar changes to provide options for editing this kind of file. Among those options is **Crop**, highlighted here in yellow. When you click on this icon, you can then position the crop marks around what you want to keep in the file.



Simply click on **Apply** and the Crop function will remove all data outside the crop lines. Now we can proceed with Vectorizing by clicking on the  icon.

The Vectorize function has its own toolbar with various options for getting the best results from your file.





The first action is to use the Color Dropper cursor to select the colors that you want to vectorize. In this case it is just black, so position the color dropper over one of the letters and click. This will add the color to the color bar highlighted in the image above. If the graphic was multi-colored, then you would continue to add additional colors in this way. **Please note** that if you are vectorizing colors, they need to be spot colors with clear boundaries. You will not get good results trying to Color Vectorize graphics that contain color blends, photographs, etc.

This particular file is monochromatic, contains mostly lines, and has a lot of pixel data, so we have chosen the options in the toolbar that will give the best results. For a complete discussion of each option, please consult the Online Help.

Next click on **Preview** and the software will vectorize the file. The original image will be made slightly transparent, and the new vector version will be placed to the right of the original. You can now make additional changes to the settings and click on **Preview** again, or click on **Done** to finish the process.




### *On-Screen Digitizing*

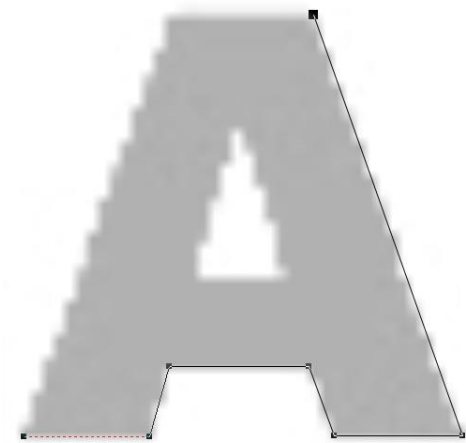
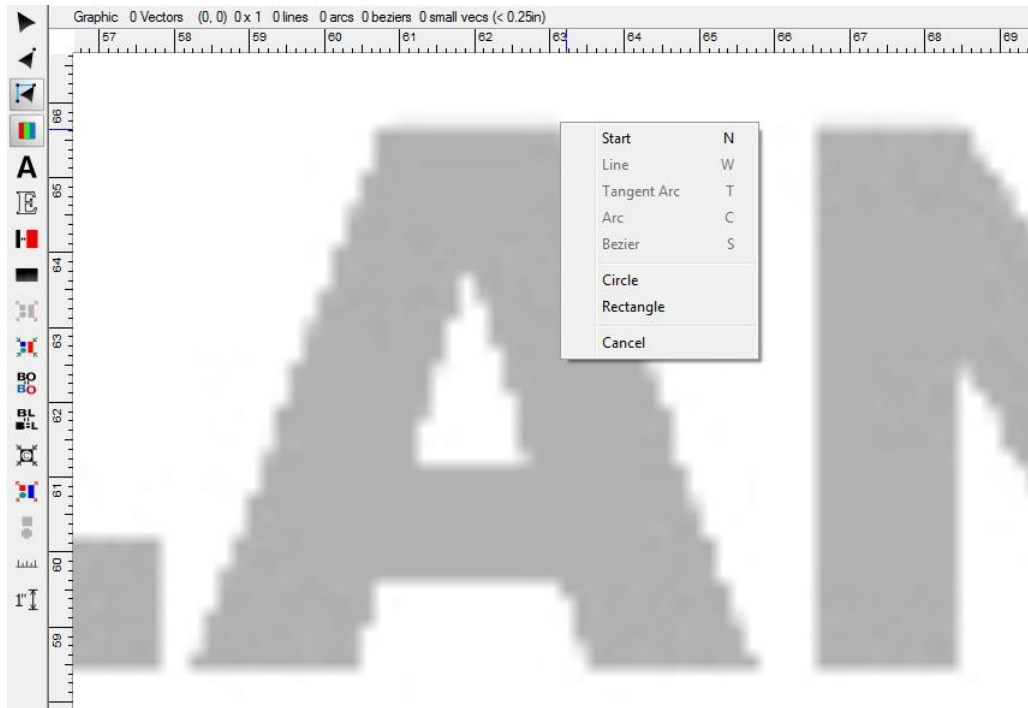
If the bitmap file you have imported is not a good quality file, and you do not think that the Vectorizing function will give clean results, then you have the option of **On-Screen Digitizing** the file. This involves placing arcs, lines, and/or Bezier curves over the bitmap to create the vector outlines. On-Screen Digitizing is very precise, and visually if you can see where the letter outlines should go, then this process can go quickly.



For this example, here are a couple letters from the “ATLANTIC” file that have been exported at a very low resolution, and then imported back into the software. Even though these letters are very jagged, we know that we can place straight lines and position the corners in the right place.


The On-Screen Digitizing icon  is the third one down in the Toolbox along the left of the screen.

When you are in this tool, there is a pop-up menu that provides the options for creating a vector path.



The first step is to start a new vector path by clicking on the position of the start point. That will bring up the menu, where you select **Start**. Then move the mouse to the next point (in a clockwise direction for an outside loop, counter-clockwise direction for an inside loop) and click, this time selecting **Line**. Continue in this way around the letter until you get back to the Start point. Create your final vector and hold down SHIFT while you move the endpoint over the Start point. You will hear a “beep” sound and the loop will be closed. You can, of course, select **Arc**, **Tangent Arc**, and **Bezier Curve** as options as well.

## Online Help

While this document is detailed about many of the program's functions, it is not an exhaustive guide to everything in the software. Please get into the habit of accessing the documentation in the **Online Help** system, which you can do with the **F1 key**, or by pressing the Help button in dialog windows, or the  icon in many of the property bars.

We will now go through the new and improved features of Sign Wizard 7.

## Paragraph Text Tool

### Advantage, Grand, Pro

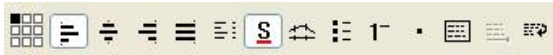
The new Paragraph Text Tool is a whole set of new features and capabilities designed to give you even more power with text. It is really a redesign of the text engine, opening up new doors for text-rich designs and new Dynamic Effects. Even in today's image-rich sign market, text is still a vital part of the vast majority of your signs.

You already know how well Sign Wizard works with text. Here is a quick summary of the new capabilities of Paragraph Text:

- Three modes for entering text and managing the paragraphs
- Control points for kerning and tracking, word spacing, line spacing
- Easy justification of the entire paragraph: left, right, center, justified
- Auto Weld of any overlapping sections in real time
- Autonumbering and Bullets with one click
- Menu Board feature for listing items with prices, justified left and right
- Multiple columns with various options for spacing
- Map to a Path, Map to a Circle, and Arc Text, all fully editable in various ways.
- Real-time Spell Checker as you type
- Paste large amounts of text from the Windows clipboard

These will be explored in more detail below.

There is a new menu called **Paragraph** that contains the new features, as well as a toolbar that will appear when you are in the "Paratext" mode.




**A** The traditional text entry mode is still available, and we now call it Basic Text. For small amounts of text, and text that will not have lots of Effects applied, Basic Text still works great. As you get used to the new mode, you can decide when to use which mode.

**P** Paragraph Text mode can be entered with this icon in the toolbox on the left. When you click in the layout window, just type normally. There are three modes for the Paragraph Text Tool:

1. Basic Mode (non-wrapping) – just enter text and hit Enter for each new line.
2. Simple Wrap Mode – uses a control line below the text to set the width of the paragraph. No need to hit Enter for a new line.
3. Frame Mode – the paragraph text is constrained within a frame that can be adjusted at any time.



When you enter some lines of text, you will be in the default Basic Mode, where the text does not wrap. Just press Enter for a new line.

You will see two new control points that look like this , one at the lower right and one at the lower left of the paragraph. As you would guess, the one at the lower right controls the tracking, uniformly across all the lines of text. Holding SHIFT while moving this point will change the word spacing. The lower left point will change the Line Spacing, again evenly across all the lines in the paragraph.

Paragraph Text makes it easy to  
adjust kerning and line spacing  
for a paragraph in one operation. →

Paragraph Text makes it easy to  
adjust kerning and line spacing  
for a paragraph in one operation.

↓  
Paragraph Text makes it easy to  
adjust kerning and line spacing  
for a paragraph in one operation.


In any of these modes, you have control over the justification – left, middle, right, or justified – by clicking on the appropriate icon in the toolbar. This may not seem too exciting yet, but keep reading, as it gets better.

Welding of overlapping text characters and/or graphic elements has been a Sign Wizard feature for many years. But after welding a line of text, it has always meant that you can't go back and change the font or change the copy...until now.

With the new **Auto Weld** (*Grand, Pro*) with ParaText, you can adjust the kerning letter by

letter, on a line of text, or the tracking on the whole paragraph, to create overlapping letters and it will Weld automatically. Then you can adjust the kerning and/or tracking again and it will re-weld. Then you can change the font, and it will maintain the kerning and/or tracking and re-weld if necessary. And you can change the copy and it will re-weld. Later on we'll talk about some of the new Effects, such as Dynamic Outline, Dynamic Shadow, Image Fills, and Bevel, and this Auto Weld will take on even more importance.

**Auto Weld**  
**Auto Weld**  
**Auto Weld**  
**Automatic Weld**

Paragraph Text also automates the formatting of lists and menu boards with a few new capabilities. Let's say you need to make a listing of items available on a menu for a restaurant. You want the menu items on the left and the prices on the right. To enable this justification on both sides, just type "---" between the item and the price. When you click on the Menu Board (*Pro*) icon , you will get this:

<b>Tacos</b> ---\$2.50	<b>Tacos</b>	<b>\$2.50</b>
<b>Burritos</b> ---\$5.95	<b>Burritos</b>	<b>\$5.95</b>
<b>Enchiladas</b> ---\$4.25	<b>Enchiladas</b>	<b>\$4.25</b>
<b>Sopas</b> ---\$3.50	<b>Sopas</b>	<b>\$3.50</b>
<b>Chile Rellenos</b> ---\$4.50	<b>Chile Rellenos</b>	<b>\$4.50</b>

Now say you want to add bullets  or make it a numbered list 

• <b>Tacos</b>	<b>\$2.50</b>	<b>1. Tacos</b>	<b>\$2.50</b>
• <b>Burritos</b>	<b>\$5.95</b>	<b>2. Burritos</b>	<b>\$5.95</b>
• <b>Enchiladas</b>	<b>\$4.25</b>	<b>3. Enchiladas</b>	<b>\$4.25</b>
• <b>Sopas</b>	<b>\$3.50</b>	<b>4. Sopas</b>	<b>\$3.50</b>
• <b>Chile Rellenos</b>	<b>\$4.50</b>	<b>5. Chile Rellenos</b>	<b>\$4.50</b>

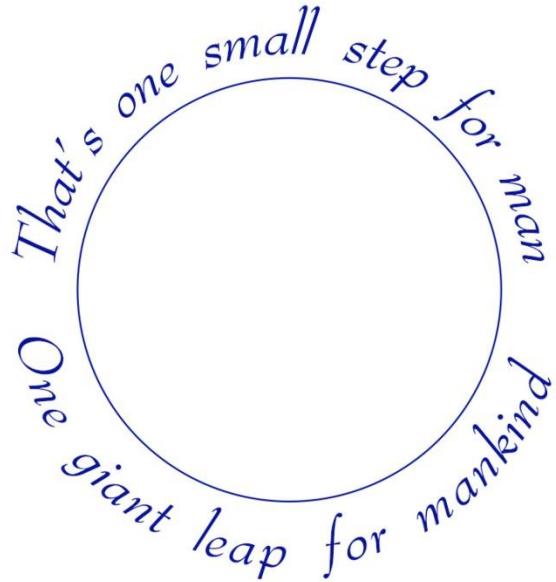
You can easily switch between the regular menu board, the bulleted list, and the numbered list with a click of the appropriate icon. This feature can be used for any design where you need justification on both sides.

The next Paragraph Text features we're going to look at are **Map to Circle** (*Pro*) and **Map to Path** (*Pro*). These are dynamic features in the sense that you can always go back and change the font, change the copy, change the kerning or tracking, change the scale of either the text or the path/circle, or change the path itself. Here is the example text that we're going to start with:

*That's one small step for man  
One giant leap for mankind*

The next step is to add a circle, with a size that will enable the text to wrap most of the way around it. Now we group the circle with the text and select Map → Map to Circle from the Paragraph Menu.

If you have two lines of text, the top line will map to the top of the circle, and the bottom line will map to the bottom. If you have just one line, it will map to the top, but you can break the text into two lines and the second line will automatically map to the bottom.



