Graphtec Pro Studio

Graphtec Pro Studio Plus

User Guide

Table of Contents

CHAPTER 1 Installation

CHAPTER 2 Getting Started

CHAPTER 3 Design

CHAPTER 4 Production

CHAPTER 5 SAiCloud

CHAPTER

Installation

1.1. General Information

1.1.1. Recommended System Requirements

Supported Operating Systems	Windows 7
	Windows 8
	Windows 10
RAM	8 GB
Installation Space	1 GB
Working Disk Space	10 GB
Other	Broadband Internet connection
	Available port for output device

1.1.2. About Graphtec Pro Studio / Graphtec Pro Studio Plus

All rights related to this software are the property of the SA International, Inc.

To use this software, you must perform the user registration to SAi's SAi Cloud.

To use this software, you must agree to the license agreement with the SAi.

The activation code of Graphtec Pro Studio / Graphtec Pro Studio Plus is the right that one user can use the software with one computer.

Notwithstanding the terms and conditions of the license agreement you can use Cutting Muster 4 on limitless number of PCs.

1.1.3. Software License Agreement

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The titles of this Agreement are inserted for convenience only and shall not be construed as limiting in any manner.

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No amendment or modification of this Agreement shall be valid or binding unless the same shall be made in writing and signed on behalf of each party.

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The failure to enforce any of the terms and conditions of this Agreement by SA International Inc. shall not be deemed a waiver of any other right or privilege under this Agreement or a waiver of the right to thereafter claim damages for any deficiencies resulting from any misrepresentation, breach of warranty, or nonfulfillment of any obligation.

In order for there to be a waiver of any term or condition of this Agreement, such waiver must be in writing and signed by the party making such waiver.

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If any provision of the Agreement is found invalid or unenforceable pursuant to judicial decree or decision, the remainder of this Agreement shall remain valid and enforceable according to its terms. Without limiting the foregoing, it is expressly understood and agreed that each and every provision of this Agreement that provides for a limitation of liability, disclaimer of warranties, indemnification or exclusion of damages or other remedies is intended by the parties to be severable and independent of any other provision and to be enforced as such. Further, it is expressly understood and agreed that if any remedy hereunder is determined to have failed of its essential purpose, all limitations of liability and exclusions of damages or other remedies set forth herein shall remain in effect.

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Should SA International Inc. prevail in any lawsuit, action, or proceeding in contract, tort, or otherwise which arises out of or related to this Agreement, SA International Inc. shall be entitled to recover all of its costs and expenses including, without limitation, its reasonable attorneys' fees incurred in connection with such lawsuit, action, or proceeding, including any appeal of such lawsuit, action, or proceeding.

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As between the parties hereto, and in the sale and delivery of any goods, the United Nations convention related to the sale of goods shall not apply to any sale of goods deemed to arise under in this or any other agreement between the parties.

1.2. General Installation Procedures

1.2.1. Creating an SAi Cloud account

SAicloud.com is the platform through which Graphtec Pro Studio software and licenses are distributed. Users create an account in SAicloud.com and activate their software to that account. Multiple licenses can be activated to the same account.

If your company has multiple licenses, choose a general business email address to create the saicloud account with. The chosen email address will be the user name of the account and all communication regarding password resets will be sent to it.

When you purchased a Version License, you received an Activation Code.

» Browse to http://saicloud.com
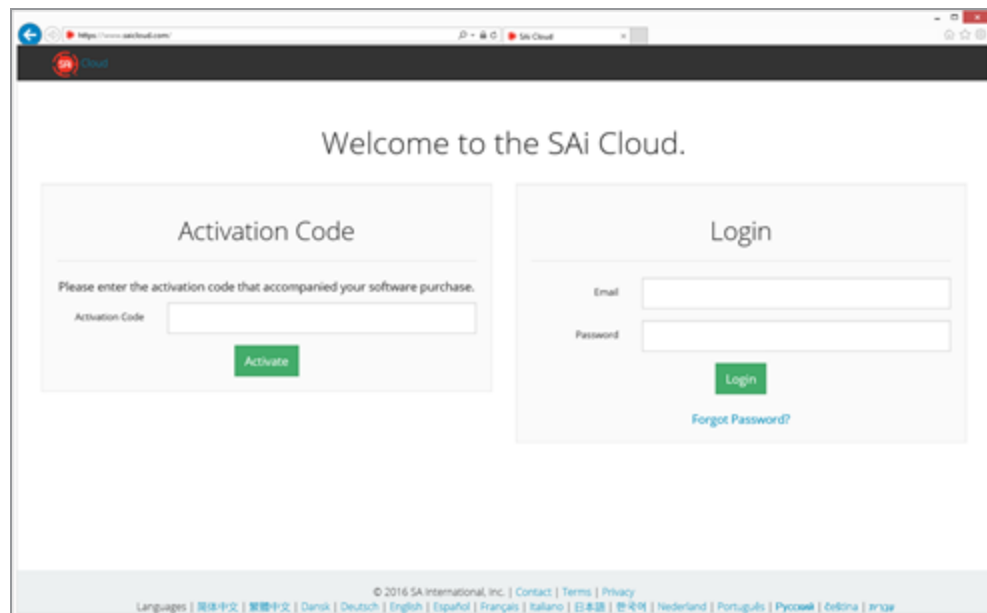
» Paste the activation code in the corresponding field and click **Activate** to continue.
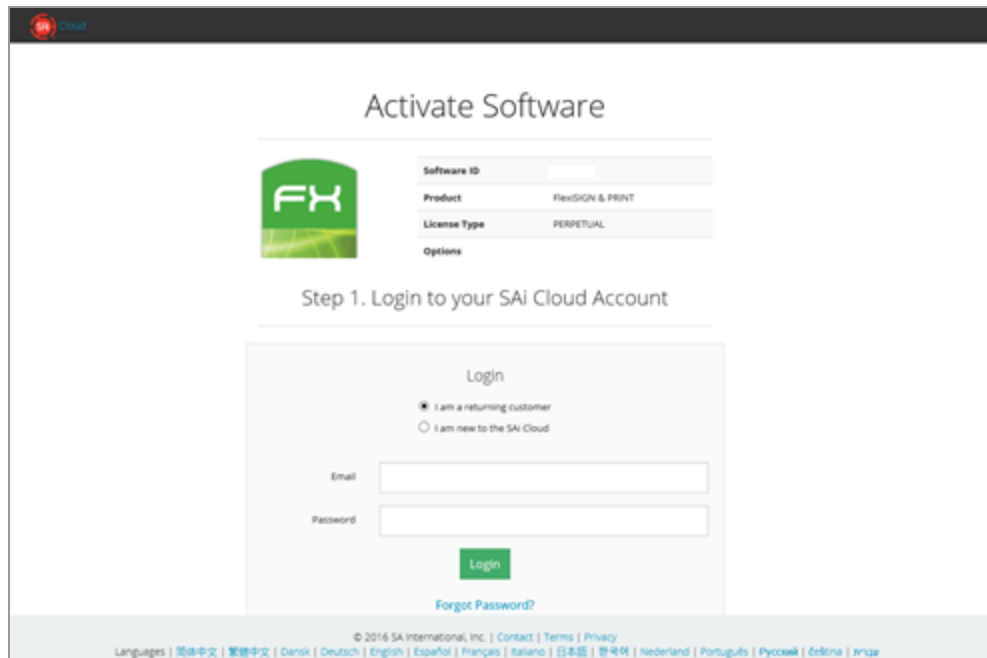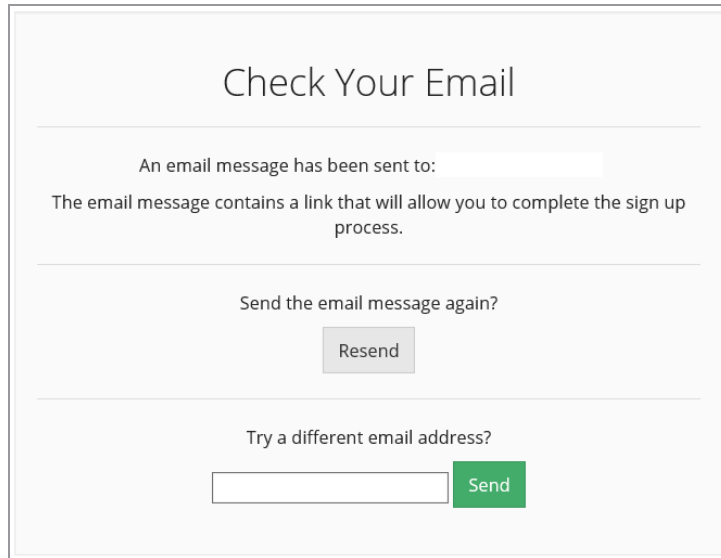
» If you **already have an saicloud account**, you can **log in** using the email address and password you previously created.

» If this is your **first time** activating an sai product, select "**I am new to the SAi Cloud**"
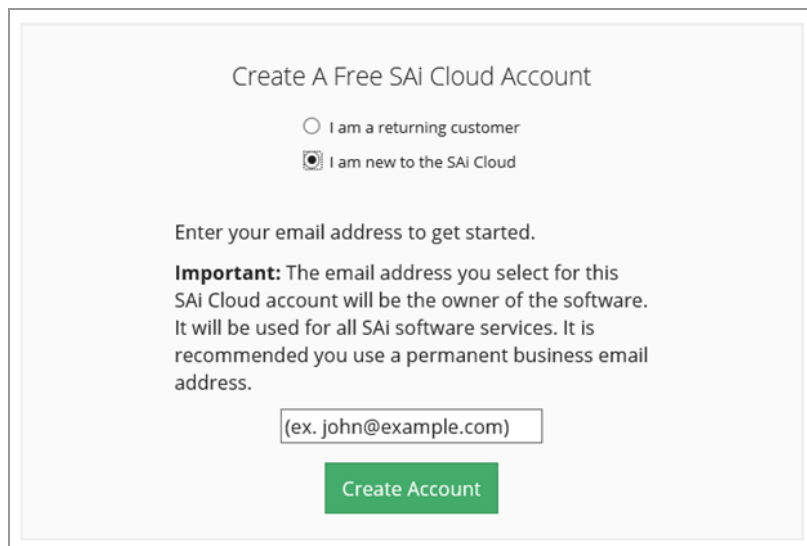
» **Enter the email address** you want to use for your saicloud account. This will be your username.

» When you click **Create Account**, an email will be sent to you containing a link to confirm your activation.

Check Your Email

An email message has been sent to:

The email message contains a link that will allow you to complete the sign up process.

Send the email message again?

Resend

Try a different email address?

Send

Be sure to check spam or junk folders if the email did not arrive.

» Either **click the link** or copy and paste it into a browser.

Create Account

* Email	████████████
* Password	

Password must be at least 6 characters

* Retype Password	
* Name	
* Company Name	
* Country	Please choose... ▼
* Time Zone	(GMT+00:00) UTC ▼
Address Line 1	
Address Line 2	
City	
State/Province	
Zip/Postal	

Create Account

Your email address will already be entered and cannot be changed at this time.

» **Choose a password** with at least 6 characters and retype it to confirm

» Enter in further details and click **Create Account**

Terms And Conditions

Terms and Conditions

User Agreement

IMPORTANT—READ CAREFULLY:

This Account User's Agreement is a legal contract between You (defined below)

and

SA International Inc.

BY USING YOUR SAi CLOUD ACCOUNT, **YOU (AS THIS TERM IS DEFINED BELOW) AGREE BY CLICKING ON THE "ACCEPT" BUTTON TO BE BOUND BY THE TERMS OF THIS AGREEMENT (AS THIS TERM IS DEFINED BELOW) , INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY DISCLAIMERS, LIMITATIONS OF LIABILITY, JURISDICTION, AND TERMINATION PROVISIONS. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, DO NOT OPEN AN SAi CLOUD ACCOUNT AND EXIT NOW**

> I Accept the Terms and Conditions   Decline

» Read through the Terms and Conditions and **Accept.**

» Click **Activate Now** to confirm and link the license to the account.

You have now created an saicloud account and activated your software on that account. Having an saicloud account means you can log back in at any time to download software again, get updates and manage your licenses.

1.2.2. Downloading the software

When you activate your software, or when you log into saicloud.com at a later time and select your software, the following detail page will be displayed:

» Hit the **Download Now** button.

A small tool with the name SAi_software_download.exe will be downloaded.

» Choose to **Run** or Open this tool when the download is finished.

This will launch the Installation Tool , which will start downloading all the necessary installation files
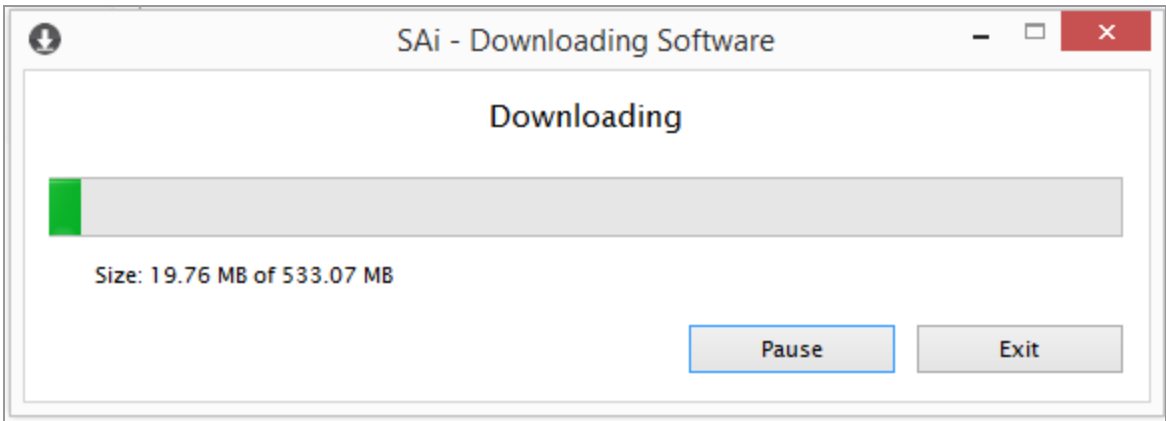
» Once the tool has finished downloading and extracting files, the installation can begin.
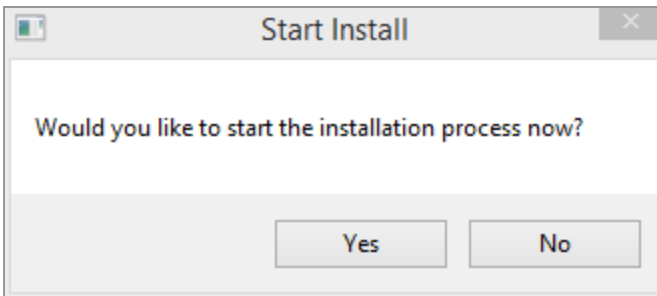
» Click **Yes** and **choose the language** for your installation.

» Follow the instructions of the Installation Wizard.

1.2.3. Installing the software

At the end of the download of your software, Installer will be launched automatically.

Note: To install the software, you must have **Administrator** privileges. To use the software, you must have Administrator or Power User privileges. See your Windows user guide for more information.

» Select your language

» Click **Next** in the Welcome to the InstallShield Wizard screen.

» Select **I Accept** the Terms of the License Agreement and click **Next**.

» Click **Next** to accept the default Destination Location folder.

» Click **Next** to accept the default Select Features.

» Click **Next** to create a Program Folder to hold the program icons.

The Setup Status window appears, and the software installation process begins. When the installation completes, License Manager will launch.

» Enter your product **Activation Code** and click **Next.**

» Click **Next** when the Licensing Successful message appears.

» Click **Finish** in the InstallShield Wizard window. (This last window may be hidden behind other open windows.)

Note: After the software has finished downloading, a folder with the name SAi_Installer is created on your desktop. If you interrupted the installation at any point, or if you need to reinstall, you can double click autorun.exe from within this folder to launch installer again.

1.2.4. Configuring a cutter

» In Production Manager, Click **Setup** and then **Add Setup**

» Select **Vinyl Cutters**

» Select the **Brand** and **Model** of your vinyl cutter and click **Next** to continue.

» Select how your cutter is connected to your computer.

» Click **Finish**.

Optional :

» Edit the setup name.

You can change the name of the setup. This is the name that will show in the setup toolbar.

1.3. Other Installation Procedures

1.3.1. Installing the software on a computer with no internet

Some production computers have no access to the internet. Installing a license on an offline computer is possible but will take a few additional steps. This process will involve copying files back and forth between a computer with internet and the offline computer.

> You will need : a USB memory stick with 1 GB of free space

To start the installation:

» On a computer with internet, go through the initial steps of :

> » Creating an SAi Cloud account
> » Downloading the software.

» At the end of the download, click **No** to the question if you would like to start the installation process now.
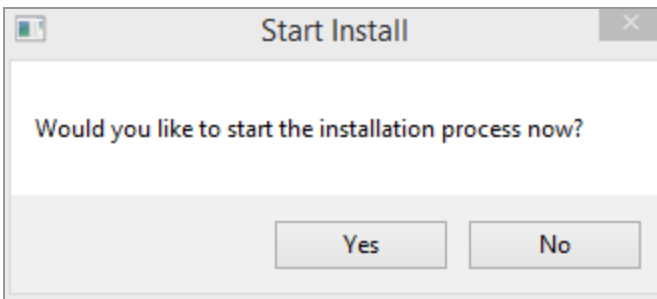
» On your desktop, locate a folder that starts with the name SAi_Installer

» Copy the contents of this folder to a USB memory stick and take it to the offline computer.

» Insert the Memory Stick and double click the autorun.exe to launch the Installation Wizard

» At the end of the installation, License Manager will automatically detect that it has no connection to the internet.

License
Could not communicate with the SAi Cloud

License manager was unable to connect to the Cloud License Server. Possible causes for this may include:

- The "SAi Cloud" website may be experiencing issues. Please open your browser and try to log into your account on www.saicloud.com.

- Your activation code has not yet been linked to your saicloud.com account. Please go to www.saicloud.com, enter your activation code on the "Activation Code" field, enter your email address and password, and click on "Activate License."

- Your computer may not have access to the license server. Please verify that port 443 is open for both incoming and outgoing connections in your firewall for all SAi applications.

During the process you may be asked for a Computer ID. If you require a Computer ID, use the value below.

https://www.saicloud.com/

Computer ID:

You should retrieve a license file from the website. When you have a license file import it using the button below.

→ Import License File

→ Copy Computer ID To Clipboard

< Back   Next >   Close

» Write down the computer ID

Or : Click Copy Computer ID to Clipboard and paste it in a text file that can be saved to the USB memory stick.

» Write down the name of the offline computer.

HOW TO FIND THE NAME OF A COMPUTER

Open Windows Explorer, right click This PC and then Properties
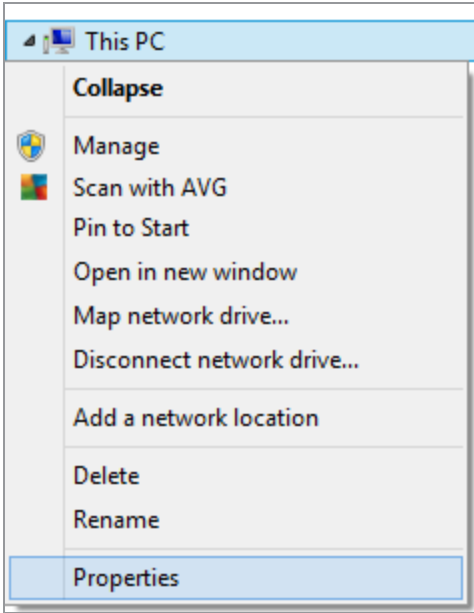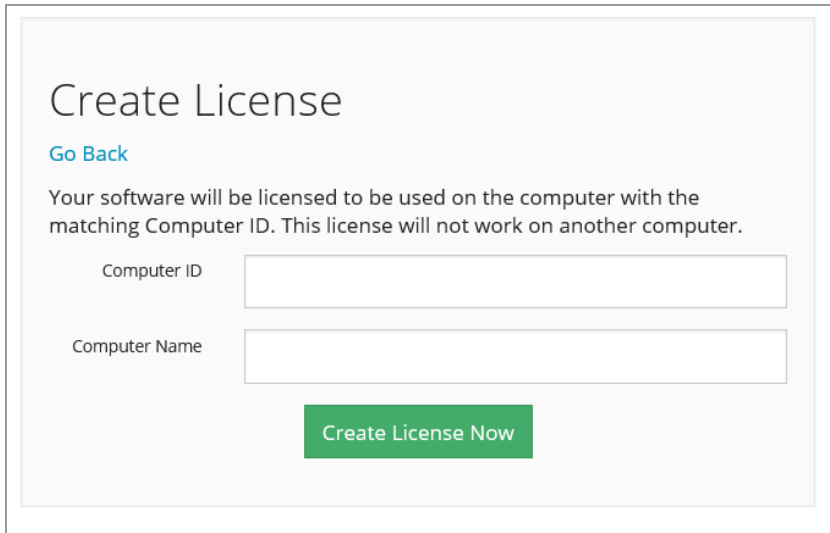
Windows will display Basic information about your computer. Write down the"Computer Name" from this dialog.
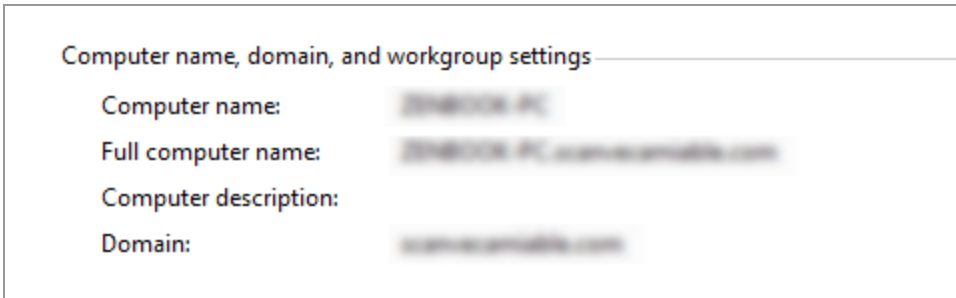
» On the computer that is connected to the internet, in saicloud.com click the "License Manager" cannot connect link :

Step 3 - License

The "License Manager" application will ask for an activation code. Use the activation code below to license this software.

"License Manager" can't connect?
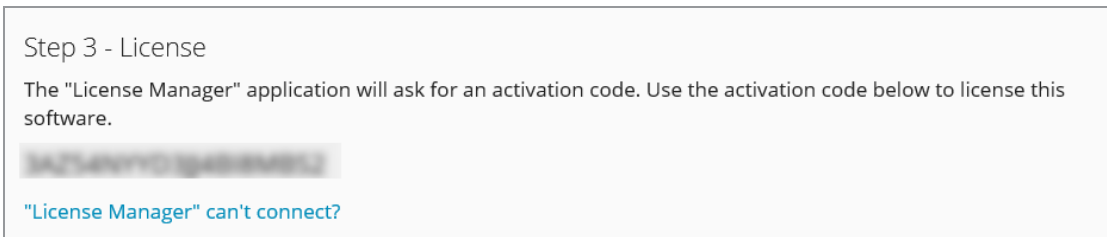
» Type in the Computer ID and the Computer Name of the offline computer and click Create License Now

Create License

Go Back
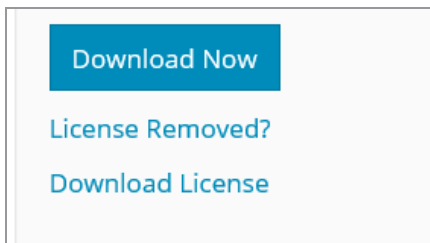
Your software will be licensed to be used on the computer with the matching Computer ID. This license will not work on another computer.

Computer ID [   ]

Computer Name [   ]

Create License Now

» Click Download License

Download Now

License Removed?

Download License

» Save the license file (*.lsn) that is downloaded to the USB memory stick.

» Insert the USB memory stick into the offline computer and click Import License File in License Manager.

» In the Open dialog box, navigate to where the license file (.lsn) is located.

The message "License successfully imported" appears in the License dialog box.

Note: If you select an incorrect license file, the message "The new license is not compatible with the existing license. License was not imported." will appear in the dialog box.

» Click Next to return to the contents of the original License dialog.

1.3.2. Moving your license to another computer

There are two different methods depending whether both computers are online or not. The easiest method is to have both computers online. If the computer that currently holds the license is offline e.g. because of hardware issues, the procedure will be

1.3.2.1. Both computers are online

» On the computer that currently holds the license, launch **License Manager**.

» Click **Remove License**

» "The license was successfully removed from this computer" appears in the license dialog box, along with the software ID and a Removal Code.

> **Note:** Write down the removal code. If the removal of the license was unsuccessful, follow the instructions of Step 2 and enter the removal code when asked.

» On the computer that you are transferring the license to, you can now install the software and use this license.

» If you are transferring back and forth between two computers you can use the License Again button in License Manager to import the license into an existing installation again. The License Again link will ask you for the activation code. If you do not remember your activation code, log in to your SAi Cloud account and click the product to see the detail page.

1.3.2.2. The original computer is offline

If the computer that currently holds the license can no longer be started up or cannot connect to the internet, you can detach the license from that computer through your SAi Cloud account. You can only do this once a year. After that, please contact the SAi Tech Support for assistance.

» Browse to http://saicloud.com and **log in** with your email address and password.

» Click on the product you wish to transfer

» On the detail page, click the **License Removed**? link

» If you had a **removal code**, type it in here and click **Remove**.

» If you do not have a removal code, click the No Removal Code? Link

» The following will appear

» Click the **Remove** button

» You can now download and install the software on another computer

1.3.3. Uninstalling the software

1.3.3.1. Uninstalling the software for Windows 10

» Exit your SAi software by selecting Exit from the File menu, or by right-clicking the software icon in the system tray and selecting **Exit.**

» Press **Windows+X** or right-tap the lower-left corner to open the Quick Access Menu, and then choose **Control Panel** in it.

» Select **Programs and Features**

The window opens in the "Uninstall or change a program" screen.

» Select the SAi software product to be uninstalled and click **Uninstall.**

The Setup Type dialog box opens.

» Select the checkbox Delete User Files in Application Folder if you want to delete all existing information; then click **Next**.

The uninstall process takes place.

» When done, click **Finish** in the Uninstall Complete dialog box.

1.3.3.2. Uninstalling the Software for Windows 8

» **Exit** your SAi software by selecting Exit from the File menu, or by right-clicking the software icon in the system tray and selecting Exit.

» From the Start page on the Windows 8 Desktop:

» Point to the upper- or lower-right corner of the screen and select the **Search** symbol.

» Verify that the Apps option is selected in the Search column; if not, select it.

» Start typing "control panel" in the Search field.

» Press Enter, or click **Control Panel** in the search results list.

The All Control Panel Items window appears.

» Select the **Programs and Features** icon.

The window opens in the "Uninstall or change a program" screen.

» Select the SAi software product to be uninstalled and click **Uninstall.**

The Setup Type dialog box opens.

» Select the checkbox **Delete User Files** in Application Folder if you want to delete all existing information; then click **Next.**

» When done, click **Finish** in the Uninstall Complete dialog box.

1.3.3.3. Uninstalling the Software for Windows 7

» **Exit** your SAi software by selecting Exit from the File menu, or by right-clicking the software icon in the system tray and selecting Exit.

» From your computer's **Control Pane**l, select **Uninstall a Program**.

» Select SAi Production Suite and click Uninstall.

» From the Setup Type dialog box, select the checkbox **Delete User Files** in Application Folder if you want to delete all existing information.

Deleting this information will remove all preferences, setups, and other settings.

» Click **Next.**

» When done, click **Finish** in the Uninstall Complete dialog box.

1.3.4. Moving your license to another computer

When a new version of the software is available, you will receive a notification.

» On the notification message, click Download now

The saicloud webwindow will open and will display a download button

» Click the download button

» Close your application

» When the updater has finished downloading, click Run

» Follow the instructions of the updater.

1.4. Tools to Manage Installation

1.4.1. Install Manager

Make sure the software is closed before making any changes in Install Manager.

Use this tool to :

» Change the language of your software.

» Create shortcuts on the desktop

» Clear all preferences (restore to factory defaults). This can also be done from Preference Manager
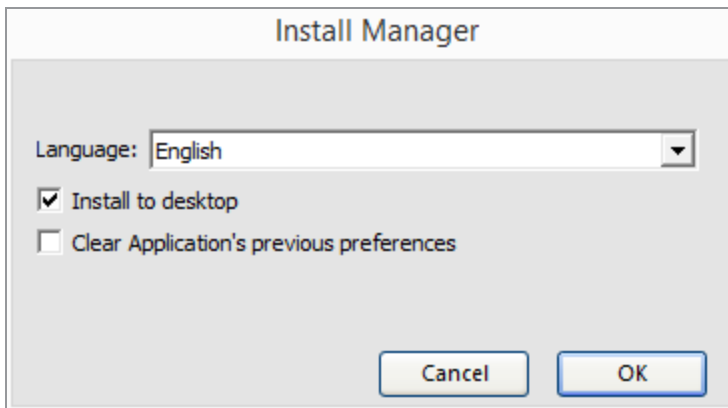
1.4.2. Using License Manager

License Manager is a utility that allows you control over your software license. It launches automatically at the end of an installation to retrieve your license.

License Manager can also be accessed at any time in Start > All Programs > SAi Production Suite Cloud > License Manager.
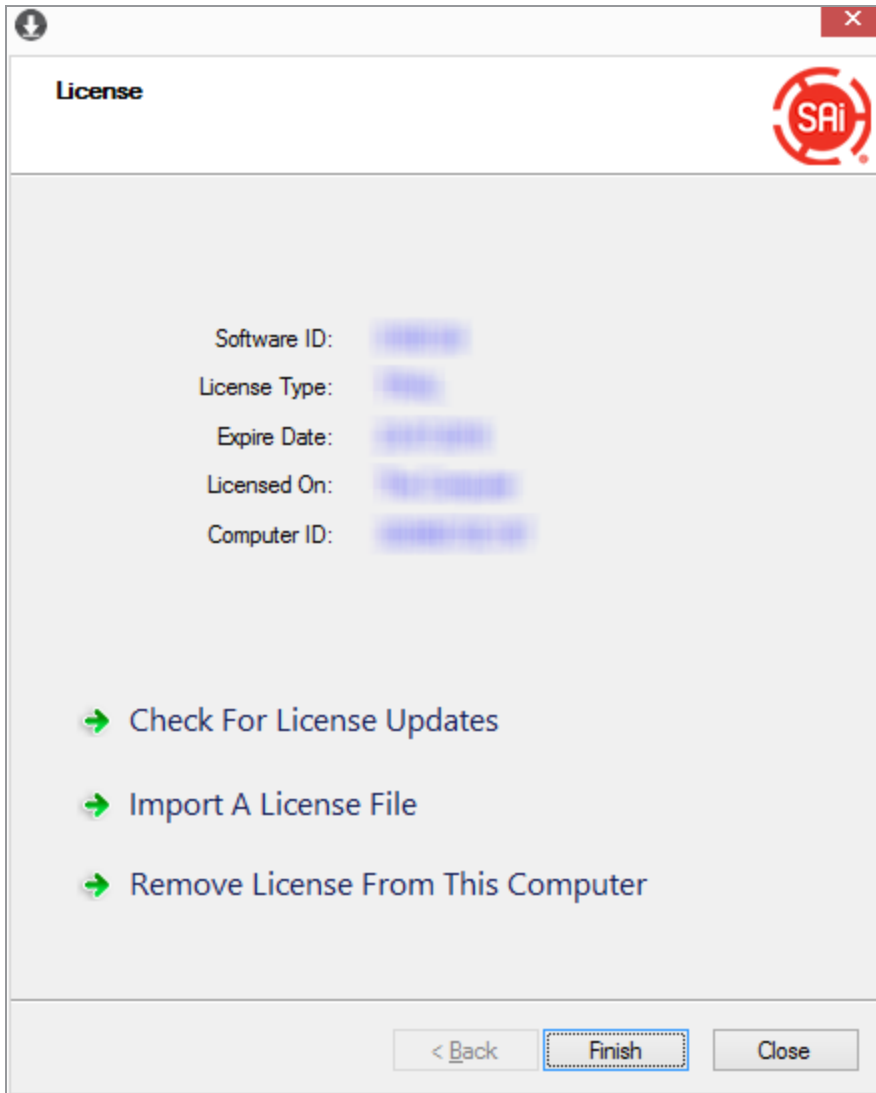
Software ID:	The unique identifier of your software license.
License Type:	Types of licenses could be subscription, perpetual (version license), trial, ..
Expire Date:	If your license is a subscription, this is the day of the renewal. If your license is a trial, this is the day that your trial will expire.
Licensed On:	The date the license was created
Computer ID:	Identifier of the computer your license is attached to

With License Manager you can :

Check For License Updates	This option checks to see if your software has updates. If any updates exist, the Cloud server automatically updates your computer's license and sends the message "Your license has been updated" to the License dialog box. If your computer's license is already up to date, you receive the message: "Your license is already up to date."
Import a License File	If for some reason you are unable to download the license file onto the computer requiring it, you can obtain the file from the SAi Cloud using another computer and transfer the file to the required computer by a flash drive or other removable storage device. For more information, see Installing the software on a computer with no internet
Remove License From This Computer	Use this option whenever you need to remove your product license or change it to a different computer. For detailed instructions, see Moving your license to another computer

1.4.3. Using Preference Manager

Preference Manager is a utility that allows you to save all of the settings in the software to a file, including all output device setups, setup properties, default job properties, and all application preferences.

To run Preference Manager, exit the software first and then browse through the Windows Start menu to the software's program folder and click Preference Manager.
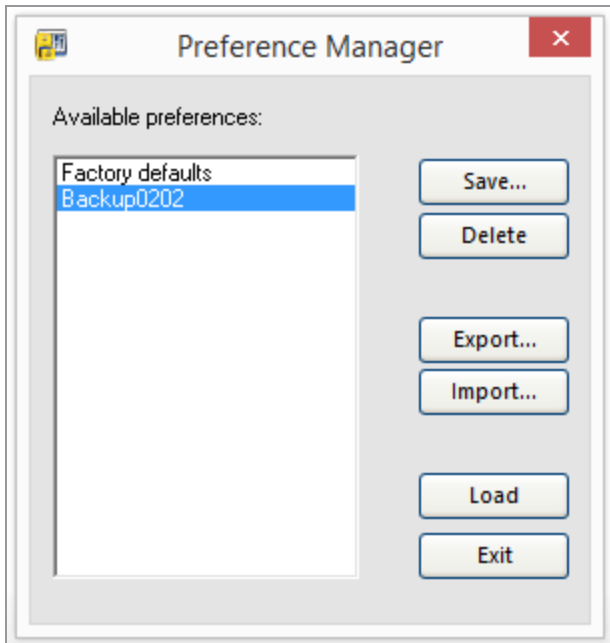
Save	Save all current preferences under a new name.
Delete	Delete the highlighted preferences.
Export	Export the highlighted preferences to a file you can save to any location. Use this for creating additional backups or for transferring preferences from one computer to another.
Import	Import a preference file that was previously exported.
Load	Loads the currently highlighted preferences.
Exit	Closes Preference Manager.

CHAPTER
2

Getting Started

2.1. Modules

2.1.1. Design Basic Elements

The illustration below shows some of the basic elements of your software:
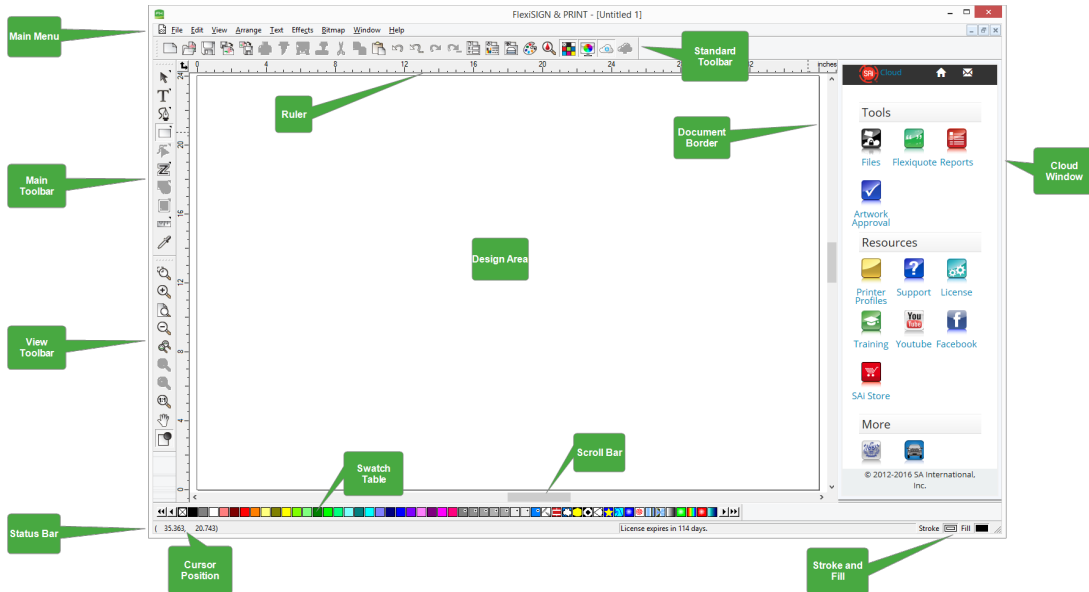
2.1.2. Production Manager Basic Elements

The illustration below shows some of the basic elements of your software:
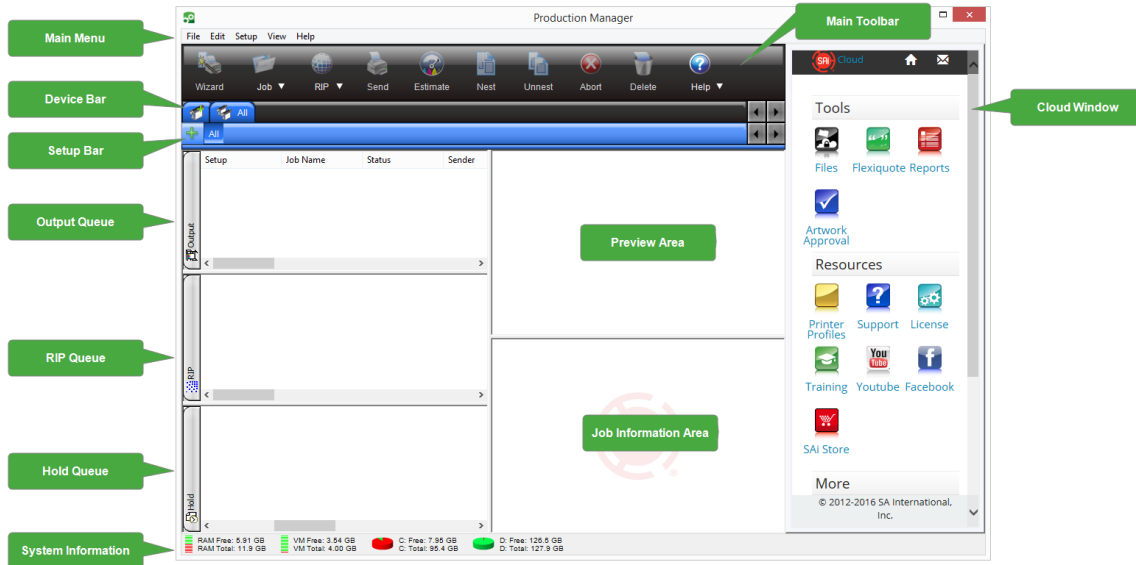
2.1.2.1. Toolbar

A toolbar is located at the top of the main window. It contains tools for the most commonly used functions.

The toolbar functions are:
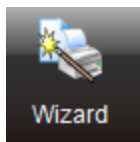
	Print Wizard	Click to launch the Print Wizard, a tool for easy set up of print jobs
	Job	Click the Job button to add a job
		Click the Job menu button to view the context menu.
	RIP	Click the RIP button to RIP the selected job. Click the RIP menu button to view the context menu.
	Send	Prints the selected job to the specified output device, RIPing it if necessary.
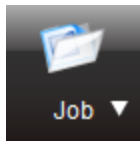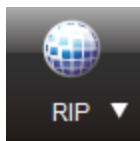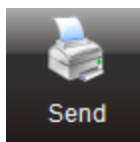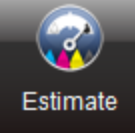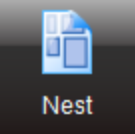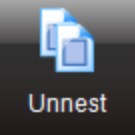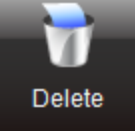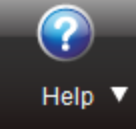
	Estimate	Estimates the amount and cost of ink used in a job. Helps calculate the true cost of any print job. Can also prevent running out of ink in the middle of a job.
	Nest	Nests the selected jobs together to use the minimum amount of the output media.
	Unnest	Unnests the selected set of nested jobs.
	Abort	Stops selected file from RIPing or printing.
	Delete	Deletes the selected job or jobs.
	Help	Click the Help button to open the HTML help file. Click the Help menu button to view the context menu.

2.1.2.2. Device Bar

The device bar shows all devices currently configured with their port. A device can have multiple setups.

2.1.2.3. Setup Bar

The setup bar shows all currently configured setups. A setup contains a set of default job properties. A device can have multiple setups. For example, a setup can be created for a printer with all the correct settings for a certain banner material, while a second setup is created with all the correct settings and profiles for a certain textile material.

2.1.2.4. Output Queue

Shows the list of jobs that are currently being sent to the output device with their status.

2.1.2.5. RIP Queue

Displays the list of jobs that are currently being processed.

2.1.2.6. Hold Queue

Displays the list of jobs that have been added. While jobs are in the hold queue, you can access their job properties and make changes. Once a job is ready for printing, it can be dragged to the RIP queue or the Output Queue.

Jobs that were configured to 'Hold after Printing' return to the Hold Queue once they are done.

2.1.2.7. Preview Area

Displays a thumbnail preview of the job.

2.1.2.8. Job Information Area

Displays additional information about the job, such as Date, Color mode, profile used, ..

2.2. Basic Operations

2.2.1. Built-In Mathematical Operations

The software is able to perform a number of calculations whenever a numerical value is entered.

2.2.1.1. Automatic Unit Conversion

If you enter a value using a different unit of measurement than the default unit, the software will automatically convert the value to the default unit.

For example, if your default unit is inches, you can enter a value of 1 ft, and the software will convert the measurement to 12 in.

Supported units are:

in,"	inch
ft,'	foot
mm	millimeter
cm	centimeter
m	meter
pt	point

2.2.1.2. Simple Mathematical Operators

If you enter a simple mathematical expression, the software will calculate the result of the expression and enter that value in the field.

The available mathematical operators, in order of precedence, are:

/	Division
*	Multiplication
+	Addition
-	Subtraction

For example, if you enter 1/8, the value 0.125 will be calculated.

Operator precedence determines the order in which mathematical operations will be calculated when more than one operation is specified. In the table above, operators are listed from top to bottom in order of their operator precedence. For example, if you enter 6/2*3, the software will calculate 6/2 first, then multiply the result by 3, yielding a result of 9.

2.2.1.3. Calculation of Ratios

If you enter a ratio in the format A:B, the software will scale the previous value in the field by the ratio entered.

For example, if a value is set to 12, and you enter 2:3, the new value will be 8.

2.2.1.4. Calculation of Percentages

If you enter a percentage in the format X%, the software will scale the previous value in the field by the percentage entered.

For example, if a value is set to 10, and you enter 90%, the new value will be 9.

2.2.2. Navigator View

Navigator View allows you to view your entire document and specify which portion to display.

To show the Navigator View, from the View menu, select Navigator View.
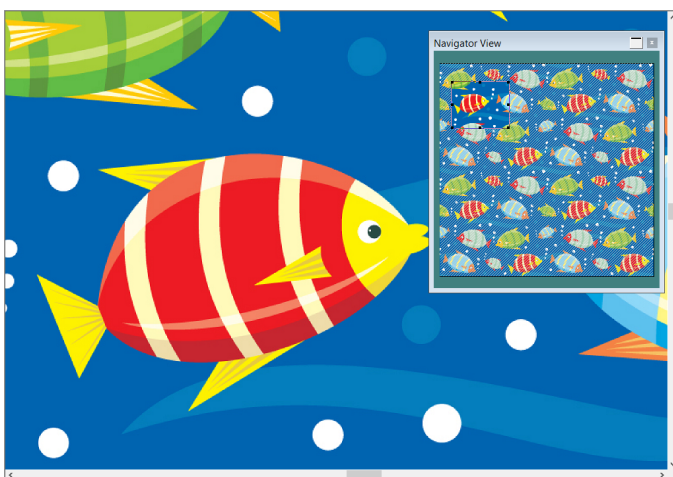
2.2.3. Path Direction

The direction in which the path will be cut is determined by the path direction.

You can visualize the path direction using Show Path Direction

» From the View menu, select Show Path Direction.
» Select the objects.
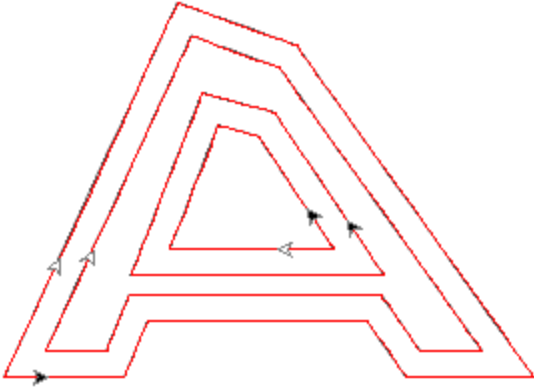
To Change Path Direction

» Select the path.
» From the Arrange menu, point to Path Direction and select the new direction.

Automatic	The direction of inside paths (holes) in objects is clockwise and of outside paths is counterclockwise.
Reverse	Inverts the current direction.
Clockwise	Sets all paths to have the same clockwise direction.
Counter Clockwise	Sets all paths to have the same counterclockwise direction.

2.2.3.1. Previewing

2.2.3.1.1. Showing Preview

When Show Preview is on, a copy of the object as it is being edited or moved is displayed. When this option is off, a rectangle representing the bounding of the

object is displayed. Performing memory-intensive operations in complex objects may slow the system performance when Show Preview is on.

To show or hide the preview, from the **View** menu, select **Show Preview**.

2.2.4. Previewing Bitmaps

You can display or hide bitmap images.