From here we have several options: change the size of the circle, change the size of the text, change the tracking, and change the space between the text and the circle (a negative space will place the letters inside the circle). If you change the tracking so that the letters are overlapping, and have Auto Weld on, then whatever subsequent changes you make, welding will be automatic.



In this example, we changed the font, tracking, spacing on the top and bottom, and had Auto Weld turned on.

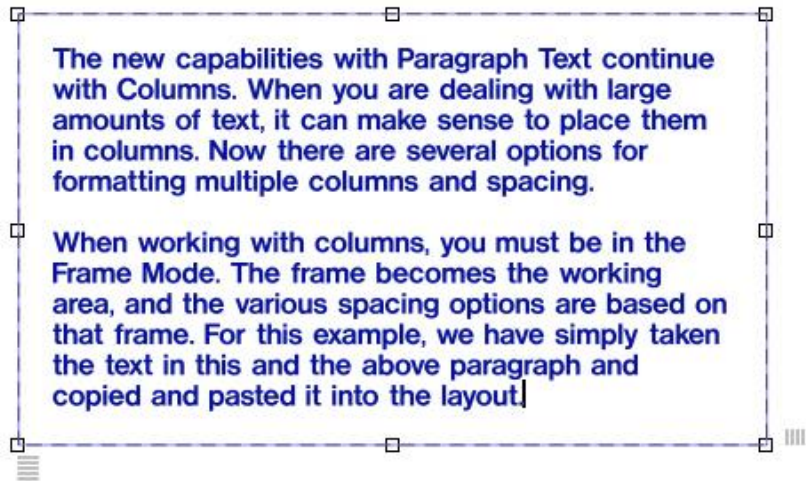
Perhaps a more capable feature is Map to Path, since that path can be virtually anything. It can be a Bezier curve (or multiple Bezier curves), a vector graphic of some kind, a regular character, or a variety of other paths.



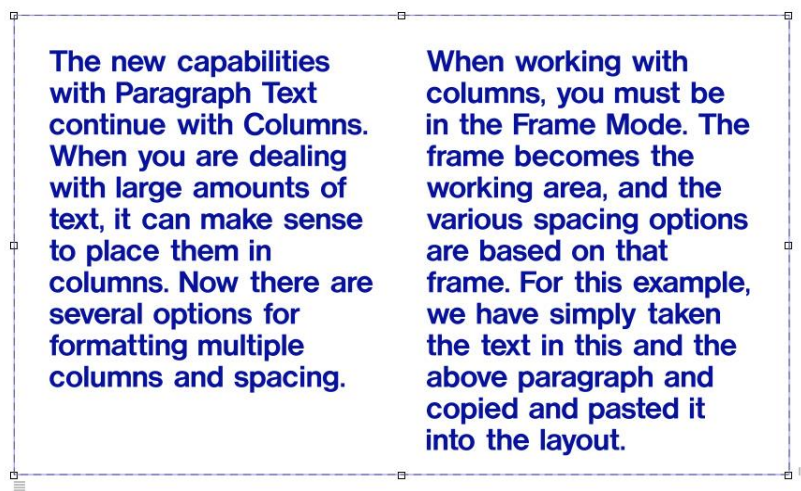
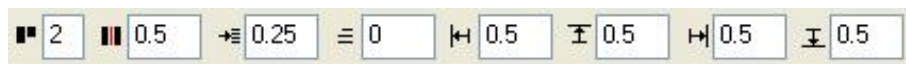




The new capabilities with Paragraph Text continue with Columns. When you are dealing with large amounts of text, it can make sense to place them in columns. Now there are several options for formatting multiple columns and spacing. When working with columns, you must be in the Frame Mode. The frame becomes the working area, and the various spacing options are based on that frame. For this example, we have simply taken the text in this and the above paragraph and copied and pasted it into the layout. That's a fast way to enter lots of text.



Your initial text will look like this in the frame. To change this into two columns, just enter 2 in the columns box in the toolbar. The next box is for the center gap, then indent, then first line indent, then the last four on the right are for spacing from left, top, right, and bottom of the frame.



## Live Spell Checking

### All Sign Wizard Levels

Spell checking has become a standard feature for all authoring applications, as well as signmaking software. Now there is a mode that will instantly tell you if a word is misspelled. Live Spell Checking will work with both Basic Text and new Paragraph Text.

The tool works in real time if you have Live Spell Checking selected in the Text menu. Just type in your text as shown below:



The image shows the text "spell cheker" in a green, sans-serif font. The word "cheker" is underlined in red, indicating it is misspelled. There are small square markers under each letter of "spell" and "cheker".

The red underline will appear under any word the program is not able to find in its list of words. You have the option to fix it if it's an obvious error, or you can pull up a menu of suggested words by holding CTRL while right clicking on the word. Then you can select from the list of similar words and it will replace the misspelled word with the new one.

If the underlined word is not known to the dictionary, and it annoys you that it shows up as being misspelled, click on Add to Dictionary.



The image shows the text "spell cheker" in a green, sans-serif font. The word "cheker" is underlined in red. A context menu is open over the word "cheker", listing suggested words: checker, cheer, checkers, cheekier, chewer, choker, cheers, cheery, checkered, cheeky, cheesier, cheerer, chewers, chokers, shekel. At the bottom of the menu are the options "Ignore All" and "Add to Dictionary".

Live Spell Checking can be an important time saver when you're entering a lot of text using the new Paragraph text tool. You can enter text as fast as you want and let the spell checker do its job after all the copy has been entered. Of course it will not check your grammar but it will let you know if you misspell grammer.

Almost anyone who has been in the sign business very long has a few misspelled words to his credit. In the early 1950s William Knowland was running for re-election to the U.S. Senate in California. The election was just a few days away and he wanted a large bulletin board on a local highway to say **Re-elect Senator Knowland**. A local sign painter was given the details over the phone. He was told that he had the job if he could have it painted the next day. The sign was up on schedule but there was a problem. It said:

## RE-ELECT SENATOR NOLAN

The sign painter was Riley Fassett, the first of the three generations of Fassett signmakers. He repainted the sign the following day. Senator Knowland was re-elected. Both Nolan and Knowland are proper nouns, so Sign Wizard's Spell Checker would not have saved the day.

## Image Fills and Image Fills Library Manager

### Pro

In previous versions of Sign Wizard, you've been able to fill text and graphics with images. Now this is made much easier and much more powerful with the new Image Fills feature and associated Image Fills Library Manager. This is one of many features that combines the best of vector graphics with bitmap images. The vector outline contains the image, and both the vectors and the image can be edited independently with different tools.


This is also the first of the new Dynamic Effects that we'll look at, which deserves a little explanation. A Dynamic Effect is one where you can go back later and change the settings to rework the effect. Put another way, a Dynamic Effect maintains "state." So as you develop your design and you realize that you want to scale the Image Fill, or adjust the saturation, you can do it. Or perhaps you want to remove it altogether.

Dynamic Effects also enable a term we brought up in the Introduction: non-linear design. The order of the steps in your design is far less important than it once was, because it is easy to make changes to the initial elements of the design, such as the text or font. Later we'll talk about Bevel, Dynamic Outlines, Dynamic Shadows, Transparency, Blends, and more features that can be applied to text, perhaps even all together, without disabling the ability to change the text or font.

So back to the Image Fills feature, we've created a system where you can add your own images to the image fill library, in addition to the ones we've provided. The images are categorized so that you can quickly find the right image and you can also add new categories. The library comes with over 100 images to get you started.

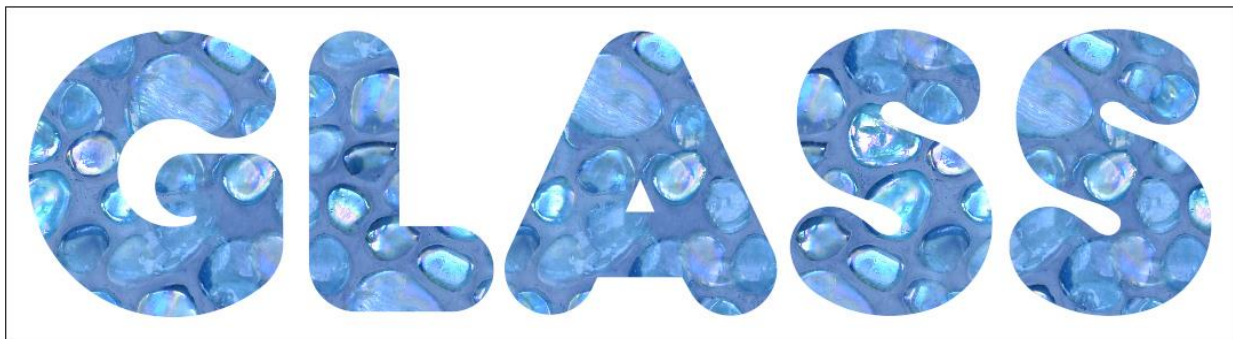
If your design is too big for the image to completely fill, it will automatically tile. You have the ability to move and scale the image to best fit your design.



To use Image Fills, select an object and go to the Effects Menu or use this icon  in the toolbox. The following toolbar will appear at the top of the screen.



The left of the toolbar displays the images and the categories, and allows you to scroll through to choose the right image. When you have selected an image, it will fill the object as below. At this point you are free to move the image fill to position it in the best way for your object. As you do this, the Hs (Horizontal Shift) and Vs (Vertical Shift) numbers will update automatically. You can, of course, enter a numerical value in these boxes.



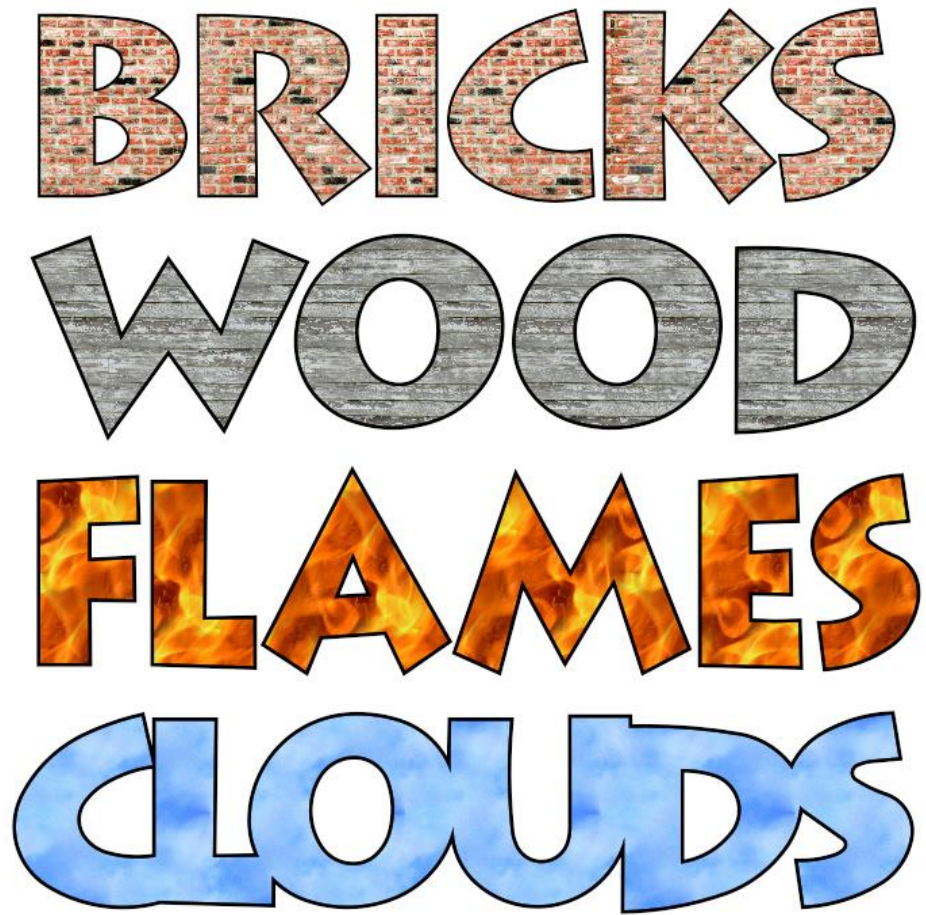
You may also want to Scale the image up or down as well. The mouse wheel can be used for this – just click on the Scale value. In fact, the mouse wheel can be used to adjust any of the parameters up or down, and your graphic will be updated in real time to reflect the changes.

The other options in the toolbar are for brightness (positive values for brighter and negative values for darker), hue, saturation, and contrast. These are persistent values, meaning that if you come back into this feature again, the values that you originally set will be displayed.

When using Paragraph Text with Image Fills, you have all the capabilities we described above, such as Auto Weld, Map to Path, etc.



Here are some additional examples:



Gold leaf has long been a favorite technique of sign makers. Using a gold leaf fill on an outline, we can recreate this wonderful look:



## Easy Bevel

### Pro

Let's continue now with another new Effect with lots of potential for your printed and print/cut designs: Easy Bevel. A bevel is a highlight and a shadow that gives a 3D look to your text and graphics. The Easy Bevel feature has several options and settings that really give you control over how the final design looks.

Now we get to start combining the effects, and we'll continue with that in the next few sections. As you would guess, Sign Wizard 7 can add a bevel to your Image Fills, and you can still Auto Weld with bevel.

As with Image Fills, you can go back and edit an existing Bevel. And finally, after you add a bevel, you can change the text or change the font. But first we'll go through the various options so you can see how the bevel looks as you change the settings. The original example is this text "Bevel" in Gill Sans Bold:



The first setting is Inset, which will adjust how close the bevel is to the edge of the letter. The % is of the height of the letter. It may help to think of this as an Inline. The smaller the value, the closer the bevel will be to the edge of the letter, and the larger the value, the more the bevel will be inset from the edge. The next setting is Width, which refers to the width of the bevel itself. A smaller value will result in a smaller, more subtle bevel, while a larger value will be a larger, more pronounced bevel. See examples on the next page with these values higher and lower.

Bevel

Inset: 0.1% Width: 2% Softness: 3% Highlight: 80% Shadow: 80%

Bevel

Inset: 2.5% Width: 2% Softness: 3% Highlight: 80% Shadow: 80%

Bevel

Inset: 1% Width: 1% Softness: 3% Highlight: 80% Shadow: 80%

Bevel

Inset: 1% Width: 8% Softness: 3% Highlight: 80% Shadow: 80%



Continuing on, the next setting is Softness, which is really the softness of the light. A low setting will give very hard edges between the highlight and the shadow, while a higher setting will give very soft edges.



The last settings in this property bar are Highlight and Shadow. The examples given keep the values consistent, but there's no rule that says you have to do that. A higher value for Highlight will give you a brighter highlight, and a higher value for shadow will give you a darker shadow. 100% highlight is pure white, 100% shadow is pure black.

You can, however, change the highlight and shadow colors by clicking on the small color boxes beneath the highlight value, and then choosing a new color in the Color Tab. For example, you may want the highlight to be yellow, to indicate warm sunlight, or you may want the shadow to be a cool blue color. Or perhaps you want the highlights and shadows to simply be lighter and darker shades of the same color.

Bevel

Inset: 1% Width: 2% Softness: 3% Highlight: 100% Shadow: 100%

Bevel

Inset: 1% Width: 2% Softness: 3% Highlight: 60% Shadow: 60%

These are the basics for Bevel, but there are more advanced effects that you can create. For example, if you use a letter style with a consistent stroke width, you can easily create a rounded shape:

BEVEL

Or if you use a letter style that has thin strokes, or a connecting script like the example here, you can create more of a flat look.

*Bevel*

Bevel can be combined with Image Fills to give a three dimensional appearance to images:

Wheatgrass

And to take this one step further, adding a Soft Shadow to a bevel gives it a very finished look.

Coffee

Continuing on with additional ideas, a Bevel can be added to an outline, instead of, or in addition to, a regular font. This is actually using a Sign Wizard outline font. We'll have much more about Outline coming up...



BAR

Yet another option with Bevel is to combine it with Blends.



Blend it

You can now see how many options there are for Bevel, as well as adding some other effects in addition to Bevel. We'll continue to show more combinations of Effects in the upcoming sections. Finally, in a few steps we have created a reflection of text with an Image Fill and Bevel. This design also uses Transparency for the reflection.



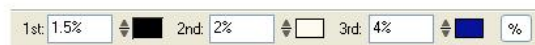
## Dynamic Outline

### Grand, Pro

Outline is another long-time Sign Wizard feature that has been given a major upgrade for version 7. Outlining is so common that we've made it as easy as possible to use. Dynamic Outline means that you can always go back and change the outline(s) as necessary and it will also automatically update if you change the path of a graphic or text.

Dynamic Outline includes the ability to add up to three outlines, and you can determine the amount of the outline by a numerical value or as a percentage of the height (usually 1% - 5%). (If three outlines aren't enough, you can always add a Stroke.) This new tool adds a persistent outline option, which means that no matter what else you do to change the path of a vector graphic, your outline remains updated, automatically. A great time-saver!

Dynamic Outline automatically welds, along with the text if it is Paragraph Text. If you want the dynamically created outlines to be detached from the original object, then you can do this with the Detach command found in the Arrange Menu. When you select Dynamic Outline from the Effects Menu, the property bar will give you 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> outline options, where you enter the amount and select the color of each outline.

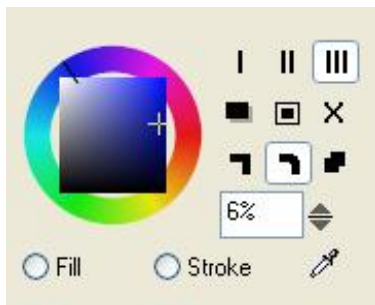







If the outlines overlap, they will automatically be welded: Now we're going to stay with this idea, and add another element, which is to have the Glow on an image. To make this look realistic, we'll manage the opacity so that the background image shows through.

Now there is another way to create your outlines that is even easier and faster, and that is in the Color Tab on the right of the screen. This has been updated to include the main outlining capabilities.



The top three icons here represent the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> outlines. When you have one selected, you may enter the value in the box (6% in this example). The mouse wheel can be used to change the value or the arrows can be clicked up or down.

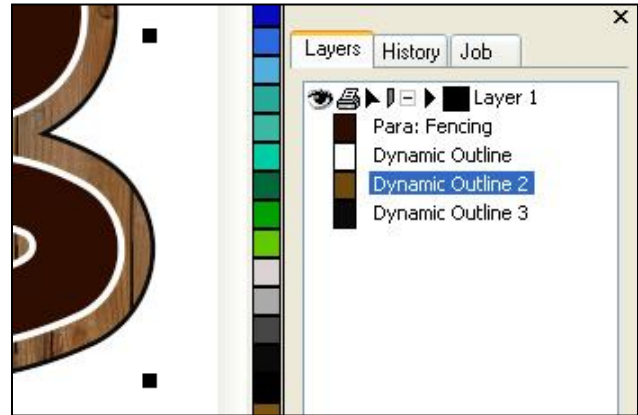
The middle icon in the second row will create an outline with a gap between the first and third outlines. The icon on the right of the second row deletes whichever outline is selected. There will be more discussion later about the new Color Tab. Now we can start to look at ways of combining Dynamic Outline with some of the previous Effects we've looked at, namely Image Fills, Bevel, and Auto Weld, as well as some old favorites, such as Soft Shadow, Blends, Transparency, and Feather. As you become more familiar with each of these, and how to combine them, the design power of Sign Wizard 7 starts to come through.

The first example here is placing an image Fill into one of the outlines.

# Fencing

Since the outlines are dynamically created and updated, they aren't selectable like ordinary objects. In order to achieve an effect like this, you have to select the appropriate outline in the Layers Tab, and then apply the Image Fill.

The next step with this design might be to add a Bevel to the outline or to the text.



# Fencing

That really makes the letters pop. Just for fun we can also add a slight Blend to the lettering.

# Fencing

Oh no, the client called and wants the sign to read “Fences” instead, with Souvenir Medium as the font, and more spacing between the letters. Each change is one simple step. And if you do want to adjust the outlines, bevel, or blends, you can just open that tool again and make the appropriate changes.

# Fences

Here’s an example of an outline font, with an Image Fill, Bevel, an additional Outline, and then a Soft Shadow.

# STATE

With an outline font, the Soft Shadow will be seen inside the letters. It would be easy to create this same design with the letters a solid color and the shadow only on the outside of the letters.



The final item to note with Dynamic Outline is that if you want to vector edit one of the outlines, you must first detach the dynamic outline from the text or graphic. That means that any changes you make to the original item will not be reflected in the outline from that point forward. A good example of this would be if you wanted to create a large contour outline of a line of text. You might start with this:

The word "CONTOUR" is rendered in a bold, italicized, green sans-serif font. It features a thick black outer outline and a white inner outline, creating a double-line effect.

But you want the contour lines to be cleaner, straight across. So select the text and go to Detach from the Arrange Menu. Select the black outline and quickly vector edit to get this:

The word "CONTOUR" is rendered in the same green font as before, but the black outline is now a single, clean, straight line, and the white inner outline is also straight, resulting in a more professional and modern look.

At first glance, you may prefer the original, but this might be an intermediate step to this kind of design:

The word "CONTOUR" is rendered in a gold, metallic font with a glowing orange and yellow outline, giving it a fiery or energetic appearance.

We have been focusing almost exclusively so far on text, to get you used to the new Paragraph Text. But of course Dynamic Outline, as well as the other Effects we've covered so far, will also work with graphics.

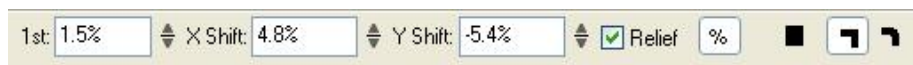
## Dynamic Shadow

### Grand, Pro

Very similar to Dynamic Outline, there is also Dynamic Shadow, which will automatically be updated to reflect any changes you have made to the original text or graphic.

Most of the Effects we've talked about so far can be done in any order, which is the concept of non-linear design. However, if you want to use Dynamic Outline and Dynamic Shadow together, it is best to add the outline first and the shadow second.

When you select Dynamic Shadow for a line of text, this property bar is displayed at the top of the screen:



Shadow

The value for 1<sup>st</sup> refers to either an outline or a gap if you have Relief checked, as in this example. The X Shift and Y Shift indicate the position of the shadow. The small black square towards the right is the color of the shadow, and the last two icons indicate how the corners are drawn, squared off or rounded.

When you are in the Shadow tool, you can move the shadow around to position it as you see fit, and the X and Y Shift values will update. This is all consistent with how Shadow has worked in the past.

What's new with Shadow is the dynamic persistence of the values as you change the original object, as well as the ability to be combined with other effects as we've shown in the many examples so far.

Here's the same example with the text welded, and an outline with Relief unchecked. If you've been reading this guide from the beginning, you know that at this point you can change the copy, change the font, and change the letter spacing with the shadow remaining consistent.

The word "Shadow" is rendered in a yellow, cursive font with a thick black outline. A soft, grey shadow is cast beneath the letters, giving them a slight three-dimensional appearance. The letters are connected and have a fluid, handwritten style.

Note: Dynamic Shadow **does not work** with Extruded Shadow, Perspective Shadow, or Cast Shadow. Soft Shadow, while listed as a different Effect, is also dynamic, but it is not new for version 7.

Shadow can be an important feature for giving a printed design depth, especially when working with other features like Bevel and Outline.

This image is identical to the one above, showing the word "Shadow" in a yellow, cursive font with a black outline and a soft shadow effect. The letters are connected and have a fluid, handwritten style.

As mentioned above, if you are going to use both Dynamic Outline and Dynamic Shadow together, which is a great idea, do the outline first and then add the shadow:



That's a lot of outlines, but it shows a couple important things. First, the shadow will be applied to the outside outline. Second, if in the Dynamic Shadow Effect you add an outline that goes around the outside as well, with the same color as the shadow itself.

Another idea for Shadow that you may incorporate into your designs is to add Transparency to the shadow if you have text or graphics on top of an image. This example also Feathered the shadow (Soft Shadow could also be used to get the same effect).





## Glow

### Pro

Glow is another new Effect that will create more depth and separation with your printed designs. Somewhat similar to Soft Shadow, Glow radiates out in all directions, and falls off softly to create a nice lighting effect. You can create this “backlight” look with just a few clicks, and there are some more advanced techniques that we’ll look at as well.

The basic effect is best seen with a light colored glow on a darker colored background. This is not a shadow; it is a light that is spilling onto a surface. Think of a neon or LED channel letter open in the back.



The options in the toolbar are Opacity, Softness, and Thickness, and you can choose a color for the glow. If we crank up the Softness and the Thickness, we get this:



Glow can also be used in a slightly different way to really enhance the effect. Here's text with an outline the same color as the glow (colors reversed from the previous example).



Now if we Feather the outline, it creates this, which is kind of a double glow.



Why stop there? Here's a triple outline Feather/Glow with multiple colors.



Since this was starting to get tight, we increased the letter spacing a bit.

Now we are going to stay with this idea and add another element, which is to have the glow on an image. To make this look realistic, we'll manage the opacity so that the background image shows through.



This design includes several concepts that we've covered so far, including Bevel, Outline, Feather, Blend, and Glow. Here's one final idea – a double glow, inside and outside the letters.



## Effects Library

### Pro

So now you can do all these cool effects, combining them in interesting ways, experimenting with new ideas. Wouldn't it be great if you could save these and use them later on future designs? Not save them in layouts, but save them right in the software so that they are always available? Now you can with the Effects Library. This is one of the most powerful new features, not to mention a huge time saver!