To show or hide a bitmap, from the **View** menu, select **Preview Bitmaps.**
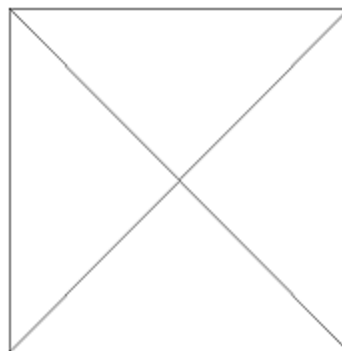
Preview Bitmap On   Preview Bitmap Off

2.2.5. Showing Object Fill or Wireframe

» Double-click the Fill Mode tool and select the desired Wireframe option.

Or

» From the Edit menu, select Preferences.
» Click Tools tab.
» Select Show Fills in the list.
» Select the desired Wireframe option.
» Click OK.

When the Show Fill option is enabled, every vector object is displayed with its fill. When disabled, only the outline will be visible.

To show or hide the fill, from the **View** menu, select **Show Fills**.

When Show Fills is disabled, the outlines can be displayed using the following modes:

Show Fills Enabled
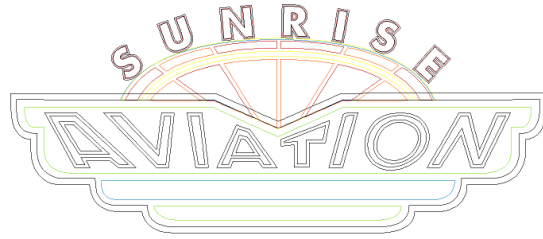
Show Fills Disabled (Show fill color)
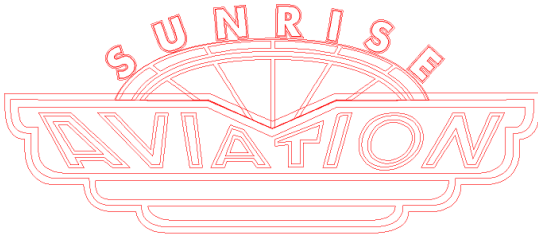
Show Fills Disabled (Show layer color)
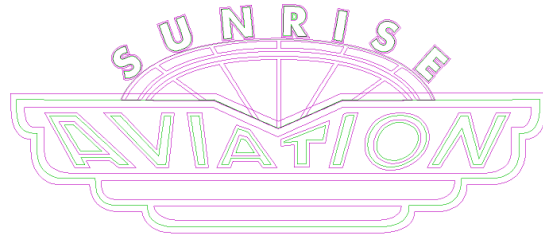
Show Fills Disabled (Show path direction)

> **Show path direction** : The outlines are displayed using three colors: green for clockwise paths, magenta for counterclockwise paths, and gray for open paths. Selected objects will still be displayed using the layer color.

2.2.6. Undo, Redo and Repeat

2.2.6.1. Undoing and Redoing the Last Step

» To undo the last operation, from the **Edit** menu, select **Undo** .

» To redo a step that you have just undone, from the **Edit** menu, select **Redo** .

2.2.6.2. Undoing and Redoing Multiple Steps

Instead of undoing just the last operation, you can undo or redo a sequence of steps.

» From the **Edit** menu, select **Undo Multiple** or **Redo Multiple**

A list of all recent steps is displayed. The steps are shown in the order they were performed, the most recent step appearing at the top of the list.

» Starting from the top of the Undo/Redo Multiple Steps box, click to select all the steps that you want to undo, starting from the top.
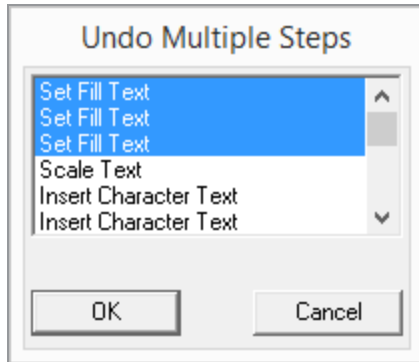
The design area shows a dynamic preview of the undo or redo process.

» Click **OK** to confirm and apply the undo.

The selected steps are undone and placed in a Redo Multiple list.

2.2.6.3. Adjusting the Number of Steps Stored in Undo List

The number of undo and redo operations that is allowed can be adjusted. For example, if you set the number of steps to 50, after performing the 50th step, the 1st step will be discarded and the 51st step will be placed at the top of the list. .

» From the Edit menu, select **Preferences**.

» In the **General tab**, enter the number of steps in **Maximum undo/redo**.

» Click **OK.**

2.2.6.4. Repeating the Last Step

» To repeat the last step, select **Repeat** from the **Edit** menu. The name of the last operation will be displayed after Repeat.

Only the following commands can be repeated:

» Moving objects

» Duplicating objects

» Scaling objects

» Applying effects

2.2.7. View Filter

Objects may be filtered by their color in the design area. For example, you can show all objects using RGB color space, or all green objects.

2.2.7.1. Filtering Objects Using the Color Filter

» From the View menu, select View Filter.
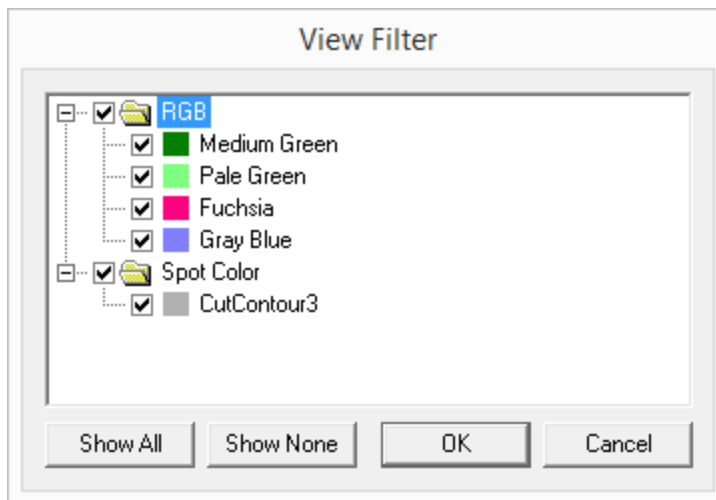
» Select the colors that will be visible.

  » Click the color space checkbox to select all colors in this color space.

  » Click a specific color within one color space to select or unselect the color.

  » Click Show All to select all colors from all color spaces.

  » Click Show None to unselect all colors from all color spaces.

» Click OK.

Filtering settings will not be saved with your document. The next time you open this file, all the objects will be visible.

2.2.7.2. Filtering Objects Using the Color Swatch Table

If the Swatch Table is not visible, from the View menu, select Swatch Table.

» From the Swatch Table, right-click the color you want to filter by.

» From View, select the filtering option.

» Choose one of the following options:

Hide This Color	Objects using this color will not be visible.
Show This Color	Objects using this color will be visible.
Show All Except This Color	Only the objects using this color will not be visible.
Show all colors	All objects will be visible.
Hide All Except This Color	Only the objects using this color will be visible.

Cursor over the Swatch Table   After selecting Hide This Color
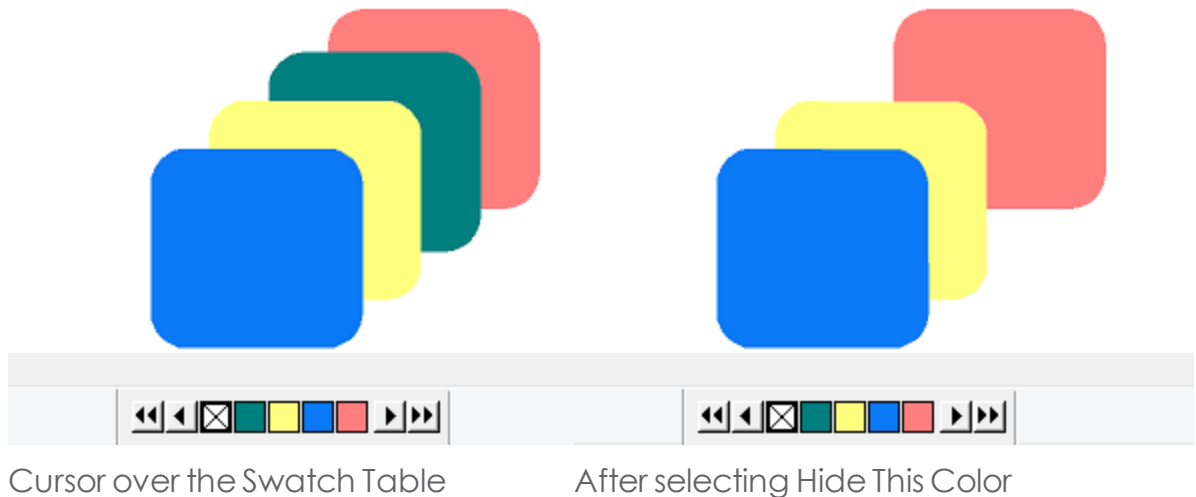
2.2.8. Zooming and Panning

The Zoom tools change the magnification of items within the design area to allow you to see more or less detail. This does not change the output size.

By default, the cursor will return to the previously selected tool after using these tools. You must reselect a zooming and panning tool each time you want to use it.

	Zooms in at twice the magnification of the current view. The point you click on will become the center of the view.
	» Hold Ctrl and left-click to zoom out to half the magnification of the current view. The point you click on will become the center of the view.
	» Click and drag to magnify one particular portion of the design area.
	Adjusts the center of the view to twice the size of the current view.
	Adjusts the view size to fit the design area size.
	Adjusts the center of the view to half the size of the current view.
	Switches the view to the previous magnification.
	Adjusts the view size to fit the selected objects.
	Adjusts the view size to fit all existing objects.
	Adjusts the view to actual size.
	Pans the view position.
	Double-click this tool to choose Show layer color, Show fill color, or Show path direction.
Mouse	To incrementally zoom in or out relative to the location of the mouse pointer, hold the Ctrl key and scroll the mouse wheel up or down.

If you want to Zoom, Pan or Fill tool without Selecting it Before Each Use

Do one of the following:

- » Double-click the Zoom tool and uncheck Resume previous tool after zooming once.

Or

- » From the Edit menu, select Preferences.
- » Click Tools tab.
- » Select Zoom in the list.
- » Uncheck Resume previous tool after zooming once.
- » Click OK.

This option is only available for the Zoom Tool and Pan View icons.

2.3. Basic Program Elements

2.3.1. Design Area

The design area is the white area inside the software's screen. It has a border that serves as a guide and represents the size of your substrate. The size of the design area does not limit the size of your design or where the design is placed on your media during output.

Margins can be placed inside the design area. Those margins are used to distribute and align objects inside the design area. You can change the size and the color of the drawing area and show or hide the borders. (See DesignCentral - Document Tab for more information on how to set up your document properties.)

Redrawing the Design Area

Occasionally, when you edit your design, the changes are not reflected immediately.

To force a redrawing of the design area, select Redraw from the View menu (or press F5).

2.3.2. Menus

Menus are commands grouped by the types of operations they perform.

Enabled Command
Currently available

Disabled Command
Currently unavailable

On/Off button
Indicates whether the command is active or not

Submenu indicator
Indicates that a submenu is available

Shortcut Key
Allows you to select the command using the keyboard

Ellipses (...)
Indicates that a dialog box will be displayed when this command is chosen

Show Fills	Ctrl+F	
Preview Bitmaps		
Show Path Direction		
Show Preview		
Soft Proof		
View Filter...	F	
Navigator View		
Toolbars...	Ctrl+T	
DesignCentral	Ctrl+I	
Fill/Stroke Editor	I	
Status Bar		
Color Mixer	M	
DesignEditor	E	
Cloud Page		
Swatch Table		
Color	▶	
Create Swatch	▶	
Show	▶	
Ruler and Grid...		
Snap	▶	
Redraw	F5	

Color Specs...
Merge Similar Colors
New Table
Open Table...
Import Table...
Save Table...
Save Table As...
Merge from Document
Define Pattern
Modify Color Libraries...

When right-clicking elements in your software, a context menu is displayed. The context menu will differ according to the element that you are right-clicking on.
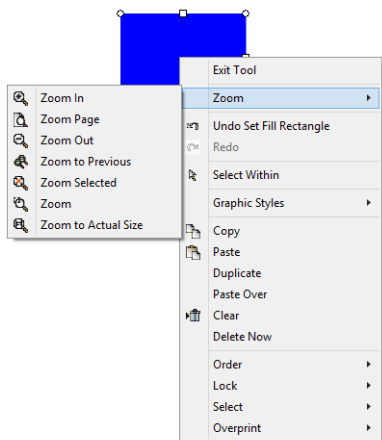
2.3.3. Toolbars

Toolbars are a set of commands grouped according to their function.
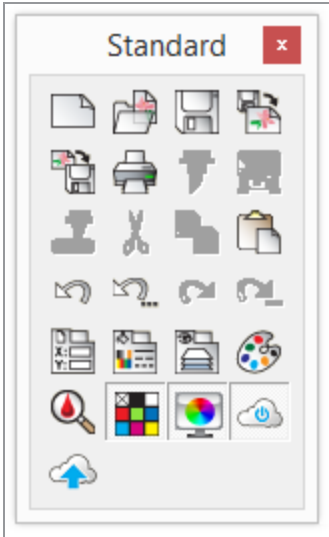
Standard toolbar

» Show / Hide a Toolbar
» Undock a Toolbar
» Dock a Toolbar
» Use a Tear-off Palette

2.3.3.1. Showing or Hiding a Toolbar

In Windows, toolbars are docked or floating. Docked toolbars are placed at fixed positions around the design area. Floating toolbars can be placed anywhere in the design area. You can undock a toolbar, making it a floating toolbar, and then place it at any location in the design area.

» From the **View** menu, select **Toolbars.**

  (or press Ctrl+T)

» Select the checkboxes of the desired toolbars.

» Click **Done.**

Or

» Right-click on the icons of a docked or floating toolbar.

» From the menu, select or unselect the toolbars that you want to show or hide.

> **Note:** You can also right-click the title bar of a floating toolbar and select Hide, or click its **Close** button.

2.3.3.2. Undocking a Toolbar

Do one of the following:

» Drag the toolbar to move it from its docked position. (Do not drag the buttons.)

» Double-click the toolbar. (Do not double-click the buttons.)

The shape of a floating toolbar can be adjusted by dragging its borders.
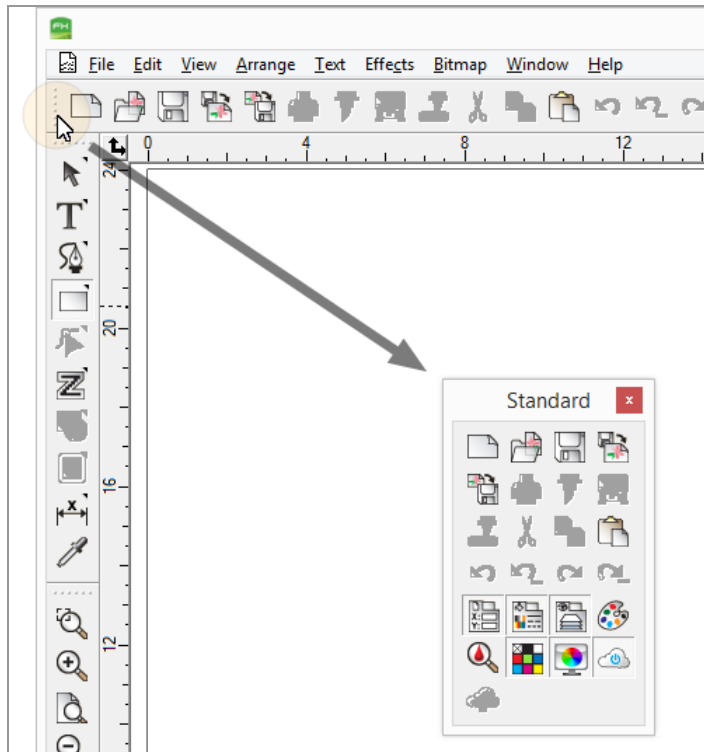
2.3.3.3. Docking a Floating Toolbar

Do one of the following:

» Double-click the title bar of a floating toolbar. (Do not double-click the buttons.)

Or

» Drag the toolbar by its handle to the original docked position. (Do not drag the buttons.)

When you drag a toolbar, it displays a thick, hatched outline. When the toolbar reaches a docking site, the outline turns thin and solid.

2.3.3.4. Using the Tools in a Tear-Off Palette

» Click once on the button and drag it slightly to display the full palette.
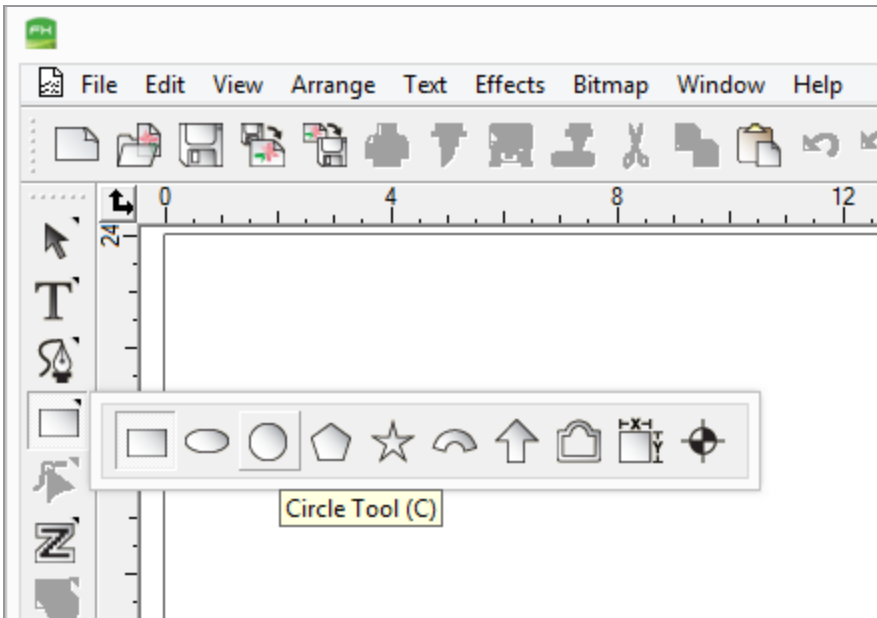
» Once it is displayed, you can either select the desired tool and release the mouse button, displaying the new tool, or drag the entire palette away from the original palette and release the mouse button to drop it on the drawing area.
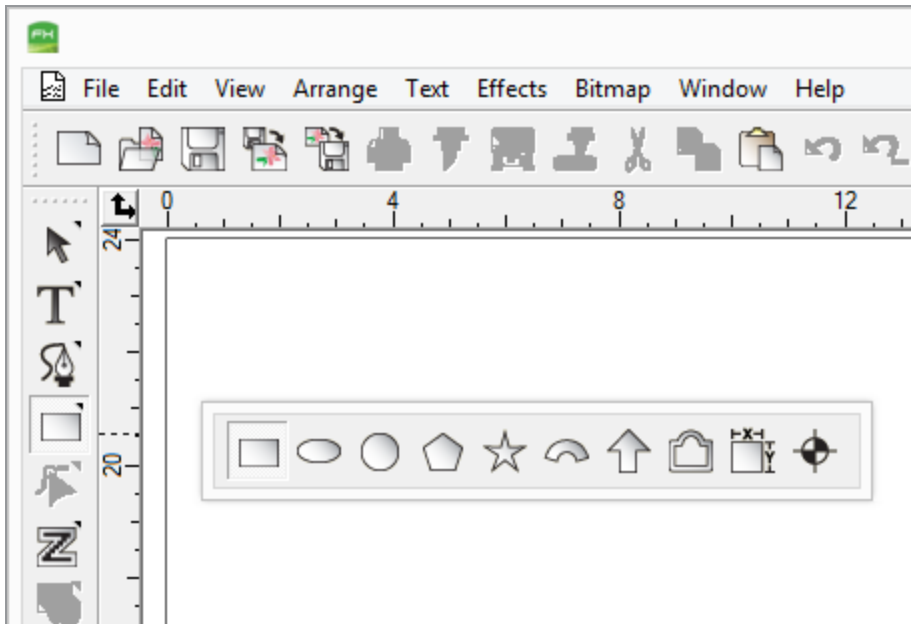
2.3.4. Tool Tips

All fields and control points that can be dragged will show tool tips to help. Toolbar buttons will display both a tool tip and a brief description in the Status bar (bottom-left corner of the screen).
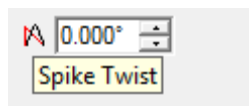
Numeric Field with Tool Tip

Control Point with Tool Tip
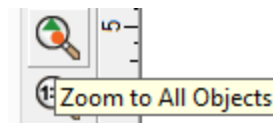
Button with Tool Tip

Note: To show a tool tip, hover the cursor over the field, command, control point, or toolbar button for a few seconds

2.3.5. Guides

Guides allow you to visually align design elements on your document.

To show or hide the guides, from the View menu, point to Show and select Show Guides.

2.3.5.1. Creating Guides

2.3.5.1.1. Horizontal or vertical guides

» To create a guide, left-click and drag at any point on a ruler.

A horizontal or vertical guide line is created, depending on which ruler you drag from.
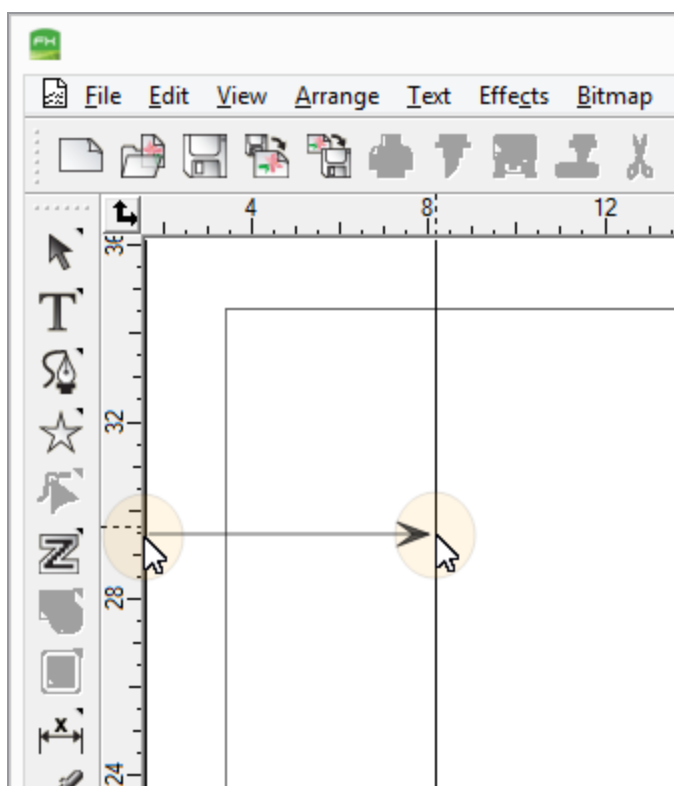
2.3.5.1.2. Diagonal Guides

» Create a horizontal or vertical guide.
» Rotate the guide using DesignCentral - Rotate tab.

Or:

» Use the control points and Hold Shift to constrain the line angle to the incre-
  ment set in Preferences (default = 45 degrees).
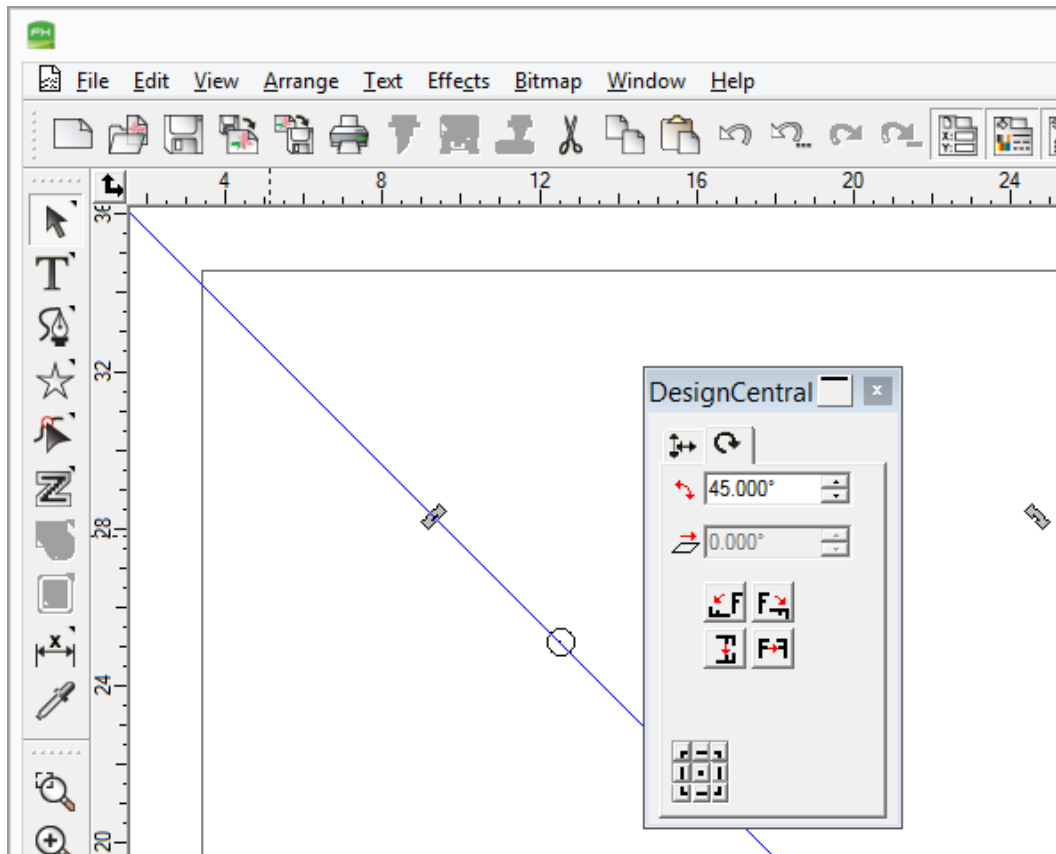
2.3.5.2. Object Guides

» Select the objects.

» From the Arrange menu, point to Guides and click Make Guide.

» Select Release Guide in the same menu to convert guides back to being
  objects.

Or

» In DesignEditor, drag objects from generic layer to Guide Layer.
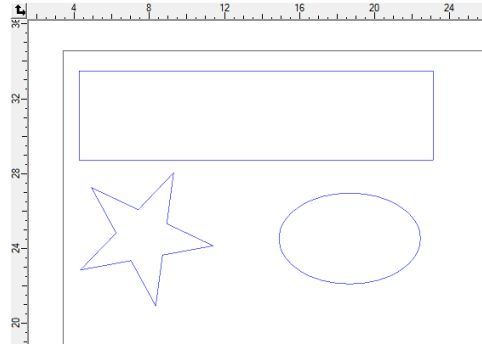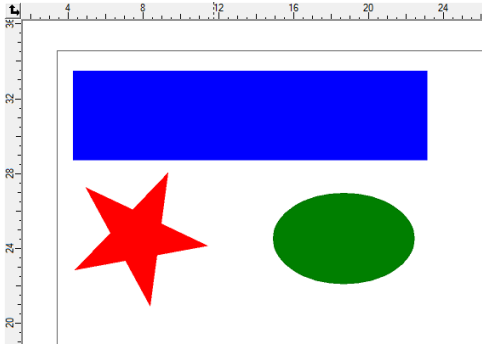
2.3.5.3. Locking Guides

» From the Arrange menu, point to Guides and click Lock Guides.

> Guides cannot be selected by dragging a bounding box around them. You must click the guide.

2.3.5.4. Selecting All Guides

» From the Edit menu, point to Select and click Select by Attributes.
» Select Guide Line in Object tab.
» Click OK.

2.3.6. Ruler and Grid

Rulers appear along the top and left side of the main screen to help you measure and align objects. As you move the cursor in the design area, a tick mark on each ruler follows the movement of the cursor. Also, the coordinates of the cursor position are displayed at bottom-left corner of the screen.

To show or hide the rulers, from the View menu:

» Point to **Show**.
» Click **Show Rulers**.

Grids, like rulers, can help you align objects in the design area. Grids are displayed as horizontal and vertical lines within the design area. They will not show as part of the output.

To show or hide the grids, from the View menu:

»   Point to **Show**.

»   Click **Show Grid**.

The rulers, grids, and all other numeric values that represent a length follow a unit system defined in your software. To change the unit system, right-click a ruler and select the new unit.

By default, the origin of the rulers is located in the lower-left corner of the design area. To change the origin, you can click and drag the origin icon in the upper-left corner of your screen
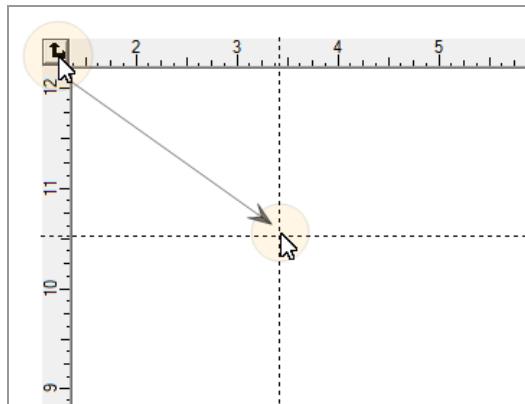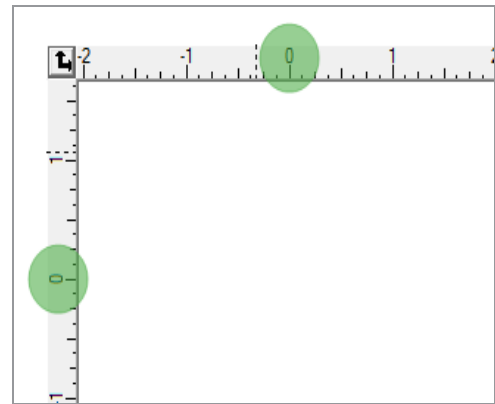
Click and Drag the Origin icon   The new Origin

.

You can also adjust the origin's position by using the Ruler and Grid Settings dialog box.

To display the Ruler and Grid Settings, do one of the following:

» Double-click the **Origin** icon in the upper-left corner of the design area.

» Right-click anywhere on the Ruler and select Ruler and Grid.

» From the **View** menu, select **Ruler and Grid**.

The Ruler and Grid dialog box consists of Ruler and Grid tabs.
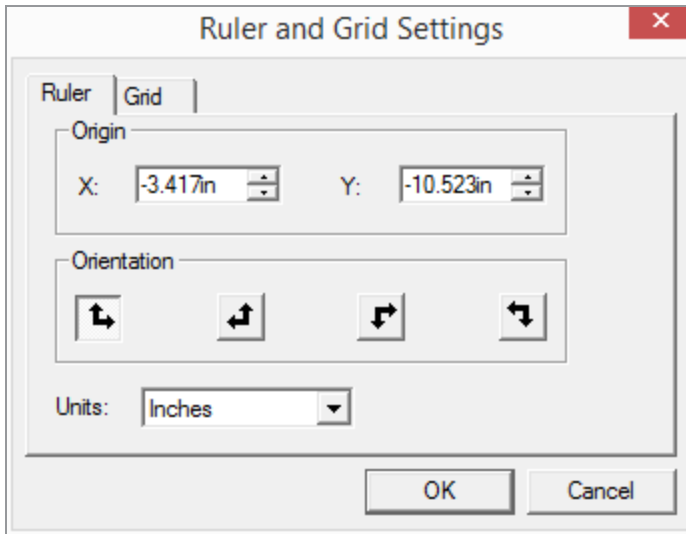
On the **Ruler** tab, adjust the following parameters:

Origin	Enter the X,Y coordinates of the new origin.
Orientation	Click one of these buttons to change the orientation of the coordinates in the X,Y rulers.
Units	Select the unit system that will be used for length values from this list.

On the **Grid** tab, adjust the following parameters:
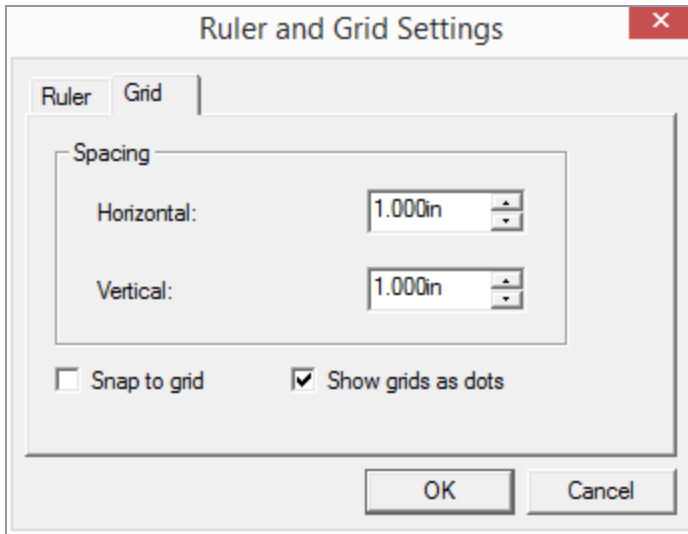
Spacing   Horizontal and vertical space between adjacent dots.

Snap to grid   Check this option to snap the objects to the grid while moving or resizing them.

Show grids as dots   Check to display grids as dots at the intersection points instead of solid lines.
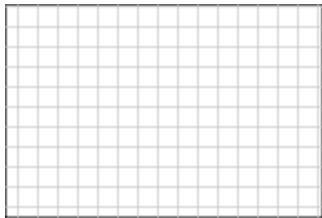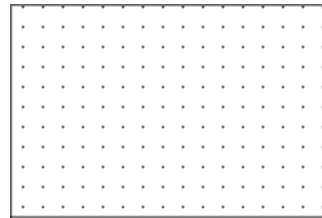
Solid Line Grid   Dots Grid

2.3.7. Swatch Table

Swatch tables includes a group of standard colors, gradients, and patterns that can be applied to objects in your design. (See Working With Swatch Tables for more information.)

To toggle the display of swatch tables on and off, from the View menu, select Swatch Table. This will also force hidden swatch tables to be displayed.

2.3.8. Using Workspaces

Workspace stores how and where menus, buttons, commands, and keyboard shortcuts are defined. By changing the Workspace feature, you can rearrange the software's interface to look more like the design software you are most comfortable with.

To change the workspace, from the File menu:

>> Point to Workspace.

>> Select the desired workspace.

To customize your workspace, from the File menu :

>> Point to Workspace.

>> Click Customize.

This opens the Workspace Editor, which allows you to customize shortcut keys for Menu Commands and Tools. All the default shortcut keys are displayed.
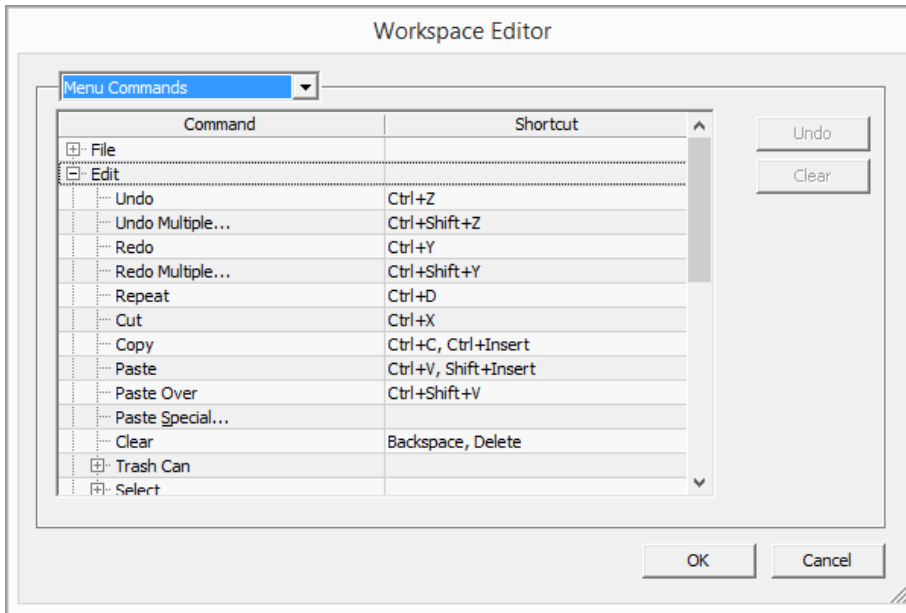
» From the dropdown list, select Menu Commands or Tools.

» In the Command column, navigate to the desired command and select its Shortcut field.

» Enter a key or key combination to assign to the new shortcut.

Shortcuts can contain a single character or a combination of a character and Shift, Ctrl and Alt.

» Click Undo to revert to the previous shortcut.

» Click Clear to remove the assigned shortcut.

» Click OK.

2.3.9. Preferences

Many aspects of your software can be saved so that they are set up the way you like every time you open a new file. These settings are known as program preferences.

There are other settings that are saved on a document basis. This means that each time you open or save a document, the settings will be applied only for that particular document. These settings are known as document preferences.

To change the program preferences, from the **Edit** menu, select **Preferences**.

2.3.9.1. General Preferences
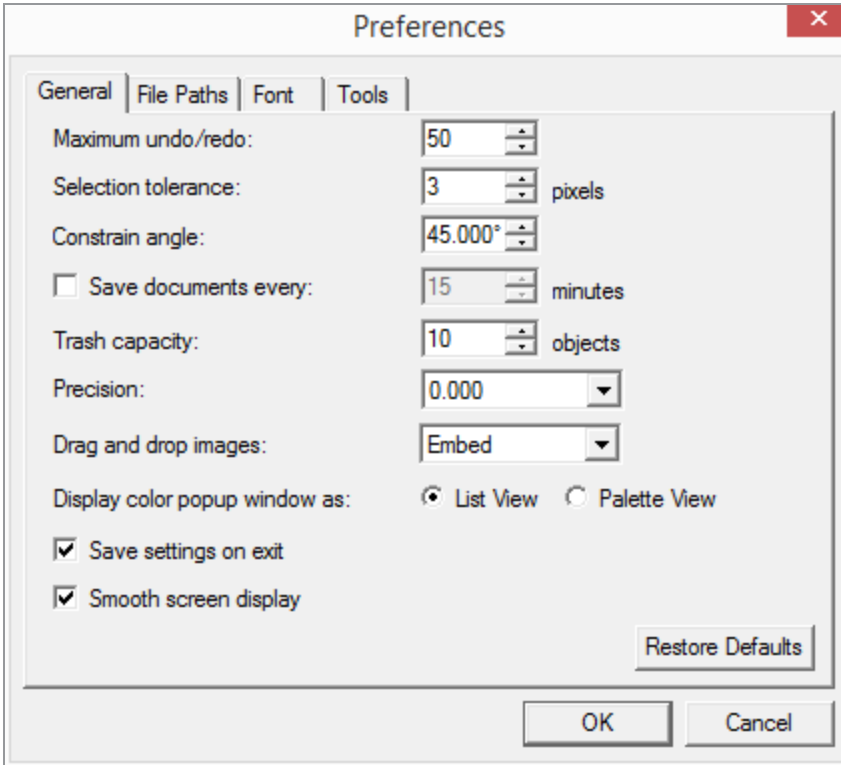
Maximum undo/redo	Determines the number of operations stored in the undo/redo list. Smaller values in this field use less memory.
Selection tolerance	Determines how close the cursor must be to an object to be able to select it. Setting a larger value makes it easier to select points.
Constrain angle	Sets the Constrain Angle when you rotate objects with Shift pressed. The rotation will be performed in the increment defined by this field.
Save documents every	Open documents will be periodically saved. You can specify the time interval between saves.

Trash capacity	Number of objects that can be saved in the trash layer.
Precision	Number of decimal places in numeric fields.
Drag and Drop Images	Select whether the images you drag and drop will be embedded or linked.
Display color popup window as	Selects whether the popup window that appears when you select a color from the Fill/Stroke dialog box is a list of color swatches along with their names or a palette of color swatches.
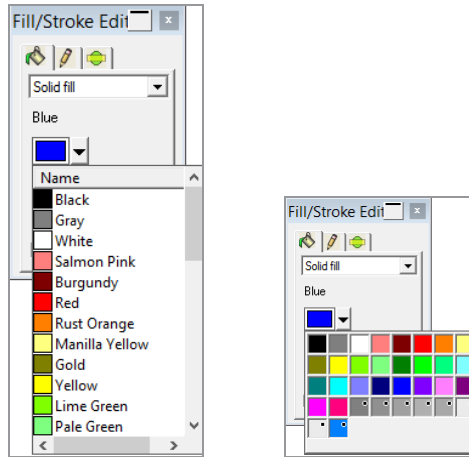
Save settings on exit	When checked, the current settings for the software will be saved when the software exits and restored the next time the software starts up. If cleared, the settings are not saved, and at startup the software will load the settings that were in place the last time the software was shut down with this option selected. (Selected by default)
Smooth screen display	By default, all objects in the design area are displayed using anti-aliasing to eliminate jagged edges on curves and provide a more attractive and accurate view of the design.
Restore Defaults	Click this button to restore the default settings for the above fields.

2.3.9.2. File Paths
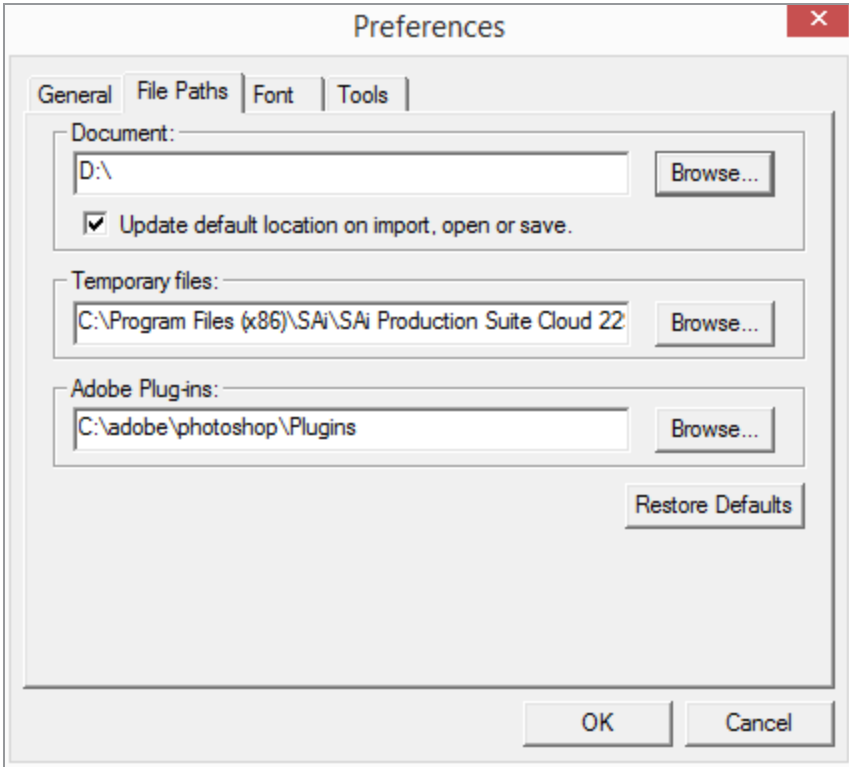
Document	The default folder used to store your documents. Click Browse to select a folder.
Update default location on import, open, or save	If checked, every time you import, open, or save a file, that folder will become the new default location.
Temporary Files	The default folder used to create temporary files. If you have multiple hard disks, select a folder on the hard disk with the most available free space. Click Browse to select a folder.
Adobe Plug-ins	If you have Adobe Photoshop installed, specify here the folder where the plug-ins are stored. Click Browse to select a folder.

Restore Defaults	Click to restore the default settings for the above fields.

2.3.9.3. Font
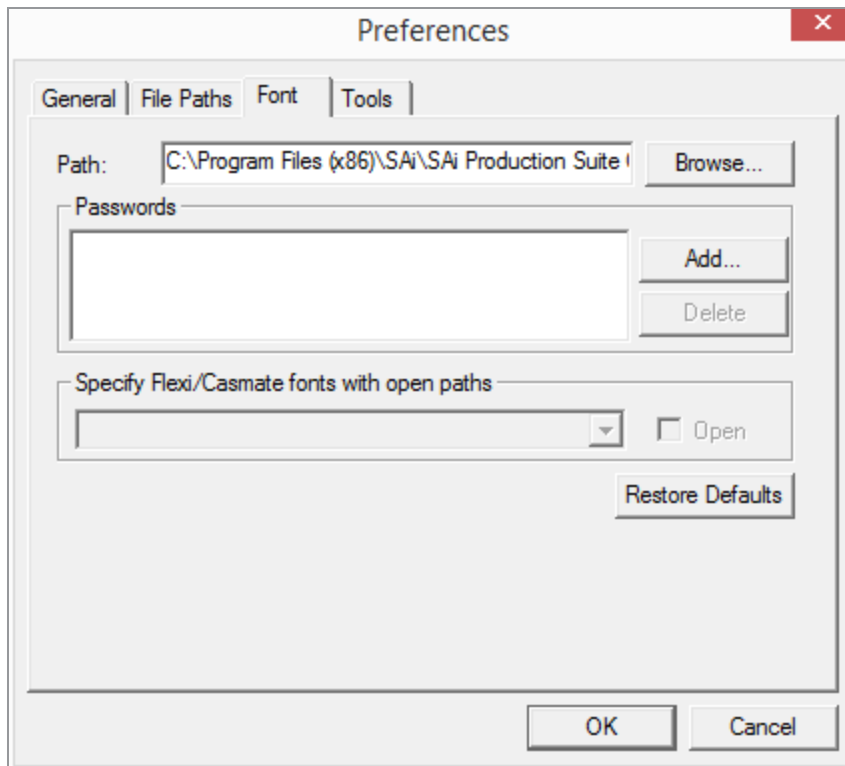
Path	The folder where the FSfonts are stored. Click Browse to select the folder.
Password	If the FSfont is protected by a password, click Add to enter the password. To delete a password, select the password and click Delete.
	This setting only applies to version 10 and older.

Specify Flexi / Casmate fonts with open paths	To specify that a Flexi or Casmate font will not be filled (for use in engraving, for example), select the font in the list and check Open. The font will be rendered as an outline. *The software must be restarted for this change to take effect.*
Restore Defaults	Click this button to restore the default settings for the above fields.