The Effects Library will save the following:

**Dynamic Outline**

**Dynamic Shadow**

**Image Fill**

**Bevel**

**Soft Shadow**

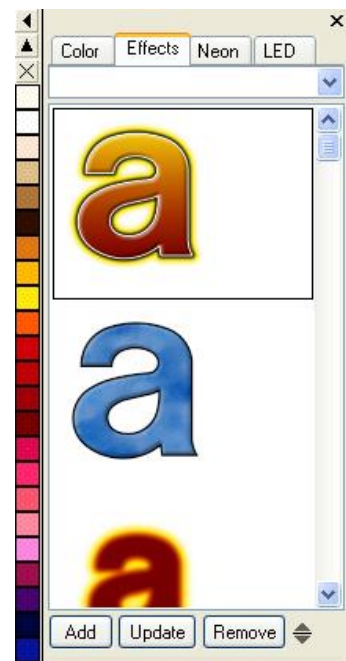
**Feather**

**Gradient**

**Transparency**

**Stroke**

**Warp**



It will not save the font or the actual text used.

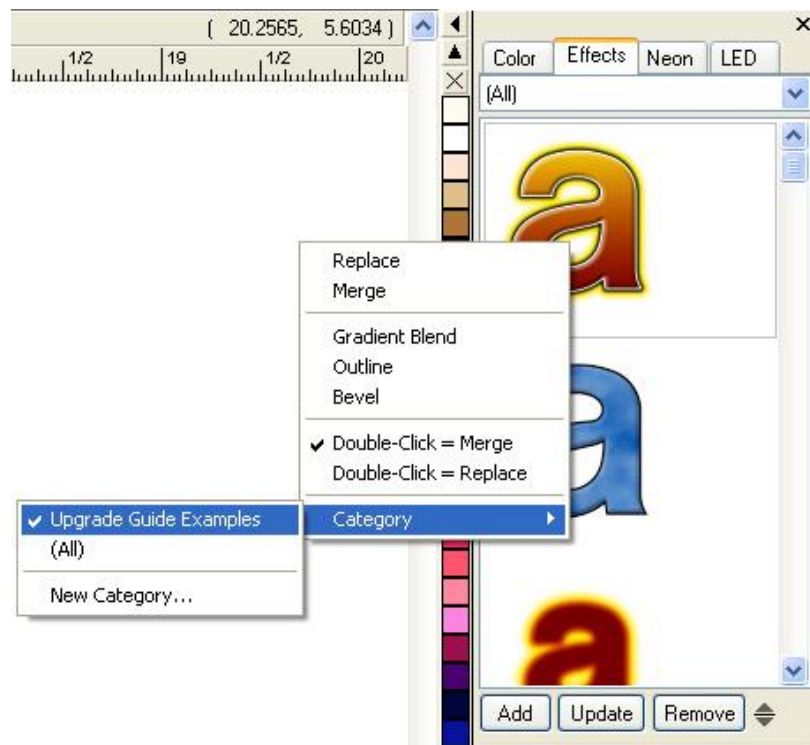
Let's say that you love that first "Jazz" example and want to use it again. All you have to do is select the text, go to the Effects Tab on the right side, and click Add. The basic properties of the effects will be saved, and displayed in the list with an "a."

When you are ready to apply one of the saved Effects to a line of text or object, just select the object and then double click on the "a" that you want. It's that simple. If your selected object has some Effects already applied to it, then you have the option to Replace or Merge when you add the saved effects.



Replace will completely replace any effects already on the object, whereas Merge will only add any saved effects not present in the object, but not replace any that are present.

For example, if your selected object has a Dynamic Shadow already, and your saved preset has both Gradient and Dynamic Shadow, then the Gradient will be added but the Shadow will not.



Since you can probably imagine this list of saved Effects getting pretty large, there is a way to name and categorize them. If you right click over one of the presets, a menu comes up. At the bottom, it says Category, and if you move the mouse over that, another menu pops up allowing you to place the preset into an existing category or make a new one.



Something else you'll notice in this menu is that each preset will show the Effects that are included, and if you put the mouse over one of those and click, then just that Effect will be added to your object.

Have fun! This is a great way to impress your clients with your design capabilities

## Brush, Clone Stamp, Background Eraser

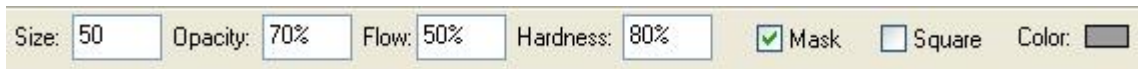
### Pro for Clone and Eraser, Grand for Brush

Now we are going to change gears a bit and focus on some tools for editing bitmap images. These are largely raster-based tools, as opposed to the primarily vector-based tools that we've discussed so far. Sign Wizard 7 includes design features that integrate both types of files, giving you the best of both worlds. These three tools have been batched into the same section here because they are similar enough to describe together, and we can use one example to show them all. Each provides a way to add or subtract pixels in a bitmap, with options for Size, Opacity, and Hardness.

The Brush Tool provides a way to paint color onto an image using your mouse. It includes several settings to fine tune how the brush effect looks, including the Size of the brush, the Opacity, the Flow, the Hardness, and of course, the Color. To use the Brush Tool, first select a bitmap and then click on the brush icon in the Bitmap Editing Toolbar:



This will bring up these options:



The first thing to do is just get a feel for how the Brush Tool works with the various settings:

**Size** – the size of the brush in pixels. Obviously this relates to the size of the image in pixels, and how fine or large you want the brush strokes.

**Opacity** – determines how much coverage the brush stroke will provide over the background. A higher opacity value will paint over the background more thoroughly (100% opacity will completely replace the background with the selected brush color), and a lower opacity will have a much lesser effect (0% opacity won't do anything!).

**Flow** – determines how fast the brush “lays down the ink.” This is different from Opacity in that you can go back and forth over the same area and add more coverage with Flow.

**Hardness** – refers to the hardness or softness of the brush edge. A high value will give a harder edge to the brush, while a lower value will give a very soft brush.

Here is our example image for this section, a beautiful tile mosaic welcoming tourists to Catalina Island.



The first thing we'll do with Brush is add some red color to the bricks. To choose the color for the brush, go to the Color Tab and select a medium-dark red color.

By using a lower Opacity, 10% in this case, you can paint on the color without losing the texture of the bricks. If you use a higher Opacity in this case, you will just have red, without the brick texture.



Note that Opacity will be consistent as long as you hold down the mouse button. If you release and start again, you will be adding another 10%.

Now let's say that you want to change another color, but you want that color to come from the image directly. Just click on the Color Sampling Tool from the Color tab and click on the color you want in the image. Now you can paint with that color, as in the green sail, sampled from the palm trees.



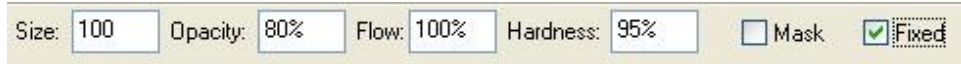
The last task with Brush is to remove the “sightseeing” text from the background, as it takes away from the main sign. In this case, we want the brush to have 100% Opacity to completely cover up that text, and we want to sample the color so that it looks natural. We can use a softer brush, maybe 50% Hardness to make it nice and smooth.





OK, pretty simple so far. The Brush Tool can be used in all kinds of ways to tidy up your images.

The next tool we'll look at is the Clone Stamp Tool, which is similar to the Brush except that you are choosing an area within the image that will be cloned to a new location. You can use this tool like a brush, where you move across the image, or like a rubber stamp for just one spot.



To use the tool, first you select the area that you want to clone from (the “source”) by holding down ALT while you click the mouse. Then you move the mouse to the spot that you want to clone to (the “destination”), and click or click and hold as you move the mouse. In the normal mode, the source position will move in relation to the movement of the mouse. However, if you check the Fixed box, the source position will remain consistent as you move the mouse. This can be very useful if you are trying to make a consistent background, or are cloning some kind of texture or grain.



So there are a couple spots in this image where you could use the Clone Stamp. If you were fixing up this image to show clients as one of your installations, you might want to get rid of the chain at the bottom and/or remove some of the distracting elements in the upper right behind the sign.

Clone Stamp has the same options of Size, Opacity, Flow, and Hardness. For these examples, an Opacity and Hardness of 100% were used. If you are using the Clone Stamp to do more blending instead of this kind of “removal,” then you would want to use lower Opacity and Hardness settings.



Now let's say that you decide to place this sign on a different background. You want to show the client how great it would look somewhere else so that they buy another one from you.

So first let's remove those lights on the top, which are also a distraction from the beauty of the sign. This will also involve a bit more of the Clone Stamp Tool, since the light covers part of the top of the sign, but mainly we are going to use the Eraser Tool, the third of the tools in this section



By erasing the background, we can then place this sign somewhere else in Catalina. The Eraser Tool has Size, Flow, and Hardness, but also two additional settings: Tolerance and Feather, which we'll discuss in a minute.

For large areas of the background, we can use a large eraser, but we have to make it smaller and be more precise when we get to the edges. Your first pass might look like this, done with a huge 500 pixel eraser.

Then you would zoom in tighter and use a smaller eraser to get the final selection of just the sign. You should also use maybe 80% hardness so that you don't have too hard of an edge for blending into the new background. On the right here is the final cut-out of the sign.



There is another way to do this, one that can be much faster and more automatic, although it very much depends on the image characteristics. Remember from the toolbar, there are options for Tolerance and Feather. These are used in the Limited Knockout and Unlimited Knockout options for erasing pixels. This somewhat-automatic approach will erase all pixels that are close to the original color of what is selected in the image. Tolerance will determine how this works – a low value will only erase pixels that are very similar in color, while a high tolerance will delete pixels that have more color variation.



**Limited Knockout** (CTRL+Click) requires that the pixels be “neighbors” while **Unlimited Knockout** (SHIFT+CTRL+Click) will erase all pixels in the whole image that are similar in color.

So going back to the original image, we can use Limited Knockout on the background. This requires CTRL+Click on each color range that you want to delete. Not bad, but in this case it is probably faster to use the manual tools.

Using the Unlimited Knockout on the bricks did much better, but it had an unintended side-effect of erasing some red pixels inside of the sign. So it might be better to use Limited Knockout and then do a final cleanup with the manual eraser.

You can see that if you have an image with cleaner edges and spot colors, the Knockout approach would be ideal.



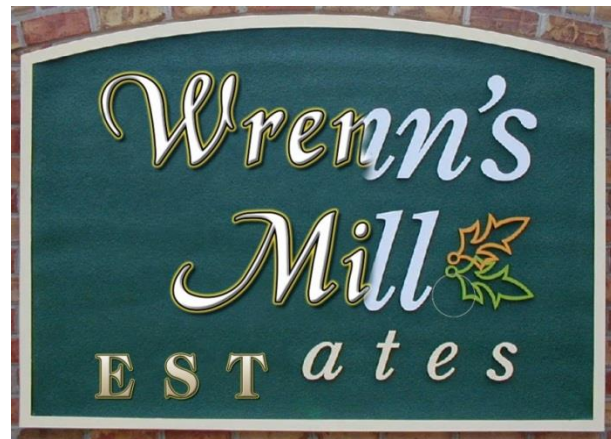


For the final design here, we brought in the background image and then put a Soft Shadow on the sign to make it look consistent.



One thing to note here – the Eraser Tool will make the background transparent, so that this kind of compositing is possible. If instead you used the Brush Tool to paint white around the outside of this sign, that white would cover up this wall and bougainvillea.

Before we finish this section, here's a very practical way to use the eraser tool to wow your clients. A client comes to you and asks you to work up a design to replace their current sign, which he happens to have a digital picture of with him. So you import the picture, and using the Clone Tool, you erase the current lettering on the background. Very quickly, using Paragraph Text and the Effects Library, you work up a design with him



watching. Then you place the new design on the bottom of the old sign, and start erasing the old sign to reveal the new one below. The client says Wow and you get the job.



So there you have the Brush Tool, the Clone Stamp Tool, and the Eraser Tool – bitmap editing tools that have many uses. One final note on the use of these tools: you must have a bitmap object selected for them to work. If you have a vector-based object, you must first rasterize it (by converting it to a raster object) in order to use these tools. Remember that once you rasterize a vector-based object, it loses those vector qualities, such as being able to change a font.

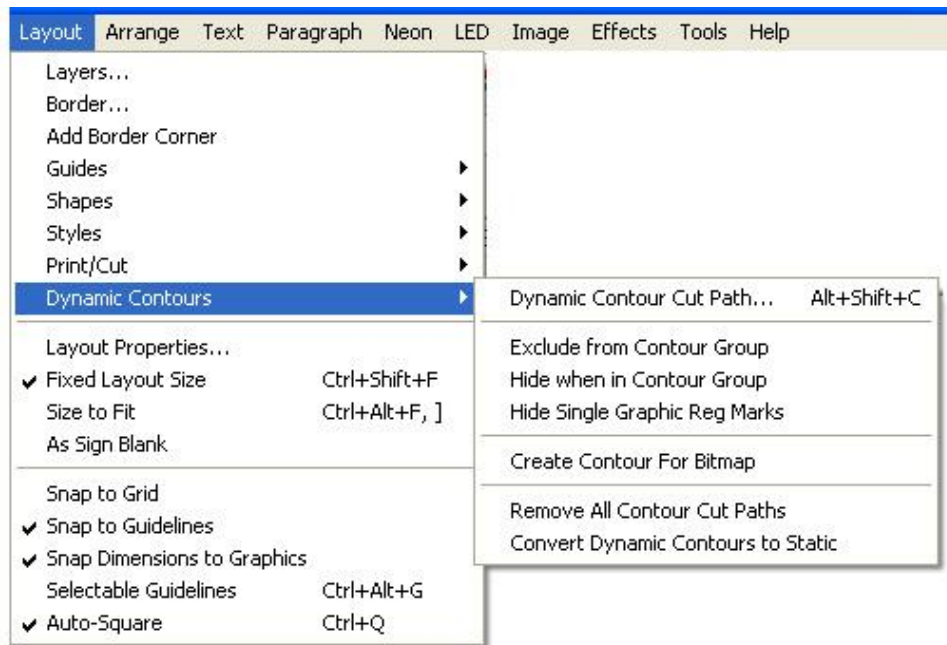
You can work with bitmap and vector objects together within the same design, and in fact, many of the techniques that we've described in this guide contain both bitmap and vector elements, such as an Image Fill inside of a Paragraph Text object. Be aware of what kind of objects you are working with so that you know what kind of actions you can perform on them.

## Dynamic Contour Cut Path

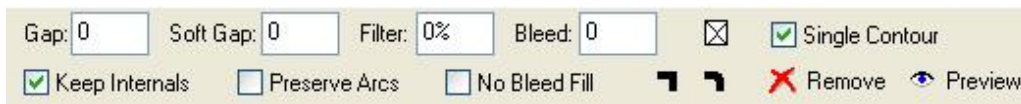
### Pro

In order to produce these printed signs and graphics that have both vector and bitmap elements to them, you'll need to print and cut, ideally on the same machine. The Contour Cut Path is the last step, essentially an outline cut around the printed design. This new Dynamic feature will keep this cut path updated as you make changes to the design, along the lines of the other dynamic features we've talked about in this guide.

In addition, the **Dynamic Contour Cut Path** will also handle groups of objects, updating the path around the outside of the group, or essentially welding the paths of multiple individual objects that are grouped. When you want to add a Dynamic Contour Cut Path, select the object and then go to the Layout Menu → Dynamic Contours.



You will then see this toolbar at the top of the screen.



The main setting in the property bar is Gap, the amount of space that you want from the edge of your object to the contour cut path. This number can be negative, in which case it cuts into the object like an Inline, it can be zero, in which case it cuts right on the path, or it can be positive, in which case there is a gap, or a space, between the edge of the object and the contour cut path. This is an absolute number, not a percentage.

The contour cut path is shown as a dotted line, so that you don't get it confused with an Outline or Stroke. Here is a contour cut path on 5" letters with a .10" gap.



If we now add an Outline to this text, the contour cut path will adjust dynamically and weld:





We've been through this several times by now...this will update with any changes that you make to this text. The Soft Gap setting is used when you have added a "soft" effect, such as Soft Shadow, Feather, or Glow to your text or graphic. This will give you a little extra room for that soft effect to blend to the background color. This example was taken from the Effects Library, and it has a Glow. The Soft Gap is set at .05" on top of the original .10" Gap.



Now let's say that you want to add another element to this design, and do a contour cut around the new design. So the new text is "CUT" and it is going to be placed behind the "Contour" text. All you have to do is add the Dynamic Contour Cut to the new text, in this case the same .10" amount and then make a group of the two lines of text. The contour cut paths will weld, and if you look closely, you'll see that the original text with the Glow will have the extra Soft Gap, but not the new text.





In many cases with a contour cut, you want to remove the internals so that you have just one outline cut. Just uncheck the box that says Keep Internals in the property bar. Now the paths inside the “o” and between the “n” and “t” are removed.

Finally here we add an image in the background that we added to the group. Dynamic Contour Cut will work with images that have regular borders, such as rectangles and squares. For images with irregular borders, please see the next section.



## Create Contour Cut Paths from Bitmap

### Pro

This feature will create a contour cut path around an irregular shaped bitmap. It is not designed for rectangular shaped images, which is easily covered with the Dynamic Contour Cut Path described above. Perhaps the image has been cut out, imported as a bitmap with transparency around the outside, rasterized from a vector image, etc.

**Create Contour For Bitmap** makes it a snap to create a special contour cut path for a bitmap that has knock out or transparent areas. It automates the vectorizing process and creates a contour cut path, all in one simple step. In this example, we selected the left hand bitmap and choose the Create Contour for Bitmap command in the Layout, Dynamic Contours menu. After a few seconds we had what you see on the right side: the original bitmap along with a new contour cut path that hugs the edge of the transparent bitmap. Since the contour cut path is a vector graphic, you can easily expand or contract the contour as required, using the Dynamic Contour Cut tool.





## Multiple Panes in the Sidebar

### All Levels

The sidebar on the right side of the layout window has been expanded and now has upper and lower sections to accommodate some of the new capabilities in Sign Wizard 7.

The top section includes Color, Effects, Neon, and LED, while the bottom section has Layers, History, and Job.

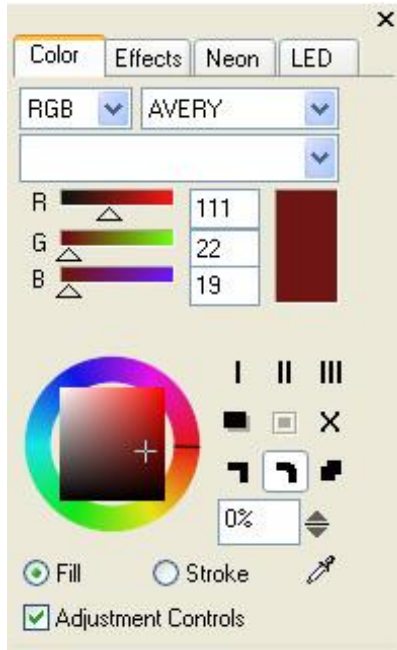


The Color Tab will be discussed in more detail in the next section. We covered the Effects Tab previously in this guide as part of the Effects Library. The Neon and LED tabs provide summary information on your neon tubes and LED units for job estimation, materials usage, etc.

The Layers Tab lets you keep track of your layers, and sometimes is the best way to select a layer, especially those that are dynamically created. The History tab shows you a step-by-step history of your actions on a design and lets you go backwards in a multiple-Undo action in one step. Finally, the Job Tab provides a summary of the information entered in the Job Manager, or can be used to enter the basics of a job.

## Color Tab Improvements

All Levels (Dynamic Outline/Shadow controls disabled if those features are not available)



The Color Tab has had some work done on it for this release, some of which was discussed previously. As the tab that is most frequently displayed, we added the ability to create and edit Dynamic Outlines and Shadows

You can choose which color mode you want to work in, either RGB, HSV, or CMYK (Process or Spot), as well as which vinyl manufacturer's color palette you want to use.

Colors can be chosen from the list, they can be entered numerically, they can be chosen from the color wheel picker, or you can choose a color straight from the layout with the Color Picker tool.

As you recall from the sections on outline and shadow, you can set the first, second, and third outlines, as well as a shadow, right here in the Color Tab. The input box will enable you to enter a percentage, and you can also use the color wheel or the little arrows to change the amount. The "X" will remove the outline or shadow that is selected.

Most of the time the color will be applied as a Fill, but you can also select Stroke to apply the color to a stroke. If you uncheck Adjustment Controls, the Color Tab will show the full color palette, as shown here.



## Layers Tab Improvements

### All Levels

The Layers Tab is used to control elements of your design in a tree format and not graphically. This has been enhanced to give you more options.

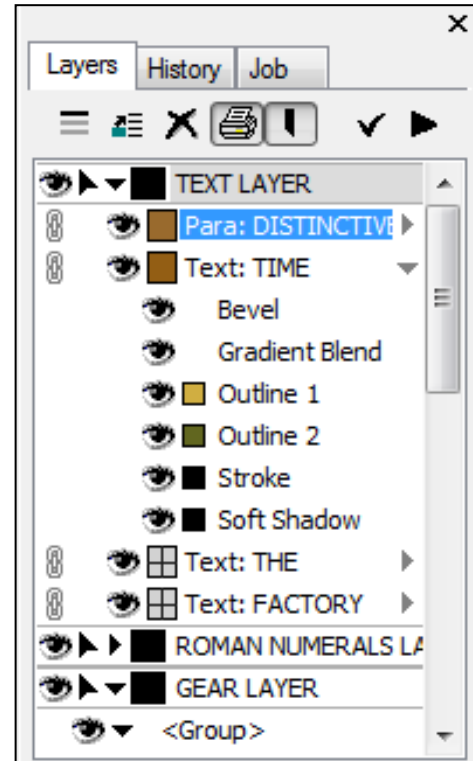
In the Layers Tab you can now see groups as nested elements and hide or show layers, groups, graphics and even individual properties of a graphic, such as Soft Shadow, Dynamic Outlines, etc.

The eye icon is used to show or hide element, and every item in the list has the eye option.

Some of the layer specific options have been moved up to the toolbar above the list. Here is where you can create a new layer, move objects to a new layer or an existing layer, delete a layer, mark a layer as printable and cuttable, and more.

Special properties of an object will now be listed below the object. These include the following:

<b>Bevel</b>	<b>Clipping Path</b>
<b>Contour Cut Path</b>	<b>Dynamic Outline</b>
<b>Dynamic Shadow</b>	<b>Feather</b>
<b>Glow</b>	<b>Gradient Blend</b>
<b>Image Fill</b>	<b>Photomask</b>
<b>Soft Shadow</b>	<b>Stroke</b>
<b>Transparency</b>	<b>Wavy Baseline (Paragraph Text)</b>



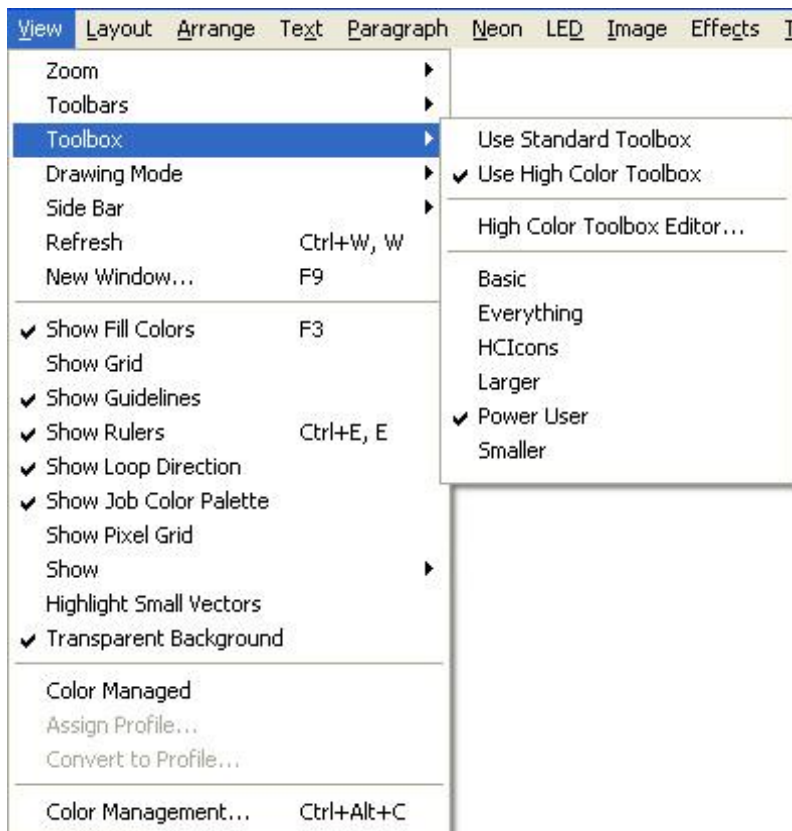
## Highly Customizable High Color Toolbox and Editor

### All Levels

This is the last topic to be included in this guide, and it is for those of you who really want to customize the Sign Wizard 7 icons - which ones are displayed, how they're organized, their size, even what they look like.