2.3.9.4. Tools
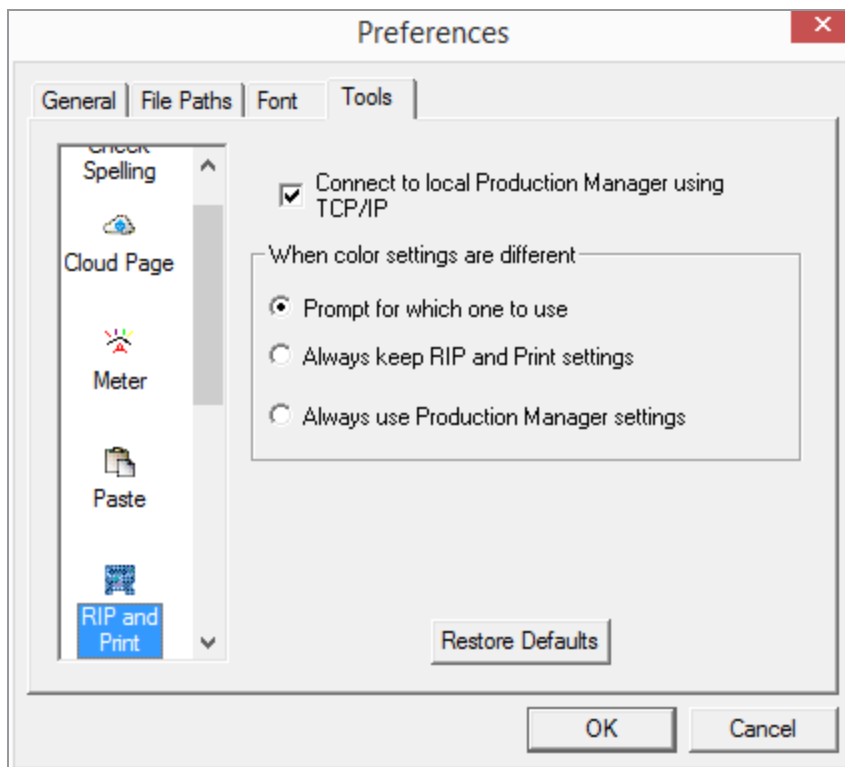
Check Spelling	Set options related to the on-screen spell checking features of the software.

Cloud Page	Check this option if you prefer not to send file names to the cloud for your reporting tool.
Meter	These preferences allow you to specify the colorimeter used in your software to measure color values and the port where the measurement device is connected.
Paste	These preferences allow you to specify if the copied objects will be automatically created when pasted and the offset distance from the original object.
RIP and Print	This tool allows you to specify that the software must communicate with Production Manager using TCP/IP and what to do when settings are different between RIP and Print and Production Manager
Select Tool	These preferences allow you to specify how the objects will be selected.
Show Fills	These preferences allow you to specify how the paths are displayed when the Show Fill option is off
Show Grid	Check Show grids as dots to display the grid using dotted lines instead of solid lines.
Text Tool	Lets you select how the software will display font size and width, tracking, and word spacing, also whether Chinese language kits should be used.
Zoom	Selects whether the zoom and pan tool will be used only once before returning to the previous tool.
Restore Defaults	Click to restore the default settings for the above fields.

2.4. Quick Tutorials

2.4.1. Making your first Design

» Open the Settings Dialogs

Before you start, open DesignCentral, Fill/Stroke Editor and Object Editor
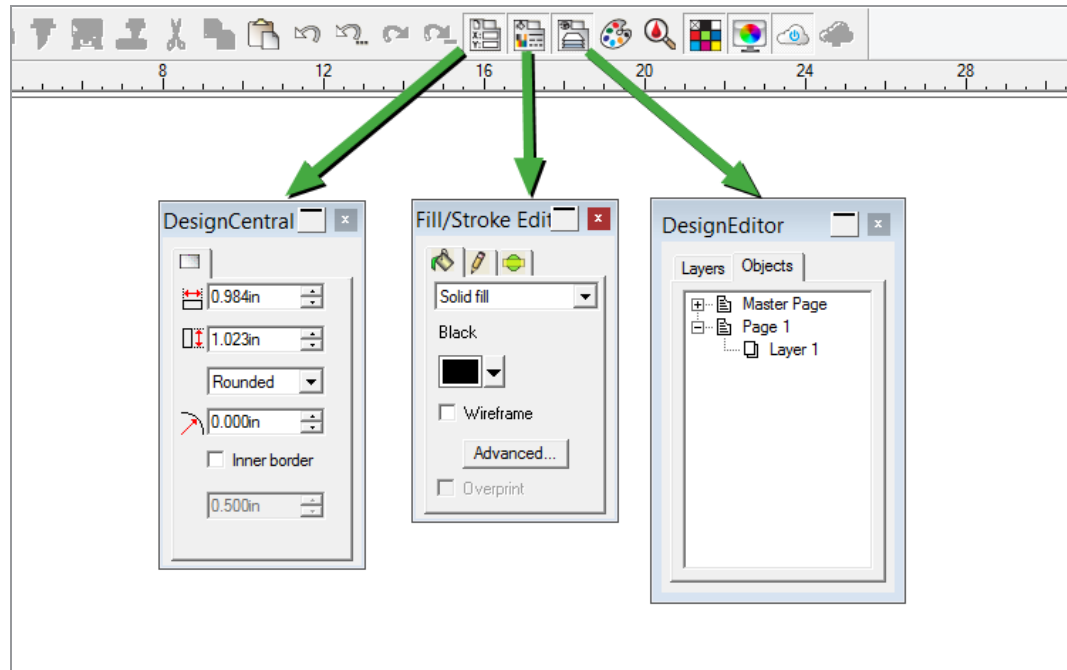
These three floating dialogs will give you additional information and settings as you make your design.

You will notice that as you change tools, the settings within these dialogs will change accordingly.

» Select a Drawing Tool from the Main Toolbar

Note: Icons with a small arrow in the upper left corner have a submenu with other tools. Click and hold to show the submenu
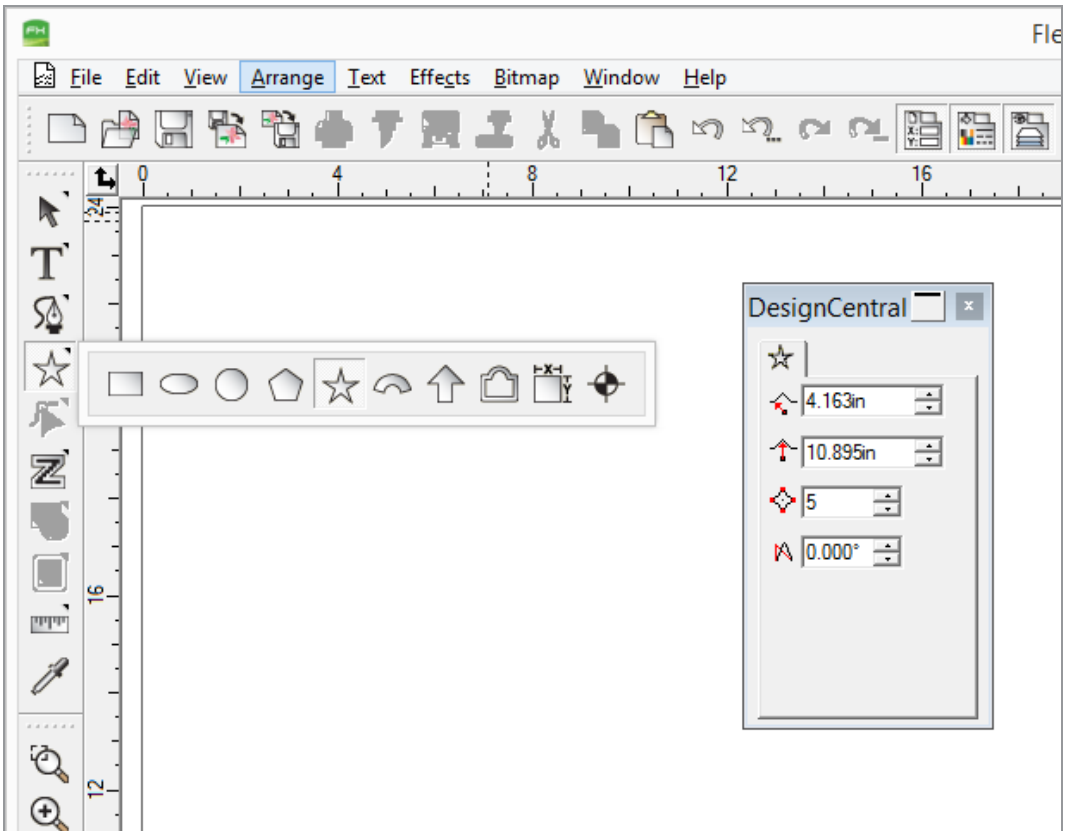
As you change tools, you will notice that DesignCentral settings change along. Your cursor will show a preview of the selected tool.

» Click and drag in the Design area
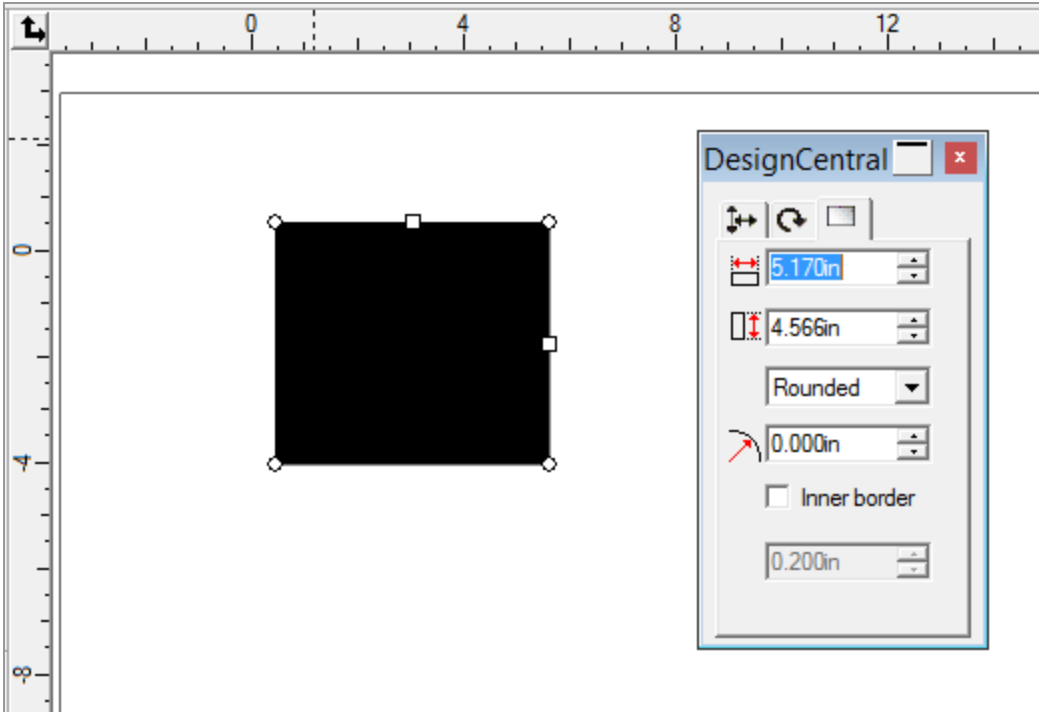
Either use the handles on the object or change the values in DesignCentral to modify the object :
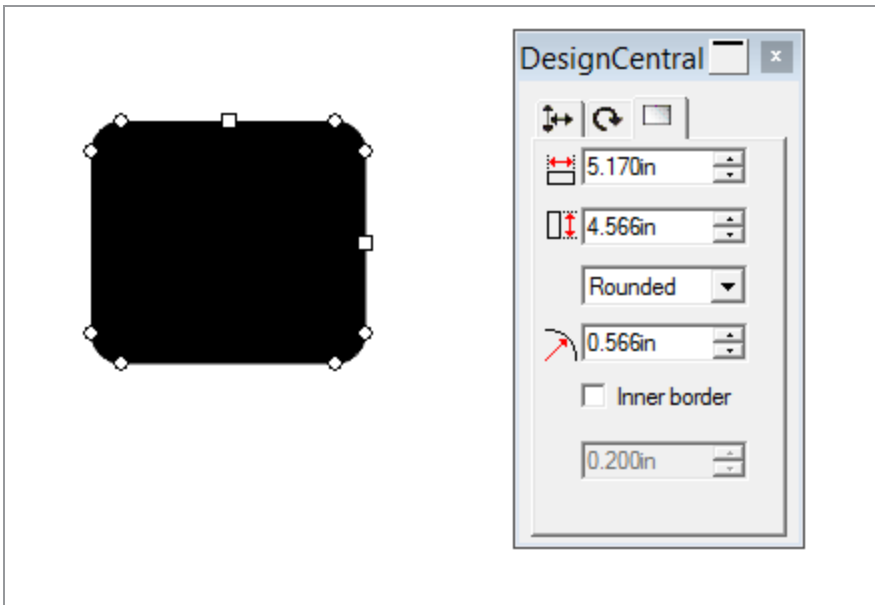
» Change Color
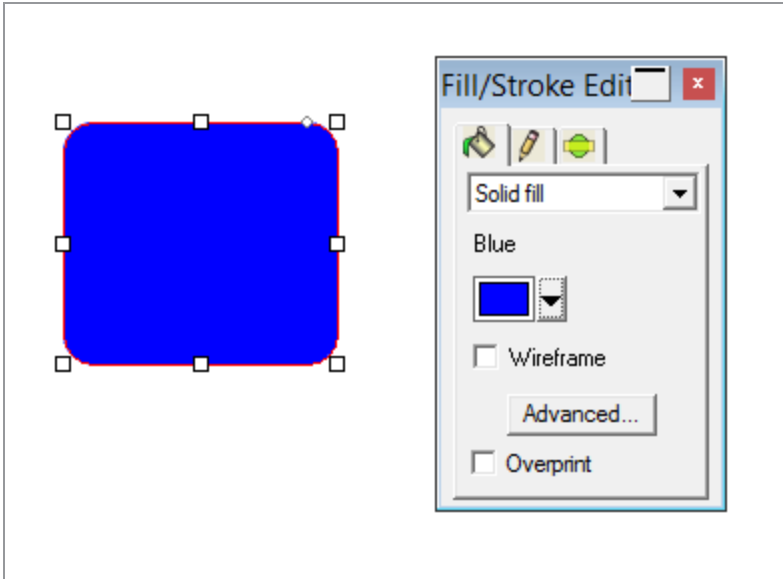
2.4.2. Cutting your first job

The following are some basic steps to make your first cut job

» Open Graphtec Pro Studio
» Draw some objects
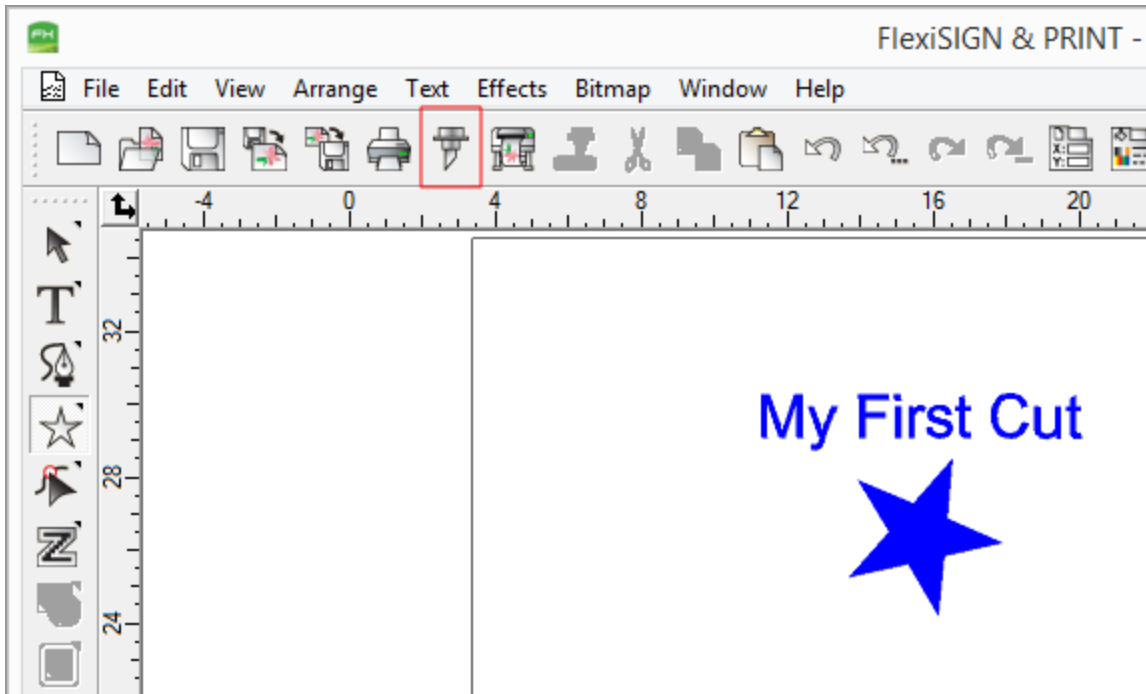
» Click the Cut/Plot

2.4.2.1. On the General Tab

» Make sure your cutter is online and vinyl is loaded

» Click the poll size button to retrieve the size of your media
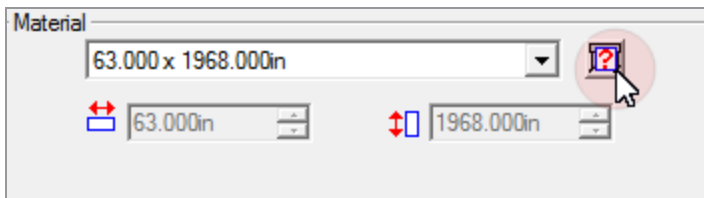
If you do not see a poll size button, it means that your cutter does not support this feature. In this case, select a material size from the list or enter a custom size.

Optional : Change Size, Rotation and Position

» Change size

You can change the size of your objects to a certain size in inches/mm, scale a certain percentage or fit to media.
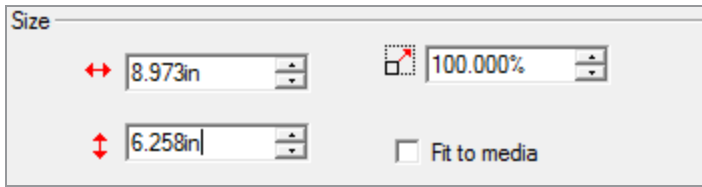
» Change Rotation

Graphtec Pro Studio will automatically rotate to the setting that saves the most media
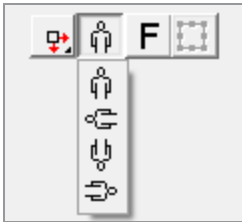
» Change Position

Specify exact position in inches/mm or drag the objects on the layout
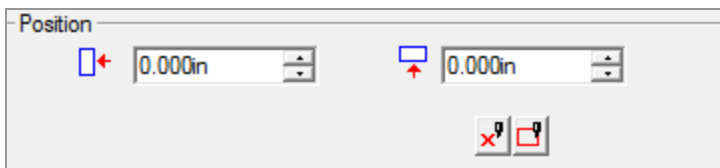
2.4.2.2. On the Options Tab

» Select Weed Border, Horizontal Split Lines and Vertical Split lines
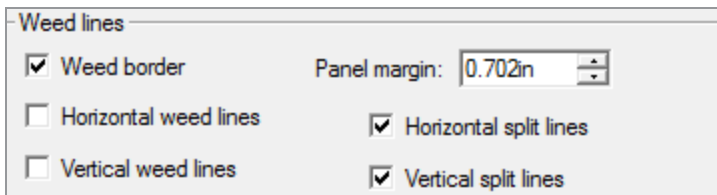
These will create additional cut lines that will make it easier to peel off the material.

» Select the color of your objects and click Edit

Driver options

Drawing Colors		Before Job
	Blue	Cut Fast
	Weld lines	Cut Fast

☑ Use same driver options for all colors   Edit...
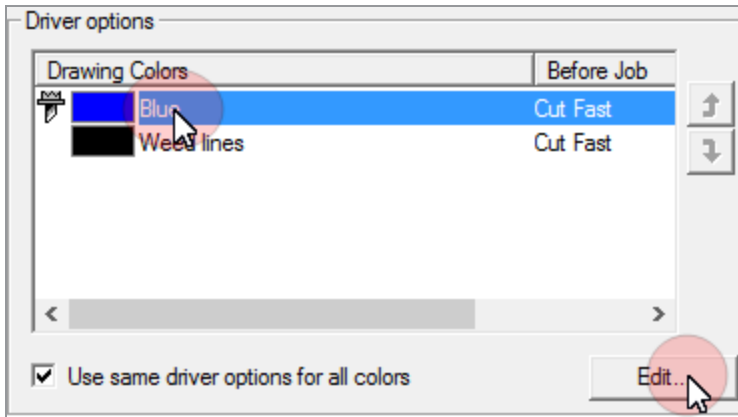
This displays possible settings of your cutter

Before Job	After Job	Macro

Cut Slow

☑ Pressure	10	1-48
☐ Acceleration	4	1-8
☑ Speed	30	1-105
☐ Condition	1	1-8
☐ Light	◉ On	○ Off

FS10;VS30;CT1;

Delete   Save...   Reset

OK   Cancel   Apply
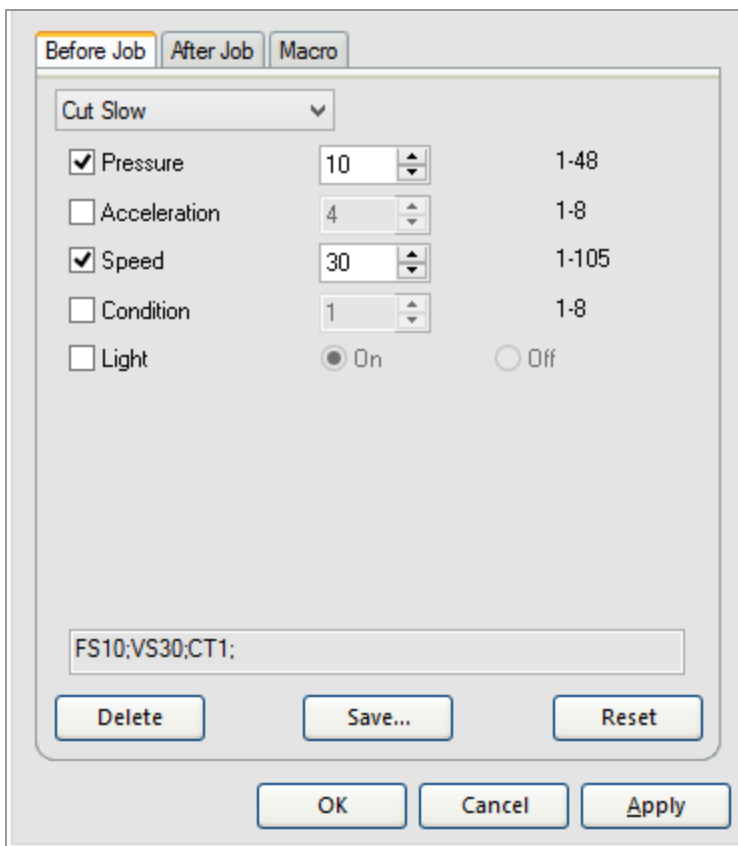
» Select a method, such as Cut Slow. This will set other features of your cutter like pressure and speed.

» Click OK to apply the new method

» Make sure that your cutter is ready to take jobs and click the Send button.

2.4.3. Making your first contour cut job

2.4.3.1. Adding a contour cut path

» Open your design

» Add a contour cut path by selecting the design, and choosing Effects and then Contour Cut
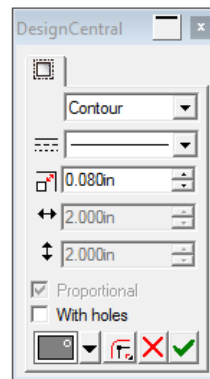
» Adjust the distance from the object to the contour cut path using the handles or in DesignCentral

» Click Apply

If the design is a bitmap, you may need to make the background transparent so the contour cut path goes around the object instead of around the bounding box of the bitmap.

To do so :

» select the bitmap and choose Effects and then Make Transparent.

» Set the tolerance in DesignCentral

» Click in the background to select the area that needs to be made transparent

» Click Apply

2.4.3.2. Adding Registration Marks

» Select the objects with contour cut path

» Choose Effects and then Contour Cut Mark

» In DesignCentral, select the desired Registration Marks

» Click Apply

2.4.3.3. Printing the design to your Desktop Printer

» Make sure your printer is ready to start printing

» Click File and then Print
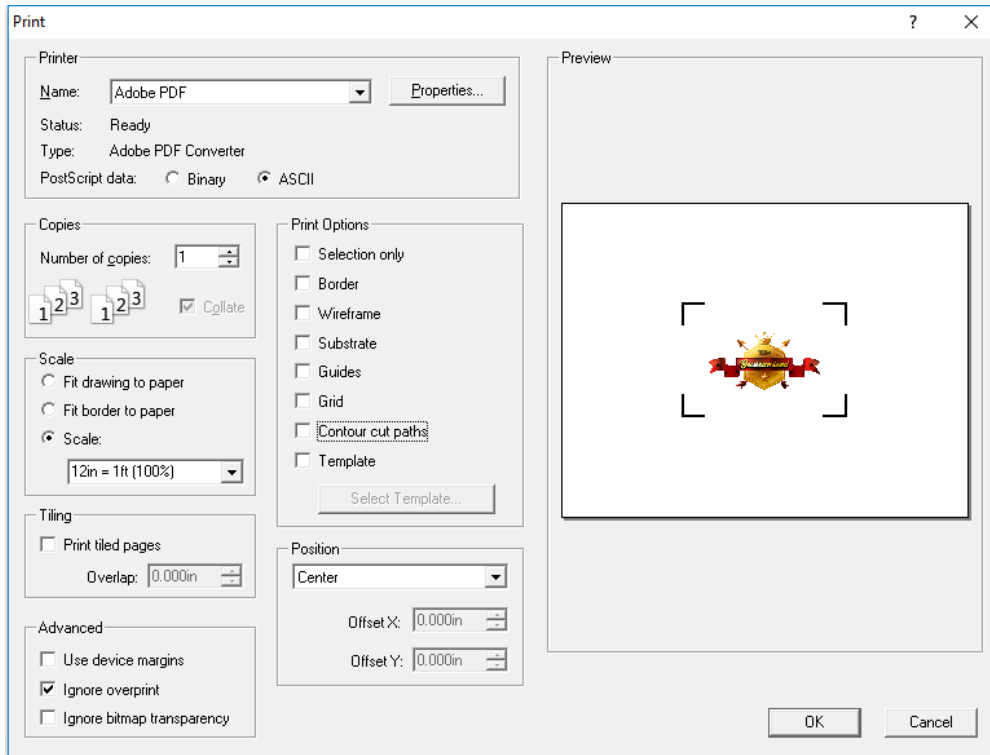
» Click OK

2.4.3.4. Contour cutting the printed job

» Load the printed sheet into the cutter

» Click the button
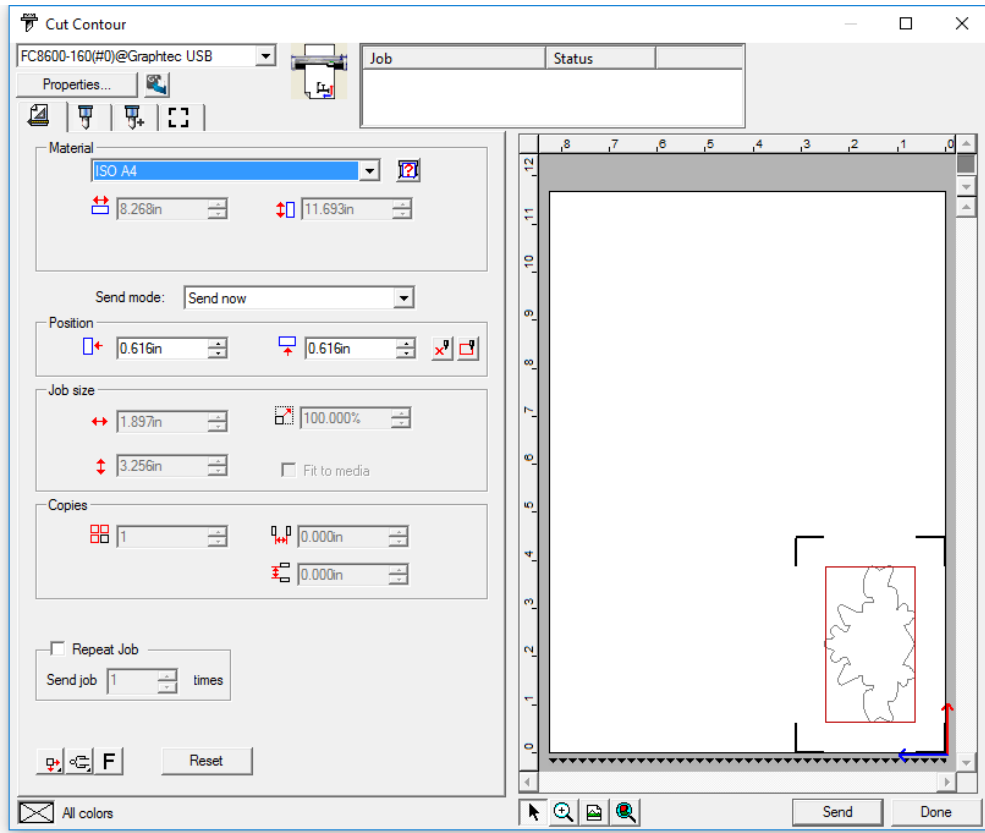
» Click the Send button

The cutter will start looking for the registration marks, and when done will cut the contour cut path

CHAPTER

Design

3

3.1. Working with files

3.1.1. Working with Files

Your document can contain any combination of vector, bitmap, OLE, or PostScript objects.

Vectors	Vectors are a collection of straight or curved segments. These objects can be scaled to any size without losing detail or clarity. Shapes like rectangles and circles, as well as text, are vector objects.
Bitmaps	Also called raster images, bitmaps are formed by a grid of small dots (known as pixels) to represent images. Each pixel is assigned a specific location and color value. A low resolution bitmap image can appear jagged when printed.
OLE	OLE is the abbreviation for Object Linking and Embedding, which is available only in Windows. OLE is a compound document standard developed by Microsoft. It enables you to create objects with one application and then link or embed them in your document.

3.1.2. Starting a new file

To create a new document, from the File menu, select New.

3.1.3. Opening Files

1.From the File menu, select Open.

2.Select the file type, folder, and file that will be opened. (See Appendix - Supported File Formats for all supported file formats.)

3.Click Open.

> **Note:** If the file contains fonts that are not installed in your system, a dialog

box will appear allowing you to select a replacement font.

Or, do one of the following:

» Double-click the file icon in Windows Explorer.

» Drag the file icon over your software's desktop icon and release it to launch the application and open the file.

3.1.4. Importing Files

» From the **File** menu, select **Import.**

» Select the file type, folder, and file that will be imported.

» Click **Import.**

If the Auto-place on paste and import option in Paste preferences is enabled, the file will be imported immediately after clicking the Import button.

» Click in the design area to import the object.

» If the file contains fonts that are not installed in your system, a dialog box will appear, allowing you to select a replacement font.

Note: Layering is ignored during import. This prevents multiple imports from creating many unnecessary layers. To preserve layer information, use Open from the File menu instead.

Depending on the file format, certain options are available.

For DXF import, the following Options can be set :
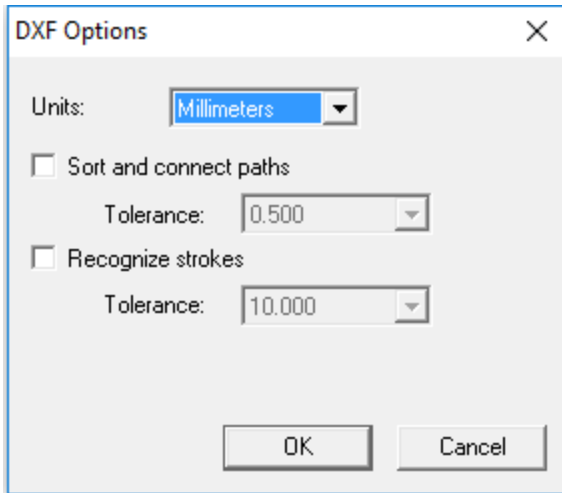
Units	Specify the unit to use
Sort and Connect Paths	Automatically join paths when they are in a certain distance of each other.
Tolerance	Set the tolerance for sorting and connecting paths
Recognize strokes	If paths are drawn in a way to form a dashed pattern, this option will recognize this and convert the separate paths into a dashed pattern path.
Tolerance	Set the tolerance for Recognizing strokes

3.1.5. Linked and Embedded Files

When importing bitmap, EPS, or PostScript files, you can link or embed the file into your document. A link is a connection between the document and the original file.

Embedded object	An embedded object is stored in your document. Once a file is embedded, there is no longer a connection between it and the original file. Hence, changes to the original are not reflected in the embedded object.

Linked object	When objects are linked, only a reference to the image file is stored in the document; the image information remains in the original file. If the image file is changed, those changes will also appear in the document. Linking is recommended for color printing because it preserves the attributes of the original image file.

PostScript files often contain an optional preview graphic. When you link or embed a PostScript file, the preview graphic will be displayed in your document. If the PostScript file does not contain a preview, an "X" will be displayed instead.

Embedded PostScript files will automatically be converted into the equivalent drawing objects from the software, at which point they can be displayed and edited like any other object.

3.1.5.1. To Embed Linked PostScript Files

» Select the preview of the linked PostScript file.
» Select the **PostScript** tab in DesignCentral.
» Click **Parse.**

3.1.6. Finding Files

The Find File feature allows you to search for specific files. You can search for files based on file name or any of the Job Information parameters.

3.1.6.1. To Search for a File

» From the **File** menu, select **Find File.**
» Click Browse and select the folder where the search will be performed. To search all subfolders, check the **Include subfolders** option.
» Enter the search parameters:
  » To search for a file by its name, enter the file name in the **Named** field.
  » To search for a file using any of the job information, select any job criteria from the dropdown menu and enter the search text in the **contains**

field. For example, you can search for all files that "Order taken by" contains the name John Doe.

» Click **Search.**

» Select a file in the list.

» Do one of the following:

   » Click **Job Info** to show the job information. When finished, click **OK** to close the Job Information window.

   » Click **Open** or double-click the file in the list to open the file.

   » Click **Cancel** to end the search.

3.1.7. Saving Documents

» From the File menu, select **Save** or **Save as**.

If you select **Save as**, or you are saving the document for the first time, a dialog box is displayed.

» Enter the name and the location that will be used to save the document.

» Click **Save**.

3.1.8. Exporting Files

Layering information—including layer name, color, and attributes—will be exported for the following formats: Adobe Illustrator, DXF, and HPGL.

» Select the objects to be exported.

» From the File menu, select Export.

» Select the file type, folder, and file name.

» Adjust the following parameters:

Selection only	Check this option to export only the selected objects.
Suppress options	Some file formats will show an options dialog box before exporting to a file. Check this option to bypass the dialog box.

» Click Export.

3.1.9. Emailing a Job

To send the current job to someone as an email attachment:

» From the File menu, select Send Email.

» Select one of the following:

As Native	The job will be added as an attachment in Graphtec Pro Studio format.
As JPEG	The design will be converted to a JPEG and added as an attachment.
As PDF	The design will be converted to PDF and added as an attachment.

A new e-mail message will be created in your default e-mail program, and the current job will be added to the message as an attachment of the selected type.

3.1.10. Closing Files

» From the File menu, select Close.

» If your document has been changed since the time it was last saved, a dialog box will display asking if you want to save the current document.

» Click Yes to save the document before closing it.

» Click No to close the document without saving.

» Click Cancel to exit the closing procedure.

3.1.11. Archiving to the Cloud

The Archive to Cloud option allows you to take designs created or edited in your SAi software and place them in a single directory on the SAi Cloud server for storage and review.

To archive a file to the Cloud:

» Open the file you want to archive.

» Click the Archive to Cloud button in the standard toolbar.

A progress bar appears in the lower-left portion of the Status Bar, indicating that an upload is in progress. When the upload finishes, the Upload Succeeded window appears.

» Click OK once the file has finished uploading.

The file is now securely stored on the SAi Cloud server.

To see a link to the archived file and information about it, click the Files icon in the Cloud Window.

3.1.12. Job Estimation

The Estimator is a tool for producing price estimates of your job. Job Estimation stores accounting information for each job, automatically calculates cost, and gives you a price estimate. The information can be changed and customized to reflect your costs and needs.

> This feature is intended as a guideline. All results should be thoroughly reviewed before basing any business or financial agreements upon them.

The estimation is calculated based on some elements of your design, like the number of characters or the material area. These values are automatically gathered from your document. Other values like preparation time must be manually entered when doing job estimation.

The cost elements used in job estimation are grouped by **Category, Item, and Type.**

3.1.12.1. Using Job Estimation

» From the **Edit** menu, click **Job Estimation.**

» Select the **Form** type.

» Click **Yes** to open the selected form.

» Select an Item in the list and (where applicable) edit the **Unit Cost, Quantity**, and **One Time** fields for the selected item. Repeat this process for all items that need any correction.

» Edit the **Quantity** and **Tax rate** fields.

» After the estimation is completed:

   » Print an invoice by clicking **Print.**

   » Save the estimation values as a text file by clicking **Export.**

The total value will be automatically inserted in the Job Info - Job tab.

3.1.12.2. Customizing Forms

» From the **Edit** menu, click Job Estimation.

» Select the **Form type** to be changed.

» Change the form by clicking the buttons described below:

Add Item	Adds a new item to the list. Click this button and select the Category, Item, and Type in the **Add Item** dialog box. If the item is one that only incurs a one-time cost for the entire run of finished pieces (such as design time), check **One time**.
Change Item	Select an item in the list and click this button. Then select the Category, Item, and Type. The new item will replace the selected item.
Delete Item	Select an item in the list and click this button. The item is deleted from the list.
Delete	Deletes the entire Form type from the list.

» After all the changes are done, click **Save** to save as a new form.

» Enter a name that will appear in the Form list.

» Click **OK.**

3.1.12.3. Customizing the Item List

The Estimation Editor allows you to customize your prices to correspond to your normal charges.

> Once you make a change to the Estimation Editor, that change will be used in every future calculation until you alter or remove it.

» From the **Edit** menu, click **Job Estimation.**

» Select the **Estimation Editor** tab.

» Select the **Category** type that will be changed.

» Adjust the following parameters:

Built In	Items and types that are automatically computed based on design information such as color count and editing time.

Color Printing	Items and types used in color printing.
Material Area	Computes based on the size of the drawing objects.
Services	Single item and type charges and non-automatic items.
Substrate	Computes by item and type based on drawing size.
Text Size	Computes by item and type based on the number and size of each character.

» You can create a new category by clicking the **New** button. Clicking **Delete** will delete a category and all of its items and types.

» To create or delete an item or type inside a selected category, click the buttons described below:

New Item	Click this button and type the new item name to add a new item to the Item list.
Delete Item	Select an item in the Item list and click this button. The item is deleted from the list.
New Type	Click this button and enter the new type name to add a new item to the Type list.
Delete Type	Select a type in the list and click this button to delete it.

» To change a specific item and type, select them from the list and change the following fields:

Cost	Allows you to enter a new default cost per unit for the selected item type
Markup	Percentage of an item's cost to include a markup for profit margin and to cover the cost of wasted materials.
Minimum	Allows you to enter a new minimum charge for the selected item and type. To remove the minimum charge, enter zero (0.00).
One Time	Use this option when a particular item will be charged for only one time, independent of the value set in the Quantity field.
Unit	This is the unit of measure by which the row is calculated, such as per inch, square foot, per hour, day, week, or month.

» To print a list of all the categories and their items and types:

» Click **Print.**

» Select a printer.

» Click **OK.**

» Click **OK** to close the Estimator.

3.1.13. Job Statistics

This dialog box contains a list of all the objects contained in the job, along with their name, type, point of origin, width, height, area, perimeter, color fill, color space, and font information. In addition, if one or more objects are selected, their information is highlighted in gray. Data in this tab cannot be edited.

3.1.13.1. Viewing Job Statistics

» From the **Edit** menu, click **Job Statistics.**

» Click **Export** to export the job to a tab-delimited text file.

» Click **OK.**

Name	Type	X	Y	Width(in)	Height(in)	Area(...	Perimete...	Color(Fill/...
Rectangle 6...	Rectangle	6.88	18.07	2.34	3.04	7.11	10.76	Dark Blue
Rectangle 6...	Rectangle	12.52	13.88	1.56	2.17	3.39	7.46	Fuchsia
Circle 6179	Circle	0.63	16.04	3.54	3.54	9.87	10.99	Medium G...
Starburst 6182	Starburst	4.57	15.30	3.30	3.36	3.54	12.90	Yellow

Export...   OK
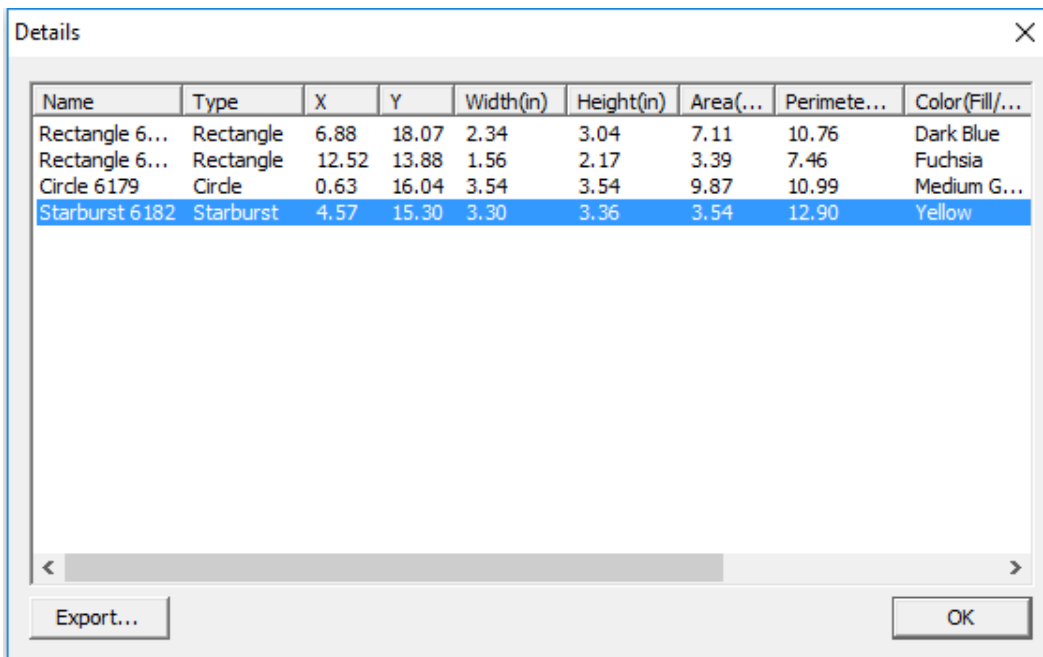
3.1.14. Using OLE Objects

The OLE (Object Linking and Embedding) feature of Windows allows you to import objects that were created using other software installed on your computer, such as spreadsheets and word processors.

3.1.14.1. Inserting OLE Objects

» From the **Edit** menu, select **Insert New Object**.

» Select the type of object you want to create.

Only programs that are installed on your computer and that support OLE appear in the list.

» Select **Create New** to create a new OLE object using the selected application.

Check **Display as Icon** to show the OLE object simply as an icon. Click **Change Icon** to change the icon's appearance.

» The selected programs will start, creating a window inside your software.

» Resize and edit the contents of the window, using the selected program.

» To finish using the selected program, press **Esc** or click anywhere outside the program window.

3.1.14.2. Inserting Existing Files as OLE Objects

» From the **Edit** menu, select **Insert New Object.**

» Select **Create From File** to merge an existing file into your document.

» Click **Browse** and locate the file to be inserted

  » Check **Display As Icon** to show the OLE object simply as an icon. Click **Change Icon** to change the icon.

  » Check **Link** to link the selected file. The object in the file will be stored apart from the document, and all the changes made in the source file will be reflected in your document. If the Link option is unchecked, the object will be embedded and stored within the document.

» 4.Click **OK.**

3.1.14.3. Editing OLE Objects

» Select the desired OLE object.

Double-clicking an OLE object has the same effect as selecting Edit.

» From the **Edit** menu, point to **[...] Object** and click **Edit** or **Open**.

   » When you select **Edit**, the program associated with the OLE object will start in a window inside your document and will close after the editing.

   » If you choose **Open**, a full instance of the program will start. You may leave this application running even after editing the OLE object.

Closing the original object will close the application, unless another file is still open in the application.

3.1.14.4. Converting OLE Objects to another Format

» Select the desired OLE object.

» From the **Edit** menu, point to **[…] Object** and select **Convert.**

» Select the new format from the list.

» Click **OK.**

3.1.14.5. Converting OLE Objects to Basic Segments and Bitmaps

1.Select the desired OLE object.

2.From the **Arrange** menu, select **Convert Linked to Native.**

3.1.14.6. Changing Linking Properties of OLE Objects

» From the **Edit** menu, select **Links**.

» Select the desired object link.

» Change the following linking options:.

Automatic / Manual	Determines whether the linked information updates automatically when you open the document or manually when you choose to update it.
Update Now	Updates the OLE object in your document to reflect the present content of the original file when Manual mode is selected.
Open Source	Opens the linked object file using the associated program.
Change Source	Changes the linked object file, replacing the current file with another.
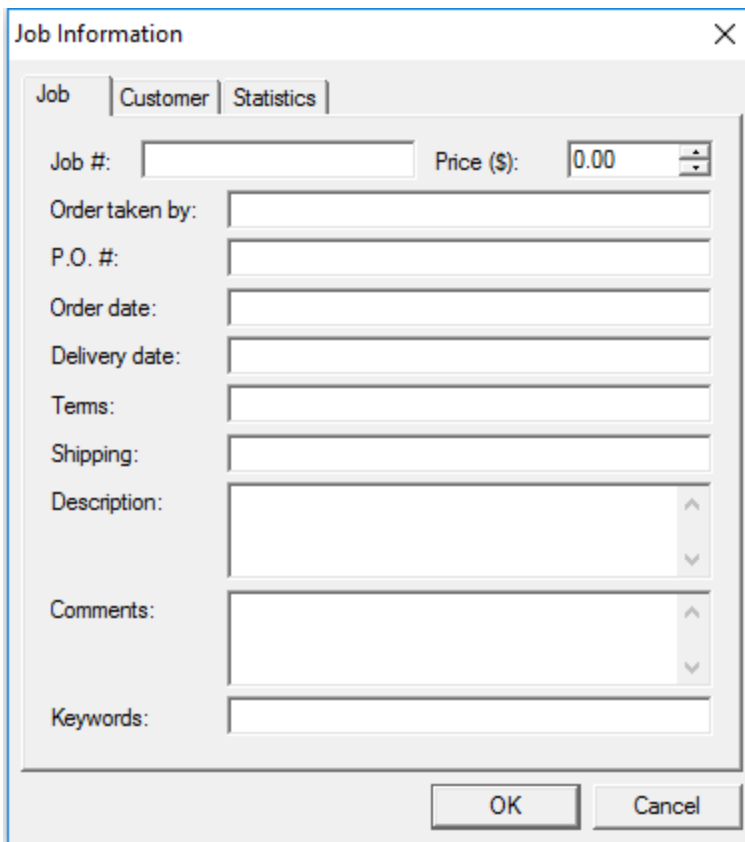
Break link Gives you the option to permanently break the connection between a linked object and its source file.

3.1.15. Working with Job Info

Your program allows you to store information about the job with each file you create. You can add or change information about a job at any point in the design and production process. This information becomes part of the file and is saved when the file is saved.

3.1.15.1. Viewing or Editing Job Info

1. From the Edit menu, click Job Info.

2. There are three tabs where you can view or edit job information:

Job tab   In this dialog box you can edit the information about this particular document.

Customer tab   In this dialog box you can edit the information about the customer.

Statistics tab   This dialog box contains stored information about the job, including the amount of time spent editing it, revisions (the number of times it was saved), and other job-specific information. Data in this tab cannot be edited.

Clicking the Reset button will reset the number of revisions to 1 and the total editing time to 0.

3.2. DesignCentral

3.2.1. Using DesignCentral

DesignCentral displays tabs and options appropriate to objects properties. For example, when a rectangle is selected, DesignCentral displays its width, height, corner style, and other properties.

To display DesignCentral, from the View menu, select DesignCentral.

DesignCentral consists of several tabs. The number of tabs and their content vary according to which objects are selected.

You can select a tab by clicking on its indicator in DesignCentral, or by double-clicking the objects themselves. Each double-click will move to the next available tab.

3.2.2. DesignCentral - Document Tab
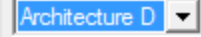
Use the Document tab to specify the size of the drawing area and the color of the substrate or background color. A number of standard document sizes are included. You can specify a custom drawing area size by entering new horizontal and vertical values..
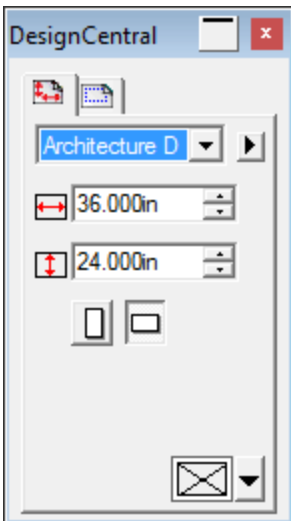
To showing the Document Tab, Do one of the following:

» Open DesignCentral and click an empty area in the document.

» From the File menu, select Document Setup.

Adjust the following parameters:

Architecture D ▾	Selects from standard document sizes.
▶	Opens additional options for document size.

	Add	Adds a new document size.
	Delete	Deletes an existing document size.
	Set as Default	Sets the current document size as the default.
	Show Border	Shows or hides the design area borders.

↔	Sets the page width of the document.
↕	Sets the page height of the document.
▯	Sets the page orientation to portrait.
▭	Sets the page orientation to landscape.
⊠ ▾	Specifies the color of the substrate.

3.2.3. DesignCentral - Effects Tab

When you apply an effect over objects, DesignCentral displays the Effects tab with all the properties of the effect.

The Object tab for the object where the effect was applied is not visible in DesignCentral, but you can still select it using the **Select Within** tool or by double-clicking the object while holding **Ctrl.**
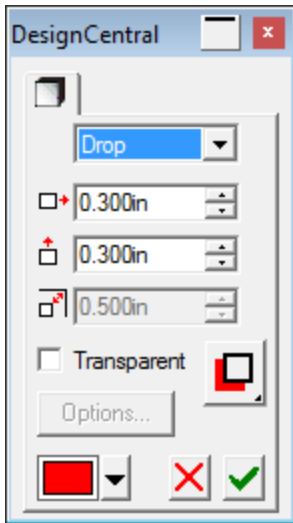
3.2.4. DesignCentral - Margins Tab

Use the Margins tab to specify the margins around a drawing area.

These margins are used when objects are aligned or distributed, and also are useful for laying out elements symmetrically.
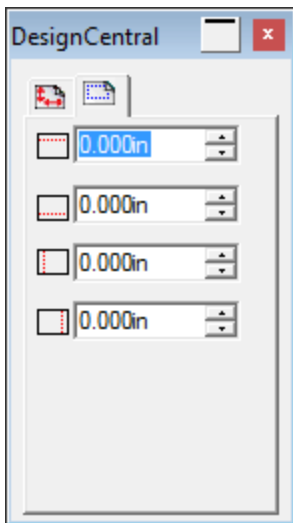
3.2.5. DesignCentral - Object Tab

The Object tab content will vary according to which type of object is selected in the document.
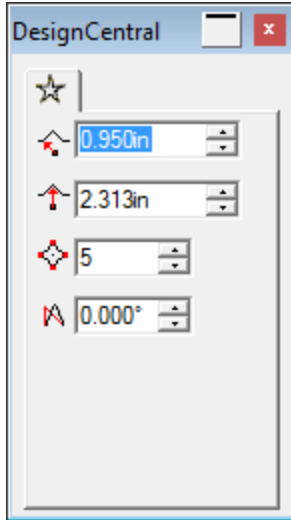
Object tab when a Star is selected / created.
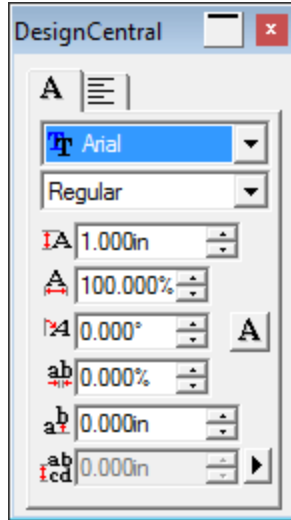
Object tab when Text is selected / created.
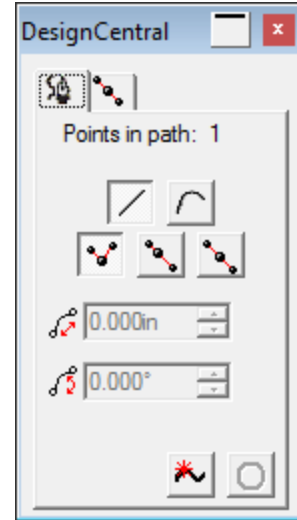
Object tab when a Path is selected / created.

When creating objects, only the Object tab is visible. After selecting an existing object, the Scale, Rotate, and Object tabs are available.

The Object tab is not available when different types of objects (like text and a rectangle) are selected. However, if you select objects of the same type, their common properties are displayed in DesignCentral.
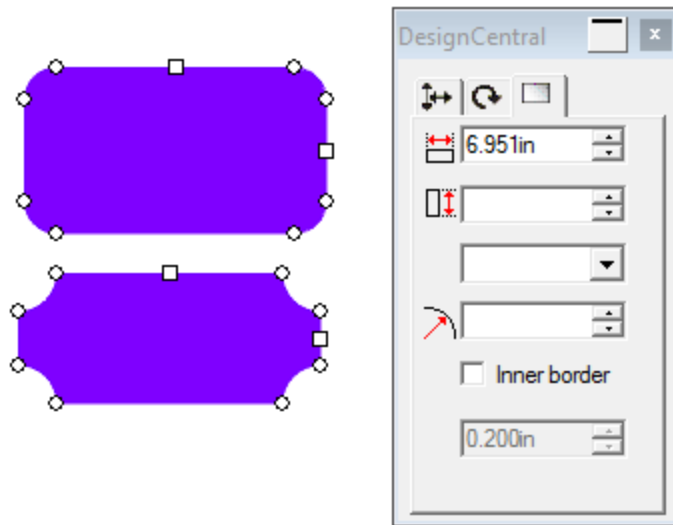
» Width shows a value since both rectangles have the same width.

» Height is blank since both rectangles have a different height.

3.2.6. DesignCentral - Rotate Tab

The Rotate tab of DesignCentral allows you to rotate, shear, or mirror selected objects. You can change them either by dragging the objects' control points or by changing the numerical values in DesignCentral.
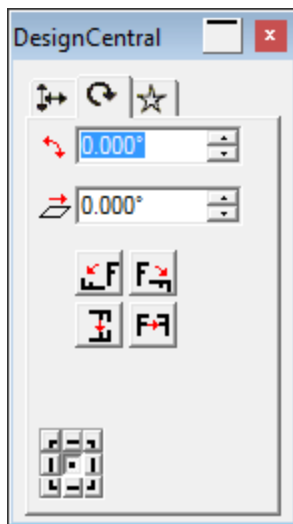
3.2.6.1. Rotating Objects

» Select the objects.

After selecting an existing object, the Scale, Rotate, and Object tabs are available.

» To select the point that will be fixed during the rotation, do one of the following:

  » Click a point on the Reference Grid.

  » Click and drag the Reference Point to the desired position. Hold Ctrl and drag to fix the Reference Point to the settings on the Reference Grid.

» Adjust the following parameters:

New angle of selected objects

Rotates selected objects 90 degrees counterclockwise or clockwise.
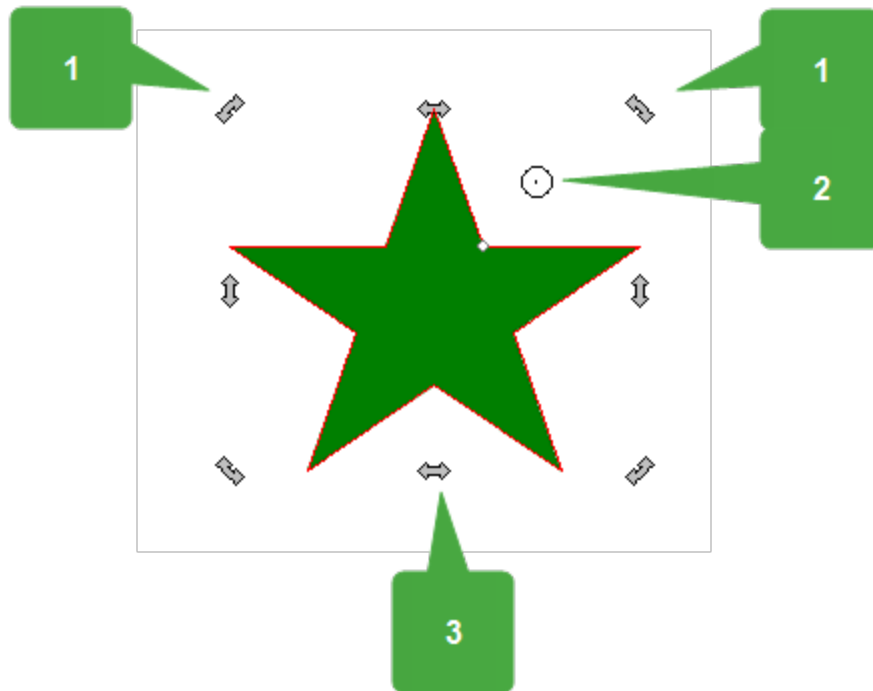
1. Rotation Point

2. Reference Point

3. Shear Point

3.2.6.2. Shearing Objects

» Select the objects.

» To select the point that will be fixed during the shearing, do one of the following:

» Click a point on the **Reference Grid.**

» Click and drag the **Reference Point** to the desired position. Hold **Ctrl** and drag to fix the **Reference Point** to the settings on the Reference Grid.

» Change the following parameters:

⇄ 0.000°   Shear angle that will be applied to the selected objects.
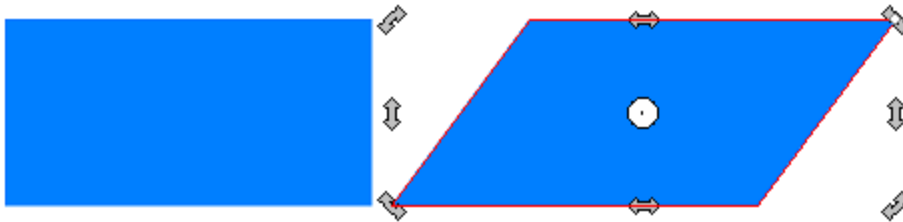
3.2.6.3. Mirroring Objects

» Select the objects.

» Adjust the following parameters:

Mirrors selected objects horizontally or vertically.

Original Object   Mirrored horizontally   Mirrored vertically

3.2.7. DesignCentral - Scale Tab

The Scale tab allows you to change the width, height, and position of selected objects. You can resize objects by dragging the control points or by changing the numerical values.
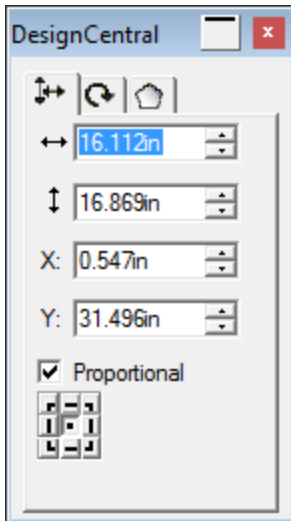
3.2.7.1. Changing the Size of Objects

» Select the objects.

» Adjust the following parameters:

↔   Width of design

↕   Height of design

Checking **Proportional** ensures that the object will be scaled proportionally in both width and height.

Or

» Drag the control points on the objects.

3.2.7.2. Changing the Position of Objects

» Select the objects.

» Adjust the following parameters:

X: Horizontal position of the reference point, measured from the origin.

Y: Vertical position of the reference point, measured from the origin.

Proportional Ensures that the object will be scaled proportionally in both width and height.

You can change the reference point by using the Reference Grid. Each button in the grid corresponds to a point on the selected objects. If you want to position the center of an object, click the Center Stationary Point.
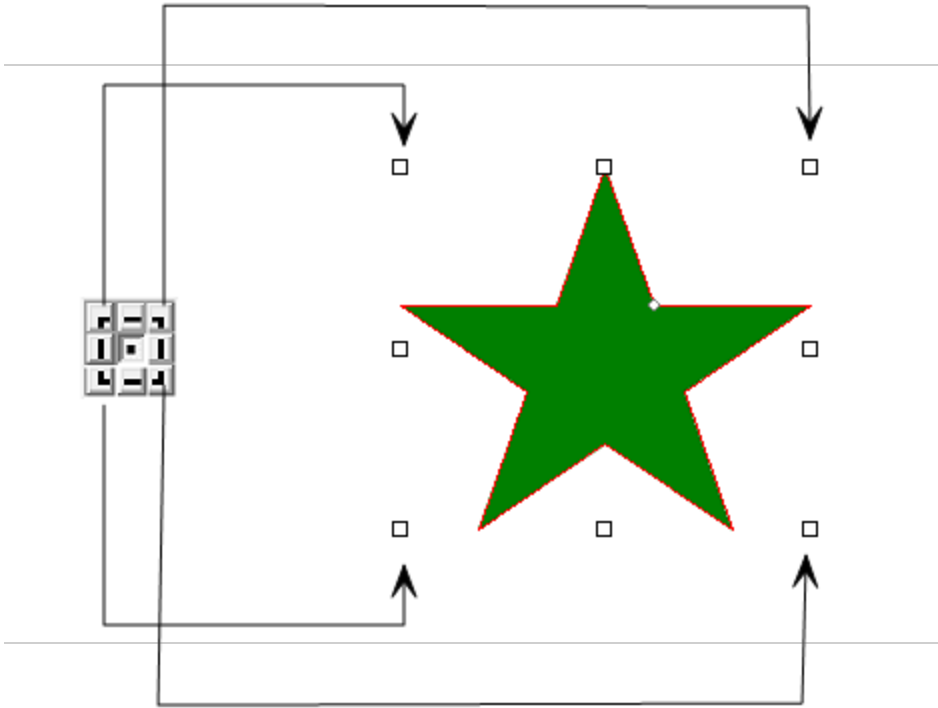
3.2.8. DesignCentral - Setup Tab

Many of the changes you make are automatically applied as you change them. You will notice that some commands contain two buttons, Apply and Cancel, on the bottom-right side of DesignCentral.

DesignCentral will open automatically if there is a Setup tab associated with the command.
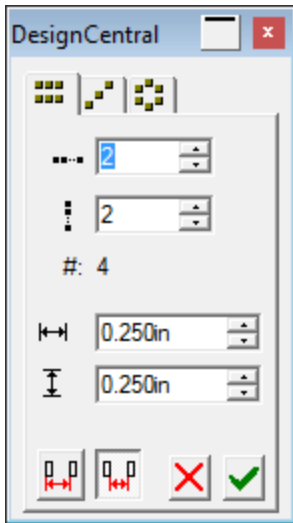
3.3. DesignEditor

3.3.1. Using DesignEditor

DesignEditor helps you manage the various layers and objects in your design. You can choose to display some layers and hide others, delete or add layers, and do similar functions with individual objects.

To open DesignEditor, from the **View** menu, select **DesignEditor**. DesignEditor consists of two tabs, the **Layers** tab and an **Objects** tab.

You can also press **E** on the keyboard to open DesignEditor.
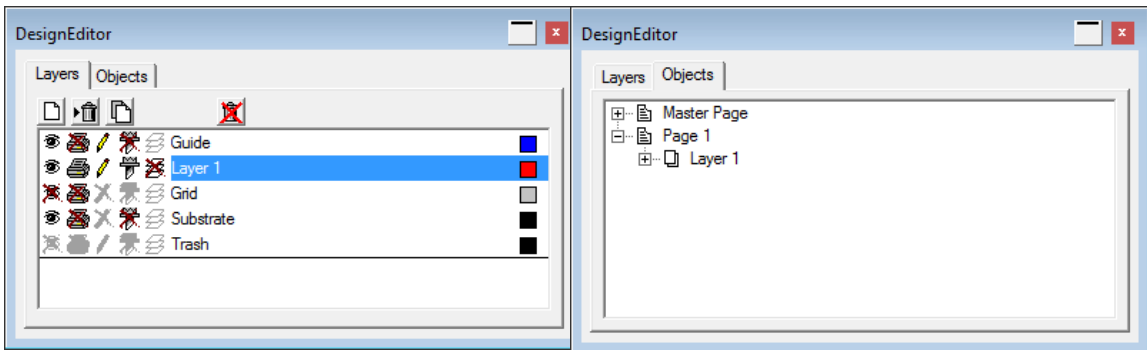
DesignEditor - Layers tab   DesignEditor - Objects tab

3.3.2. DesignEditor - Layers Tab

3.3.2.1. Changing Layer Color

Each layer is associated with a color. For the Guide and Grid layers, this color is used to show its objects. For Layers 1, 2, 3…, this color is used for the following:

» Displays objects in wireframe mode.

» Colors the border of selected objects.

» Shows the Preview for that layer.

To change a layer color, do one of the following:

» Drag any color from the **Swatch Table** and drop it directly onto the desired **Layer color** icon in the DesignEditor - **Layer** tab dialog box.

» Open the **Layer Properties** dialog box for a specific **Layer color** icon, click the **swatch dropdown arrow**, and select the desired color from the list.

3.3.2.2. DesignEditor - Layers Tab

Layers are a convenient way to organize the elements of your design for easy access and editing. Think of layers as sheets of acetate stacked one on top of another. Where there is no image on a layer, you can see through it to the layers below. Behind all of the layers is the Substrate and the Trash Layer.

The layer at the bottom of the Layers tab is the bottom layer of your design, and the layer at the top of the tab is the topmost layer in the stack.

The layer that is highlighted in the Layers tab is called the Active layer. At any given time, one of the layers must be active.

By default, each new design that you open has the following layers:

Substrate Layer	Represents the surface on which your design might be applied. You cannot delete, copy, or edit the substrate layer. However, you can move it to a different location in the stack, or hide it from view.
Grid Layer	The Grid layer is placed immediately on top of the substrate layer. Use the grid to help you position objects in the drawing area
Guide Layer	The Guide layer contains the drawing Guides.
Trash Layer	The Trash layer contains the objects that were deleted from your document. This layer allows you to recover objects that were accidentally deleted
Layer 1, 2, 3...	These layers contain the actual objects that were created in your document. You can have as many layers as you like for each design.

The layer that is highlighted in the Layers tab is called the Current layer. At any given time, one of the layers must be active.

When a layer with a disabled **Edit** property is active, most of the editing tools and commands will not be available.

When you right-click on any layer, a menu is displayed. Adjust the following parameters:

New Layer	A new layer is created. The new layer will be added above the active layer.
Delete Layer	The active layer is deleted.
Duplicate Layer	A copy of the active layer is created. The new layer will be added above the active layer.
Rename	Changes the name of the active layer.
Properties	Shows the properties for the active layer .

You can also click the buttons on the top of the DesignEditor - Layer tab to perform some of the above commands:

New Layer

Delete Layer.

Duplicate Layer

Empty Trash

3.3.2.3. Layer Order

The order of the layers in the stack determines how the objects are displayed in the design area.

To rearrange the order of the stack, click and drag a Layer color icon to a new position. A horizontal dashed line displays to indicate where in the stack the layer will be placed.

3.3.2.4. Layer Properties

Each layer has the following properties:

Visible	Specifies if the layer is visible or not. Always disabled for the Trash Layer.
Editable	Specifies if the layer is editable or not. Not available for the Trash, Grid, and Substrate layers.
Printable	Specifies if the layer will be printed or not. Always disabled for the Trash Layer.

☗ **Cuttable** Specifies if the layer is cuttable or not. Always disabled for the Trash and Grid layers.

To Change Layer Properties, do one of the following :

» Click the icon on the DesignEditor - Layers tab. When the property is disabled, an "X" displays over the icon.

» Right-click the layer and select Properties from the menu. Edit the property in the Layer Properties dialog box that will be displayed.

3.3.2.5. Merging Layers

When you merge one layer with another, all the elements of the layer that you merged are added to the target layer.

» Click and hold the mouse on the layer you want to merge.

» While holding **Ctrl**, drag the layer onto the layer you want to merge it with.

A horizontal dashed line displays directly over the target layer to indicate that the layer will be merged.

» Release the mouse button.

3.3.2.6. Showing Layer Names

Each layer in the DesignEditor has a name. Being able to identify layers aids greatly in changing layer order. By default the DesignEditor dialog box is not wide enough to display layer names.

To view all layer names:

» Move the tip of the mouse pointer over the right edge of the DesignEditor dialog box until a double-headed white arrow appears.

» Left-click and drag the edge of the dialog box to expand it.

The layer names appear to the left of the **Layer color** icons.

To view a single layer name:

» Right-click on the desired **Layer color** icon and select **Properties.**

The name of the layer appears in the **Name** field at the top of the Layer Properties dialog box.

» Click **OK** or **Cancel** to close the dialog box.

3.3.3. DesignEditor - Objects Tab

3.3.3.1. Applying Effects

When you move objects underneath an effect, that effect is then applied to the objects. This is useful when you have applied a number of effects to a particular object and want to apply those same effects to another object. To do this, move the object within the hierarchy of the effect or group of effects that you want to apply.

> Effects are applied to the objects underneath them as a group. It is not the same as individually selecting objects and re-applying the same effects.
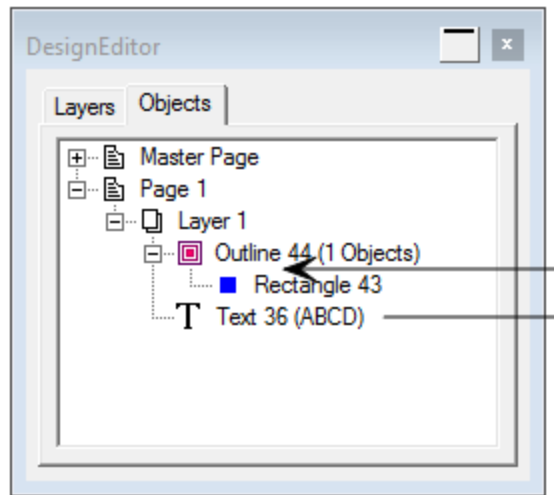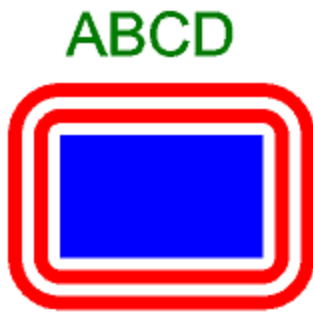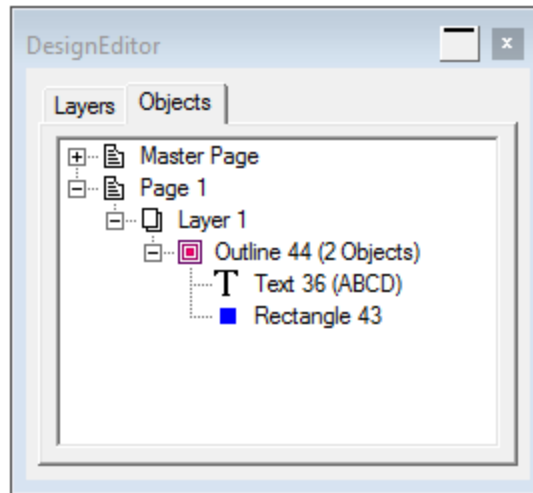
3.3.3.2. Changing the Order of Objects

You can change the order of objects by clicking and dragging them to a new location within the stack. You can change the stack order of objects within a particular layer, or you can move objects from one layer to another. You can also move and copy objects and use them to replace an existing one.

When moving or copying objects, a line will appear beneath the desired target object. When replacing an object, the line will appear through the target object.

> To select more than one object at a time, use Ctrl or Shift.

To move an object to a new location:

» Left-click and drag it until the destination line appears beneath the desired location.

» Release the mouse button.

Or

» Right-click and drag it until the destination line appears beneath the desired location.

- » Release the mouse button.
- » Select **Move and Insert.**

To copy an object to a new location:

- » Hold **Ctrl** and left-click and drag it until the destination line appears beneath the desired location.
- » Release the mouse button.

Or

- » Right-click and drag it until the destination line appears beneath the desired location.
- » Release the mouse button.
- » Select **Copy and Insert.**

To move an object and use it to replace an existing object:

- » Drag it over the target object until the destination line appears beneath it.
- » Hold Shift.

    The destination line will move up and through the object.

- » Release the mouse button.

Or

- » Right-click and drag it over the target object until the destination line appears beneath it.
- » Release the mouse button.
- » Select **Move and Replace.**

To copy an object and use it to replace an existing object:

- » Drag it over the target object until the destination line appears beneath it.
- » Hold **Shift** and **Ctrl** .

    The destination line will move up and through the object.

- » Release the mouse button.

Or

- » Right-click and drag it over the target object until the destination line appears beneath it.

» Release the mouse button.

» Select **Copy and Replace.**

3.3.3.3. DesignEditor - Objects Tab

Every time you draw a shape, create text, or add any element to your design, information about that element is stored in the Objects tab of DesignEditor.

» Each object is assigned a number to distinguish it from other objects of the same type. (For example, Rectangle 1, 2, 3...).

» Objects are stacked in the order they are created, with new objects being placed on top of older objects.

» Effects such as shadows, stripes, and outlines always appear higher in the stack than the object to which they are applied.

The Objects tab is an excellent way to view the structure of your document. You can see the elements in each layer of your document, as well as any effects and other changes that you've applied to each object.

3.3.3.4. Renaming Objects

» Click the desired object in DesignEditor - **Objects** tab.

» Click the same object again.

» Type the new name and press **Enter.**

3.3.3.5. Selecting Objects Using the Objects Tab

The Objects tab allows you to quickly locate and select specific objects. This is useful when your design is complex and selecting individual objects by pointing and clicking has become difficult.

To select objects, select the object names in the DesignEditor - **Objects** tab.

» Hold **Shift** to select a continuous range of objects.

» Hold **Ctrl** to select (or deselect) multiple objects.

You can select individual objects among compounded or grouped objects.

When you select objects in the design area, the corresponding items are automatically highlighted in the DesignEditor - Objects tab.

3.3.4. Designing with the Bad Wrap™ in DesignEditor

You can use special layers in the software to design a Bad Wrap vehicle wrap. Simply drag and drop design elements directly onto the template. The imported images automatically adjust for windows, lights, door handles, and other details. (For system requirements and more information, visit www.TheBadWrap.com.)

To design a Bad Wrap vehicle wrap:

» From the **File** menu, select **Open.**

» From the **Files of Type** dropdown menu, select **TIFF for Bad Wrap.** Choosing this option will ensure that the file is imported with all layers intact.

» Browse your computer for a Bad Wrap template file and click **Open**.

» When asked if you want to open the file as a single layer, choose **No**. As the file imports, you can view the progress in the Status bar in the lower-left corner of the design window.

» Open the DesignEditor and expand the window to view all of the layers that imported from the file.
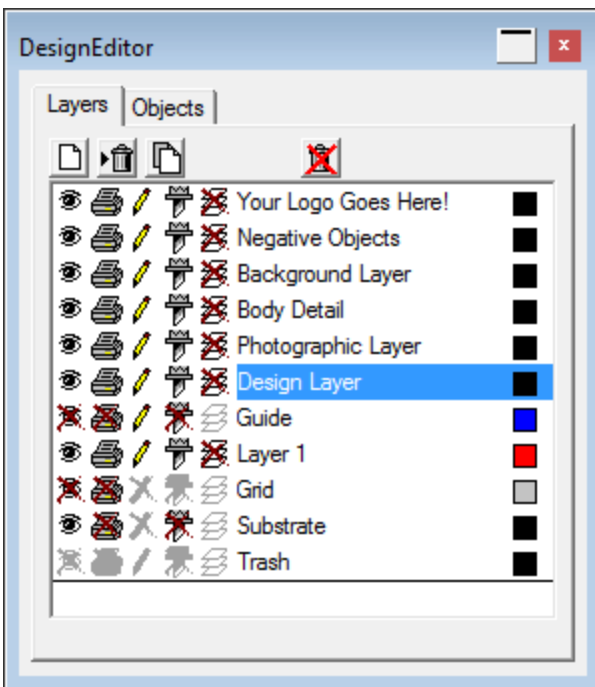
» Now you're ready to import a design element. Be sure to have the Design Layers layer selected so that the image is correctly placed over the template.

3.4. Fill Stroke Editor

3.4.1. Displaying the Fill Stroke Editor

To display the Fill/Stroke Editor, from the View menu select Fill/Stroke Editor (or press I on the keyboard).

3.4.2. Fill

3.4.2.1. Fill

Types of Fills

Vector objects can have the following types of fills:

No Fill	The object has no fill (hollow).
Solid Fill	The object is filled with a single solid color.
Pattern Fill	The object is filled with multiple copies of a pattern.
Gradient Fill	The object is filled with a gradient, a combination of two or more colors that transition smoothly in value and position.
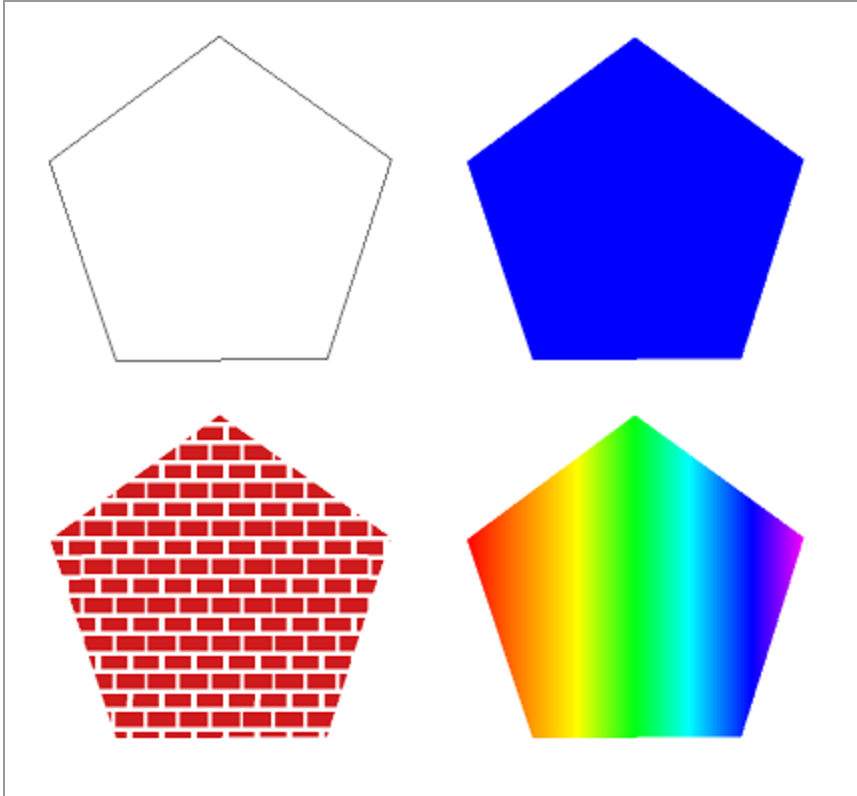
3.4.2.2. No Fill

To apply No Fill
- » Select the objects.
- » Do one of the following:
    - » In the Fill/Stroke Editor, select No Fill.
    - » In the swatch table, click the (transparent) swatch.

3.4.2.3. Solid Fill

To apply a Solid Fill, do one of the following:
- » Select the objects.
- » In the Fill/Stroke Editor, select **Solid Fill**.
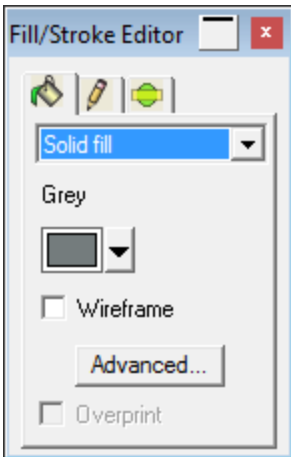
» Select a fill color from the dropdown list.

» If desired, check **Wireframe** to make the object show up as an outline drawn in the fill color.

This setting will override the outline setting for the object.

» Click Advanced to edit the fill color using the Color Specs dialog box. (See Defining Colors Using the Color Specs Dialog Box for more information.)

Or

» Select the objects.

» From the **View** menu, select **Color Mixer** (or press M on the keyboard).

» Click or click and drag in the **color bar**.

Or

» Select the objects.

» Click on a solid-color swatch in the swatch table.

3.4.2.4. Gradient Fill

3.4.2.4.1. Applying a Gradient Fill

» Select the objects.

» In the Fill/Stroke Editor, select Gradient Fill.
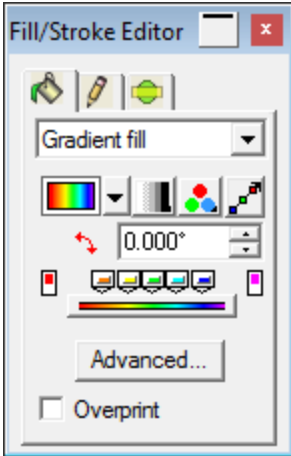
» Do one of the following:

>> » Select a stock gradient from the Gradient list.

>> » Make your own gradient, or edit an existing stock gradient.

a.Select a gradient type from the list.

The following gradients types are available

3.4.2.5. Pattern Fill

3.4.2.5.1. To apply a Pattern Fill

» Select the objects.
» In the Fill/Stroke Editor, select Pattern Fill.
» Select a pattern from the Pattern list.
» Select a color from the Background Color list.
» Select Advanced to adjust a pattern's size, spacing, and positioning.

3.4.2.5.2. Using Pattern Fill Advanced Settings

When the Advanced button is clicked on the Fill/Stroke Editor - Fill tab for Pattern Fill, the Advanced Settings dialog box will be displayed.
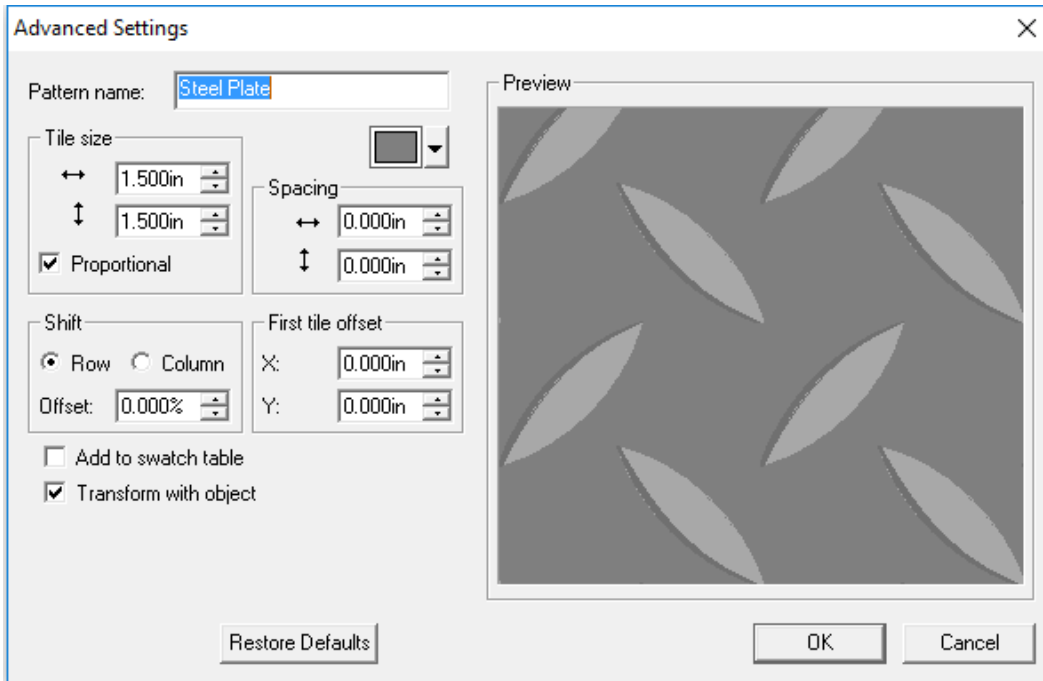
To adjust a pattern's size, spacing, and positioning:

» Select Pattern Fill and click Advanced.

» Adjust the following parameters:

Pattern name	Changes the name of the pattern.
	Sets the background color.
↔	Specifies the width of each tile in the pattern.
↕	Specifies the height of each tile in the pattern.
Proportional	When checked, ensures that the pattern will be resized proportionally.
↔	Sets the spacing between pattern rows.
↕	Sets the spacing between pattern columns.
Shift	Specifies the percentage of shift for each row and column in the pattern.
First tile offset	Specifies the amount of horizontal and vertical off-set applied to the first tile in the pattern.

Add to Swatch Table	When checked, adds the edited pattern to the swatch table as a new pattern.
Transform with Object	When checked, proportionally resizes each tile in the pattern when the object is resized.
Restore Defaults	Restores the default settings for the selected pattern.

» Click **OK** to save your changes.

3.4.2.5.3. Adding a Pattern Fill to a Swatch Table

» Select an object with a pattern fill.

» In the Fill/Stroke dialog box, click Advanced.

» Make any desired edits to the pattern fill.

» Type in a Pattern name.

» Check Add to swatch table.

» Click OK.

3.4.3. Stroke

3.4.3.1. Editing Stroke Properties of Objects

Fill/Stroke Editor - Stroke tab displays the following vector object stroke properties:

Style	Selects the line style of the stroke applied to the objects; also lets you edit line styles and create new ones.
	Specifies the color applied to the stroke.
	Sets the stroke width.
	Controls the sharpness of the corners.
	Selects the appropriate Join Type option to specify how corners are outlined. Choose from Mitered, Square, or Round join styles.
	Selects the appropriate Line Cap option to specify how open paths are outlined. Choose from Square, Round, or Butt cap styles.

Transform	When checked, the strokes will be proportionally resized when the object is resized.
Clear	Clicking this button removes the stroke.

3.4.3.2. Applying Overprinting

The Overprint setting is used to identify areas of your design that are covered by multiple layers of ink or vinyl. These areas may require special treatment in order to be output successfully.

For example, in some output devices a higher heat setting must be used when multiple layers are present. This may require that those objects be output using a separate printing pass.

Overprinting is automatically assigned to the topmost color when printing :

- » A two-color gradient.
- » Color-trapped objects.
- » Duotone/Spectratone colors.

3.4.3.2.1. Setting Objects to be Output Using Overprinting

Do one of the following:

- » From the Arrange menu, point to Overprint and select Overprint.
- » On the Fill tab in the Fill/Stroke Editor, check Overprint.

3.4.3.2.2. Turning Off Overprinting for Objects

Do one of the following:

- » From the Arrange menu, point to Overprint and select Release Overprint.
- » On the Fill tab in the Fill/Stroke Editor, verify that Overprint is not checked.

3.5. Drawing Tools

3.5.1. Shapes

3.5.1.1. Shapes

Shapes are closed objects such as rectangles, starbursts, and polygons. You can create a shape freehand or by specifying its size.

The following shapes are available:

	Rectangle tool		Fan tool
	Oval tool		Arrow tool
	Circle tool		Advanced Border tool
	Polygon tool		Parametric Shape tool
	Starburst tool		Registration Mark tool

3.5.1.2. Advanced Borders

Create special shapes of borders with this tool.

» Select the Advanced Border tool ⌂ from the shapes sub menu on the main toolbar
» Select the Border Type in DesignCentral
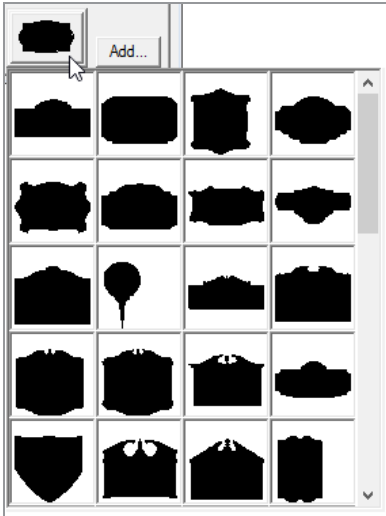
» Click and drag to draw the border
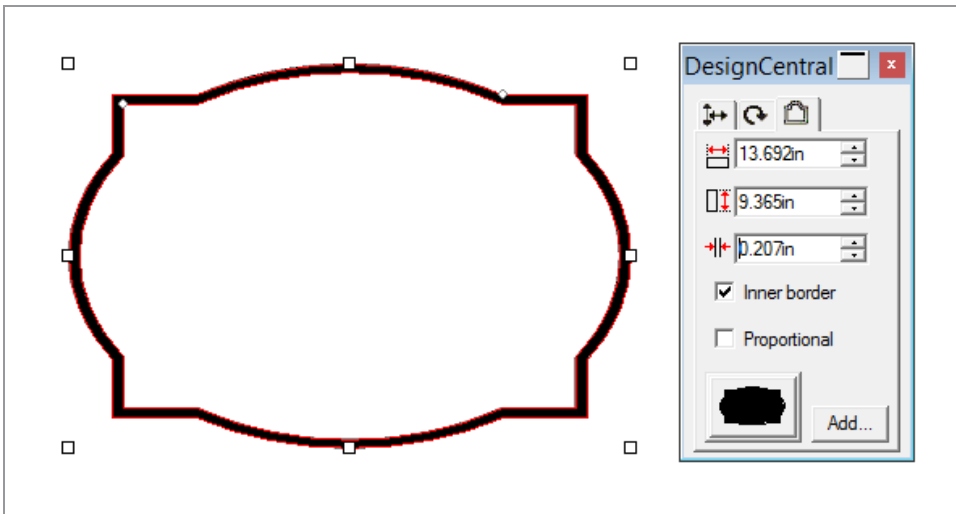
3.5.1.3. Arrows

For arrows, you can adjust the Length, Tail Width, Cap Length, Tail Length, Angle, and Wing angle.
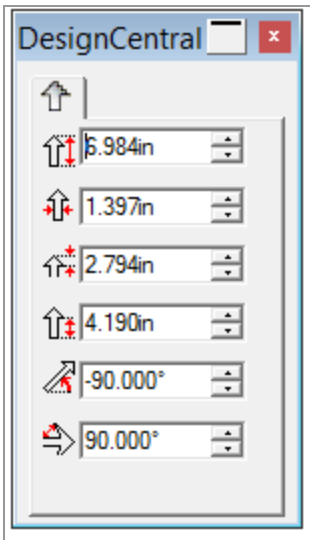
You can drag the following points on an Arrow shape:
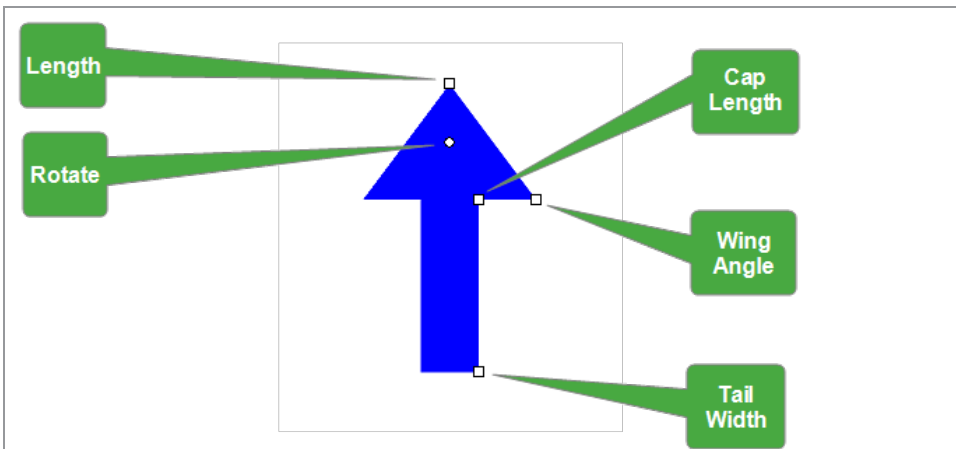
» Hold Shift and drag the Rotate control point to constrain the angle.

» Hold Ctrl) to create an arrow from its center.

3.5.1.4. Circles

For circles, you can adjust the following parameters:

Center Radius Sets the X,Y coordinates of the center and the radius that determine the circle's shape.

Two Point Sets the X,Y coordinates of the two points that determine the circle's shape.