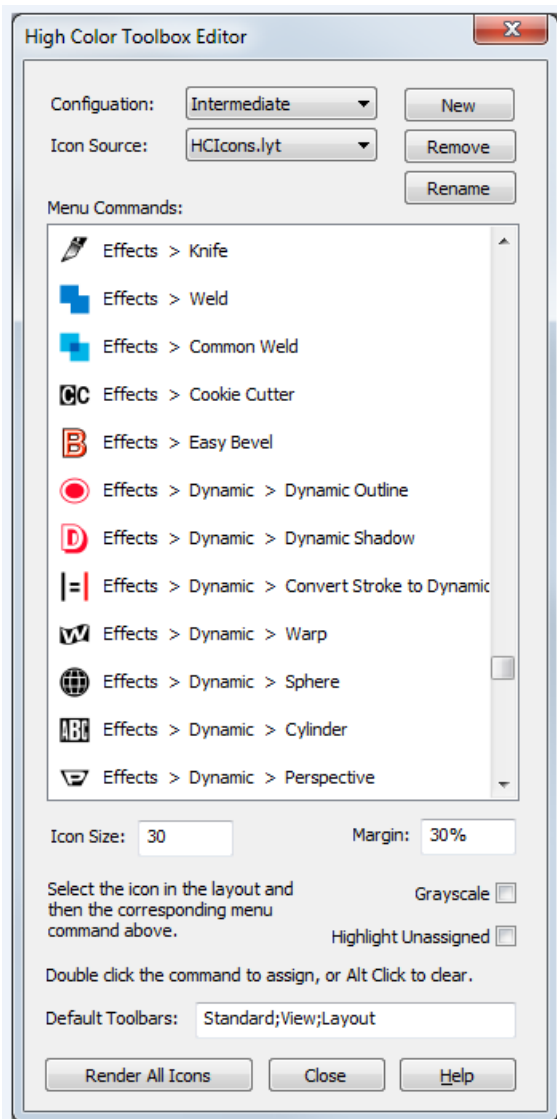
If you use the software every day to run your business, it is worth it to take a few minutes to customize the toolbox with the tasks that you frequently perform. It is equally as productive, if not more so, to learn the shortcut keys for your favorite tasks as well!

To see a listing of some pre-set collections of icons, select Toolbox from the View Menu.



The new High Color Toolbox provides icons that are larger and have more colors and detail. If you have a larger, high resolution screen, then you should try the high color toolbox.

You can also choose which set of icons you'd like in the toolbox from the presets listed above. If you want to customize further, then open the High Color Toolbox Editor, shown on the next page. From this dialog box, you can add icons to the toolbox just by clicking and dragging them across to the actual toolbox. You can remove icons by ALT-Right Clicking on the icon in the actual toolbox.



In this editor, you can also change the size of the icons to suit how you want the screen to be laid out. To do this, use the Icon Size box. Smaller icons might be a value of 20, larger ones a value of 40. These new icons are all vector objects, so they can be scaled to whatever size looks best to you. Click on the Render All Icons to change the size, and it only takes a couple seconds.

When you open the High Color Toolbox Editor, an LYT file is also opened that contains the actual icons. When you click on one of the icons in the layout, it will highlight that icon in the dialog box in the large list of Menu Commands. If a menu command does not have an icon, then you can create one yourself! If you don't like one that we've made, you can change it.

To make a new icon, just design it as you would anything else in Sign Wizard, and then select it. Go back to the High Color Toolbox Editor and double click on the Menu Command that you want that icon to represent. Now click on Render All Icons and that's it. Try this once and you'll see how easy it is. Pretty soon you'll be making all kinds of icons.

## Appendix 1: Configuring your Plotter or Cutter in Sign Wizard

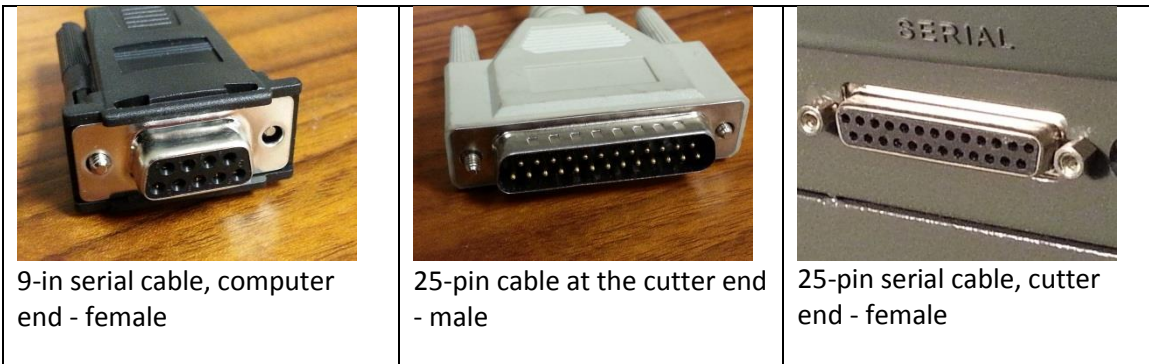
Troubleshooting cutting issues is pretty straightforward if all the factors are considered. The first thing that needs to be determined is how the cutter is physically connected. It can be one of the following:

1. Serial (COM)
2. Parallel (LPT)
3. USB
4. USB with serial adaptor

Each of the above will be covered separately.

### Serial

Serial or COM connections can be the most problematic to get right, due to the various options available. Serial connections typically have a 25-pin connection at the cutter, but can also be 9-pin. Usually at the computer end it's a 9-pin connection, and rarely can be 25-pin.



If your cutter only has a serial connection, but your computer only has USB, you will need to use a USB to Serial adapter, available at most computer stores. We've had good success with the Aluratek brand, but most any brand should work.

Once the serial cable is connected properly, we can get into the driver configuration.

## Settings Specific to Serial Cables

The image below shows the standard serial port settings that most cutters have as the default: 9600 bits per second, 8 data bits, no parity, and 1 stop bit, or 9600,8,N,1. You should confirm that these are the settings the cutter is using.

Note also the **Flow Control** setting as XON/XOFF. This is preferred, since the other option, CTS/RTS, requires a cable with the correct wiring, and that's not always available. The flow control setting **MUST** match what the cutter is using, otherwise you can get random errors when cutting, because the cutter is not able to tell the computer to stop sending cutting commands when the cutter's buffer is full.

The screenshot shows the 'Setup - HPGL' dialog box with the following settings:

- Port: COM3
- Name: HPGL
- Page Length: 10000
- Height: 24
- Plot Speed: 20
- Plot Init: IN;PR;VS %d
- Cut Speed: 20
- Cut Init: IN;PR;VS %d
- Units / Inch: 1016
- Move: PU %ld,%ld
- Knife Offset: 0
- Line: PD %ld,%ld
- Separator: \r\n
- Arc:
- Min. Chord Len: 0.06
- Set Origin: PU %ld,%ld FR;
- Max. Chord Len: 0.5
- End: PU
- Min. Angle: 1
- Set Depth:
- First Move: PU %ld,%ld
- Special First Move:
- Coordinates:
  - Absolute
  - Relative
- Flow Control:
  - CTS / RTS
  - XON / XOFF
- Serial Port Settings:
  - Bits / Sec: 9600
  - Data Bits: 8
  - Parity: N
  - Stop Bits: 1
- Buttons: Ok, Cancel, Delete, COM Port >>
- Checkboxes:  Cut Mode,  Router Ready,  Flip Y Axis

## Parallel

Parallel or LPT connections are easy to use. There is one type of cable, a “Centronics” connector at the cutter end, and a 25-pin connector at the computer end.





Centronics connector at the cutter end



25-pin parallel connector at the computer end

There are no flow control options for parallel (LPT) connections. We have NOT had success with parallel to USB adapters and do not recommend them, but they can be tried.

## USB

USB to USB connections are supported for certain cutter makes and models. We support Graphtec, Summagraphics, Mimaki, Roland and GCC.

In some cases with USB, a driver is supplied by the manufacturer and it creates a virtual serial port, so that Windows will show a COM1, COM2, etc, being in the system, and these can be used as regular serial ports.

### USB with USB to Serial adaptor

If you have a USB cutter that does not provide a driver with serial port emulation, you can use a USB to Serial adaptor, such as that shown below. You will know this is the case if either no driver was provided, or when you install a provided driver, you don't see COM ports appearing in Windows.

Pictured below is a USB to Serial adaptor. The USB end plugs into the computer and the 9-pin serial end plugs into a standard 9-pin to 25-pin serial cable that would have come with your cutter.

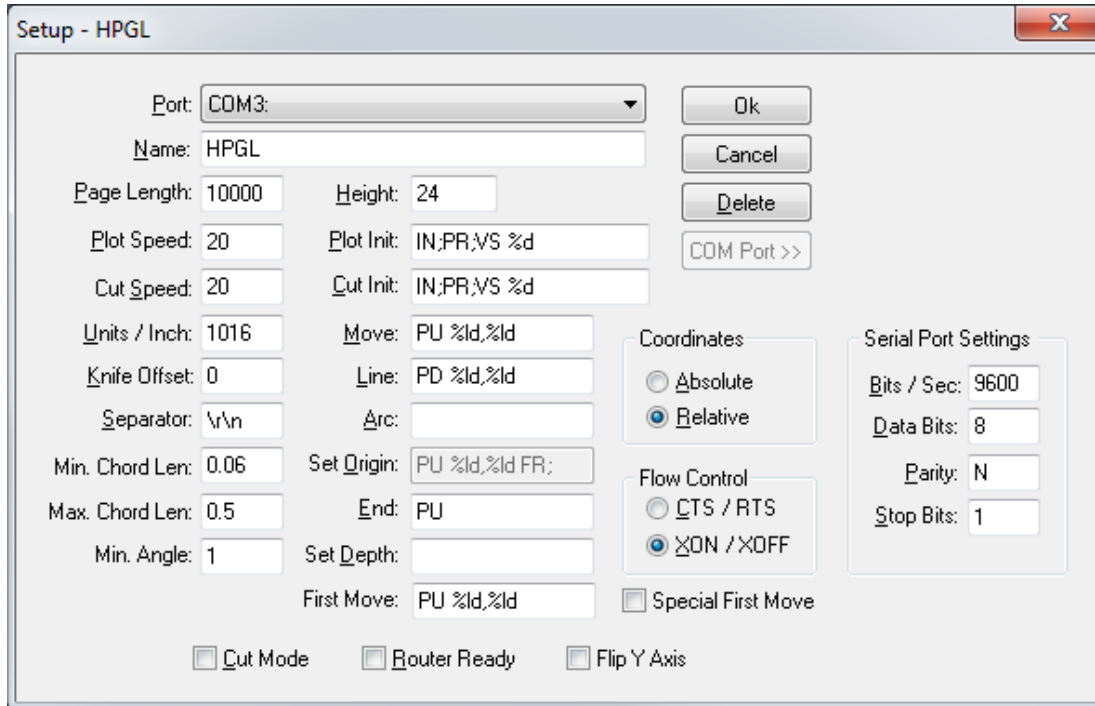


Aluratek USB to Serial adaptor

## Driver Settings

In most cases, the HPGL driver will work as is and can be used if your cutter model is not listed. If you want to give it a custom name, simply select **Device | Setup** in Plot Manager, enter a new name and press OK.

The image below shows the recommended configuration when using HPGL as the cutter language.



## Coordinates

Under **Plot Init** and **Cut Init**, note the use of “PR;”, which sets Relative mode. When PR is set, make sure **Relative** is set under **Coordinates**. If those are not matched, you will have major problems in cutting. If you have Absolute is set, make sure “PA;” is set in **Plot Init** and **Cut Init**, instead of “PR;”.

The Setup dialog will look slightly different in older versions of the software.

## Troubleshooting Cutting Problems

Many cutting problems can be resolved by using the WPD mode for a port. For information about configuring WPD ports, see our **How To Configure WPD Ports** in Appendix 2 of this document.

Below are some common scenarios:

### The cut does not complete

1. Try WPD mode for this problem.

### There is no communication at all with the cutter – the cutter head doesn't move

1. Make sure the cutter is online and ready to accept commands
2. Make sure the cutter's language matches the driver language, which is usually HPGL. Graphtec cutters can be set to GPGl and others might use DMPL.
3. The port selected in Plot Manager doesn't match the physical port connected to the cutter.

Sometimes you need to try other COM or LPT ports. For USB ports, it generally doesn't matter which port is used, but make sure the port being used is functioning correctly by trying another USB device on that port. You can also try switching to a different USB port.