Three Point Sets the X,Y coordinates of the three points that determine the circle's shape.
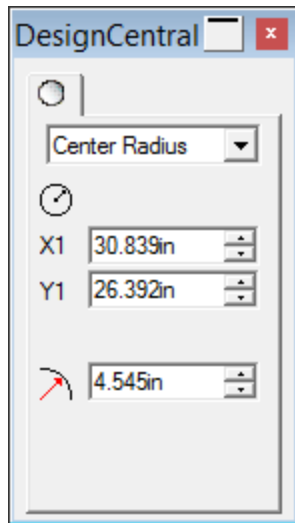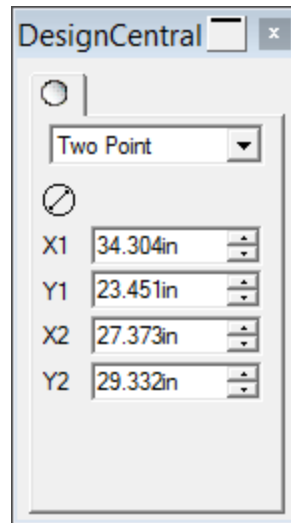
Center Radius   Two Point   Three Point
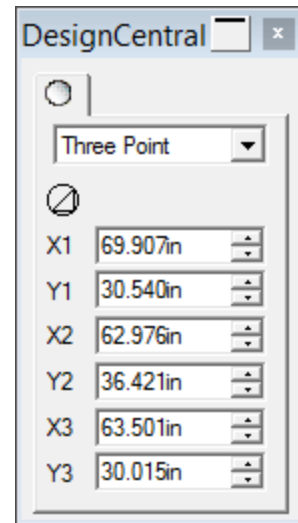
3.5.1.5. Converting Objects to Shapes

Convert to Shape is used to convert objects to shapes. You can quickly convert the traced artwork to the desired shape, and then edit the shape.

» Select the objects.

» From the Arrange menu, point to Convert to Shape and select the new shape.
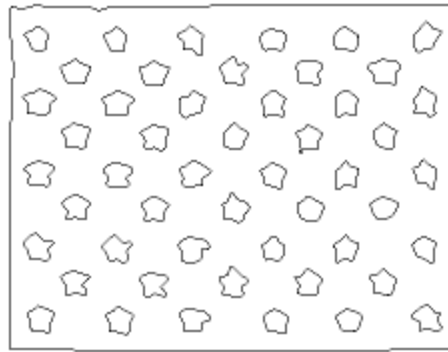
Original artwork
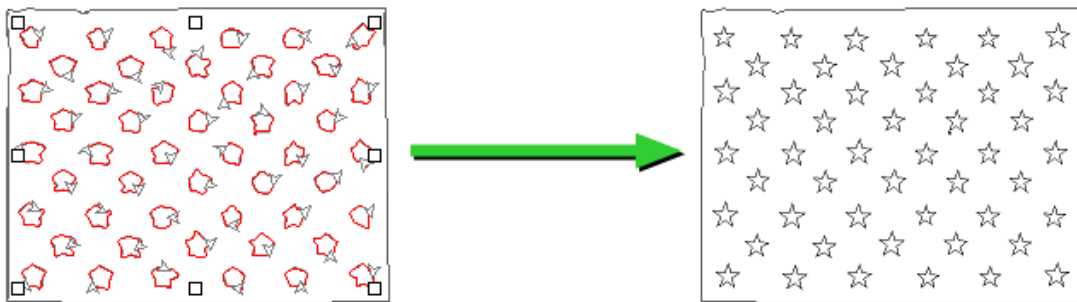
Converting into Starbursts
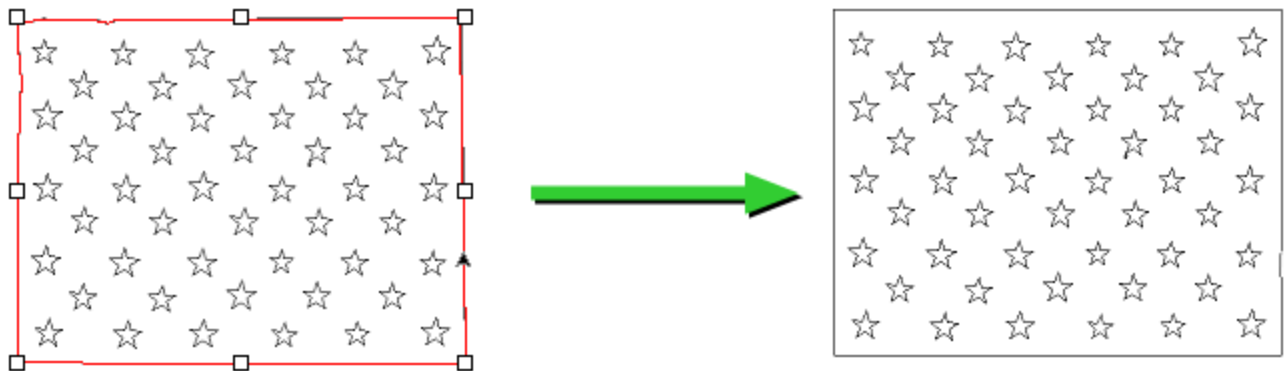
Converting into Rectangles

3.5.1.6. Fan

For fans, you can adjust the Outer Radius, Thickness, Rotation angle, and the Sweep Angle.
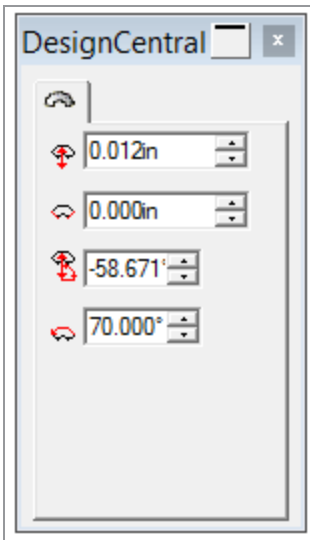
You can drag the following points on a Fan shape:
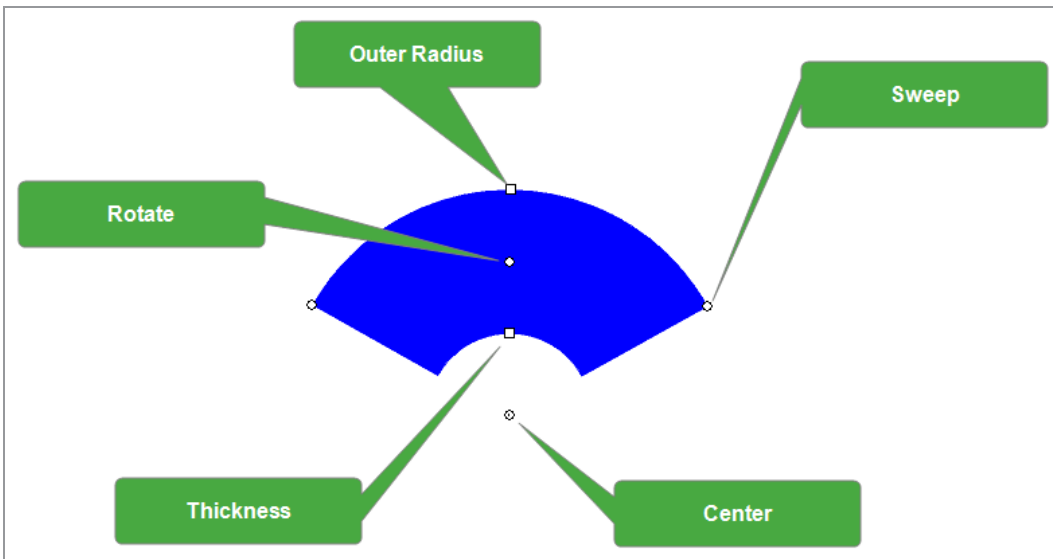
» Hold Shift and drag the Sweep Angle or Rotate control points to constrain the angle

» Hold Ctrl to create a fan from its center.

3.5.1.7. Ovals

» For ovals, you can adjust the Width and Height.
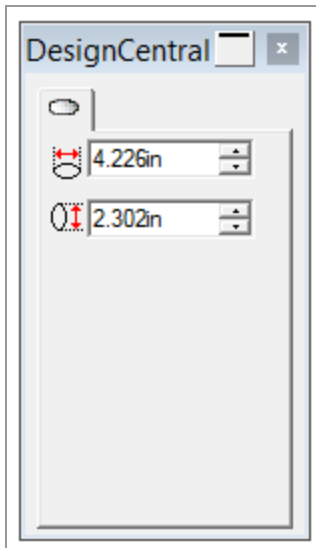
» You can drag the following control points:
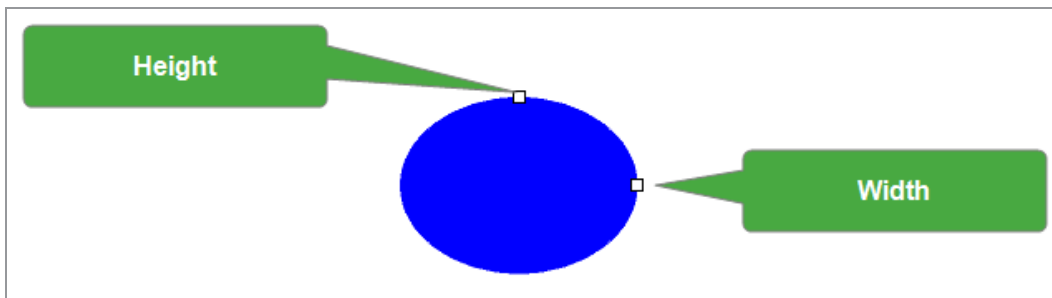
» Hold Shift and drag the Height or Width control points to make resizing proportional.

3.5.1.8. Parametric Shapes

You can adjust the Width and Height of several different parametric shapes.

Click the Edit button to display a dialog box where you can edit the parameters of each available shape.
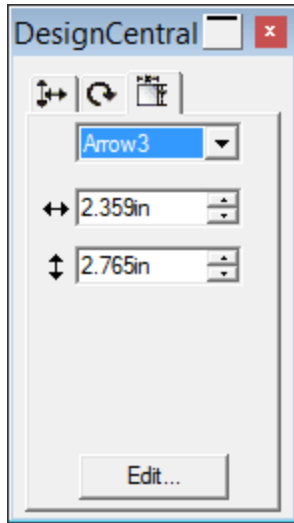
| DesignCentral for Parametric Shape | Parameter editing dialog box |
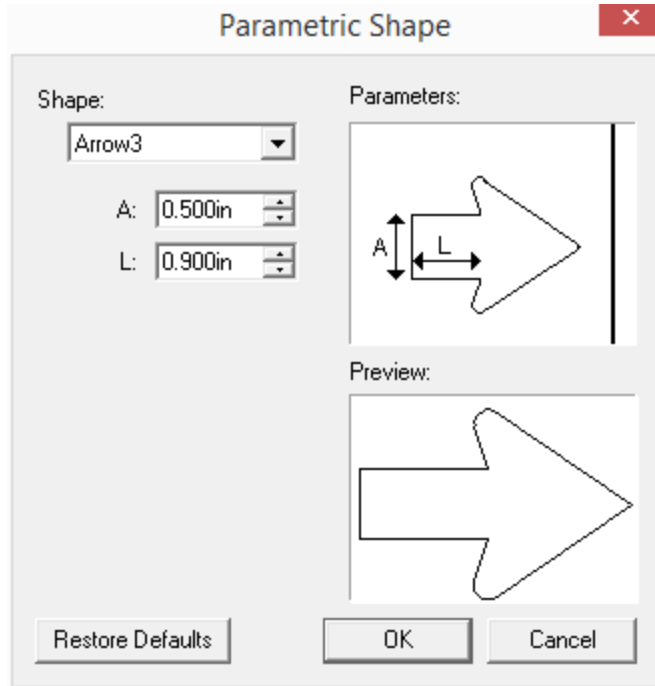
3.5.1.9. Polygons

For polygons, you can adjust the Width, Height, and Number of Sides
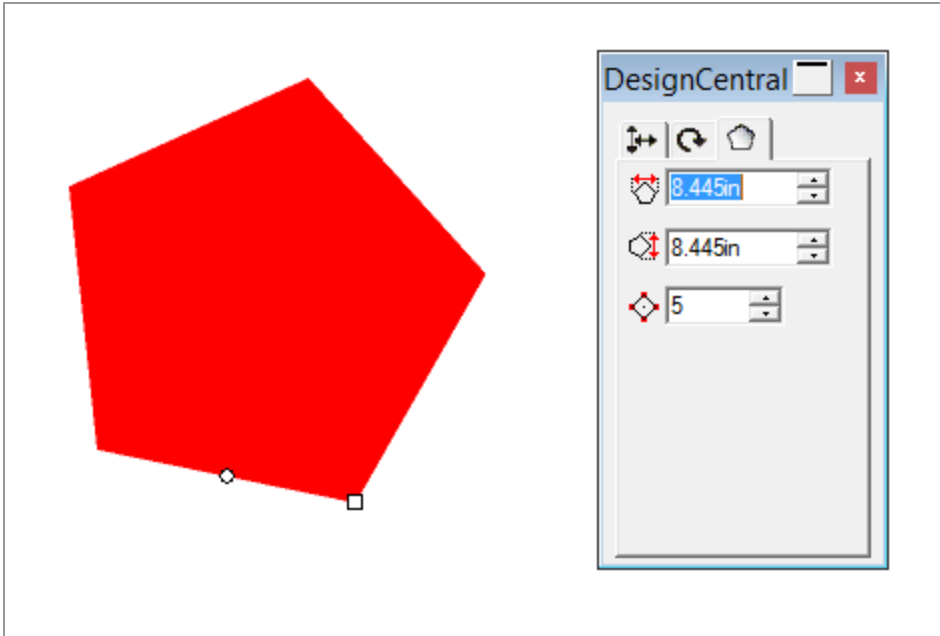
With the handles you can also change and control the bend.
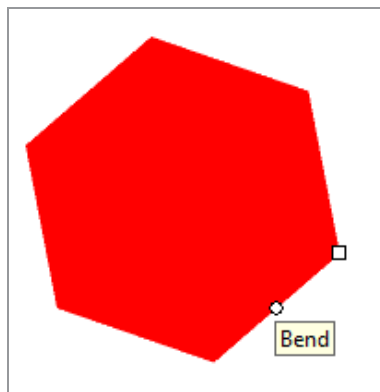
Original Polygon
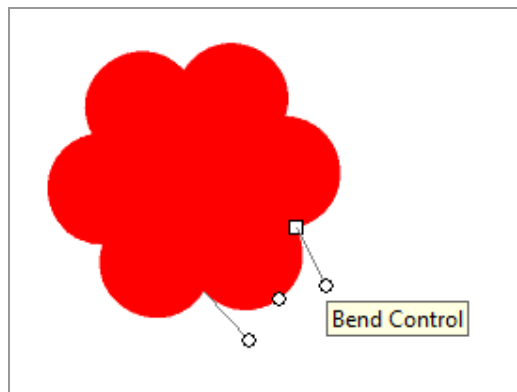
Polygon after dragging the Bend control point

» Hold Ctrl and drag the Size control point to maintain the polygon's orientation.

» Hold Ctrl and drag the Bend control point to restore the polygon to its original shape.

» Hold Shift and drag the Bend Handle to move the opposite handle in the same direction.

» Hold Ctrl and drag the Bend Handle to keep the opposite handle stationary.

The polygon is a very versatile shape. By changing the parameters, many different shapes can be created. In the examples below, each shape started out as a polygon :
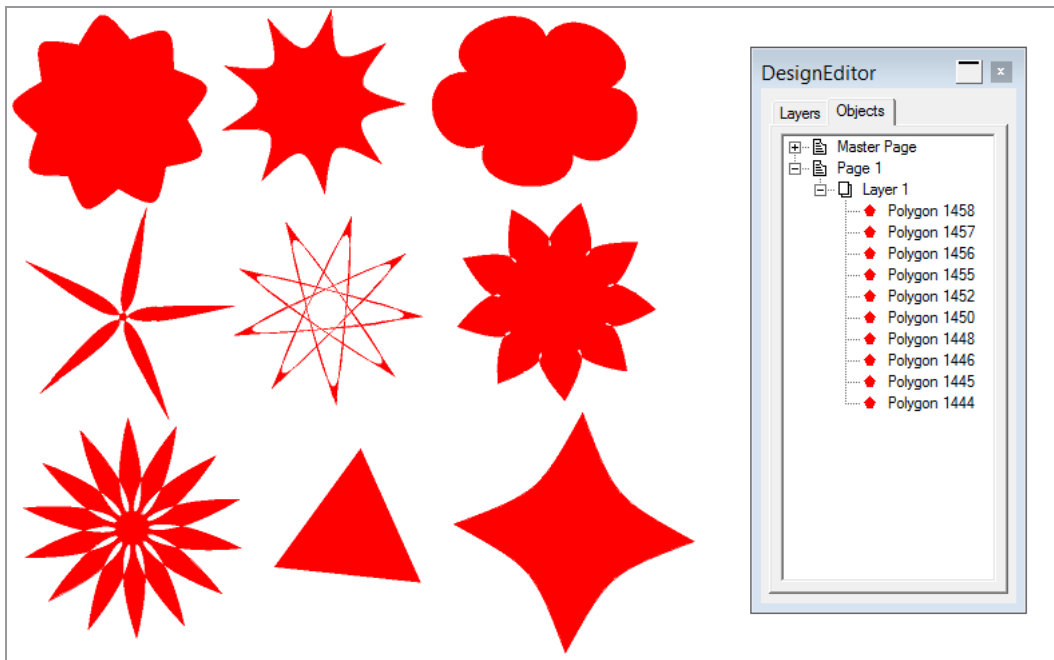
3.5.1.10. Rectangles

For rectangles, you can adjust the Width, Height, Corner Style (Regular, Rounded, Inverted, or Clipped), Corner radius, and Inner border width.

The Corner radius is only available when Rounded, Inverted, or Clipped is selected.
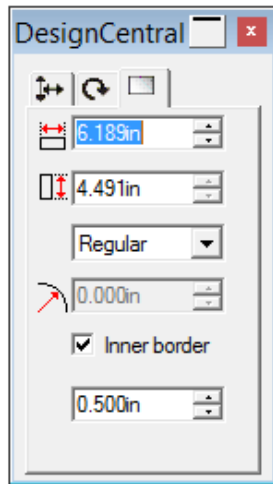
DesignCentral for Rect-angle

Regular with Inner Border

Rounded without Inner Border

Inverted without Inner Border

Clipped with Inner Border

You can drag the following control points:
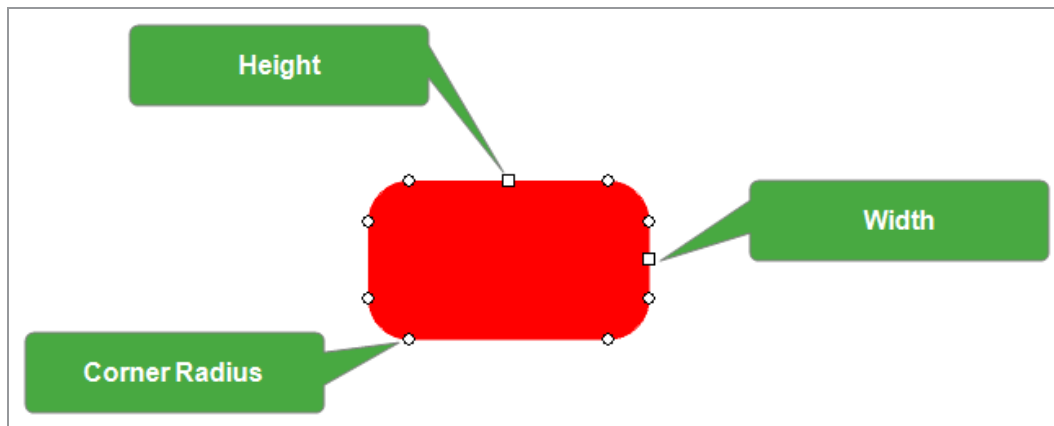
3.5.1.11. Registration Marks

For Registration Marks, you can adjust the Size and the type—Round or Diamond.
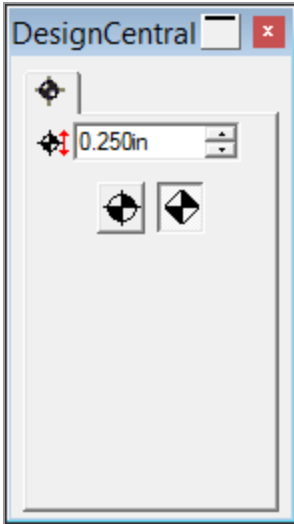
3.5.1.12. Starbursts

For starbursts, you can adjust the Inner and Outer Radius, the Number of Spikes, and the Spike Twist angle.
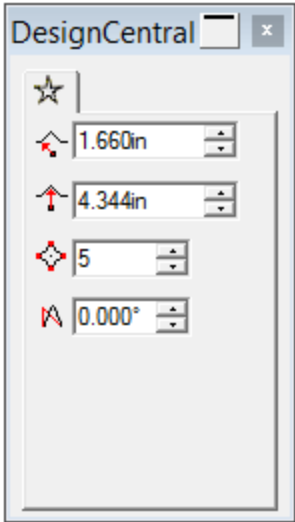
3.5.1.13. Vector Eraser

The Vector Eraser tool lets you erase areas from vector objects.
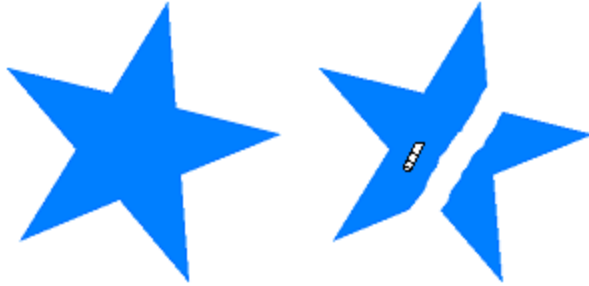
To use :

» Select the vector object

» Click the Vector Eraser Tool on the Main Toolbar and draw on the object

When an object has an effect applied, such as an outline, erasing can apply either to both or to just the object :

If both object and effects are selected, erasing will apply to both :

If only the object is selected using the Select Within Tool, only the parts of the object will be erased and the effect will reapply to the parts of the object that remain :

3.5.2. Paths

3.5.2.1. Paths

A path consists of one or more straight or curved segments and can be Open or Closed. When you have more than one segment in one path, the segments are separated by a Control Point. The position of the Control Point determines the shape of the adjacent segments.

On curved segments, each anchor point displays Direction Lines, ending in Direction Handles. Their angle and size determine the shape of the curve.

A Control Point located between two segments can be:

Symmetric	Smooth	Cusp

The Direction Handles point in opposite directions along the same line and have the same size.	The Direction Handles point in opposite directions along the same line but are not the same size.	The Direction Handles are not in the same line.
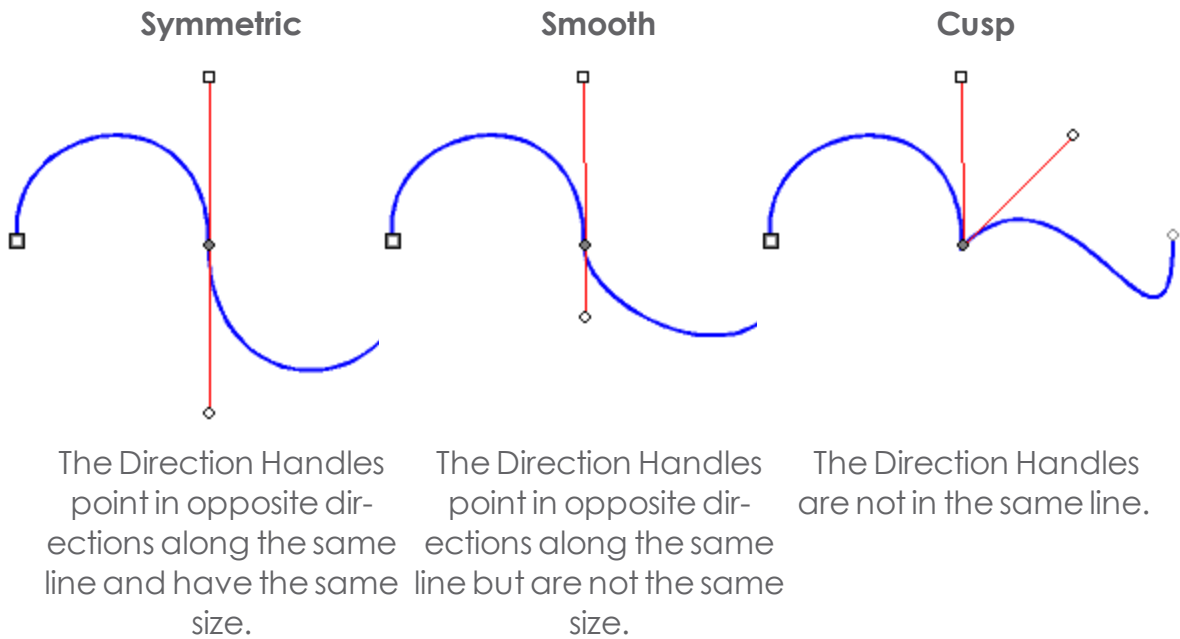
A double circle or square indicates the Starting Point of the path. In an open path, the Starting Point can be at either end of the path. In a closed path, the Starting Point can be anywhere on the path.

A straight segment is selected:
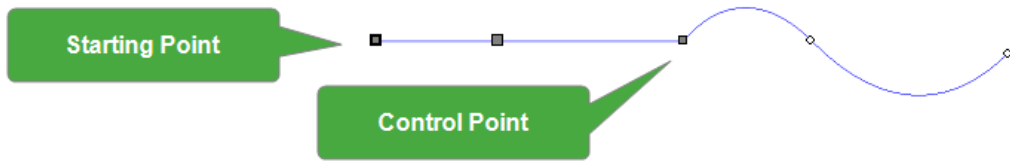
A curved segment is selected:
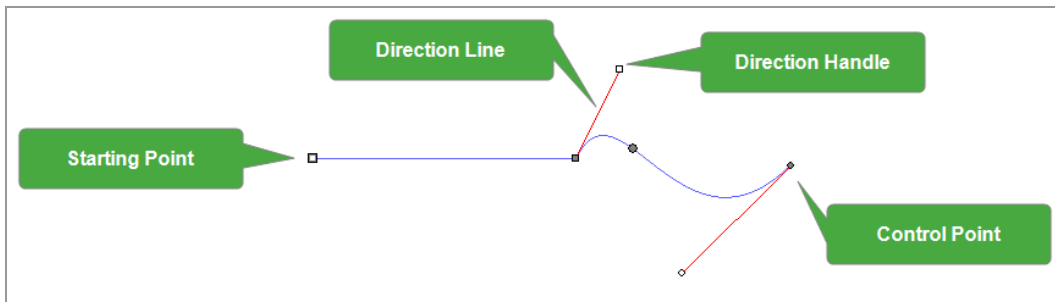
You can create paths using the Bezier Path Tool or the Freehand Drawing Tool.

To continue drawing an existing open path, select the Bezier Path Tool or Freehand Drawing Tool and click the cursor over either end of the path.

3.5.2.2. Editing Paths

The Path Edit toolbar contains tools that allow you to edit paths.
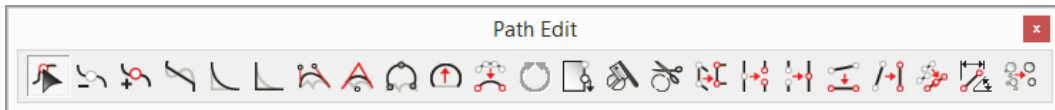
In this Chapter you will find detailed information on all path editing tools

	Straightening Lines		Eliminating Extra Points
	Aligning Points and Segments		Removing One Point
	Aligning Points and Segments to an Angle		Adding One Point
Arrange > Spacing	Spacing Points		Removing Self-Intersections

Arrange > Step&Repeat	Repeating Paths		Changing Starting Point
	Acquiring and Applying Length and Angle		Separating to Closed Paths
	Rounding Corners		Separating to Open Paths
	Sharpening Corners		Breaking Paths
	Converting Segment into a Curve		Joining Paths
	Converting Segment to Smooth Arc		Converting Corners to Right Angle
	Converting Segment to 3-Point Arc		Removing Tiny Objects
	Converting Segment to Arc		

3.5.2.3. Acquiring and Applying Length and Angle

» Select the Apply Length and Angle tool.

The Apply Length and Angle tab appears in DesignCentral.

» Do one of the following:

  » Enter the Apply Length and Apply Angle values in DesignCentral.

  » Hold Ctrl and click the segment from where the angle and length will be copied.

Apply Length	Check this field to apply the length to the segment.
Apply Angle	Check this field to apply the angle to the segment.
Segment Length	Specifies the length to be applied to the segment. Click the dropdown arrow on right to select from a set of predefined factors.
Segment Angle	Specifies the angle to be applied to the segment. Click the dropdown arrow on the right to select from a set of pre-defined angles or the opposite angle.

» Click the cursor on the segment where the angle and length will be applied.

Press Shift to change the point on the segment that is used as the reference.
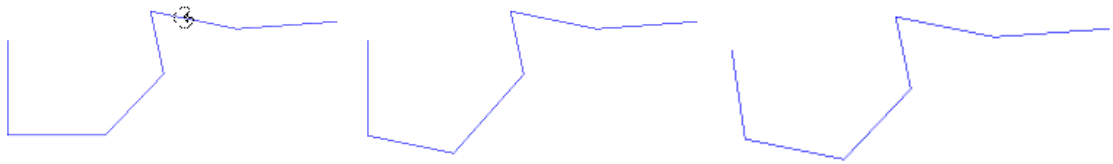
Acquiring the length and angle	Click to apply the length and angle.	Shift + click to apply the length and angle.
Ctrl+Click	Click	Shift+Click

3.5.2.4. Adding One Point

You can add one specific point to a path using the Add Point tool.

» Select the Add Point tool.

» Click on the path to add a new point.

3.5.2.5. Aligning Points and Segments to an Angle

The Align Points tool straightens selected points along an alignment reference line.

» Select the points to align using the Select Point Tool.

» Select the Align Points tool.

The Alignment Points tab appears in DesignCentral.
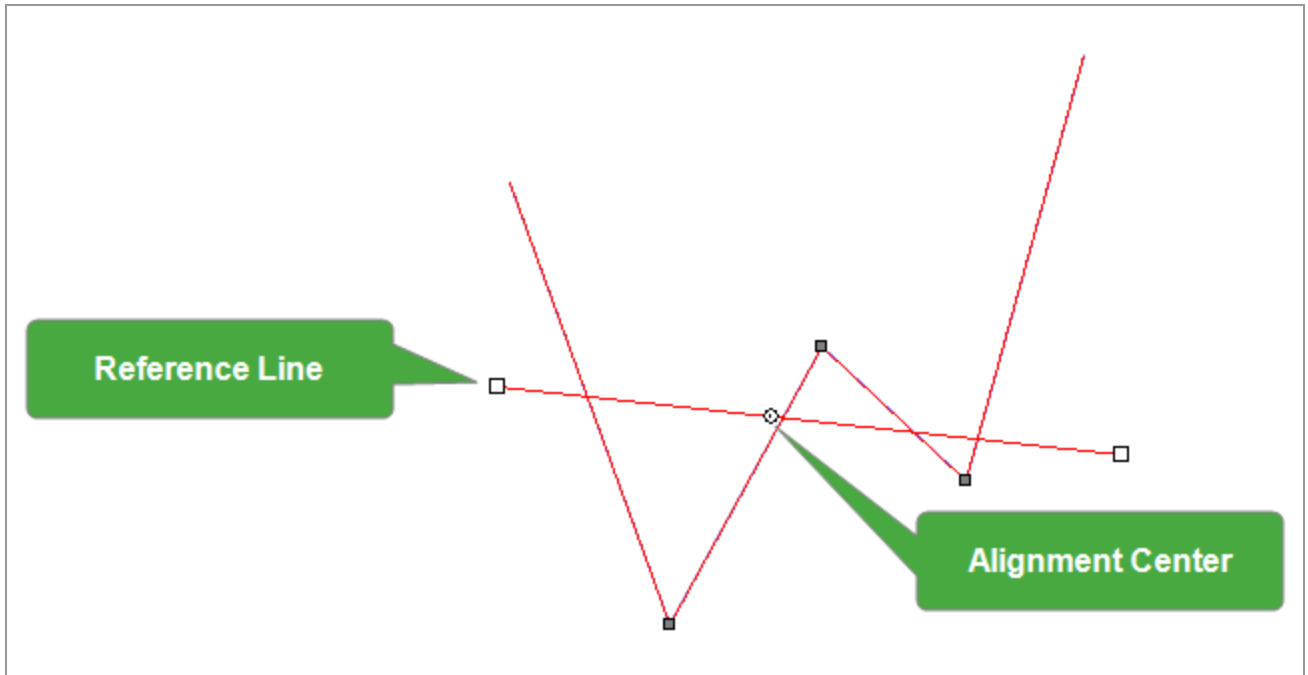
» Click and drag either end of the reference line to change its angle of align-ment. Click and drag the Alignment Center to change its position.

You can also adjust the alignment reference line using the numeric fields in the DesignCentral Alignment Points tab.

| Move Direction | When **Closest** is selected, the points move to the alignment reference line using the shortest path. |
| | When **Horizontal** is selected, the points move horizontally to the reference line. |

	When **Vertical** is selected, the points move vertically to the line.
Alignment Center Location	Specifies the X,Y coordinates of the Alignment Center on the alignment reference line.
Alignment Angle	Specifies the angle of the alignment reference line.
Move Entire Path	This option is only available when each of the selected points lies in a different path. When enabled, the entire path moves to the reference line.

» Click Apply or double-click anywhere inside the design area.
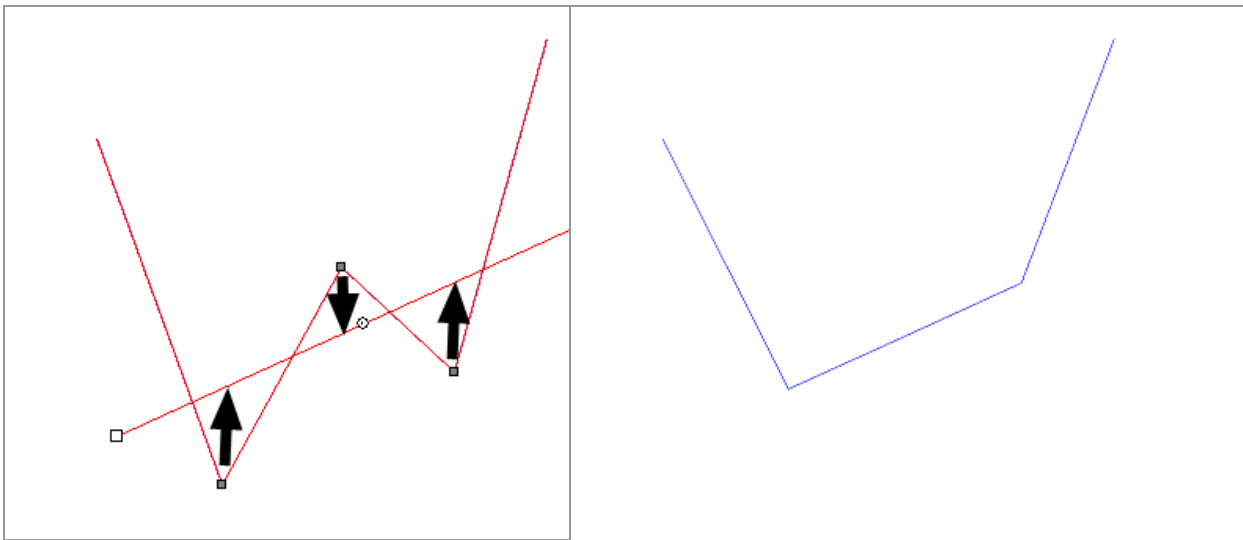
Aligning points using vertical move direction	Result

3.5.2.6. Aligning Points and Segments

Use the Align Horizontal and Align Vertical tools to align several points along a horizontal or vertical line.

» Select the points to align using the Select Point Tool.
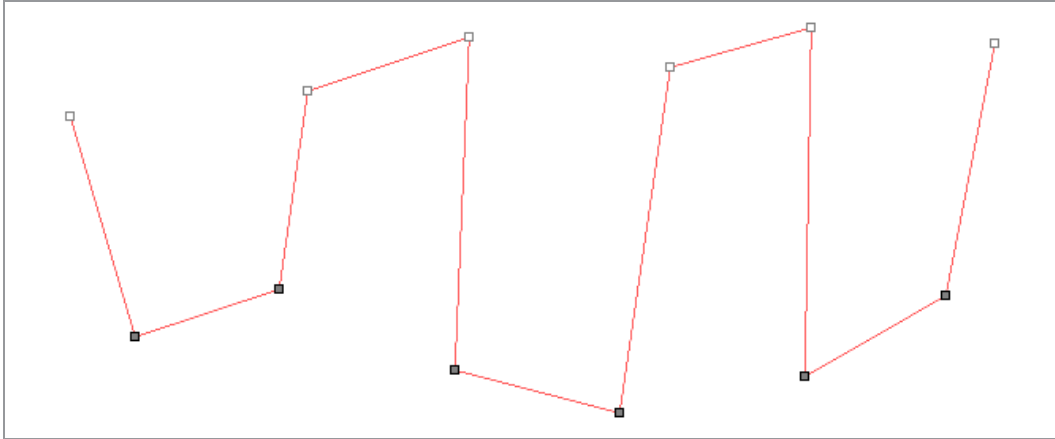
» Select the Align Horizontal ⬒ or Align Vertical ⬒ tool.
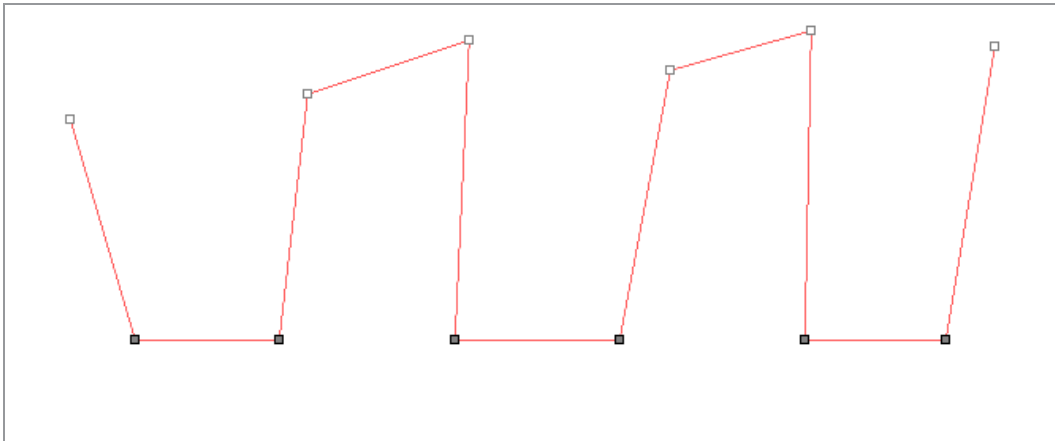
3.5.2.7. Bezier Path Tool

3.5.2.7.1. Drawing Straight Segments Using the Bezier Path Tool

» Select the **Bezier Path Tool** ✍ .

» Click where the segment will begin in the drawing area.

» Click where the segment will end.

Hold **Shift** to constrain the angle of the line.

» Repeat step 3 to create additional straight lines.

  » Press **Delete** to delete the last segment.

  » Press **Esc** or click New Path ![new path icon] in DesignCentral to create a new path.

  » To close the path, place the cursor close to the starting point and click when the cursor shows a small circle underneath.

Or

  » Click Close Path ![close path icon] in DesignCentral.

» Press **Delete** to delete the entire path.

3.5.2.7.2. Drawing Curved Segments Using the Bezier Path Tool

» Select the **Bezier Path Tool**. ![bezier path tool icon]

» Click where the segment will begin in the drawing area.

» Click and drag where the segment will end in the drawing area.

  By default, the new Control Point is **Symmetric**. Hold **Shift** and drag to make the new point **Smooth**, or **Ctrl** and drag to make it a **Cusp**.

» After releasing the mouse button, you can still adjust the Direction Lines by dragging the Direction Handles.

  » Hold **Shift** to change the length and angle of one Direction Line, while keeping the length of the other Direction Line unchanged.

  » Hold **Ctrl** to change the length and angle of one Direction Line, while keeping the length and angle of the other Direction Line unchanged.

» Repeat step 3 to create more segments

   » Press **Delete** to delete the last segment.

   » Press **Esc** or click **New Path** in DesignCentral to create a new path.

   » To close the path, place the cursor close to the starting point and click when the cursor shows a small circle underneath.

Or

   » Click **Close Path** in DesignCentral.

   » Press **Delete** to delete the entire path.

3.5.2.7.3. Drawing Arcs Using the Bezier Path Tool

» Select the Bezier Path Tool.

» Click where the arc will begin in the drawing area.

» Hold **Ctrl** and click to mark the endpoint of the arc; then drag to describe the curvature of the arc. The curvature will increase or decrease so that the arc always intersects the cursor.
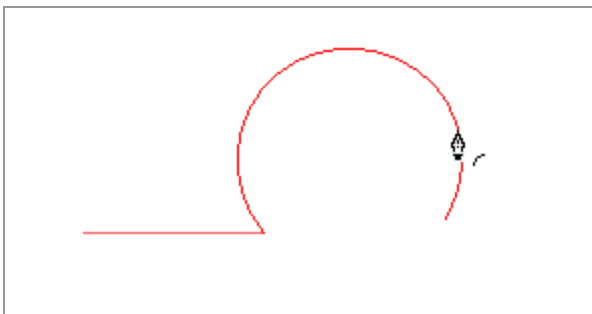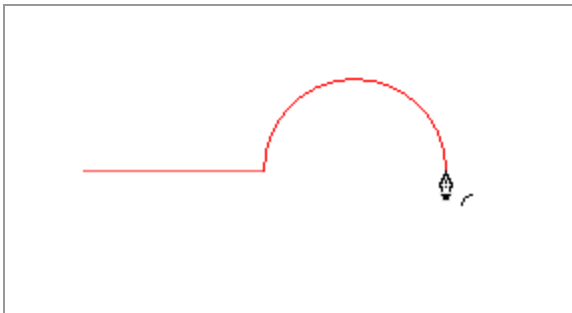
» After releasing the mouse button, you can still adjust the Direction Lines by dragging the Direction Handles.

» Hold **Shift** to change the length and angle of one Direction Line, while keeping the length of the other Direction Line unchanged.

» Hold **Ctrl** to change the length and angle of one Direction Line, while keeping the length and angle of the other Direction Line unchanged.

» Repeat step 4 to create additional segments.

» Press **Delete** to delete the last segment.

» Press **Esc** or click **New Path** in DesignCentral to create a new path.

» To close the path, place the cursor close to the starting point and click when the cursor shows a small circle underneath.

Or

» Press **Close Path** in DesignCentral.

» Press **Delete** to delete the entire path.

3.5.2.8. Breaking Paths

3.5.2.8.1. Breaking Paths at Existing Points

» Select the desired points using the Select Point Tool.

» Select the Break Path tool.

Use the Select Tool to move the separated pieces.
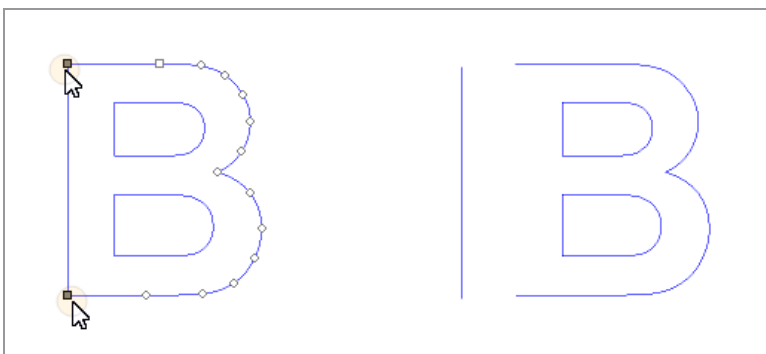
3.5.2.8.2. Breaking Paths at a Specific Point

» Select the Break Path tool. ![Break Path tool icon]

» Click the cursor at the desired location on the path.

Use the Select Tool to move the separated pieces.
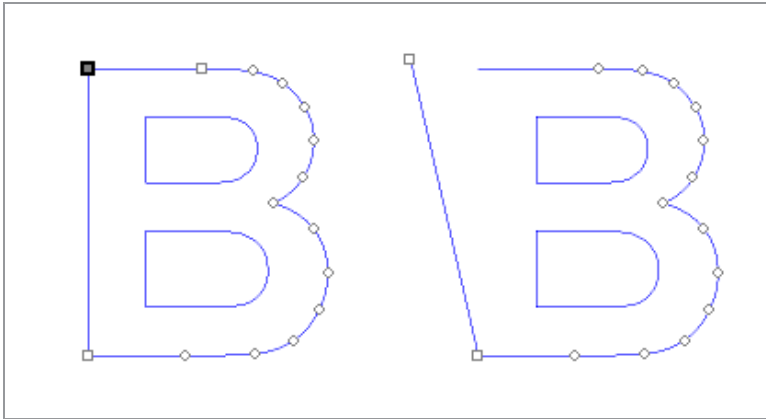
3.5.2.9. Changing Starting Point

Every path has a starting point. When a path is cut, the plotter will start cutting from the starting point. In an open path, the starting point must be at one end of the path.

» Use the **Select Tool** to select a path, or the **Select Point Tool** to select a point or segment.

» Select the **Change Start Point** tool. ![Change Start Point tool icon]

» Click and drag the starting point to its new position.

Hold **Shift** and drag to move the starting point to an existing point.

» Click **Apply** or double-click anywhere inside the design area.

3.5.2.10. Cleave by Path

Use this tool to cleave vector objects following the path that you have drawn.

» Draw a path that will be used to Cleave the vector object
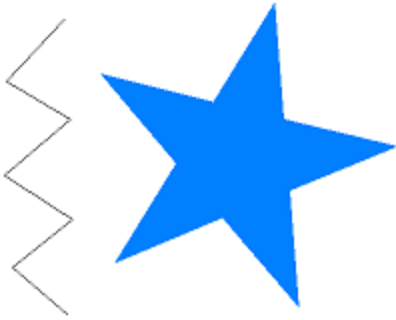
» Place the path over the object in the desired position

» Select both object and path and click the Cleave by Path tool
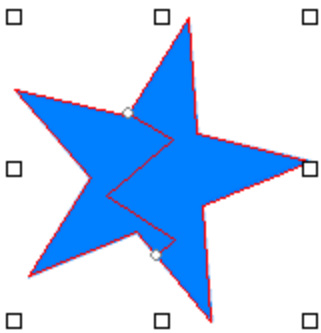
» The object will be split up into two separate vector objects that can be edited independently :

3.5.2.11. Converting Corners to Right Angle

Converting Corners to Right Angle

» 1.Select the desired corners or segments.

If you select segments, all sharp corners in the path will be converted to right angle corners.

» 2.Select the **Make Right Angle** tool.
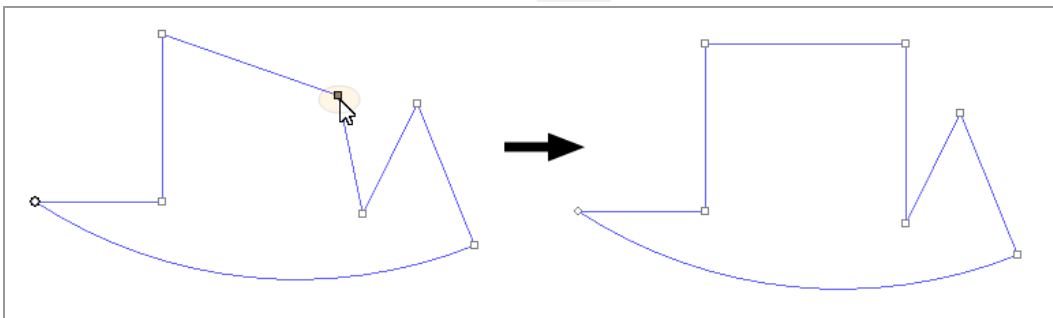
3.5.2.12. Converting Segment into a Curve

The Optimize by Curve tool creates a curved segment between two points on a path.

» Select the Optimize by Curve tool.
» On the path, click the point where the curve will begin.
» Click the point where the curve will end.

» Drag the start and end points over the path and the direction handles to adjust the shape of the curved segment.

» Hold Shift and drag the direction handles to constrain dragging to the original direction of the handles.

» Hold Tab to select which side of the path will be kept.

» 5.Click Apply or double-click anywhere inside the design area.
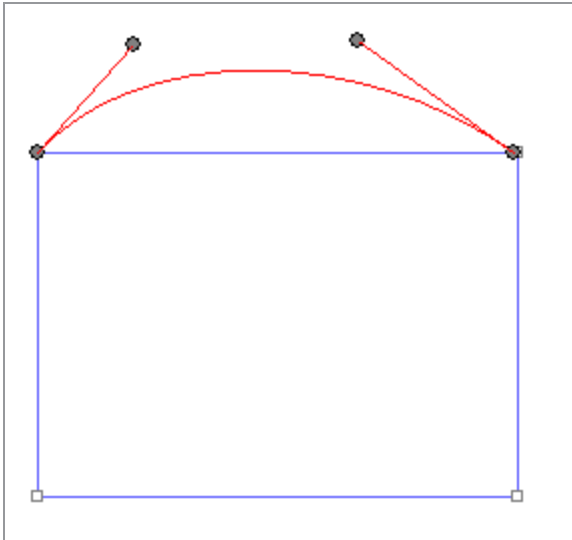
3.5.2.13. Converting Segment to 3-Point Arc

The Optimize by 3-Point Arc tool creates a semicircle between two points on a path.

» Select the Optimize by 3-Point Arc tool.

» On the path, click the point where the arc will begin.

» Click the point where the arc will end.

» Drag the start, end, and third control points in the arc to adjust the shape of the arc.
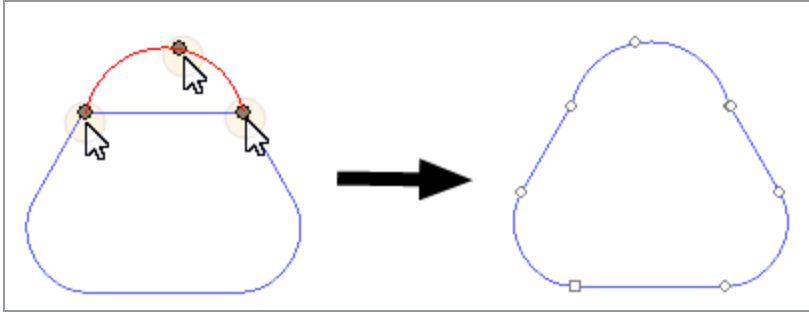
» Press Tab to change the arc position.

» Click Apply or double-click anywhere inside the design area.

3.5.2.14. Converting Segment to Arc

The Make Arc tool converts one segment of a path into a semicircle.

» Select the Make Arc tool.

» Click and drag one segment of the path.

Hold Shift and drag to constrain the arc into a half circle.

» Release the mouse button.

3.5.2.15. Converting Segment to Smooth Arc

The Optimize by Smooth Arc tool creates an arc segment between two points in a path.

» Select the Optimize by Smooth Arc tool.

The Optimize by Smooth Arc tab appears in DesignCentral.

» On the path, click the point where the arc will begin.

» Click the point where the arc will end.

» Drag the start and end points over the path and the center of the arc to adjust the shape of the arc, or adjust the Diameter in DesignCentral.
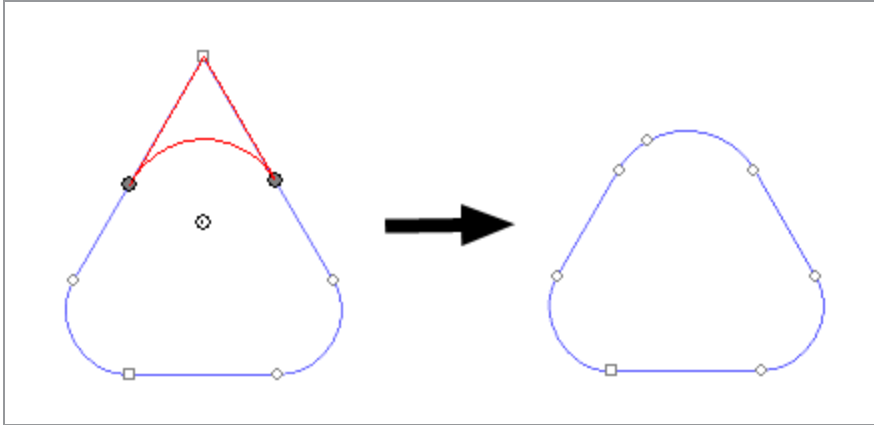
Press Tab to select the direction of the arc.
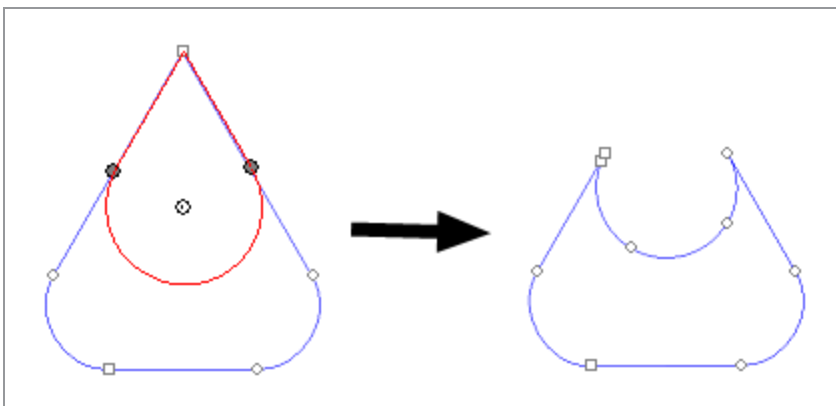
» Click Apply or double-click anywhere inside the design area.

3.5.2.16. Eliminating Extra Points

Many paths that have been Autotraced have a number of extra points that should be removed.

» Use the Select Tool to select a path and all of its points, or the Select Point Tool to select specific points in a path.

» Select the Reduce Points tool.

The Reduce Points tab appears in Design Central.

» Adjust the Tolerance in DesignCentral. Lower values will follow the original path more closely; higher values will eliminate more points.

» Click Apply or double-click anywhere inside the design area
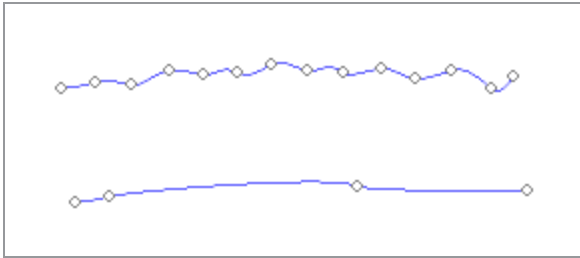
3.5.2.17. Freehand Drawing Tool

» Select the Freehand Drawing Tool.

» Adjust the Tolerance value in DesignCentral.

The higher the tolerance value, the smoother the path becomes.

» Click and drag to create the path. Hold Shift to create a straight line.

» While still creating the path, hold Ctrl and drag back over the path you just created to erase it.

» To close the path, place the cursor close to the starting point and click when the cursor shows a small circle underneath.

3.5.2.18. Joining Paths

Use this tool to:

» Join two points separated by a single gap.

» Join multiple points separated by multiple gaps.

To join two points separated by a single gap:

» 1.Select the desired points using the Select Point Tool.

» 2.Select the Join Paths tool.l.

The points are joined, whatever the distance between them.

» 3.Click Apply or double-click anywhere inside the design area.
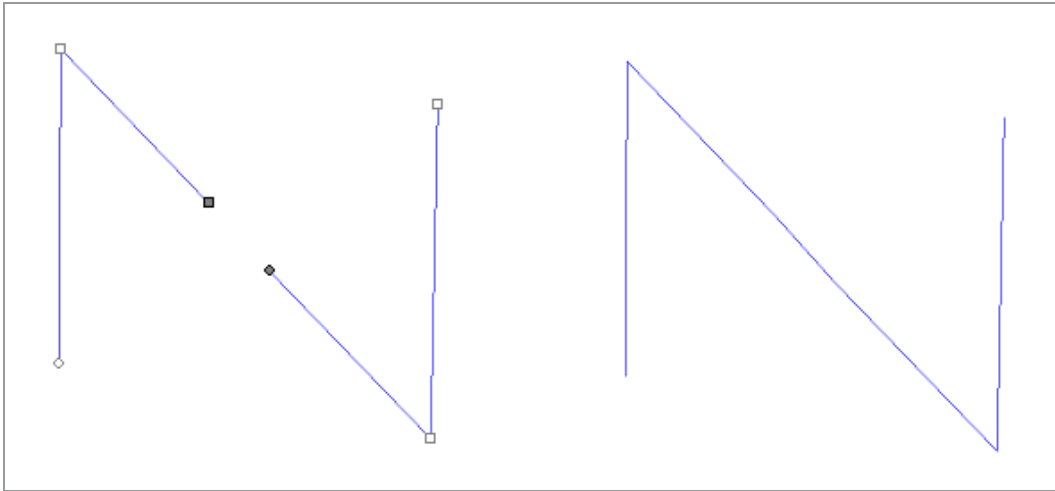
To join multiple points separated by multiple gaps:

» Select the desired points using the Select Tool or the Select Point Tool.

» Select the Join Paths tool.

The Join Paths tab appears in DesignCentral.

» Adjust the Tolerance in DesignCentral. Points separated by more distance than this will not be joined.

» Click Apply or double-click anywhere inside the design area.
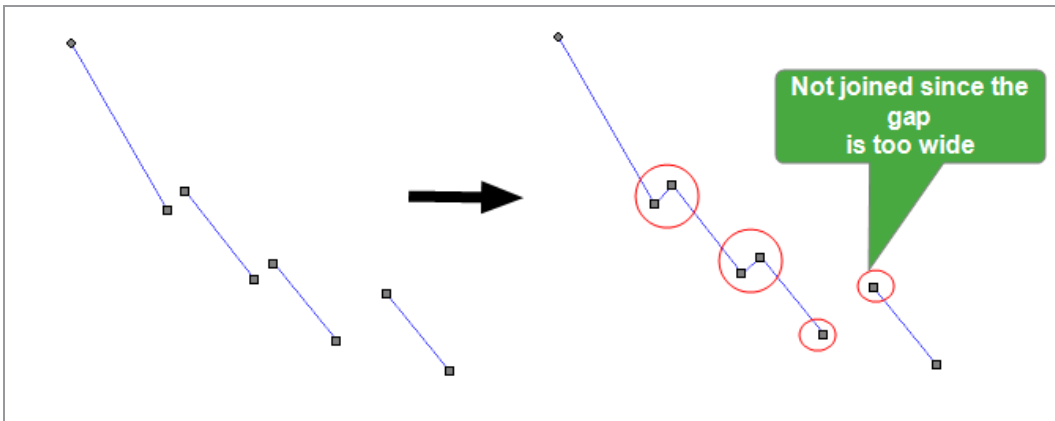
3.5.2.19. Path Direction

Every path has a direction associated with it. This direction is used when cutting

3.5.2.19.1. Showing Path Directions

The direction in which the path will be cut or plotted is determined by the path direction.

You can visualize the path direction using Show path direction mode as described in the previous item, or show direction arrows in each path.

3.5.2.19.2. Changing Path Direction

» Select the path.
» From the Arrange menu, point to Path Direction and select the new direction.

Automatic	The direction of inside paths (holes) in objects is clockwise and of outside paths is counterclockwise.
Reverse	Inverts the current direction.
Clockwise	Sets all paths to have the same clockwise direction.
Counter Clockwise	Sets all paths to have the same counterclockwise direction.

3.5.2.20. Removing One Point

You can remove one specific point from the path using the Remove Point tool.

» Select the Remove Point tool.
» Click each point to be removed.

You can also remove specific points by selecting them with Select Point Tool and pressing Delete

3.5.2.21. Removing Self-Intersections

Removing Self-Intersections converts every closed path to a compound outline.

» Select the path.
» From the Arrange menu, point to Path Direction and select Automatic.

3.5.2.22. Removing Tiny Objects

This tool allows you to remove small objects. This tool is especially useful to use after Autotracing a bitmap.

» Select the area to be cleaned up.

» Select the **Remove Tiny Objects** tool.

» Adjust the **Threshold** in DesignCentral. Paths with sizes below this value are deleted.

» Click Apply or double-click anywhere inside the design area.

3.5.2.23. Repeating Paths

You can create several copies of an open path, creating a closed path.

» Select the points using the Select Point Tool.

» From the Arrange menu, select Step and Repeat.

» Click Apply.
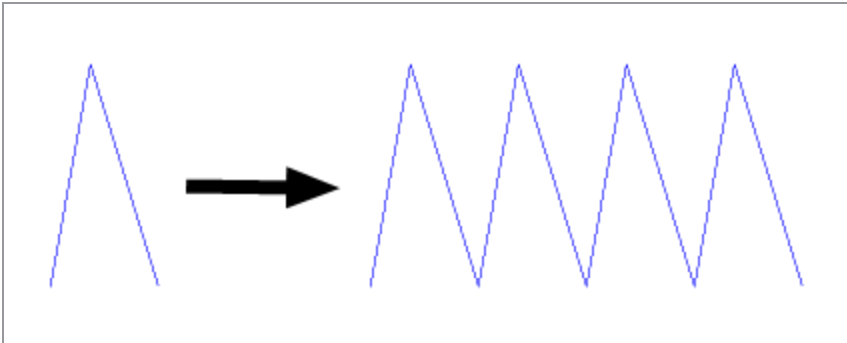
3.5.2.24. Rounding Corners

3.5.2.24.1. Rounding One Corner of a Path

The Round Corner tool converts angular corners into rounded ones.

» Select the desired objects.

» Select the Round Corner tool.

The Round Corner tab appears in DesignCentral.

» From the dropdown list, choose Selected.

» Click the path points of the corners you want to select. Use Shift to select multiple points.

» Adjust the Diameter in DesignCentral, or click and drag a circle.

» Click Apply.

3.5.2.24.2. Rounding Multiple Corners of a Path

» Select the desired objects.

» Select the Round Corner tool.

The Round Corner tab appears in DesignCentral.

» From the dropdown list, choose All Corners, Inner Corners, or Outer Corners.

» Adjust the Diameter in DesignCentral, or click and drag a circle.

3.5.2.25. Selecting Paths

3.5.2.25.1. Selecting Segments

» » Choose the **Select Point Tool.**

» Click a control point or a segment.

» When a straight segment is selected, a filled square is displayed. When a curved segment is selected, the Direction Handles and Lines for the segment are displayed, along with a filled circle.
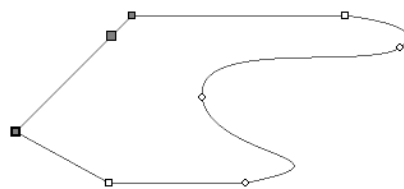
Straight segment selected   Curved segment selected
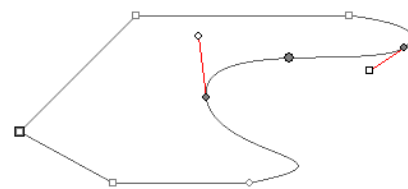
» When a control point is selected, it displays a square when the previous segment is straight and a circle when the previous segment is

curved.

  » Press **Tab** to move to the next point, or **Shift+Tab** to move to the previous point.

» Hold **Shift** and click other segments to select multiple segments or points.

3.5.2.25.2. Selecting Control Points by Enclosing

» Choose the Select Point Tool.

» Click and drag to create a rectangular bounding box.
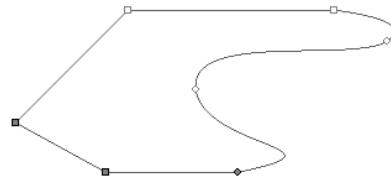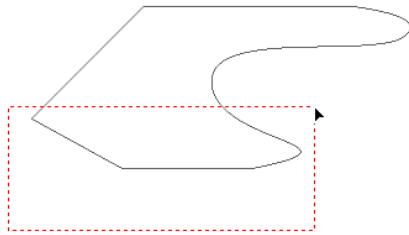
Multiple points selected

3.5.2.25.3. Selecting Points Using an Inclined Bounding Box

Another way to select multiple Control Points is by using an inclined bounding box. This method is useful when the points you want to select are placed in a way that a rectangular bounding box cannot select them.

» Choose the **Select Point Tool.**

» Hold **Ctrl** and click and drag to define one edge of the bounding box. Do not release the mouse button.

» Release **Ctrl** and drag the cursor in a perpendicular direction to define the adjacent edge of the bounding box.

» Release the mouse button.
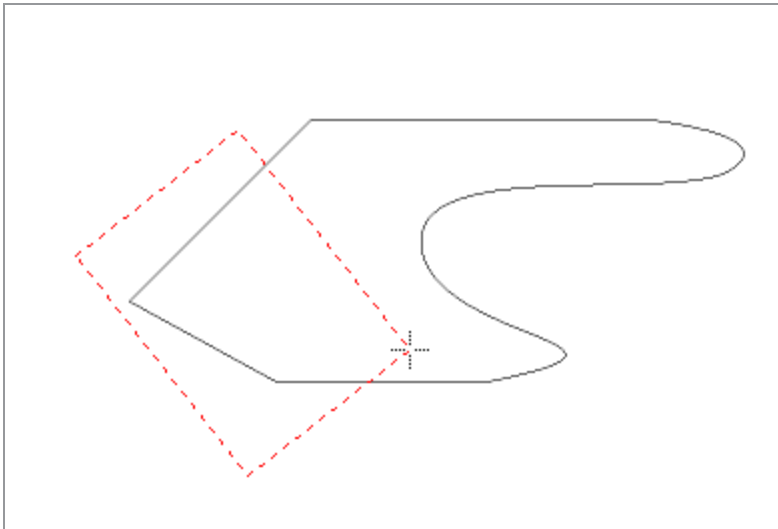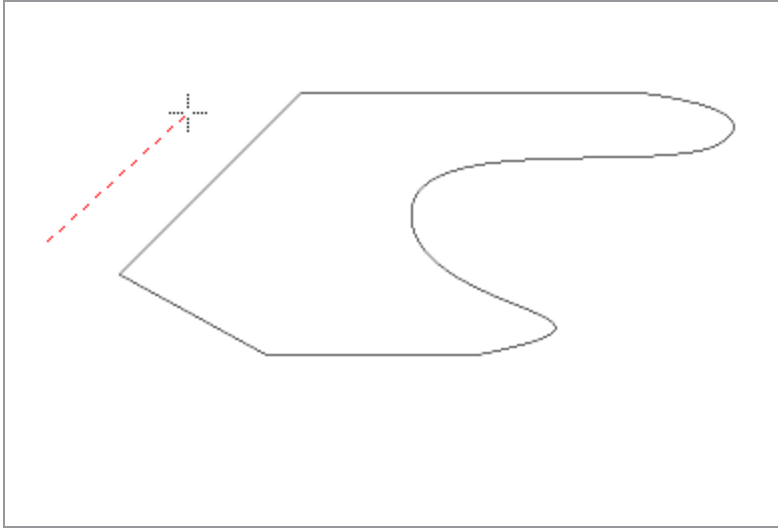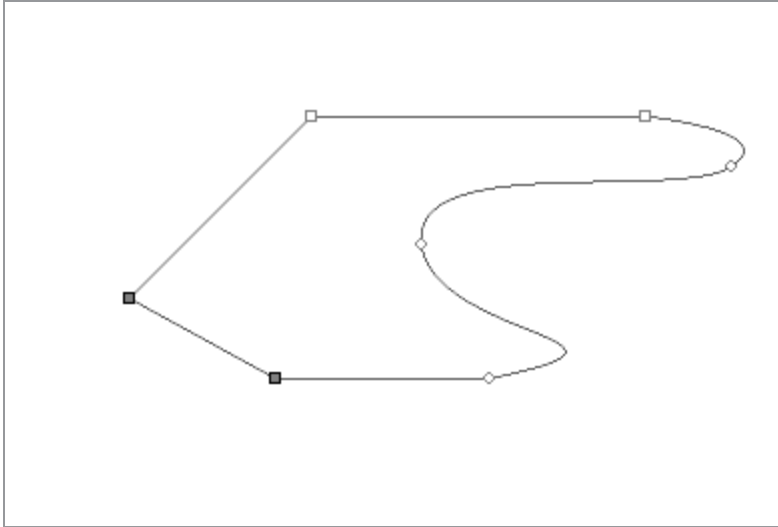
3.5.2.26. Separating to Closed Paths

The Cleaver tool separates both open and closed paths, creating new paths of the same type.

» Select the Cleaver tool.

» Click and drag the cursor to create a cut line.

Hold Shift and drag to constrain the angle of the cut line.
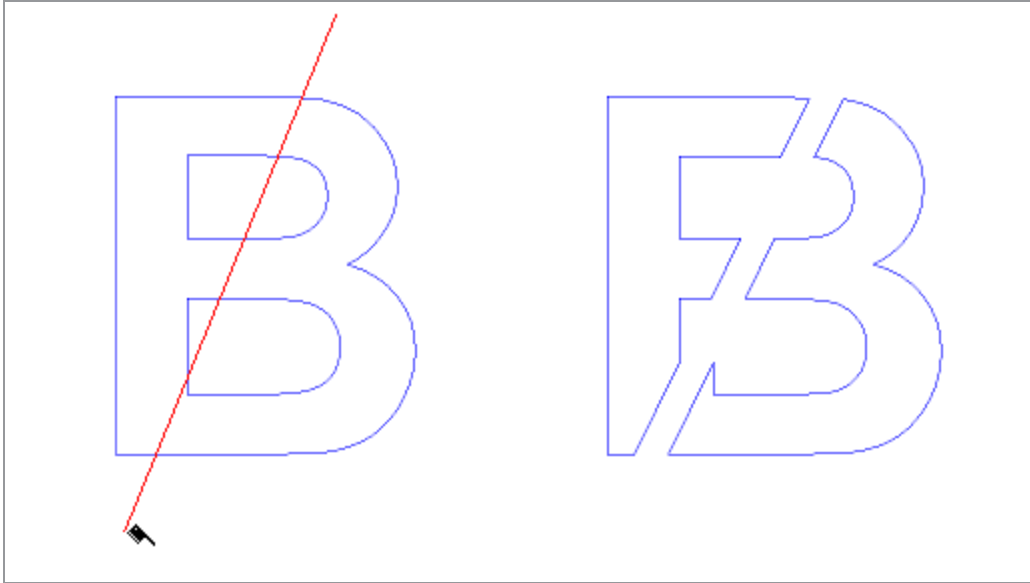
3.5.2.27. Separating to Open Paths

The Scissors tool separates both open and closed paths, but the new paths it creates are always open.

» Select the Scissors tool. ✂

» Click and drag the cursor to create a cut line, or just click to split a path at one specific point.

Hold Shift and drag to constrain the angle of the cut line.
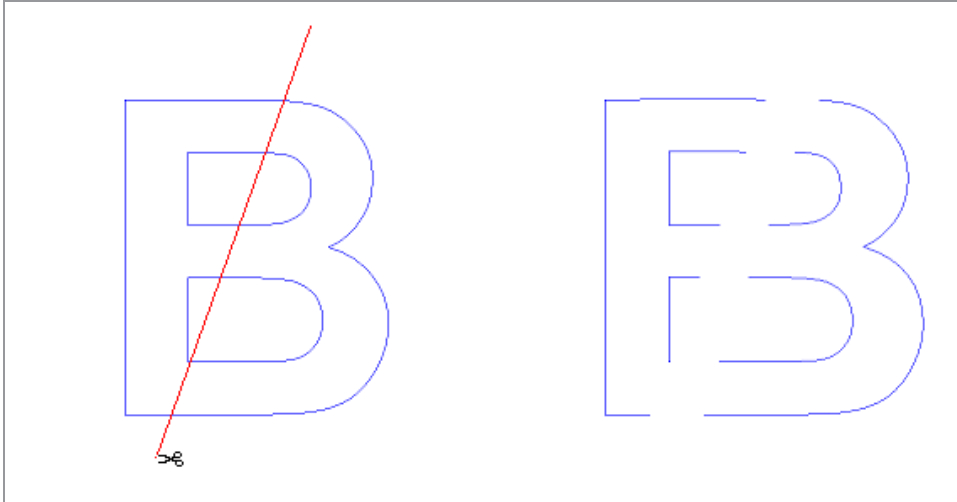
3.5.2.28. Sharpening Corners

The Sharpen Corner tool converts a round corner into a sharp one.

- » Select the Sharpen Corner tool.
- » On the path, click the point where the sharp corner will begin.
- » Click the point where the sharp corner will end.
- » Drag the start and end points over the path to adjust the position of the corner.

  Press Tab to join the start and end points with a straight line.
- » Click Apply or double-click anywhere inside the design area.
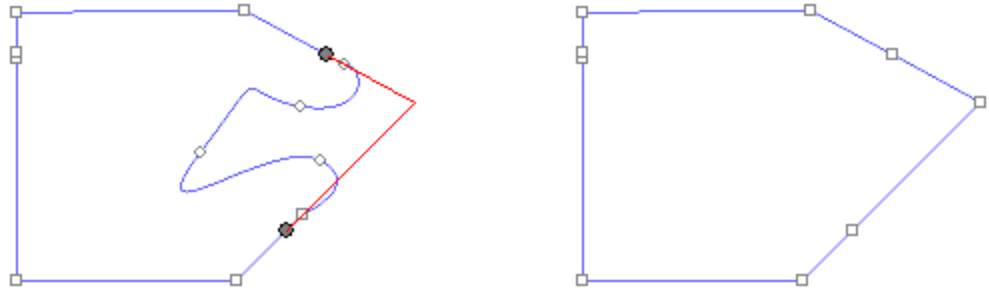
3.5.2.29. Spacing Points

You can space points evenly horizontally or vertically.

» Select the points using the Select Point Tool.

» From the **Arrange** menu, select **Spacing**.

(Or press J on the keyboard.)

The Spacing tab appears in DesignCentral.

» Enter the distance between points.

» Select the direction the points will be spaced.

» Click **Apply**.
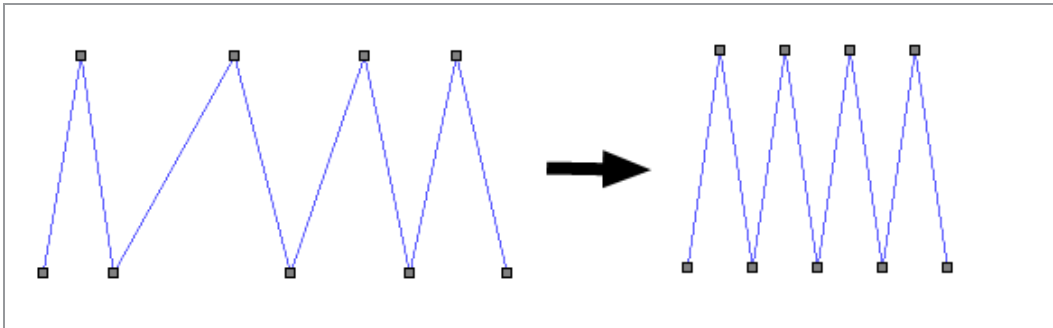
3.5.2.30. Straightening Lines

The **Straighten Points** tool is used to straighten a section of a path. In some cases, when you trace an image, extra points are added to the traced path. Use this tool to eliminate these points.

» Select the Straighten Points tool.

The Straighten Points tab appears in DesignCentral.

» Place the cursor over the path.

» Click the point where the straight line will begin.

» Click the point where the straight line will end.

» Drag the start and end points to adjust the position of the straight line.
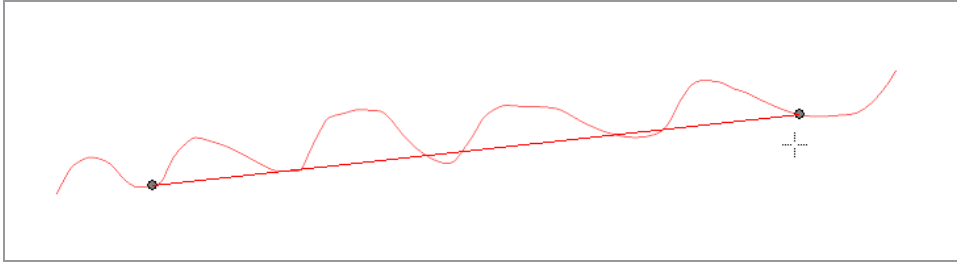
» Click Apply or double-click anywhere inside the design area
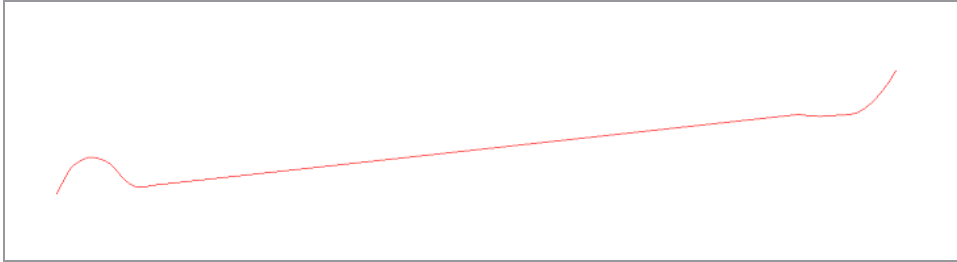
3.5.2.31. Using DesignCentral to Edit Points and Segments

When a segment or point is selected, DesignCentral displays Path and Point editing tabs. The information on each tab differs depending on whether a point or a segment is selected.

3.5.2.31.1. DesignCentral When a Segment is Selected

When a segment is selected, the following information is available in DesignCentral:
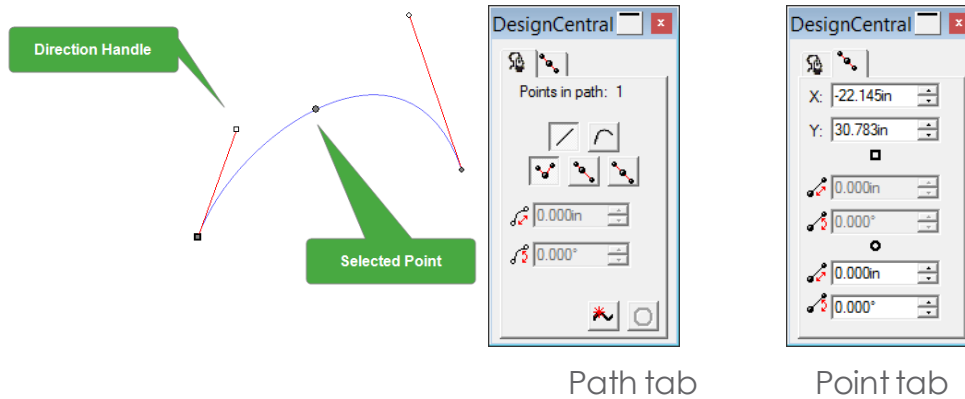
Path tab   Point tab

Points selected   Indicates the number of points selected in a path.

Specifies the type of selected segment (straight line or Bezier curve). You can convert one type to another by clicking these buttons.

Specifies the length of the selected segment. In a curved segment, this value is the length of a straight line joining the two ends of the segment (see above illustration).

Specifies the angle of the selected segment. In a curved segment, this value is the angle of a straight line joining the two ends of the segment (see above illustration).

.

Attributes in a Point tab

X: Y: Displays the X,Y coordinates of the selection point (the point where the segment was clicked).

Displays the length and angle of the Direction Handle marked with a square.

Displays the length and angle of the Direction Handle marked with a circle.

3.5.3. Text

3.5.3.1. Text

The software allows you to create text and change its appearance. The following defines each text type and displays an example:

Horizontal Text	The text follows a straight horizontal line.
Arc Text	The text is placed over a circle.
Horizontal Path Text	The horizontal text is placed over a path.
Horizontal Block Text	The text is restricted to the width of a block. When the text is wider than the block, it will automatically move to the next line.

3.5.3.2. Text on a path

3.5.3.2.1. Creating Text on a path

» Select the Path Text Tool or Vertical Path Text Tool.
» Click on any existing path or shape in your design.
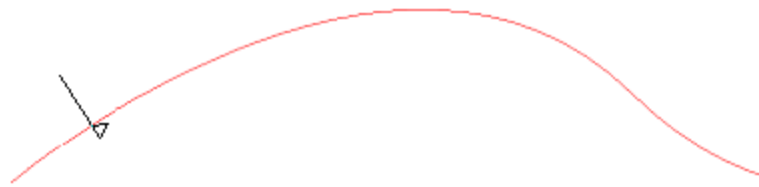
» Type the text.
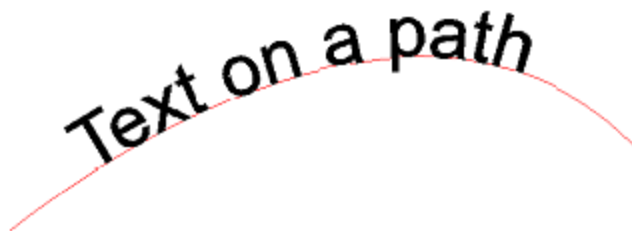
» Press Esc or select a different tool to finish entering text.

> **Note:** The path itself can be removed afterward. Even if you want to make further changes later on, Graphtec Pro Studio will remember the path.

3.5.3.2.2. Editing Text on a path

When you select a text object and click the Character or Paragraph tab of DesignCentral, the text displays a number of Control Points in and around it. Each of these points has a special purpose and will change the appearance of the text when moved.

You can also use the arrow keys on your keyboard to make incremental adjustments.
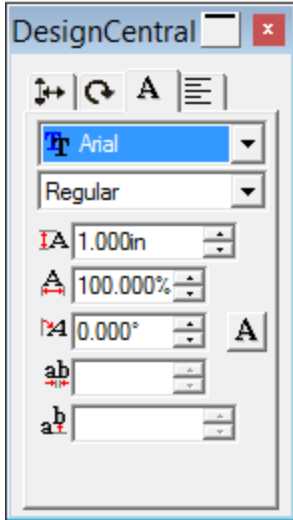
Moving Text on a path

You can move the position of all text on the path by selecting and dragging the X control point:
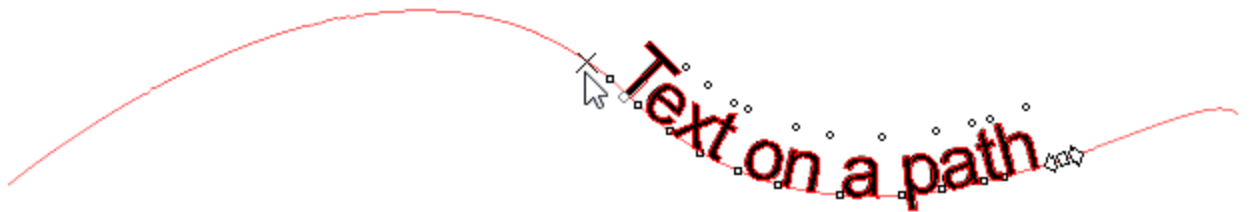
Hold Ctrl while dragging the X control point to reset the text to its original position.

To adjust the spacing between the selected character and the previous one, click and drag the square control point.

All characters to the right of the selected character are also repositioned.
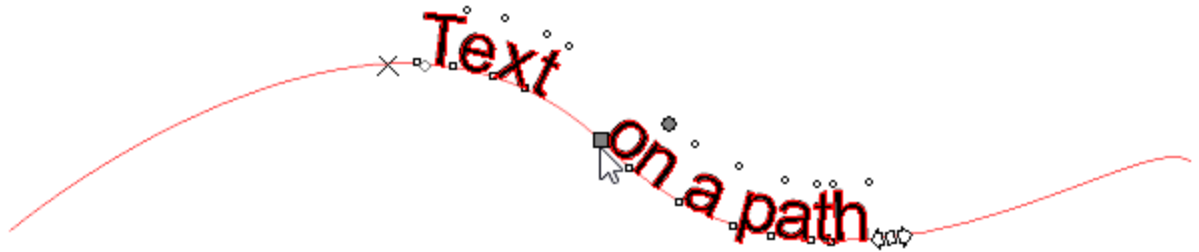
Hold Ctrl while dragging a square control point to move a single character, leaving the remaining text in place

Hold Shift key while dragging a square control point to move a character up or down.

Rotating characters

To change the rotation of an individual character, click and drag the circle control points:
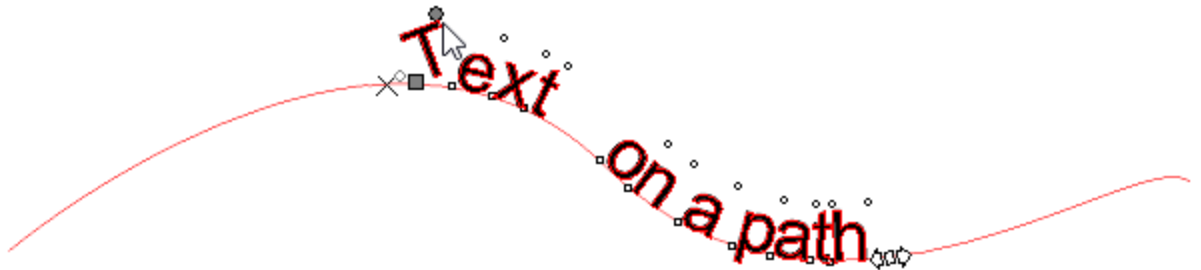
Hold Shift and drag to rotate the character in preset increments.

(You can adjust the increment in Preferences > General Tab > Constrain angle)

Hold Ctrl and drag to restore the character to its initial position.

Tracking

Drag the arrow control point to adjust the tracking of text. Tracking is adjusted equally between all characters and words.

Hold Ctrl and drag to change tracking only between words.
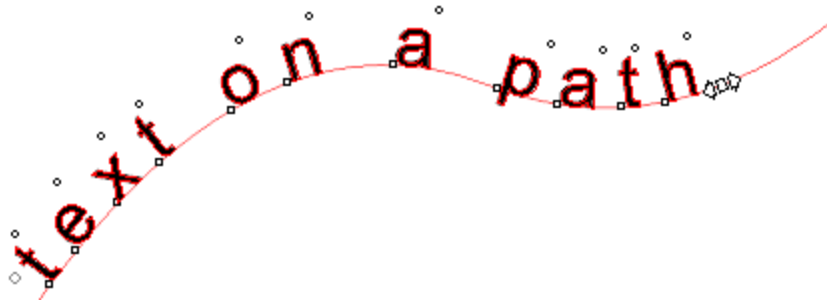
3.6. Arranging Objects

3.6.1. Aligning Objects

Align allows you to align objects in relation to another object, or to align objects to the design area.

3.6.1.1. Aligning Objects to another Object

» Select the objects.

> If you select the objects by dragging a bounding box, the first object in the order stack is used as the Stationary Object. If you select the objects by clicking them while holding Shift, the first object selected is used as the Stationary Object.

» .Do one of the following:

  » From the **Arrange** menu, point to **Align** and select how the objects will align.

  » **Right-click** the selected objects, point to **Align** and select the desired alignment.

In the example below, the yellow square is used as the Stationary Object for the alignment.

Original   Left Alignment   Right Alignment   Horizontal Centers
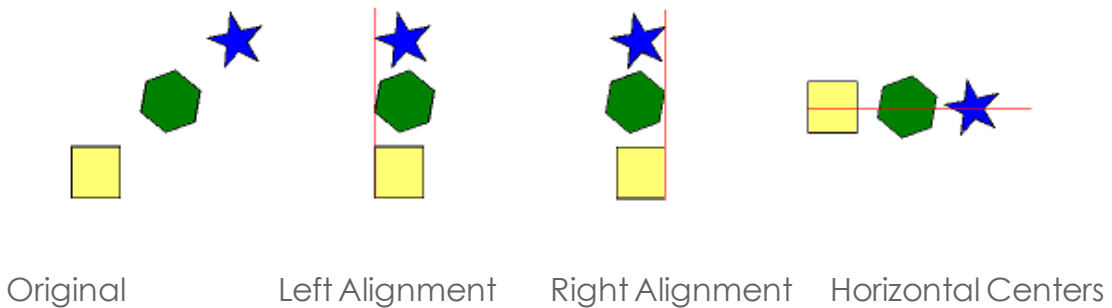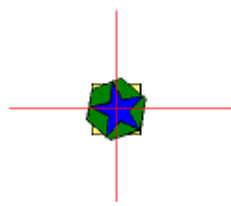
Both Centers   Top Alignment   Bottom Alignment Vertical Center

3.6.1.2. Aligning Objects to the Design Area

» Select the objects.

» From the **Arrange** menu, point to **Align** and select how the alignment will be done.

If you have set a margin, the objects will be aligned to this margin.
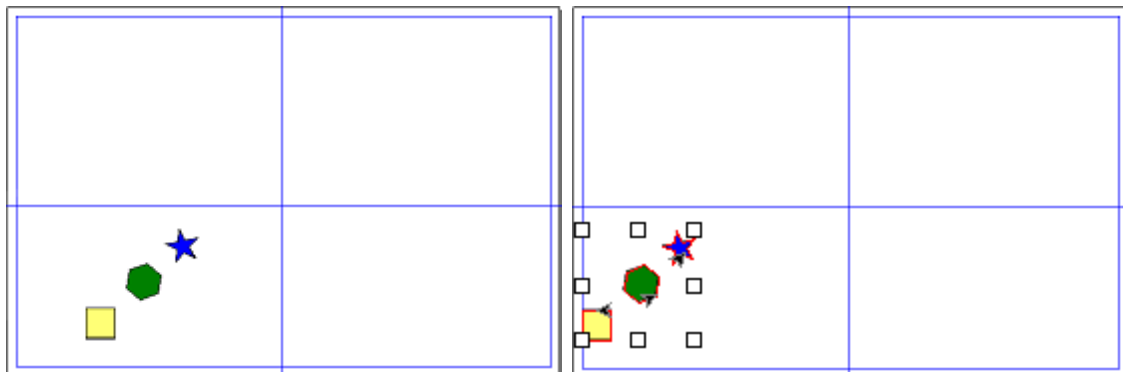
Original Objects   Left Alignment

Right Alignment
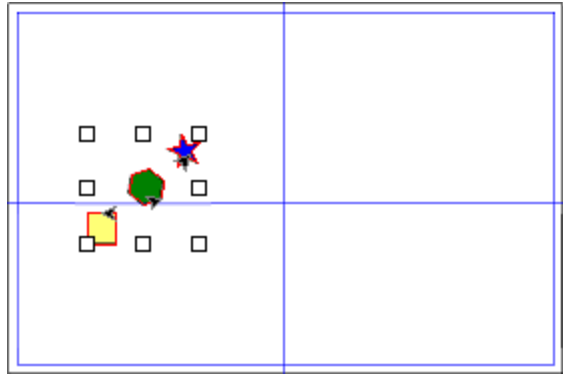
Horizontal Centers
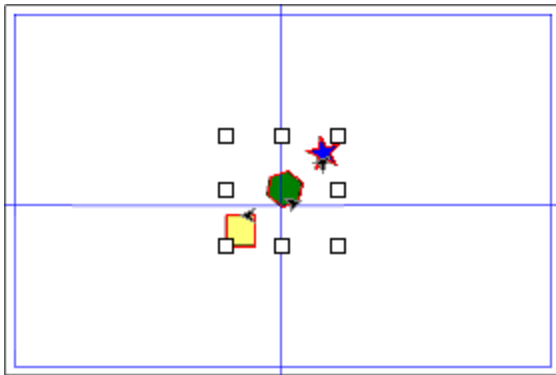
Both Centers
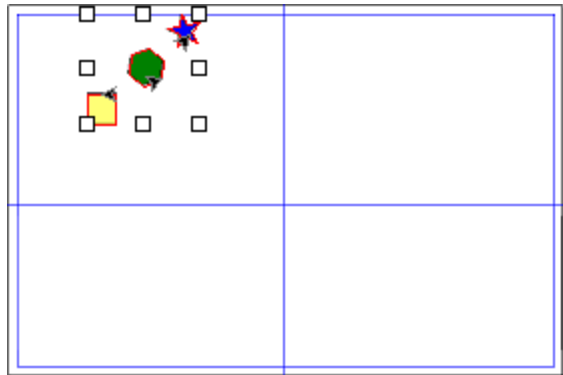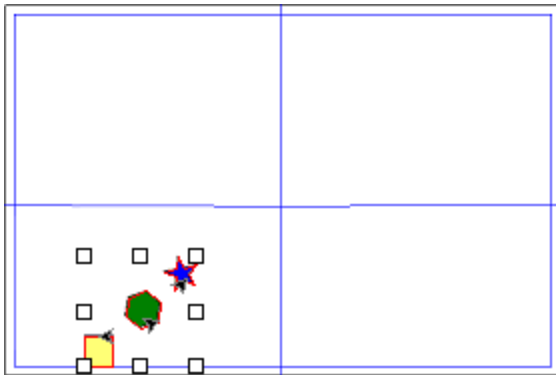
Top Alignment

Bottom Alignment
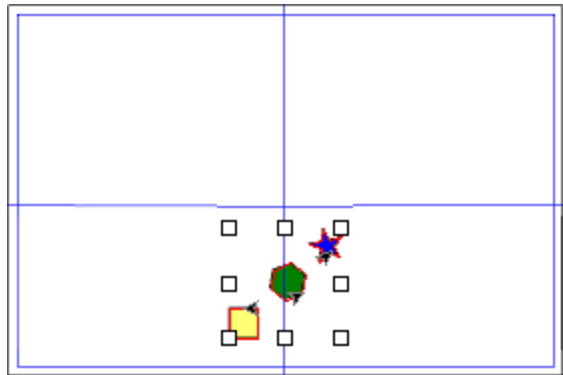
Vertical Center

3.6.2. Auto Serialization

Auto Serialization allows you to set a number of options to create serialized copies of text objects.