### The cutter is working but there are random errors

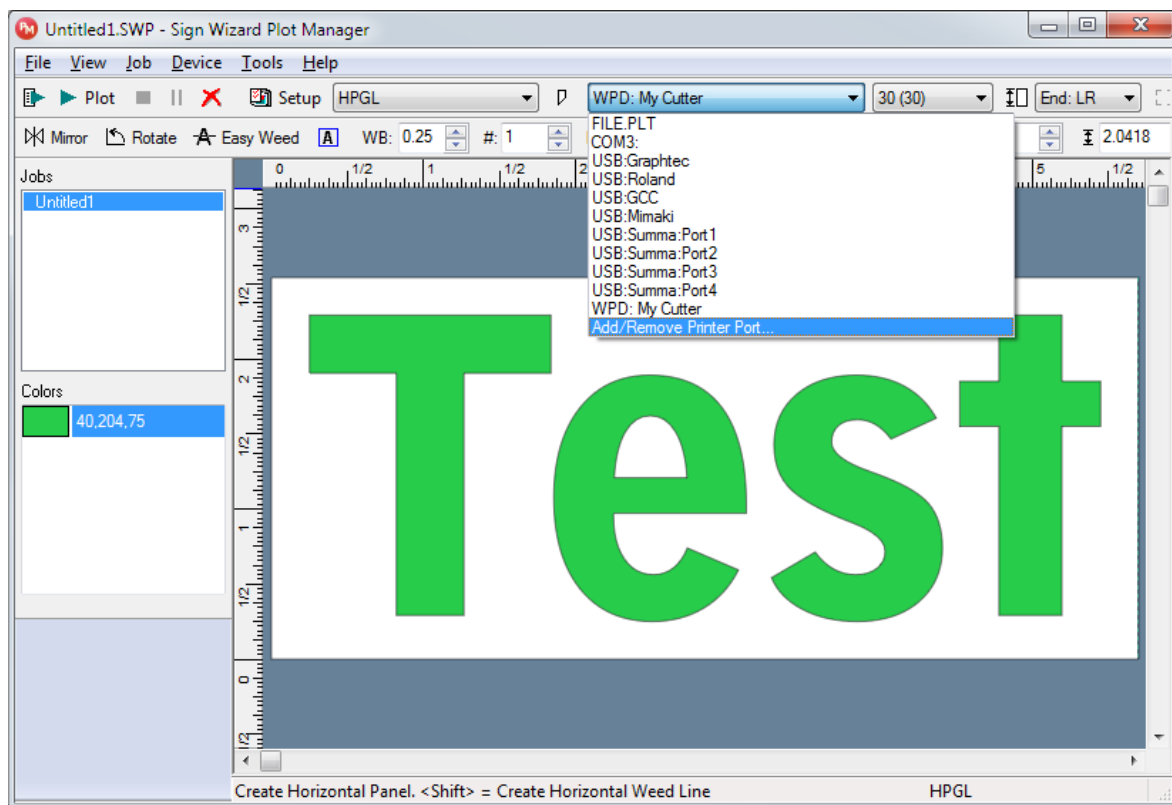
1. This is usually a Flow Control problem and usually only happens with serial connections. Make sure the Flow Control setting is the same for both Sign Wizard and the cutter. When using WPD, go into Windows and check the Flow Control option for the port that Windows manages.
2. The cable itself could be faulty.

## Appendix 2: How to Configure WPD Plotting

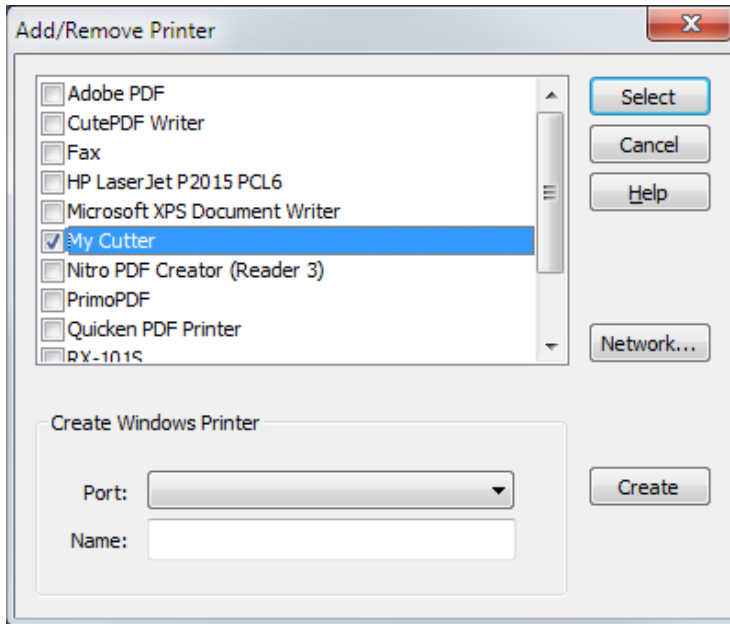
WPD stands for Windows Printer Driver. WPD ports are a way to connect to a cutter using the Windows printer driver subsystem, which can solve certain plotting problems.

Here are the steps you need to take to configure this type of port.

1. Launch **Plot Manager** with the F2 key or **File | Plot**. Depending on your version, you may need to have some object selected first.
2. Select the port drop down list in Plot Manager and select **Add/Remove Printer Port**:

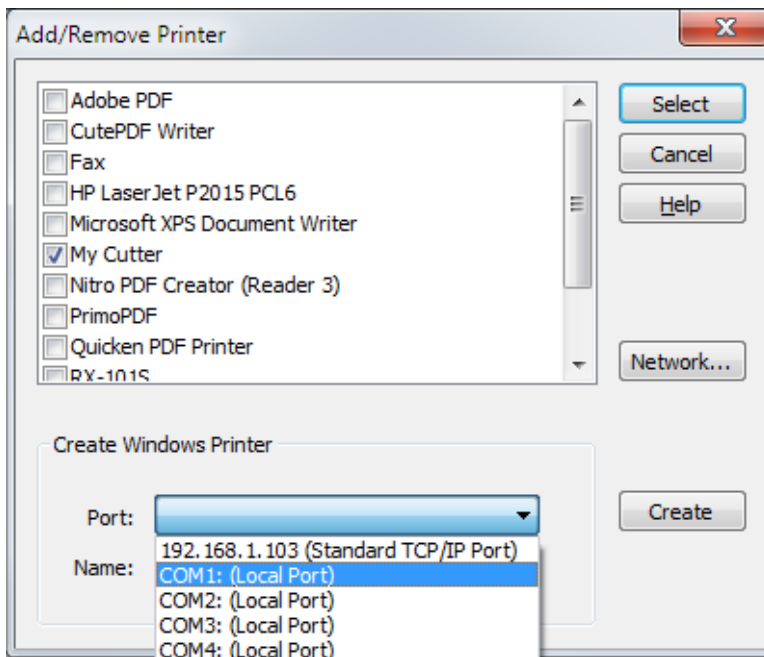


This dialog box will appear:



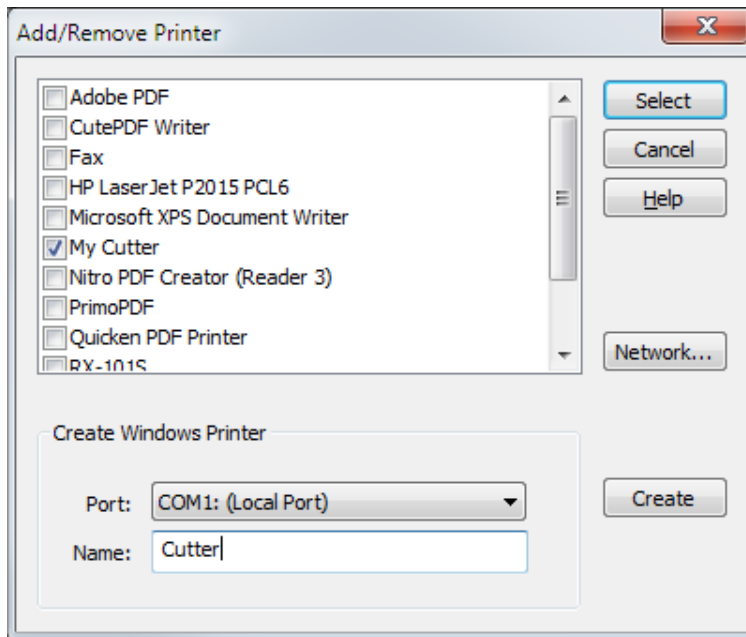
If you've installed a driver from your cutter's manufacturer, it will appear in this window and you can place a checkmark next to it as shown above. In this case you can then press **Select** to continue and this dialog box will close. If you don't see your cutter listed in the printer list, you will need to create one in the **Create Windows Printer** section of the dialog box.

3. To create a new printer, **select the port that your cutter is attached to** from the Port list. In this example, it's COM1, but it could be LPT1, LPT2 or a virtual USB port. Selecting the right port might take some trial and error.





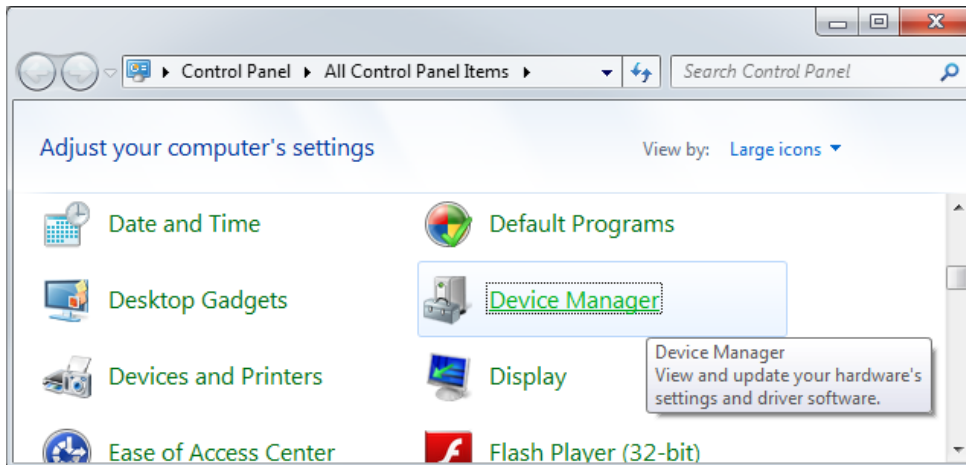
- Next, in the Name box, type in a name for the cutter driver, which can be anything that's not already listed:



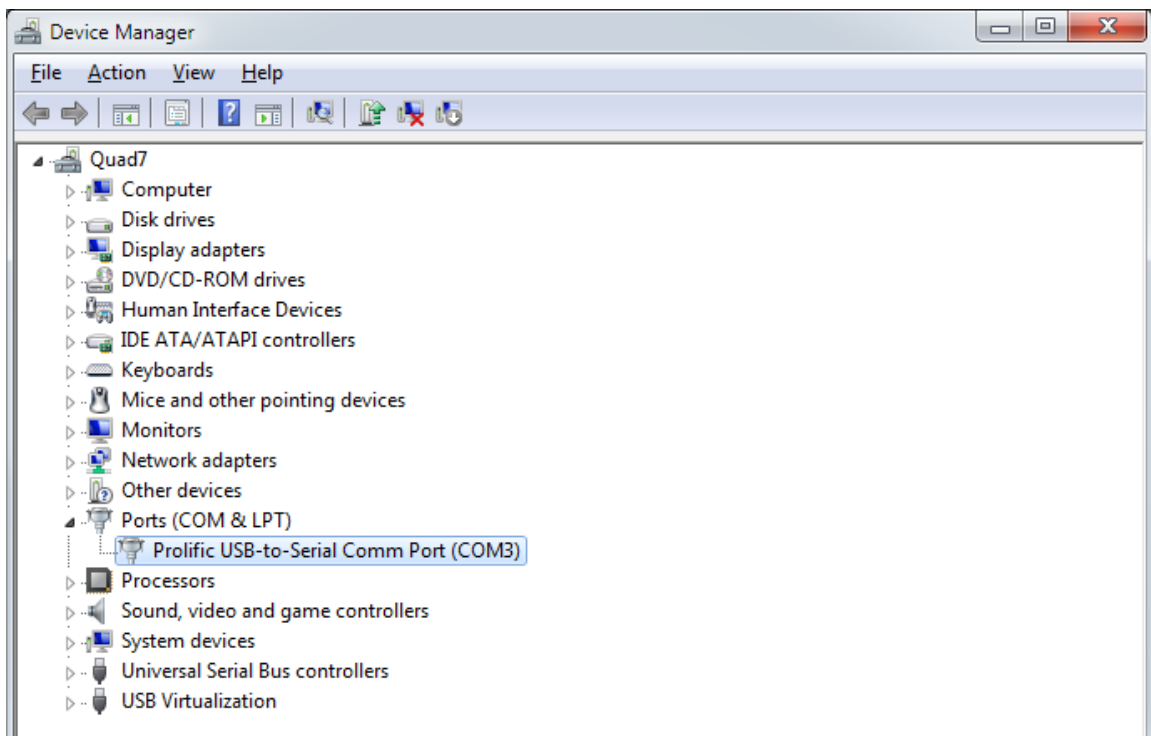
When you press **Create**, after a few seconds a new printer will be added to Windows. Click the checkbox next to the newly create printer from the list and press **Select**.