» Select the desired objects.

» **From the Arrange menu, select Auto Serialize.**

Every word of selected text appears in the Text Selection box on the right side of the Serialization-Layout dialog box.
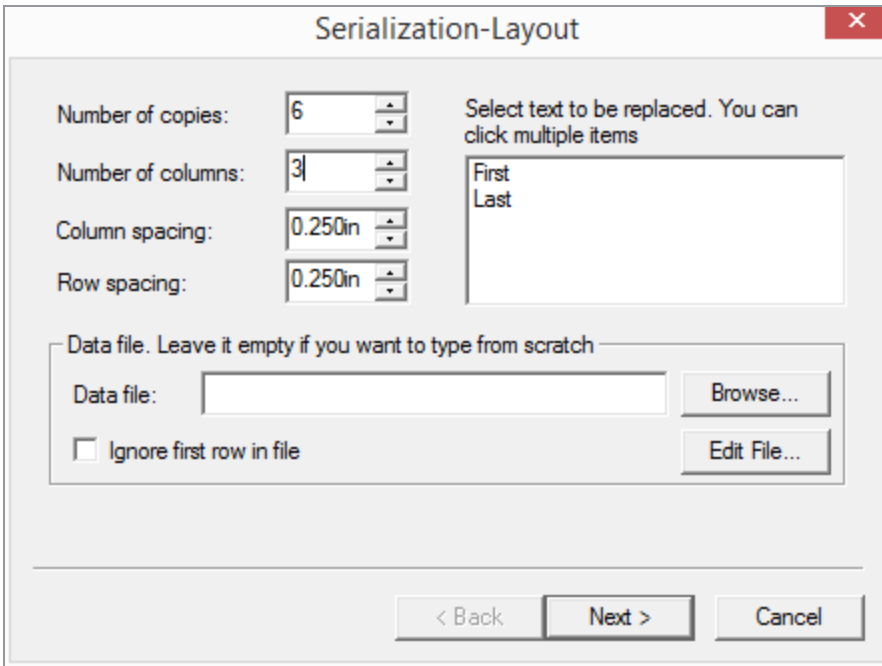
» Select the text to be replaced.

To select multiple items, click on them.

» Adjust the following parameters:

Number of Copies	Copies Number of serialized copies to be created
Number of Columns	Number of columns containing the serialized text
Column Spacing	Spacing between columns
Row Spacing	Spacing between rows of serialized text

Data File	Lets you specify a delimited data file to serialize. (Leave this field empty to enter text manually.)
Browse	Click to find a file to serialize.
Edit File	Select to edit the content of the file you want to serialize.
Ignore first row in file	Select to edit the content of the file you want to serialize.

» Click **Next**.
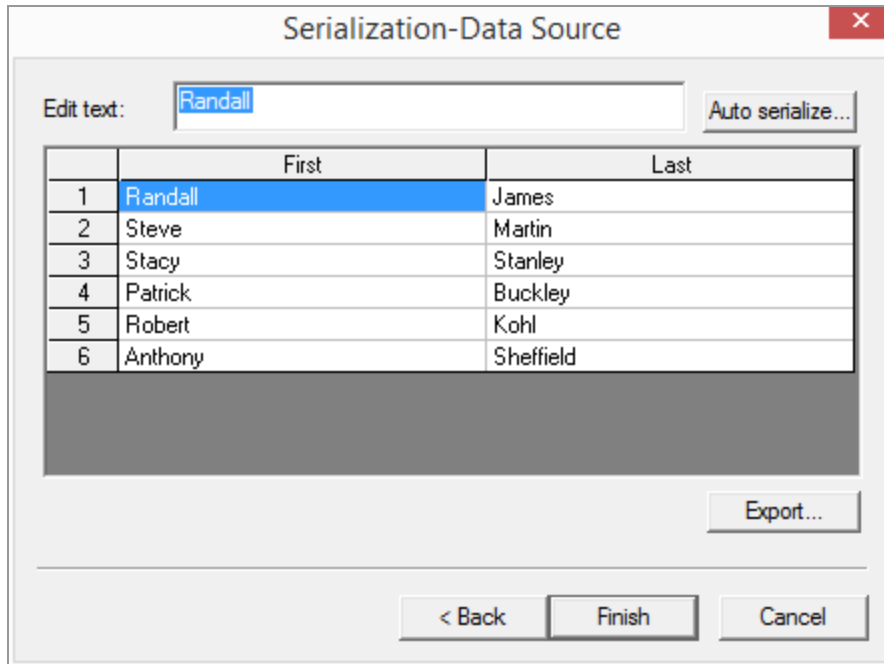
» To manually edit a text field:

   » Select the desired field.

   » Type new text in the **Edit Text**field.

» To move to the next field, press **Tab**, **Enter**, or **left-click** the desired field.

» To enter sequential data in the text fields, select a starting field and click **Auto serialize**.

The Serialization dialog box appears.

» Adjust the following parameters:

Numeric	Enter a positive or negative integer.
Character	Enter a character or group of characters. (Both text and numbers are acceptable.)
Start	Enter a starting value according to the Type selected, Numeric or Character.
Increment	Specify the increment amount for the serial text.

» To save the current configuration as a data file, click **Export.**

» Click **Finish.**

» If desired, ungroup the serialized text to edit just part of the job.

3.6.2.1. Changing Auto Serialization Attributes Using DesignCentral

You can use the Auto Serialization tab in DesignCentral to adjust the following parameters:
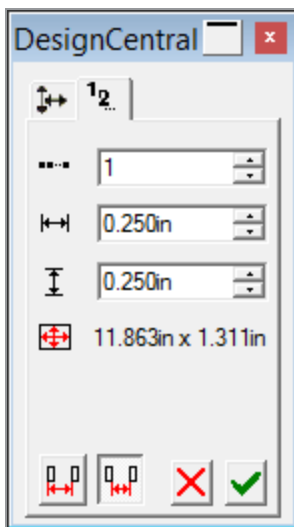
Number of columns to receive copies of the serialized text

Horizontal spacing between copies of the serialized text

![vertical spacing icon]	Vertical spacing between copies of the serialized text
![width height icon]	Total width and height of a single serialized object
![distance icon]	Distance between serialized objects from the bottom left of one object to the bottom left of the next
![distance icon]	Distance between serialized objects from the top right of one object to the bottom left of the next

3.6.3. Changing Cut Order

Graphtec Pro Studio's Cut/Plot dialog has settings to automatically optimize the order of cutting objects. However, for manual control over the order in which objects will be cut, you can use the Change Cut Order feature in Designer.

» Select all objects

» Click **Arrange**, then **Cut Order** and **Reorder**

The display will change to wireframes, showing a number for each object indicating the original order of objects, which is the order in which they were drawn.
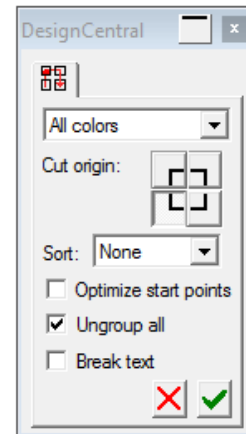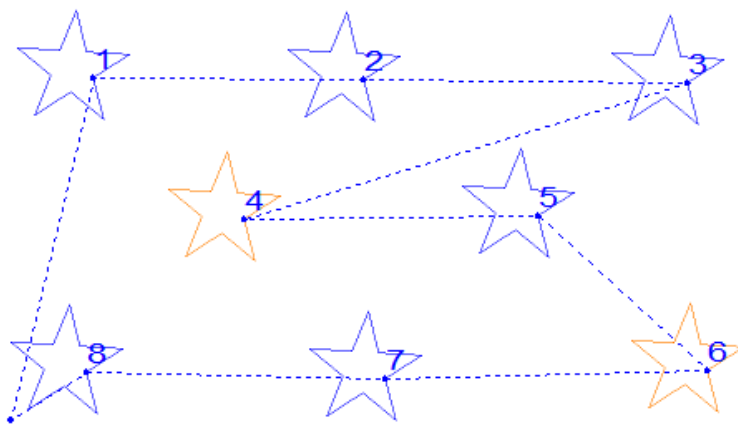
To change the order, do one of the following :

» Click the objects in the desired order.

» In DesignEditor, change the order of objects

» In DesignCentral, choose an automatic Sort method.

The Following parameters can be adjusted in Design Central
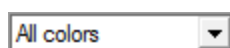
All colors   Select All Colors if you want the reorder to apply to all objects regardless of their color. Select specific colors if you wish to reorder them separately.

Select the point of origin for cutting. This corresponds to the point of origin of the knife blade.
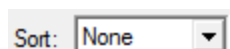
Sort: None   Different methods for reordering automatically.

Optimize start points	Finds the best entry point for each object considering the path the knife blade will follow.
Ungroup all	Ungroups all objects in a group so they can be reordered individually.
Break text	Breaks text so the characters can be reordered individually. Breaking text cannot be reversed.

3.6.4. Changing Object Order

As you create objects or import files into your document, every object is given a position in the stacking order. The first object you create will be at the bottom of the stack. This order will be reflected when the objects overlap.

You can select and move more than one object at a time.

» 1.Select the desired objects.

» 2.Do one of the following:

    » From the **Arrange** menu, point to **Order** and select the new position in the stack.

    » Right-click the desired objects, point to **Order** and select the new position.

    » Drag the objects in the DesignEditor - **Object** tab.

To Front
Moves the selection to the top of the stack in front of all other objects.
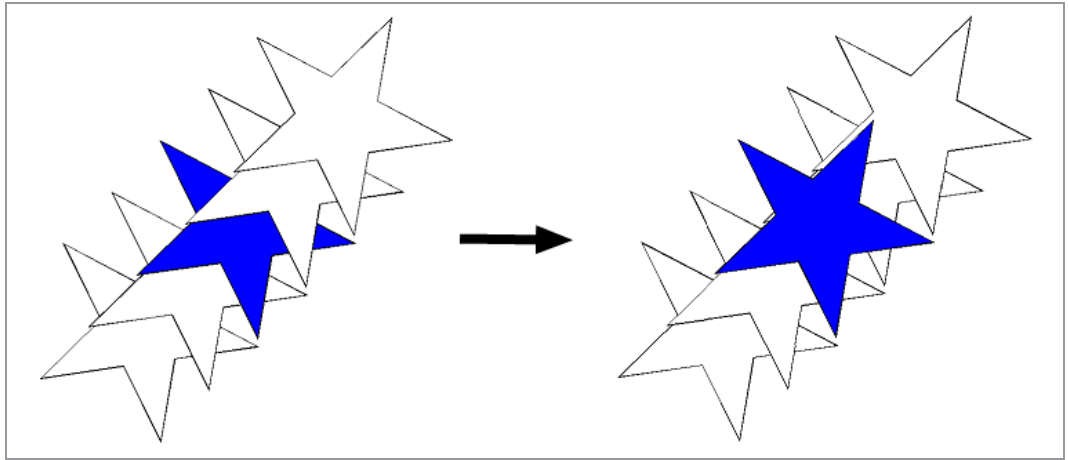
To Back
Moves the selection to the bottom of the stack behind all other objects.
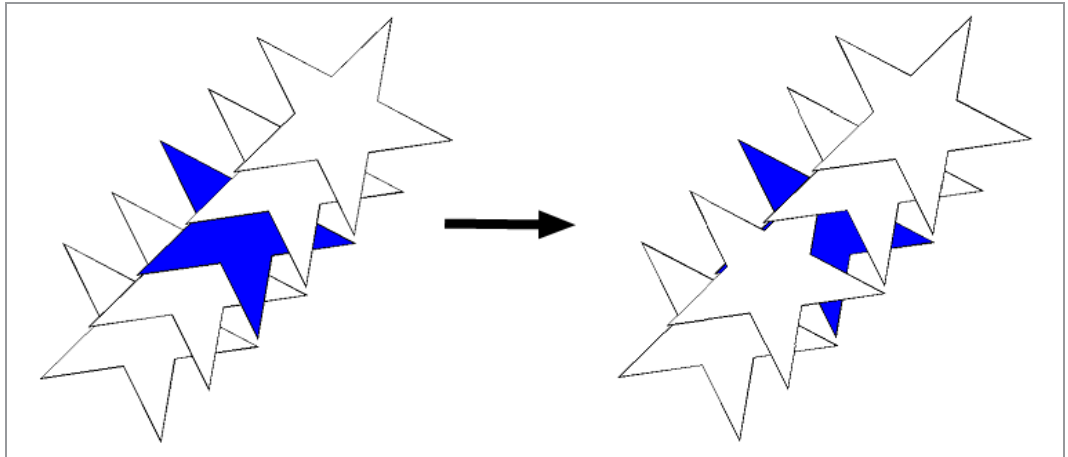
Forward One
Moves the selection up one position in the stack.
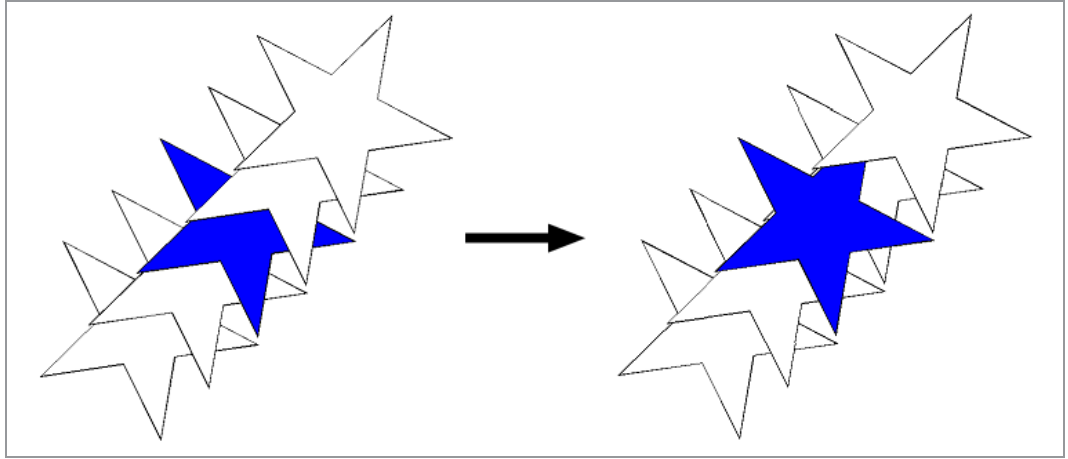
Back One   Moves the selection down one pos-
                                                ition in the stack.
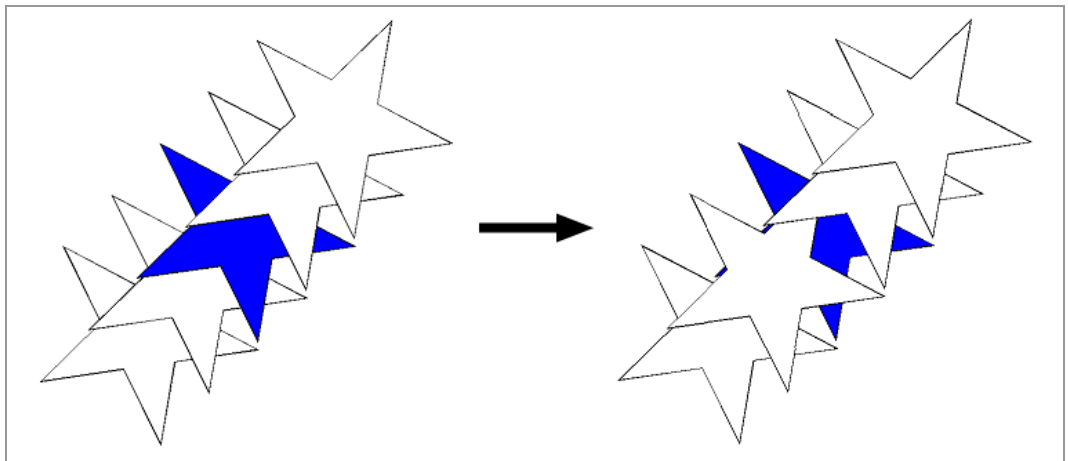
3.6.5. Clear Transform

After scaling, rotating, or transforming any item geometrically, you can return the item to its original state by using the Clear Transform function.

» Select the desired objects.

» From the **Arrange** menu, click Clear **Transform**.

3.6.6. Compounding Objects

Compounding lets you view overlapping objects exactly as they will appear when cut or printed. This feature is useful for creating holes through objects.

One way to create this sign is to place white text over a black rectangle; that would require two colors of vinyl. You can achieve similar results using the Compound command and just one color of vinyl (black).

The "hole" created permits the substrate color to show through.
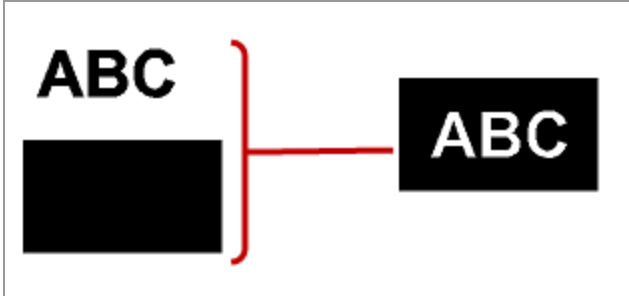
Compounded objects are treated as a single object.

3.6.6.1. Compounding Objects

» Align the objects on top of each other.
» Select the objects.
» Do one of the following:
  » From the Arrange menu, point to Compound and select Compound.
  » Press Ctrl+M on the keyboard.

If objects with different colors are selected, the compound object will have the color of the bottommost object.

3.6.6.2. Compounding Objects by Color

You can combine objects based on their color.

» Select the objects.
» From the Arrange menu, point to Compound and select Compound by Color.

Objects compounded by color are converted to outlines.

| Original Objects | Normal Compound | Compound by color |
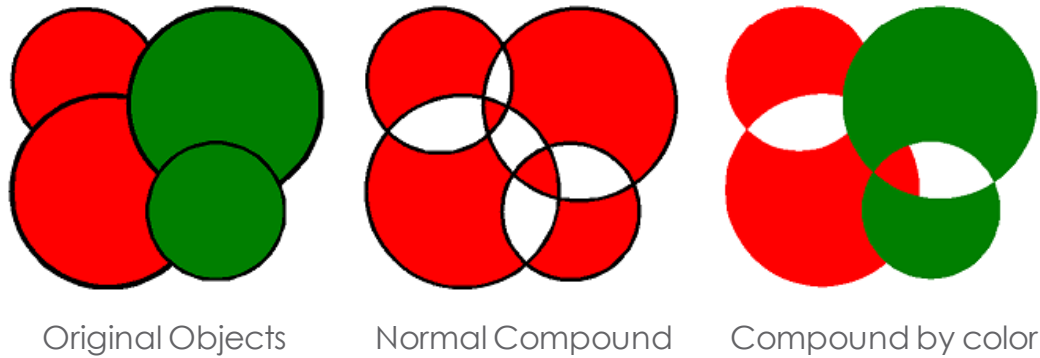
3.6.6.3. Releasing Compounded Objects

» Select the compounded object.
» Do one of the following:
  » From the Arrange menu, point to Compound and select Uncompound.
  » Press Ctrl+J on the keyboard.

3.6.7. Deleting Objects

You can remove objects by deleting them from the document.

» Select the objects.
» Press **Delete** or **Backspace**.

Or

» From the **Edit** menu, select **Clear**.

When you delete objects, they are moved to the DesignEditor's Trash Layer.

3.6.8. Deskewing Objects

Sometimes a scanned image is slanted because the original image was not properly positioned on the scanner. Deskewing rotates the objects in order to make the baseline horizontal or vertical.

» Select the objects.
» From the Arrange menu, point to Deskew and select either Horizontal or Vertical.
» Click and drag to create the baseline.

3.6.9. Distributing Objects

Distributing allows you to uniformly position a number of objects throughout an area.

3.6.9.1. Distributing Objects over the Area of the Selection

The first set of Distribute options allows you to evenly distribute the objects over the area covered by the original selection.

For instance, if the Left Edge option is selected:

» The leftmost and rightmost objects will remain where they are.

» The other objects will be uniformly spaced out so that there is the same distance between the left edges of each object.

To distribute the objects:

» Select the objects.

» From the **Arrange** menu, point to **Distribute** and select the edge or center line that will be used to position the objects.

Original Objects	Left Edge	Right Edge	Top Edge

Bottom Edge	Horizontal Center	Vertical Center
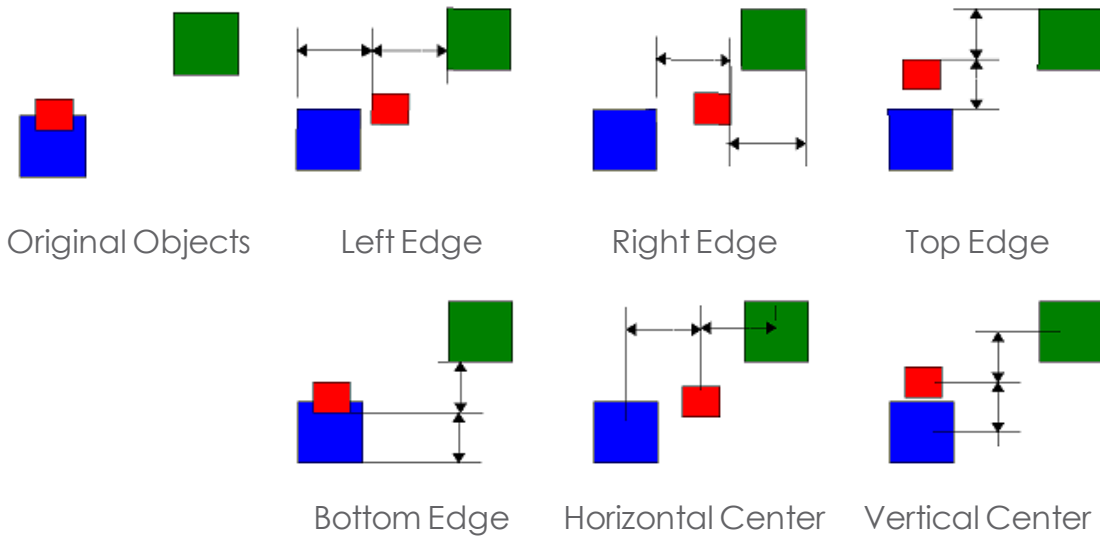
3.6.9.2. Distributing Objects throughout the Design Area

The second set of Distribute options allows you to distribute the selected objects over the entire design area.

» Select the objects.

» From the **Arrange** menu, point to **Distribute** and select the edge or center line to be used to position the objects:
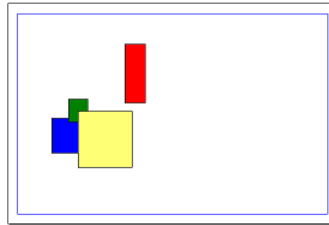
Original Objects
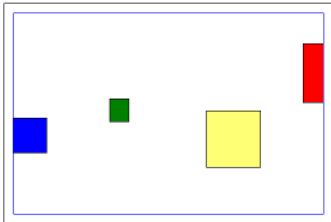
Left Edge to Page
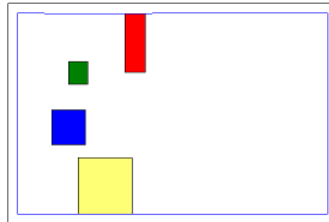
Top Edge to Page
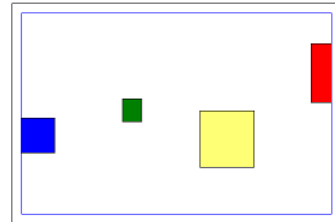
Horizontal Center to Page
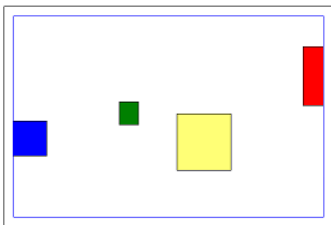
Right Edge to Page
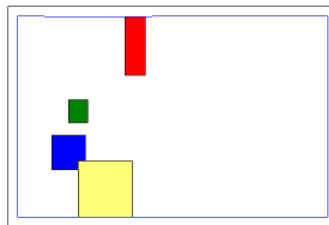
Bottom Edge to Page
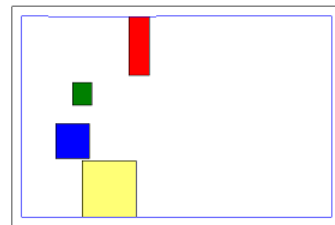
Vertical Center to Page

3.6.10. Duplicating Objects

Duplicating is an easy way to create several exact copies of objects.

There are a number of ways you can duplicate objects in Graphtec Pro Studio :

» Select the objects and drag while holding Ctrl

   » Hold Shift and drag to restrain the position of the copy

» Select the objects and use copy paste
  » From the Edit menu select Copy or press Ctrl +C
  » From the Edit menu select Paste or press Ctrl + V
  » Move the cursor to position the Paste bounding box; then left-click (or press Enter).
    » Press Tab to change the cursor position within the Paste bounding box (nine pre-set positions).
    » Press Esc to cancel the paste process.
» Select the Objects and click Edit and then select Duplicate

3.6.11. Grouping Objects

Grouping is the process of combining several objects into one single set of objects. Grouped objects are moved, resized, and rotated as one object.

3.6.11.1. To Group Objects :

» Select the desired objects.
» Do one of the following:
  » From the **Arrange** menu, point to **Group** and select **Group.**
  » Press **Ctrl+G** on the keyboard.

3.6.11.2. To Ungroup Objects :

» Select the grouped objects.
» Do one of the following:
  » From the **Arrange** menu, point to **Group** and select **Ungroup**.
  » Press **Ctrl+U** on the keyboard.

3.6.11.3. To Ungroup All Objects:

» Select the grouped objects.
» From the **Arrange** menu, point to **Group** and select **Ungroup All**.

3.6.12. Locking Objects

Locked objects can be selected but cannot be edited, moved, or resized.

- » Select the objects.
- » From the Arrange menu, point to Lock and select **Lock**.

  A small padlock icon appears at the starting point of each locked object. In some cases a Control Point will overlap a padlock.

  You can change a padlock's position by changing the starting point of an object's path. This must be done before locking the object.
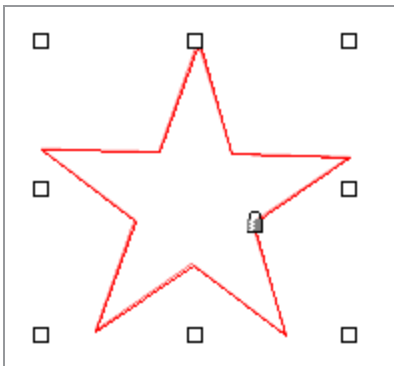
3.6.12.1. Unlocking Objects

- » Using the **Select Tool**, select the desired locked objects.
- » From the **Arrange** menu, point to Lock and select **Unlock**.

3.6.13. Masking Objects

Masking is the process of clipping objects, vectors, or bitmaps to the shape of a vector object.

The topmost object serves as the mask. If you want to use more than one object as a mask, group them first.

3.6.13.1. Creating a Mask

- » Select the objects. The topmost object will be used as the mask
- » From the **Arrange** menu, point to **Mask** and select **Mask.**
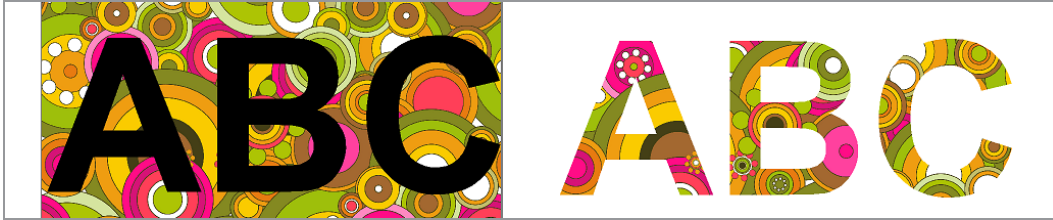
3.6.13.2. Unmasking Objects

» Select the masked objects.

» From the **Arrange** menu, point to **Mask** and select **Unmask.**

3.6.14. Moving Objects

You can move objects by either dragging them or using DesignCentral.

» Select the objects.

» Place the cursor over the objects.

When Show Fills is disabled, place the cursor over the outline of the object to select it.

» Left-click and drag to move the objects to a new position.

   » Hold **Ctrl** and drag to create a copy of the original objects.

   » Hold **Shift** and drag to constrain the direction of movement.

3.6.14.1. Moving Objects Using DesignCentral

Use DesignCentral when you need to move the objects to a precise position.

» Select the objects.

DesignCentral displays the **Scale** tab.

» In DesignCentral, adjust the following parameters:

X	Horizontal position of the selected objects (as measured from the stationary grid point)
Y	Vertical position of the selected objects (as measured from the stationary grid point)
	The stationary point that the X,Y coordinates refer to in the above fields.

3.6.15. Nesting Objects

Nesting fits as many objects as possible into a specified area, optimizing the material.

» Select the objects.

» From the **Arrange** menu, select **Nest**.

» In DesignCentral, adjust the following parameters:

All colors ▼	Selects the color of the objects that will be nested. If you want to nest all the objects regardless of color, leave **All colors** selected.
⬍	Sets the height of the panel in which the objects will be nested.
↔	Sets the width of the panel in which the objects will be nested.
→|←	Sets the minimum space between objects after nesting.
Break text	Separates all nested text into individual characters to save material.
Free rotate	Rotates nested objects to increase the compression ratio to save material.
Compress Ratio	Displays the compression percentage achieved by nesting the objects.

» Click Apply. ✔

You can also left-click and drag the Resize Panel control point located in the upper-right corner of the panel area.
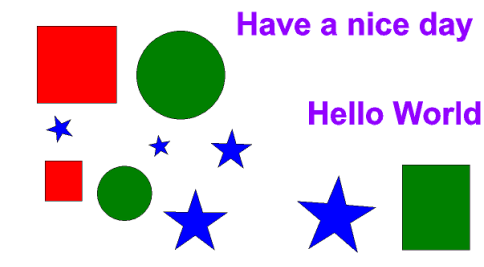
Original Objects
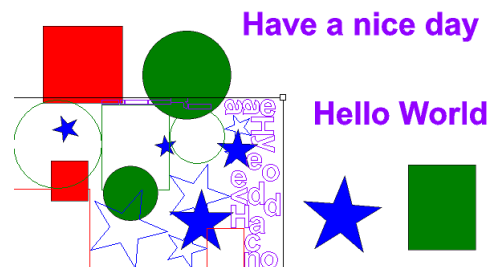
Dragging the Resize Panel Control Point

Nested objects with Break text Off, Free rotate Off
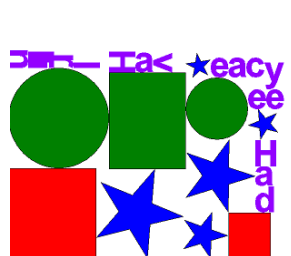
Nested objects with Break text On, Free rotate Off
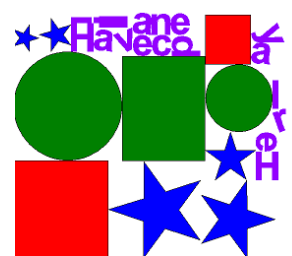
Nested objects with Break text On, Free rotate On

3.6.16. Previewing Cut Order

Preview Cut Order shows in an animated preview how each object will be cut.
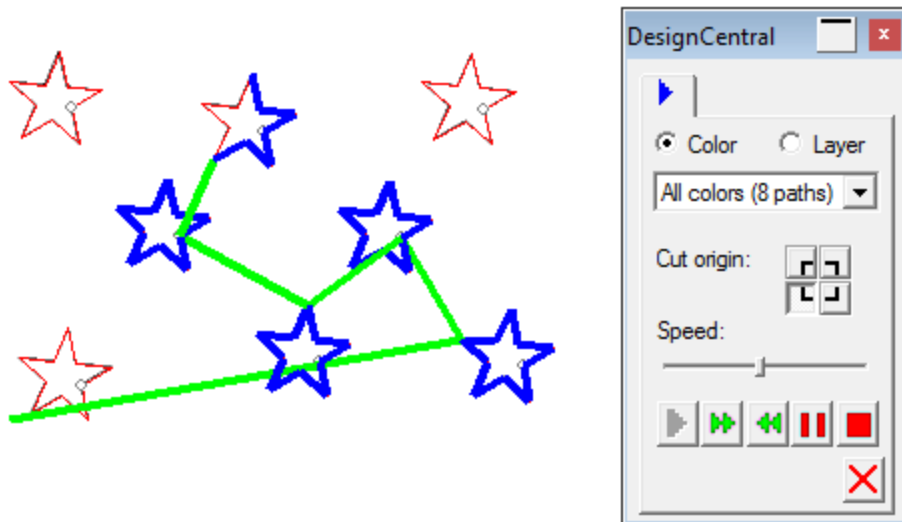
In DesignCentral you can adjust the following parameters

Color ○ Layer	Select Group or Layer depending on how you have objects grouped that will be cut together.
All colors (8 paths) ▼	Select All Colors or All Layers to see the preview of all objects. Select individual colors or layers to see their respective order.
Cut Origin	Select the point where the knife blade will start.
Speed	Increase or decrease the speed.
▶ ▶▶ ◀◀ ▮▮ ■	Animation control buttons to play, fast forward, fast reverse, pause and stop.

3.6.17. Resizing Objects

3.6.17.1. Resizing Using DesignCentral

Use DesignCentral when you need to adjust the size of objects to a precise numeric value.

> » Select the objects.
> » From the **Arrange** menu, select **Resize**
>> » (or press **Ctrl+K** on the keyboard).
> » In DesignCentral, adjust the following parameters:

↔	Changes the width of the selected objects.
↕	Changes the height of the selected objects.
%	Specifies the percentage that the width will be scaled.
↕%	Specifies the percentage that the height will be scaled.

Sets the point in the grid that will remain stationary before and after resizing.

Proportional	Checking this option ensures that the selected objects will be resized proportionally in width and height.
Apply scale to all	Checking this option will resize all the objects in the document, using the scaling specified for the selected objects.

» Click **Apply**

You can also resize using the DesignCentral - Size tab, but some of the above options will not be available.

3.6.17.2. Resizing by Dragging Control Points

» Select the objects.
» Position the cursor on a **Scale** control point.
» Click and drag the **Scale** control point.
  » Hold **Ctrl** and drag to use the centerline of the objects as a stationary point.
  » Hold **Shift** and drag to scale the objects disproportionately.

3.6.17.3. Resizing to Same Size

» Select the objects.

If you select the objects by dragging a bounding box, the size of the first object is used as a reference. If you select the objects by clicking them with **Shift** pressed, the size of the first selected object is used as a reference.

» From the **Arrange** menu, point to **Sizing** and select either **Same Width** or **Same Height**

3.6.18. Rotating, Shearing and Mirroring Objects

3.6.18.1. Rotating, Shearing, and Mirroring Using DesignCentral

» Select the objects.

» From the **Arrange** menu, select **Rotate**

    » (or press **Ctrl+R** on the keyboard).

» In DesignCentral, adjust the following parameters:

	Changes the rotation angle of the selected objects.
	Changes the shear angle of the selected objects.
	Rotates the selected objects 90 degrees counterclockwise and clockwise.
	Mirrors the selected objects horizontally and vertically.
Keep Original	Retains a copy of the original objects after rotating or mirroring.
	Sets the stationary reference point from which the above adjustments are made.

» Click **Apply**

Rotating may also be done using DesignCentral, but some of the above options may not be available.

3.6.18.2. Rotating and Shearing by Dragging Control Points

» Select the objects.

» Click the **Rotate tab** in **DesignCentral.**

The Stationary Point appears as a small white circle with a dot in it. Its position is determined by the point selected on the DesignCentral Reference grid.

» To adjust the position of the **Stationary Point,** do one of the following:

    » Select a point on the DesignCentral **Reference grid**.

    » Hold **Ctrl** and drag the **Stationary Point** to any of the nine positions on

the Reference grid.

» Click and drag the **Stationary Point** to any desired position
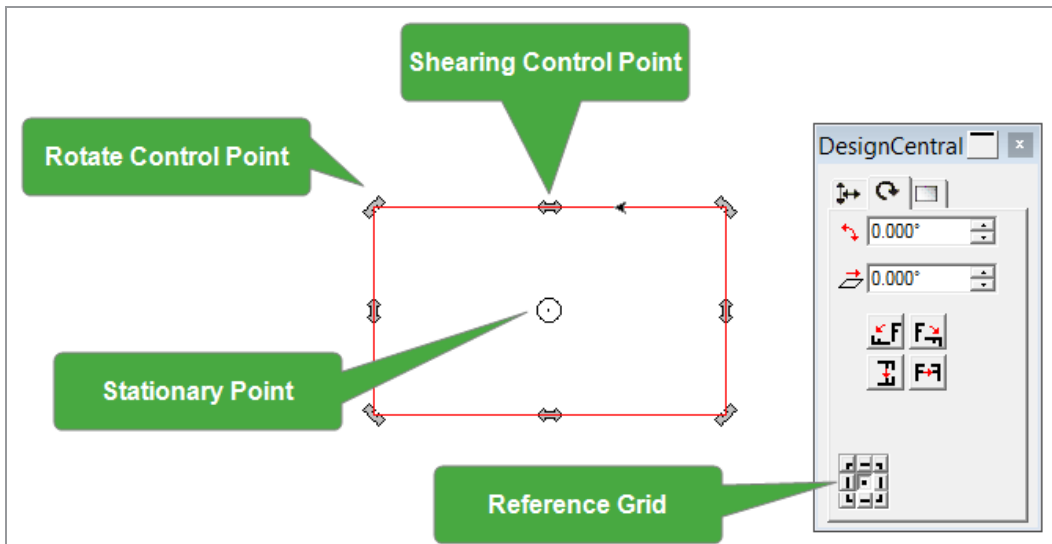
» Position the cursor on a **Rotate** or **Shear** control point.

» Click and drag the desired control point.

  » Hold **Ctrl** and drag to create a copy of the original objects.

  » Hold **Shift** and drag to constrain the rotation or shear angle to the incre-
    ment set in **Preferences** (default = 45 degrees).

Ctrl and **Shift** can be used together to copy and constrain.

3.6.18.3. Creating Mirrored Objects

» Select the objects.

» From the **Arrange** menu, select **Mirror**.

A mirrored image is displayed, along with a Mirror Line. If the Mirror Line is not
visible, increase the distance in DesignCentral.

» Adjust the **Distance** in **DesignCentra**l. This value is the total distance sep-
arating the original and mirrored image. To adjust the distance, do one of
the following:

  » Click and drag the **control point** in the middle of the Mirror Line to adjust
    the distance.

» Click and drag a **control point** located at the Mirror Line's end to adjust the angle.

» Hold **Shift** and drag to constrain the angle.

» Check **Keep Original** to create a copy of the original image.

» Click **Apply**.

3.6.19. Snapping Objects

You can activate the snap features and then create, edit, and move shapes to precise locations.

To activate snapping from the **View** menu, do one of the following:

» Point to **Snap** and select the desired **Snap to** feature.

   Repeat to turn on (or off) additional snap features.

» Point to **Snap** and select **Snap Toolbar**.

   The Snap To toolbar appears.

» Select the desired **Snap To** features.
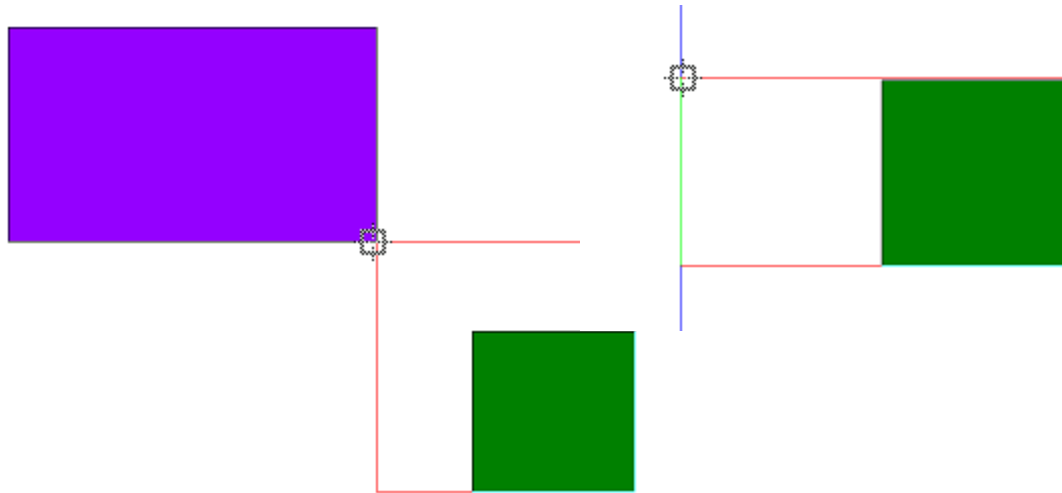
Snap to Point   Snap to Guide
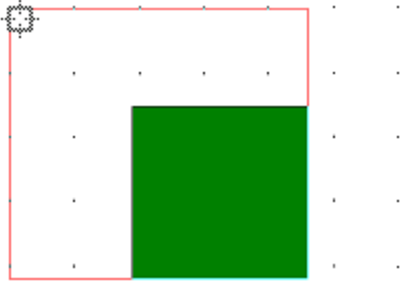
Snap to Grid
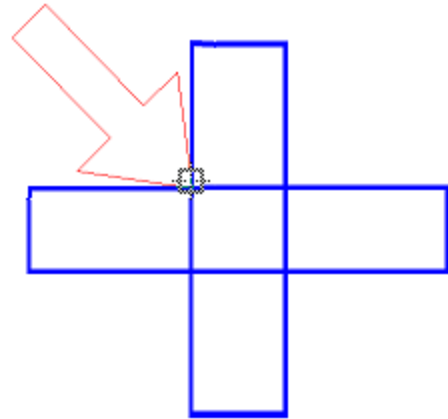
Snap to Intersection
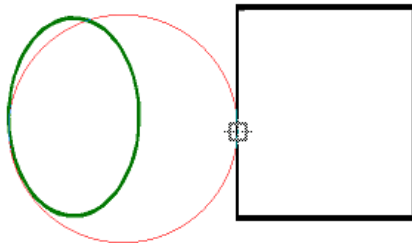
Snap to Edge
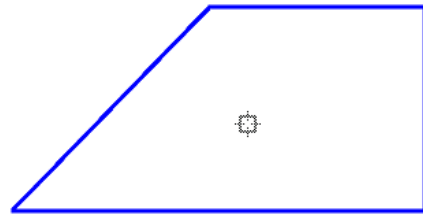
Snap to Center of Gravity

3.6.20. Spacing Objects

Spacing allows you to distribute objects separated by an exact value.

» .Select the objects.

> If you select the objects by dragging a bounding box, the first object in the order stack is used as the Stationary Object. If you select the objects by clicking them while holding Shift, the first object selected is used as the Stationary Object.

» Do one of the following:
  » From the **Arrange** menu, select **Spacing**.
  » Press **J** on the keyboard.
» In DesignCentral, adjust the following parameters:

Adjusts the space between adjacent objects.

Defines in which direction (horizontal or vertical) the selected objects will be distributed.

Measures the distance between objects from the top right of one object to the bottom left of the next.
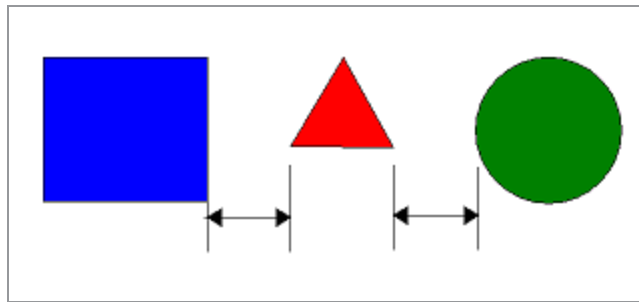
Measures the distance between objects from the bottom left of one object to the bottom left of the next.
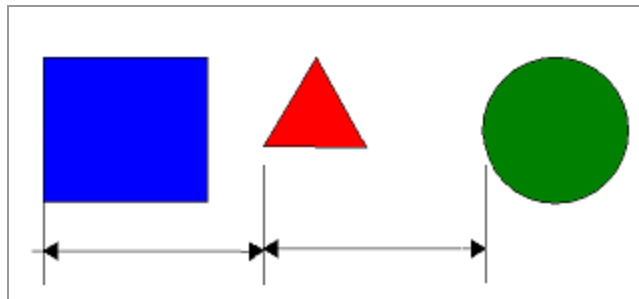
Distribute — Distributes the objects evenly between first and last object and sets the spacing automatically.

» Click **Apply**.

3.6.21. Step and Repeat

You can use Step and Repeat to create multiple copies of objects in a precise position and arrangement.

» Select the objects.

» From the Arrange menu, select Step and Repeat.