- The new printer you created will now be used as the port for the current Sign Wizard Plot Manager driver. Plot Manager will use the printer you created to communicate with the cutter.
- If the new WPD port is USB or LPT (parallel), there's nothing else to be done and you can proceed to cutting. If it's a COM (serial) port, you will need to go into **Control Panel** to make sure the configuration matches the cutter's configuration. With USB to serial converters, there will be a COM port listed that you can select.

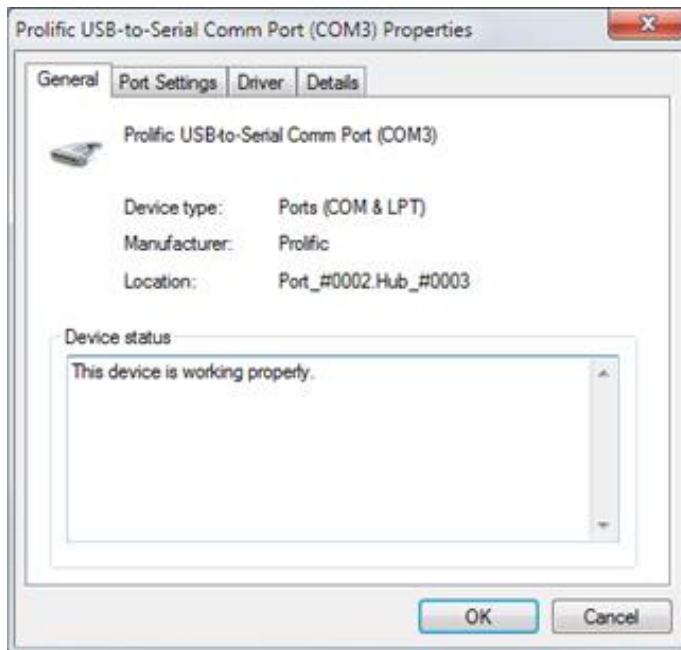
7. Go into the Windows **Control Panel** and click **Device Manager**:



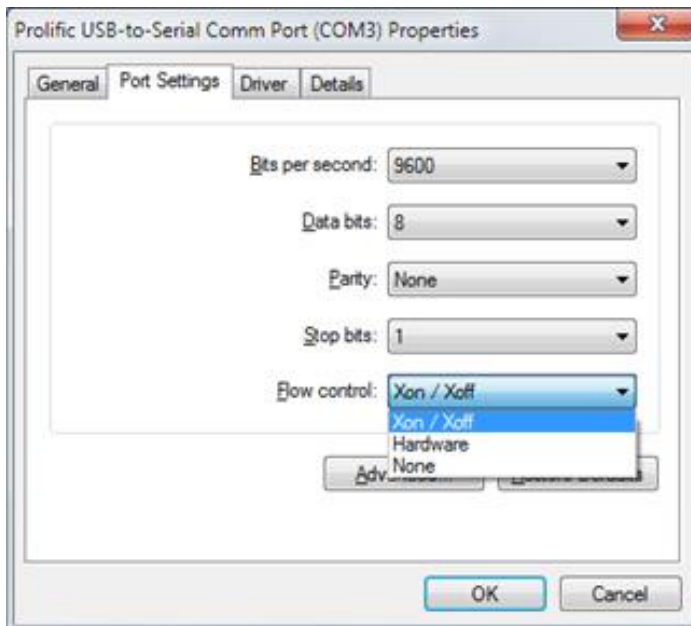
Find the **Ports** section in **Device Manager** and select the COM port to configure. If there is more than one, you will need to know which COM port the cutter is attached to. Sometimes trial and error is the only the way to know that for sure because often port numbers are not labeled. In this example, we're using a USB to serial converter.



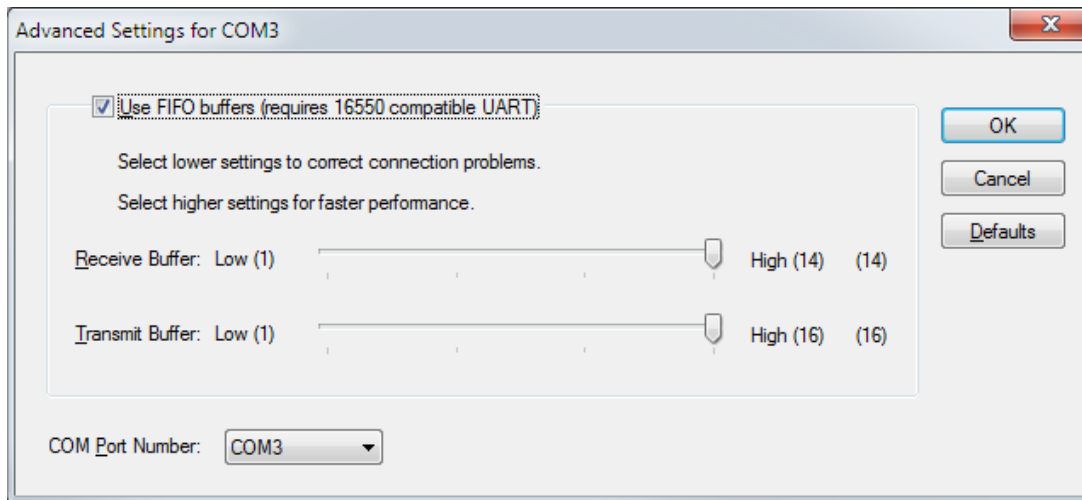
8. Double-click on the port to bring up the properties window:



9. Select the **Port Settings** tab:

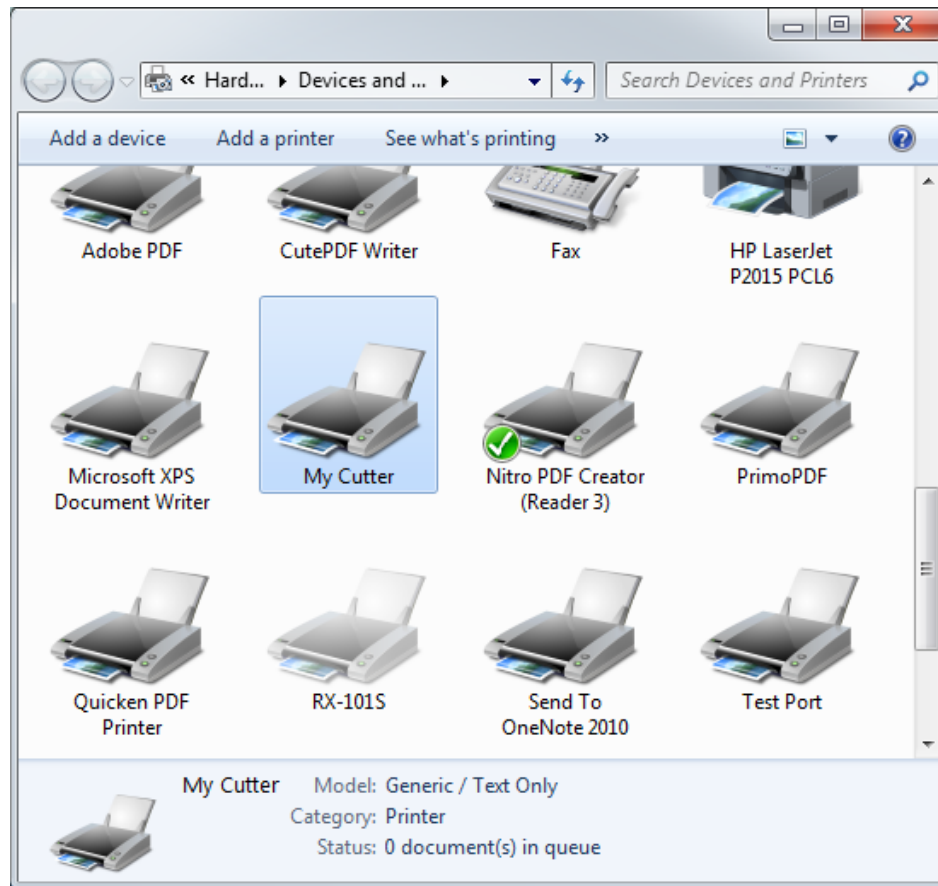


10. At this point, you will need to confirm that these settings are the same as those in the cutter, by either checking the dip switches that control these options or by using the LCD panel control on the cutter. **Every one of the above settings must match what the cutter is using.** If **Flow Control** does not match the cutter's settings, you will almost certainly get random cutting errors. "Hardware" flow control is sometimes called "hardwire". Xon/Xoff is the preferred setting for **Flow Control** in most cases.
11. For some USB to serial adaptors, you have additional options under Advanced:

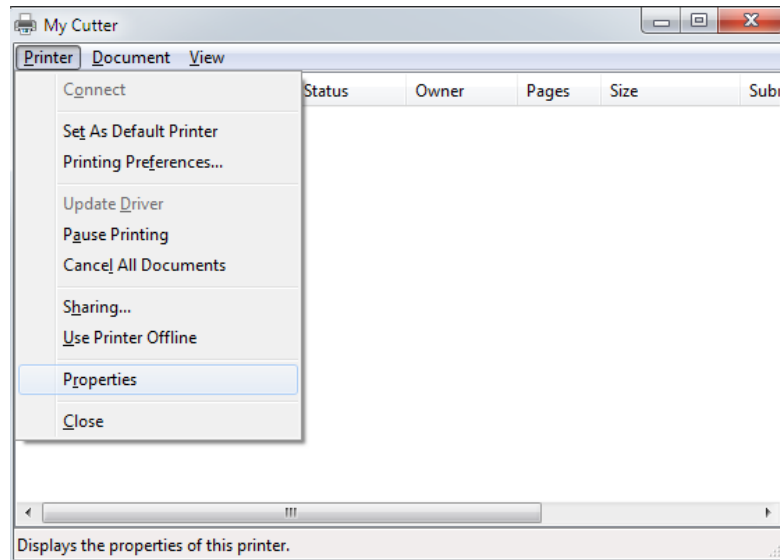


With some USB to serial adaptors, you can select the virtual COM port number to use. If you want to change the COM port that a USB to serial adaptor uses, follow these steps to make sure the printer driver is using the right port:

Open the printer by double-clicking on your printer in **Devices and Printers**.

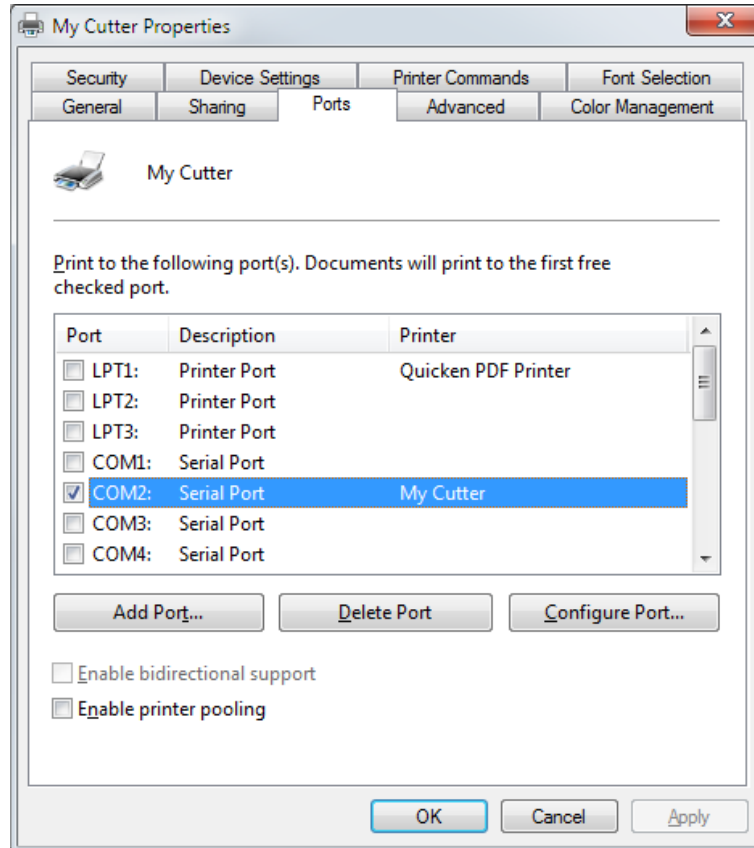


Go to Printer | Properties:





Select the **Ports** tab, and then select the port you configured in the adaptor's configuration window:



12. Close all of these windows.
13. You're now ready to do a test plot with these settings.

**Notes:**