» Select one of the following tabs in DesignCentral:

   » Block tab—all copies are aligned in a set of rows and columns.
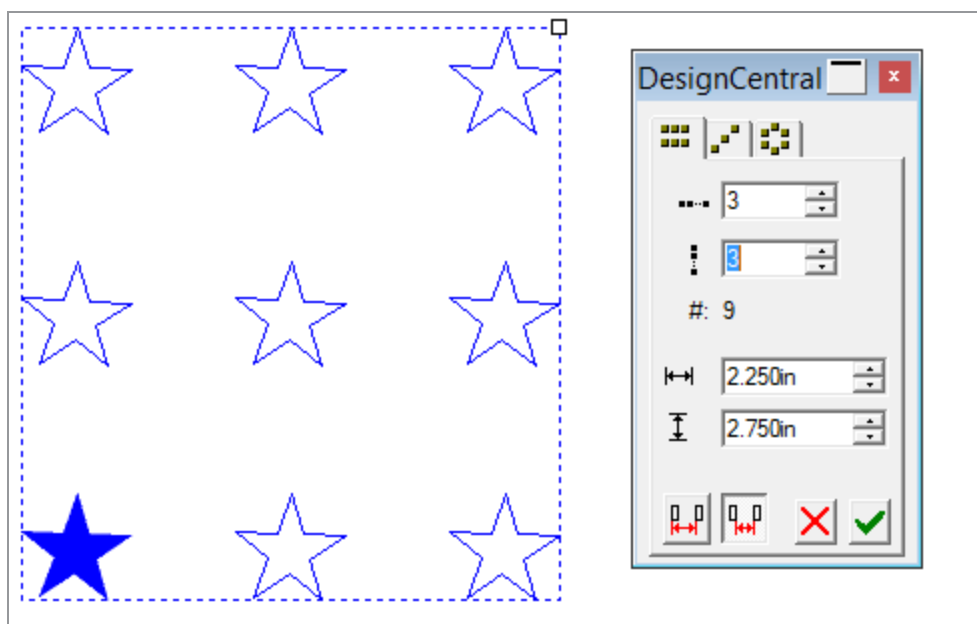
   » Diagonal tab—all copies are aligned in a diagonal line.
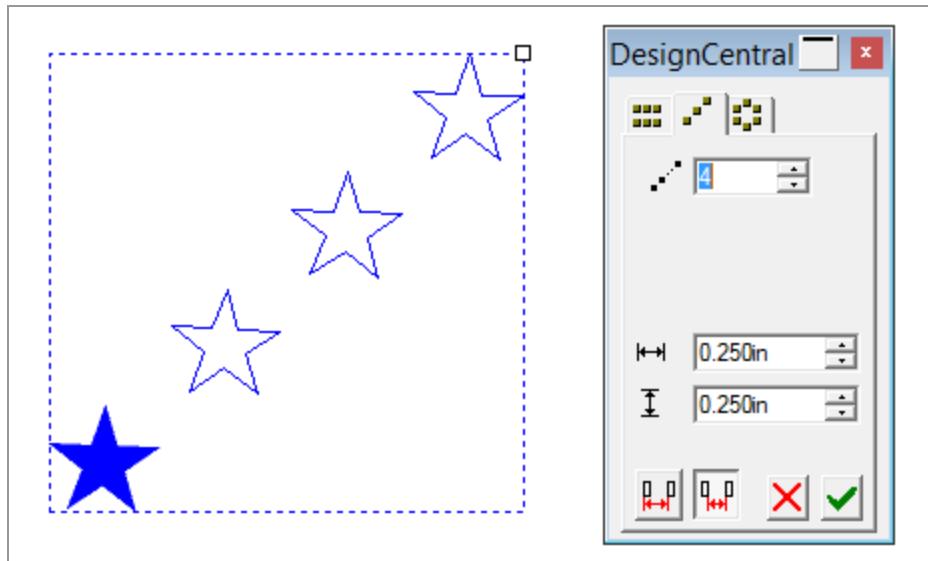
» Circular tab—all copies are aligned in a circle or an arc.
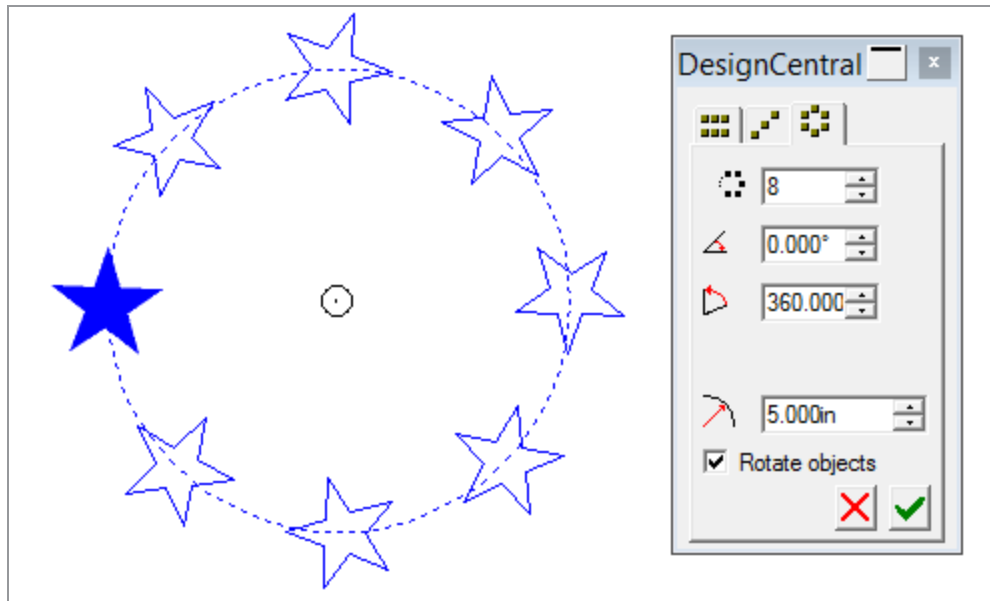
» Adjust the following parameters

Number of horizontal copies
Number of vertical copies
»
Total number of copies

Number of diagonal copies

Number of circular copies

Horizontal spacing

Vertical spacing

Measures the distance between objects from the bottom left of one object to the bottom left of the next.

Measures the distance between objects from the top right of one object to the bottom left of the next.

Inclination angle of the line that joins the original object to the circle's center point.

Portion of the circle along which copies are distributed.

Radius of the circle along which copies are distributed.

Rotate Objects Specifies whether or not to rotate copies along the circle.
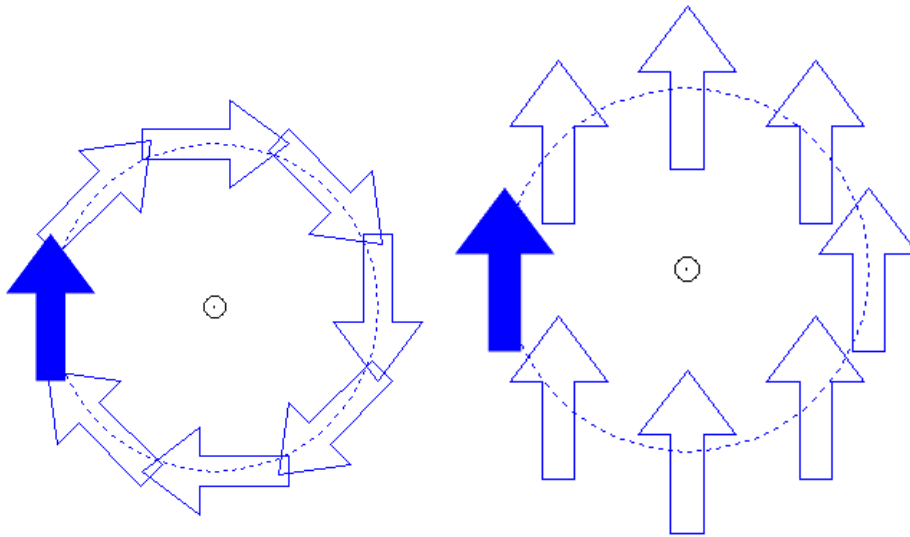
For Block and Diagonal patterns, you can control spacing and copies by dragging the Spacing/Copies control point at the upper-right corner of the bounding box.

- » Drag the control point to adjust the number of copies (spacing remains unchanged).
- » Hold Ctrl and drag the control point to adjust the spacing between copies (number remains unchanged).
- » Hold Shift and drag to constrain the resizing direction of the bounding box.

For Circular patterns, you can control spacing, inclination angle, and radius by dragging the Center control point.

- » Drag the control point to adjust the Angle and Radius.
- » Hold Shift and drag to constrain the resizing direction of the Radius (Angle value remains unchanged).

> Undo and Redo are unable to restore value changes while in Step and Repeat.

3.6.22. True Shape Nesting

True shape nesting is a feature that uses a more detailed nesting algorithm to fit even more objects into a specified area. Because it nests objects based on their actual shape, true shape nesting is able to pack shapes together much more closely than the standard nesting algorithm.

True shape nesting uses a more complex algorithm than standard nesting and may take considerably longer to nest a group of objects.

True Shape Nested (Break text selected)

» Select the objects.

» From the **Arrange** menu, select **True Shape Nest**.

» In DesignCentral, adjust the following parameters:

	Sets the width of the panel in which the objects will be nested.
	Sets the height of the panel in which the objects will be nested.
	Sets the minimum space between objects after nesting.
	Sets the amount of rotation to be applied to the objects while nesting.
	Specifies the number of copies of the nested objects that will be created. If more than 1, the extra copies will be duplicates of the first set of nested objects.
Compress Ratio	Displays the compression percentage of the current nested area compared to the original unnested area.
Break Text	Allows text objects to be separated into individual characters before nesting in order to fit the text into a smaller amount of material. If cleared, each text object will be nested as one big object.
Use holes	Allows smaller objects to be nested inside the holes of larger objects. (A period might be nested inside the letter O, for example.)

» Click **Redraw** to re-nest the selected objects after making changes.

» Click **Apply**.

True Shape Nesting can also be applied to Contour Cut Jobs. When applied, the jobs will be nested based on the Contour Cut Path instead of the bounding box of the file :

3.7. Bitmaps

3.7.1. Working with Bitmaps

A bitmap represents an image as a mosaic of colored dots called pixels. The pixels are arranged in a fixed number of rows and columns. Bitmaps are also known as raster images, and the method used to create them is called rasterization.
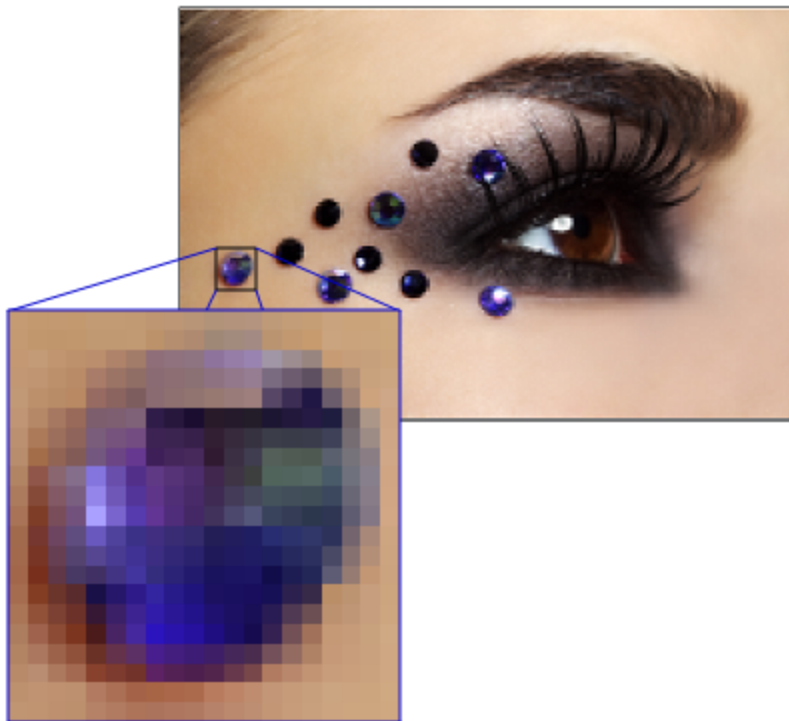
When a bitmap is edited, the color values of its pixels are changed to form the new image.

The following color modes are supported:

Grayscale	Pixels are colored in 256 shades of gray ranging from solid black to solid white.
Black and White	Each pixel is either black or white, with no shades of gray.

RGB	The color values for each pixel are expressed as a combination of red, green, and blue values.
Indexed	The color of each pixel is indicated by a reference to a separate swatch table containing 256 colors.
CMYK	The color values for each pixel are expressed as a combination of cyan, magenta, yellow, and black values.

If a bitmap is magnified or printed at too low a resolution, the individual pixels become visible. This gives the image a jagged, pixilated appearance (see above).

Resolution is the number of pixels displayed per unit of printed length in an image, usually measured in pixels per inch (PPI) or dots per inch (DPI).

3.7.2. Creating Bitmaps

3.7.2.1. Converting Objects into Bitmaps

Converting Objects into Bitmaps

You can convert vector objects and text into bitmaps, and then use bitmap filters to apply effects. The process of converting vector objects into a bitmap is called Rasterization.

» Select the desired objects.

» From the Bitmap menu, select Rasterize.

The Rasterize dialog box appears.

» Edit the following attributes:

Keep Original	When checked, this option will preserve the original objects. The new rasterized image will be placed on top of the original objects.
Create mask	When checked, the shape of the new bitmap will be the same as the original objects.
Transparent	When checked, the background color of the bitmap will be transparent.

Resolution	Specifies the resolution of the new bitmap. Values can be selected from the dropdown list or typed into the Resolution field.
Color Mode	Specifies the color mode of the new bitmap. The available options are Black and White, Grayscale, Indexed Color, and RGB.
Margin	Specifies the amount of white space around the bitmap. This option has no effect when **Create mask** is selected.

» Click **OK**.

3.7.2.2. Creating New Bitmaps

You can create an empty white bitmap on your document and draw on it with the bitmap drawing tools.

» From the **Bitmap** menu, select **Create Bitmap.**

The New Bitmap dialog box appears.

» Edit the **Width, Height,** and **Resolution** of the bitmap.

» Select the **Color mode** from the dropdown list.

» Click **OK**.

3.7.2.3. Exporting Bitmaps

If you want to export only one bitmap from a document:

» Select the desired bitmap.

» From the **File** menu, select **Export.**

The Export dialog box appears.

» Select the desired file format from the **Save as type** dropdown list.

» Type in a **File name**.

» If only exporting a selected object, be sure to check **Selection only**.

Checking **Suppress options** will export the bitmap using the default settings for the bitmap file format.

» Specify the location where you want the bitmap saved.

» Click **Save.**

3.7.2.4. Importing Bitmaps

When importing a bitmap, you can create a link between the original bitmap file and your document. This link is an electronic connection between the files, and every time the document is opened, each linked bitmap will be imported.

To create a link:

» From the **File** menu, select **Import.**

The Import dialog box appears.

» If desired, select the bitmap file type from the **Files of type** dropdown list.

This will limit the files displayed to the type specified.

» Select the bitmap file to import.

» Check the **Link** checkbox.

» Click **Import.**

3.7.2.5. Scanning Bitmaps

Scanning allows you to convert a printed image into an electronic image.

To scan an image, you must have a scanner and a computer with your scanner's TWAIN_32 driver installed. TWAIN_32 is a cross-platform interface for acquiring images captured by scanners and digital cameras.

The manufacturer of the scanner must also provide a proper driver for your device. Instructions for setting up your scanner are included in your scanner's user manual.

» Turn on your scanner and connect it to your computer.

» Place your image on the scanner.

» If you have more than one scanner, from the **File** menu:

  » Point to **Acquire Image** and select **TWAIN Select.**

  » Select your scanner from the list.

» From the **File** menu, point to **Acquire Image** and select **TWAIN Acquire**.

» Follow the scanner's directions.

» After the image is scanned, a bounding box showing the scanned image will appear.

» Move the bounding box to the desired location and click to place the image.

Enter also places the scanned image, **Tab** changes the cursor position in the bounding box, and **Esc** exits the scanning process.

3.7.3. Editing Bitmaps

3.7.3.1. Changing a Brush

In the Brushes tab, you can set the shape and size of a brush.

Some brushes display a small red number in the lower-left corner. This is the brush size in pixels. The red number appears when the brush height or width exceeds 20 pixels.
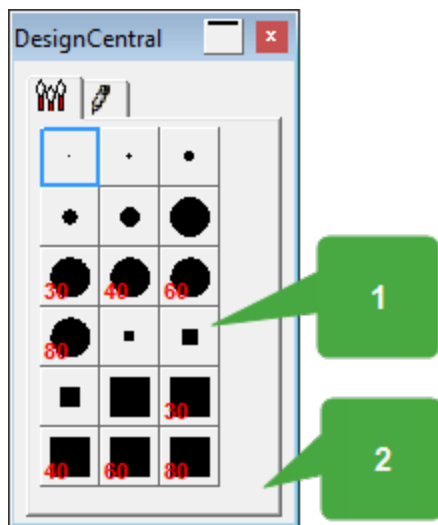
» 1. Double-click to change the shape of an existing brush

The Brush Options dialog box appears

» 2. Click the blank area below the brush palette to create a new brush.

Newly added brushes are appended to the bottom of the palette.

Enter or adjust the following brush properties:

Size	Sets the height and width of the brush.
Hardness	Adjusts how the brush will dissolve into the original image.
Rotate	Sets the brush's angle of rotation.
Style	Lets you choose a rectangular or elliptical shape for the brush.

» To delete a brush, click the desired button and press **Delete**.

Deleting a brush cannot be undone.

3.7.3.2. Using the Bitmap Toolbar

All bitmap editing tools are located in the Bitmap Edit Toolbar.

To display this toolbar, from the Bitmap menu, select Bitmap Edit Toolbar. To hide the toolbar, select the menu again or click the toolbar's Close button.
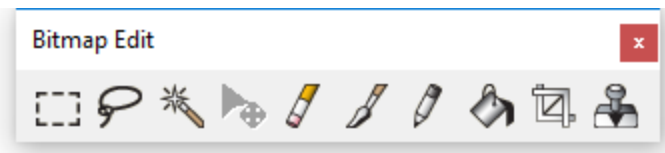
Some of the Bitmap Edit tools will not be available in CMYK color mode.

	Marquee		Paint Brush
	Lasso		Pencil
	Magic Wand		Fill
	Move Tool		Crop
	Eraser		Stamp

3.7.3.3. Using the Crop Tool

The Crop tool allows you to select part of a bitmap and delete the rest of it.

» Select the bitmap you want to edit.

» From the **Bitmap Edit toolbar**, select the **Crop** tool.

» Click and drag the cursor over the bitmap to create a rectangular mar-quee, or hold Shift and drag to create a square marquee.

The marquee selection must be a simple rectangle or square. You cannot use Shift or Ctrl to create a more complex marquee with the Crop tool.

» Adjust the Crop Width and Crop Height values of the marquee in DesignCentral, or adjust the cropping size by dragging the marquee's bor-ders and corners.

» Click and drag a point inside the marquee to reposition it.

» Click **Apply** , double-click inside the marquee, or press Enter to crop the bit-map to the selected size.
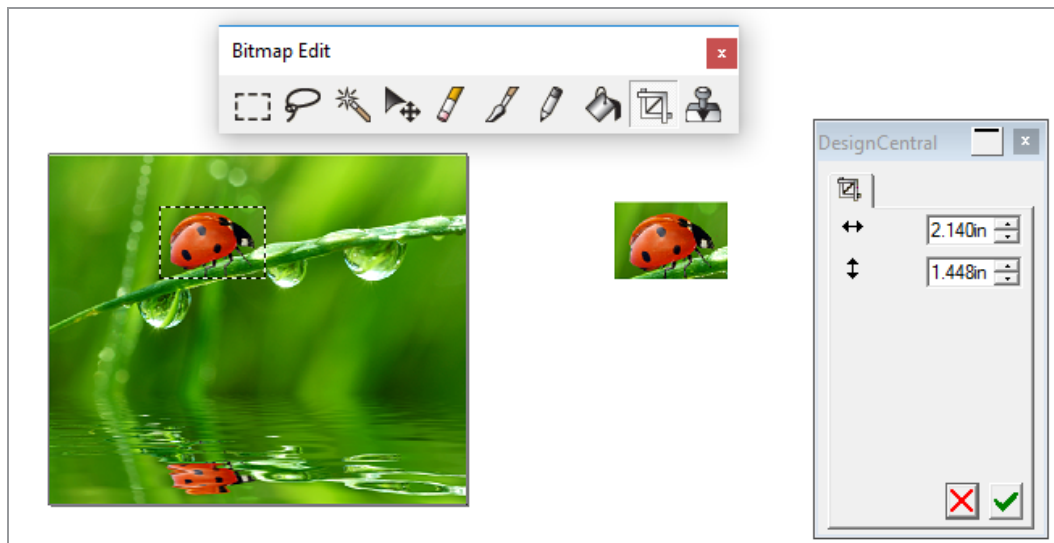
» Use **Undo** to remove cropping errors

3.7.3.4. Using the Eraser Tool

The Eraser tool is used to remove unwanted parts of a bitmap, to restore an edited bitmap to its original image, or fill an area with background color.

The Eraser tool in DesignCentral has two tabs:

» The Erasers tab offers a variety of eraser styles to choose from.

» The Eraser Options tab allows you to adjust the following parameters:
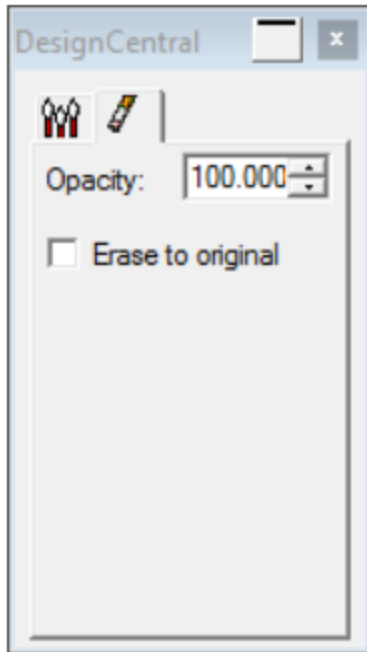
| **Opacity** | This specifies the percentage of the image to be removed with each pass of the eraser. |
| **Erase to original** | When checked, the eraser will only remove changes to the bitmap, returning it to its original state. |

3.7.3.4.1. Erasing a Bitmap

» Select the bitmap you want to edit.

» From the **Bitmap Edit toolba**r, select the **Eraser** tool.

» From the **Erasers tab**, select an eraser tip.

» Click and drag the eraser across the bitmap.

Use **Undo** to remove bitmap editing errors.

3.7.3.5. Using the Fill Tool

The Fill tool fills areas of a bitmap with the foreground color.

» Select the bitmap you want to edit.

» From the **Bitmap Edit toolbar**, select the **Fill** tool.

» On the **Fill Options** tab in DesignCentral, adjust the following parameters:

Opacity   Specifies the percentage to which the fill will overwrite the bitmap. At 100%, the fill will be completely opaque. At lower values, the fill area will receive less color but will retain more detail.
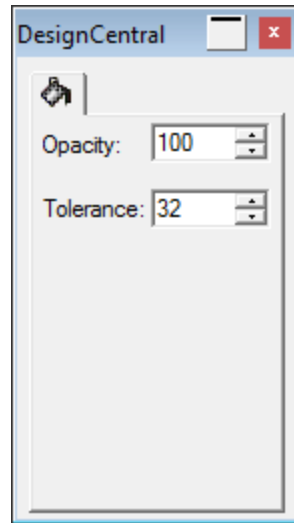
Fill tab

Tolerance   Fill expands until it encounters the edge of the bitmap or a change in color. Tolerance determines how big a change in color the fill will accept before stopping. Tolerance ranges from 0 to 255.

Enter a low value to fill colors very similar to the pixel you click, or enter a higher value to fill a broader range of colors.

» From the Swatch Table, select the foreground color you want to fill with.
» Click the cursor on the bitmap.
» Use Undo to remove fill errors.

3.7.3.6. Using the Move Tool

The Move tool copies selected portions of bitmaps marked by marquees.

» 1.Select the bitmap and create a marquee.

» 2.Select the **Move** tool.

» 3.Click and drag inside the marquee to move it to a new position.

Hold **Ctrl** and drag the marquee to move a copy of the image enclosed by the marquee. The original remains in place.

Original bitmap with a mar-After dragging the mar-After dragging the mar-
quee   quee with   quee with the

                                            the Move tool   Move tool while hold-
                                                                                      ing Ctrl

3.7.3.7. Using the Paintbrush Tool

The Paintbrush tool lets you paint brushstrokes onto a bitmap.

The Paintbrush tool in DesignCentral has two tabs:

» The **Brushes** tab lets you select the shape and size of the brush. (See Changing the Brush for more information.)

» The **Brush Options** tab determines the percentage of each stroke that will be added to a bitmap image.

The Brush Options tab lets you adjust the following parameters:

Opacity Specifies the percentage of the color to be added with each pass of the brush. Lower numbers will create transparent strokes.

:

3.7.3.7.1. To use the Paintbrush tool:

» Select the bitmap you want to edit.

» From the **Bitmap Edit toolbar,** select the **Paintbrush** tool.

» From the **Brushes tab**, select a brush tip.

» From the **Swatch Table**, select the foreground color you want to paint with.

» Click and drag the brush across the bitmap.

Use **Undo** to remove brushstroke errors.

3.7.3.8. Using the Pencil Tool

The Pencil tool lets you create freehand lines on a bitmap using the foreground color.

The Paintbrush tool in DesignCentral has two tabs:

» The Pencils tab lets you select the shape and size of the pencil point.

» The Pencil Options tab determines the percentage of each stroke that will be added to a bitmap image.

The Pencil Options tab lets you adjust the following parameters:

Opacity Specifies the percentage of the color to be added with each pass of the pencil. Lower numbers will create transparent strokes.

To use the Pencil tool:

» Select the bitmap you want to edit.

» From the **Bitmap Edit toolbar**, select the **Pencil** tool.

» From the **Pencils** tab, select a pencil tip.

» From the **Swatch Table**, select the foreground color you want to draw with.

» Click and drag the pencil across the bitmap.

Use **Undo** to remove pencil errors.

3.7.3.9. Using the Stamp Tool

The Stamp tool copies portions of a bitmap to another area on the same bitmap.

The Stamp tool in DesignCentral has two tabs:

» The Stamps tab lets you select the shape and size of the brush. (See Changing the Brush for more information.)

» The Stamp Options tab lets you adjust the following parameters:

Opacity	Specifies the percentage to which the output of the tool will overwrite the existing bitmap. At 100% the output will be opaque; at lower numbers it will be more transparent.
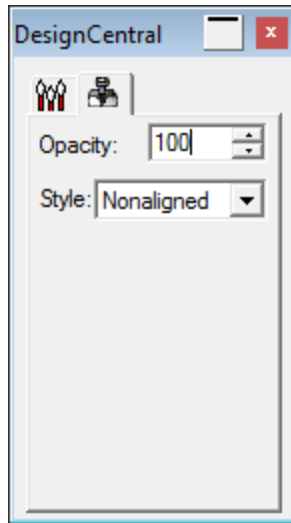
Stamp Options Tab

Style	**Aligned**	When selected, this option locks the initial origin and first destination points together. When a new destination point is selected, the origin will reposition itself to maintain the same relative distance and position that was created initially.
		This is designed for copying a large area of the bitmap over to another area.
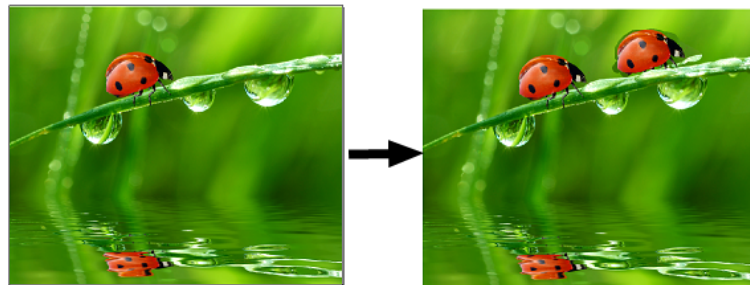
Nonaligned   When selected, this option anchors the origin point to its initial position independent of any destination points. While drawing, the origin and destination points move together. When not drawing, the origin point returns to this "home" position.

This setting is ideal for copying the same part of the bitmap to a number of different places.
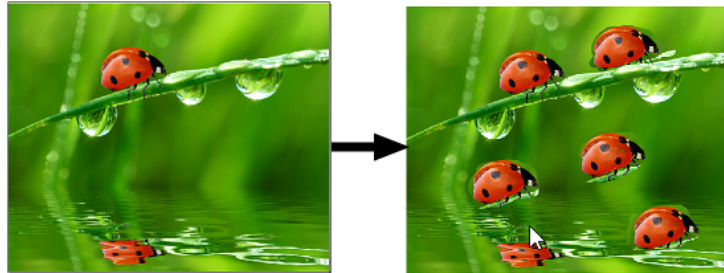
To change the stamp origin, hold **Ctrl** and click on the new point you want to copy from.

» Select the bitmap you want to edit.

» From the **Bitmap Edit toolbar**, select the **Stamp** tool.

» From the **Stamps tab**, select a stamp tip.

» From the **Stamp Options tab**, adjust the **Opacity** and **Style** parameters.

» Click the **Stamp** tool at the point on the bitmap from which you want to copy (the origin).

» Move the cursor over the area of the bitmap that you want to overwrite (the destination); then click and drag to copy.

Use **Undo** to remove stamp errors.

3.7.4. Changing Bitmap Properties

3.7.4.1. Changing a Bitmap Color Mode

» Select the bitmap.

» From the **Bitmap** menu, point to **Color Mode** and select the desired color mode.

The newly selected color mode appears in the upper-right corner of the Bitmap tab in DesignCentral.

3.7.4.2. Changing Bitmap Resolution

The DesignCentral - Bitmap tab allows you to change the resolution of a bitmap.

» Select the bitmap.

» Select the **Bitmap** tab in DesignCentral.

» Select the new resolution from the **PPI** fields at the bottom of the tab.

Ensure that **Proportional** is checked to keep the horizontal and vertical resolutions the same.

Changing the resolution does not change the number of pixels in the bitmap; it merely changes how many pixels fit into an inch. As the resolution of a bitmap is increased, the area covered by the bitmap will decrease, because more pixels will fit into each square inch. Decreasing the resolution will cause the bitmap to cover a larger area.

3.7.4.3. Making a Bitmap Transparent

It is possible to set one of the colors in a bitmap to be transparent.

» Select the bitmap.

» From the **Bitmap** menu, select **Make Transparent.**

The Magic Wand Options tab appears in DesignCentral.

» Move the wand over the bitmap and click on the color you want to make transparent. For multiple transparent colors, hold **Shift** while clicking additional colors.

» To select all instances of the color in the bitmap, click Select Similar.

» Click **Apply.**

If you are getting unwanted outlines around your bitmap elements, increase the **Tolerance** setting in DesignCentral.

3.7.4.3.1. To remove the transparency

» Select the bitmap.

» .Select the **Bitmap** tab in DesignCentral.
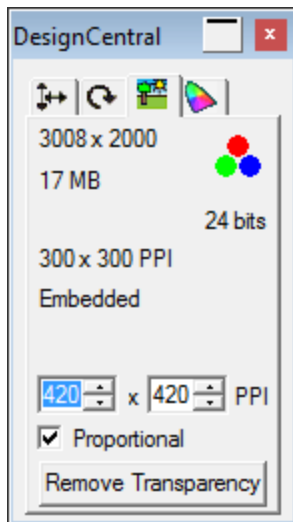
» Click **Remove Transparency.**

The Remove Transparency button only appears when a transparent bitmap is selected.

3.7.4.4. Resampling a Bitmap

Resampling changes the resolution of an image without changing the area it covers. It does this by increasing or decreasing the number of pixels used to represent

the image. At the same time, the software changes the resolution to compensate for the change in pixel count, so that the bitmap remains the same size.

> Resampling an image will degrade it to some extent. Resampling to a lower resolution makes the image blocky and jagged. Resampling to a higher resolution may blur the image. If you resample an image and don't like the results, use Undo to return it to its previous state. Do not resample it again.

» Select the bitmap.

» From the **Bitmap** menu, select **Resample.**

> The Adjust Bitmap Size dialog box appears.

» Adjust the values in Resample dialog box.

Width, Height	Sets the new resolution (in pixels) of the bitmap. The actual size (in inches or cm) will not be changed.
Proportional	Causes the bitmap to be resized proportionally.
Nearest Neighbor	Specifies the interpolation method. This option is the fastest, but the least precise.
Bilinear	Specifies the interpolation method. Select this option for a quality interpolation.

3.7.5. Tracing Bitmaps

3.7.5.1. Tracing Bitmaps

Tracing allows you to convert bitmap images into vector objects. This allows them to be cut or edited using path-editing tools. The tracing area can be limited by a marquee.

A bitmap that has been masked cannot be traced until it is unmasked first.

> After tracing the bitmap, if you want to hide the bitmap to see just the traced paths, click the Preview Bitmap tool on the View toolbar [??], or select Preview Bitmaps from the View menu.

3.7.5.2. Using Autotrace

Autotrace traces each shape in the bitmap. Adjust the following parameters:

Noise Reduction	Adjusts the amount of noise that is removed during the tracing process. When **None** is selected, no noise will be removed. **Most** removes the maximum amount of noise.

Original	Less	Most

Corners	Adjusts how strongly corners are traced. When **None** is selected, corners are not recovered. **Most** recovers the maximum amount of corners.
Resolution	Specifies the resolution at which an image is traced. You can trace using the Full resolution of an image or 1/2, 1/4, or 1/8 of its original resolution. At reduced resolutions the tracing process is quicker and produces fewer points, but the quality will not be as accurate. **Optimal** selects a resolution based on image size to optimize the traces.
Tolerance	Controls how closely the tracing follows the bitmap being traced. Values are from 0 to 100%. In a high-resolution image, lower values will cause the tracing to follow the bitmap more closely, resulting in jagged edges on the curves. Higher values will produce smoother and more even curves, but some details may be lost.
Corner Style	Adjusts how recovered corners are drawn. **Sharp** recovers the maximum amount of sharp corners.
Color	Specifies the color of the resulting vector objects.
Reverse Image	Traces white areas.

» From the **Main** toolbar, select the **Autotrace** tool.

» Adjust the tracing parameters in the DesignCentral - Autotrace tab.

» To trace the entire bitmap or parts of it:

  » Click the bitmap to trace one object.

  » Click and drag the cursor to create a rectangular bounding box. (Hold **Shift** to create a square bounding box.) Surround the objects in the bitmap that you want to trace.

  » Hold **Ctrl** and click to trace all of the bitmap.

The objects created by Autotracing will all be wireframes. To fill those objects, you have to select and compound them.
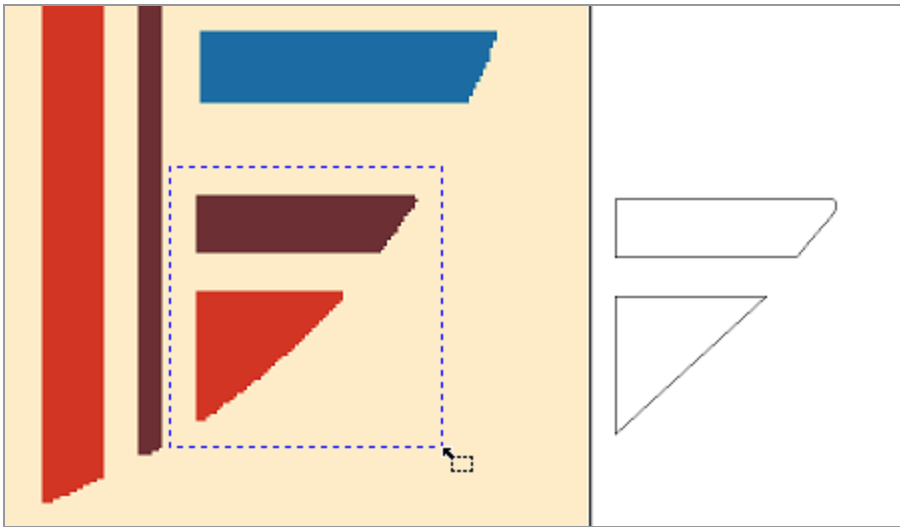
For best results, scan the image to be traced in grayscale (256 gray) at 300-600 DPI. Tracing images scanned at high resolution will create extra points when traced and the paths will not be smooth.

3.7.5.3. Using Centerline Tracing

The Centerline Trace tool traces a single line down the middle of each part of a bitmap, and includes an option to outline any areas that are wider than a specified width. This tool is useful for producing neon patterns, and routing and engraving paths.

Only black and white bitmaps can be traced using Centerline trace.
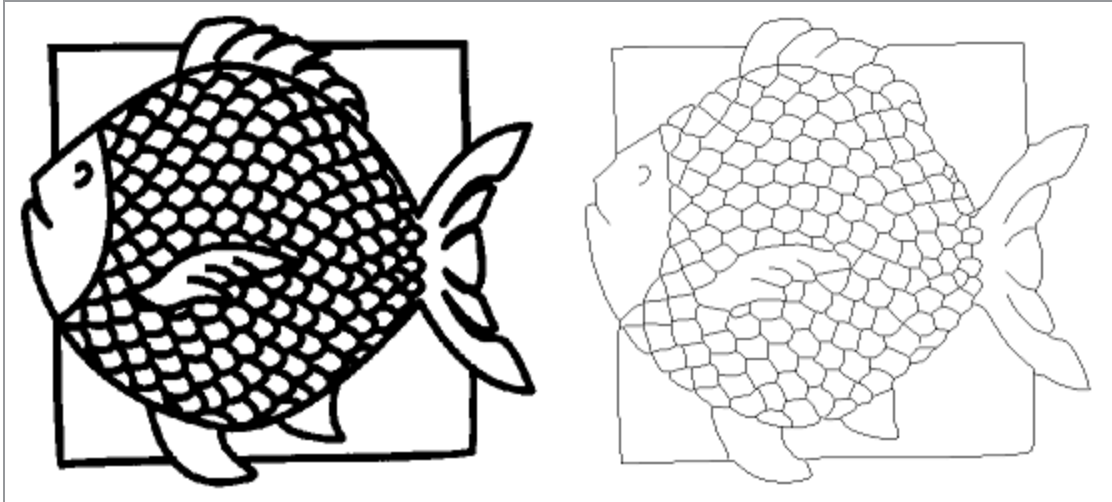
In the Centerline and Autotrace tabs of DesignCentral, adjust the following parameters:.

Steps	Specifies the minimum size to be outlined.
Close Paths	When selected, creates a separate closed shape in each fully enclosed area.
Outline large objects	When selected, traces larger objects with an outline instead of a centerline.
Color	Specifies the color of the resulting vector objects.

» From the **Main** toolbar, select **Centerline Trace tool** .

» Adjust the tracing parameters in the DesignCentral - **Centerline** and **Autotrace** tabs.

» To trace the entire bitmap or parts of it

   » Click the bitmap to trace one object.

   » Click and drag the cursor to create a rectangular bounding box. (Hold **Shift** to create a square bounding box.) Surround the objects in the bitmap that you want to trace.

   » Hold **Ctrl** and click to trace all of the bitmap.

3.7.5.4. Using Color Tracing

The Color Tracing converts a color bitmap into colored paths. The color trace process involves two steps. The first is Posterizing, which reduces the number of colors. Then the posterized image is traced into objects of different colors.

In the DesignCentral - **Color Trace** and **Autotrace** tabs, adjust the following parameters:

Posterize Bitmap	When checked, the posterized bitmap will replace the original bitmap.
Edge Filter	Determines how aggressively the application removes noise from the bitmap when posterizing. When **None** is selected, no noise will be removed. **Most** removes the maximum amount of noise.
Number of Posterized Colors	Controls the number of colors the program will use to posterize the bitmap. If there are several shades of a given color in the bitmap, specify one or more colors beyond the actual number needed to ensure the correct colors are retained.

	Posterized Color Bars	Appear after selecting part or all of a bitmap using a bounding box or **Ctrl+click**. The number of color bars is determined by the value entered in the Number of Posterized Colors field.
	Background Color	The background color is indicated by a folded corner
		The active color is indicated by a black triangle below the color bar.

> » **Click** a bar to select or deselect it. Use this feature to select colors for merging into the active color.
>
> » **Shift+click** a bar to toggle its tracing off; click it again to toggle the tracing back on.
>
> » **Ctrl+click** a bar to change its tracing color, or drag a color from the Swatch Table onto the tracing.

| | **Merge into Active** | Merges the selected color into the active color. |
| | **Undo** | Undoes the last merge operation. |

» From the **Main** toolbar, select **Color Trace** tool.

» Adjust the tracing parameters in the DesignCentral - **Color Trace** and **Auto-trace** tabs.

» To trace the entire bitmap or parts of it:

> » Click the bitmap to trace one object.
>
> » Click and drag the cursor to create a rectangular bounding box. (Hold **Shift** to create a square bounding box.) Surround the objects in the bit-

map that you want to trace.

>> Hold **Ctrl** and click to trace all of the bitmap.

» Edit the color palette and the posterized image as described in the next item.

» Click **Apply.**

While color tracing an image, you can specify the number of colors that will be in the **Number of Posterized Colors** list.

If a **Background color** was found, it will be placed on the far left side of the color palette. The background color will not be traced, as indicated by the folded corner.

Traced parts of the bitmap with an **Untraced color** will not be displayed in the pre-view and will not be traced. You can skip any color in the untraced color by **Shift-clicking** it.

The color with a triangle underneath is the **Active color**. The active color is used when merging colors. To make one color active, click the space underneath the color.

You can select colors by clicking them. To deselect the color, click again. You can select multiple colors. Selecting an invisible color will make it visible.

When you have two or more colors that you want to trace with the same color, you can merge them.

3.7.5.4.1. Merging Active Colors

» Make the destination color Active.

» Select the colors to be merged.

» Click Merge into Active.

You can undo the operation by clicking Undo on the Color Trace tab.

Only the last merge can be undone.

Or

» Click and drag a source color button over a destination color button.

To change the order of color buttons in the palette, click and drag a color button to a position between or after the existing color buttons.

To edit a posterized color in the color palette, hold **Ctrl** and click the color button.

3.7.5.4.2. After Posterizing the Image

» Click and hold the area in the posterized image that contains the source color.

The eyedropper cursor will change into a paint bucket cursor.

» Drag the paint bucket cursor onto the object where the color will be applied.

» Release the mouse button.

| Click the object with the source color | Drag where the color will be applied | Release the button and the color will be applied |

3.7.5.5. Using Picture Cut Tracing

The Picture Cut tool applies a striping effect to a bitmap. The process slices the image with a series of horizontal or vertical stripes of varying widths. The stripes will be joined into several groups, each with its own tab, to aid in the weeding process.

In the DesignCentral - **Picture Cut** tab, adjust the following parameters:

Enhance Image	Applies an image enhancement filter before tracing the image.
Brightness	Changes how dark the finished image comes out.
Number of Stripes	Specifies the number of stripes to be created.
Resolution	Specifies the resolution at which an image is traced. You can trace using the Full resolution of an image or 1/2, 1/4, or 1/8 of its original resolution. At reduced resolutions the tracing process is quicker and produces fewer points, but the quality will not be as accurate. **Optimal** selects a resolution based on image size to optimize the traces.
Cut Direction	Determines whether the stripes are horizontal or vertical.
Reverse Image	Reverses the dark and light portions of the image.
Color	Sets the color of the resulting vector objects.

» From the **Main** toolbar, select the **Picture Cut** tool.

» Adjust the tracing parameters in the DesignCentral - **Picture Cut** tab.

» To trace the entire bitmap or parts of it

> » Click and drag the cursor to create a rectangular bounding box. (Hold **Shift** to create a square bounding box.) Surround the area on the bitmap that you want to trace.

> » Hold **Ctrl** and click to trace all of the bitmap.

3.7.6. Using Filters

3.7.6.1. Adobe Filters

3.7.6.1.1. Setting up the Folder Where the Plug-ins are Installed

» From the **Edit** menu, select **Preferences.**

» Click the **File Paths** tab and enter the folder location in the **Adobe Plug-ins** field.

Click **Browse** to navigate to the Adobe Plug-ins folder.

» Click **OK.**

Only 32 bit plugins are supported

3.7.6.1.2. Using the Filters

» **Select** the bitmap.

» From the **Bitmap** menu, point to **Adobe Filters** and select the desired filter.

» Follow the instructions for each filter.

See your Adobe user manual for more information.

3.7.6.2. Blur Filter

This filter creates a softening effect by averaging the pixels next to the edges.

» **Select** the bitmap.

» From the **Bitmap** menu, point to **Filters** and select **Blur.**

The Blur tab appears in DesignCentral, and a sampling marquee appears on the screen.

» Move the marquee over the area to be sampled and adjust its size.

» In the Blur tab of DesignCentral, adjust the following parameters:

Amount and Radius	Specifies the percentage of blurring that will be introduced (values are 100%, 75%, 50%, and 25%). Higher values will produce more blurred images.
Preview	When checked, this allows you to see a preview while adjusting the Amount and Radius parameters.

» Click **Apply**.

3.7.6.3. Brightness and Contrast Filter

Using this filter, you can adjust the Brightness, Contrast, and Saturation of your image.

» Select the bitmap.

» From the **Bitmap** menu, point to **Filters** and select **Brightness/Contrast.**

The Brightness/Contrast tab appears in DesignCentral, and a sampling marquee appears on the screen.

» Move the marquee over the area to be sampled and adjust its size.

» In the **Brightness/Contrast** tab of DesignCentral, adjust the **Brightness, Contrast, and Saturation** settings:

  » Do one of the following:

    » Click on the **slider lines.**

    » Click and drag the **sliders.**

    » Enter values in the numeric fields.

» Click **Preview** to see a preview while adjusting the Brightness, Contrast, and Saturation parameters.

» Click **Apply**.

3.7.6.4. Color Balance Filter

DesignCentral shows slider bars (Cyan-Red, Magenta-Green and Yellow-Blue) for adding or subtracting color from an image. (For example, if you drag the Cyan-Red slider to the Cyan side, the amount of Cyan in your image is increased and the amount of Red is decreased.)

» Select the bitmap.

» From the **Bitmap** menu, point to **Filters** and select **Color Balance**.

The Color Balance tab appears in DesignCentral, and a sampling marquee appears on the screen.

» Move the marquee over the area to be sampled and adjust its size.

» In the **Color Balance** tab of DesignCentral, adjust the filter settings:

» Choose **Highlights, Midtones, or Shadows** from the dropdown list to select the tonal range on which to focus the changes.

» Do one of the following:

» Click on the **slider line.**

» Click and drag the **sliders**.

» Enter values in the numeric fields.

» Click **Preview** to see a preview while adjusting the color parameters.

» 5.Click **Apply**.

3.7.6.5. Level Filter

This filter shows a histogram that graphically represents the colors present in the image. Peaks indicate color density. By moving the sliders inwards, it is possible to redefine the black and white points in the bitmap.

» Select the bitmap.

» From the **Bitmap** menu, point to **Filters** and select **Level.**

The Level tab appears in DesignCentral, and a sampling marquee appears on the screen.

- » Move the marquee over the area to be sampled and adjust its size.
- » In the **Level** tab of DesignCentral, adjust the following parameters.
  - » Select **RGB** in the dropdown list to adjust all RGB channels at once. To adjust one specific color channel, select **Red, Green, or Blue**.
  - » Do one of the following:
    - » Click on the **slider line.**
    - » Click and drag the **sliders** under the histogram.
    - » Enter values in the numeric fields.
  - » Click the **Auto** button to have the software automatically define the black and white point in each channel and redistribute the intermediate pixel values proportionately.
  - » Click the **Reset** button to restore the sliders to their original positions.
  - » Click **Preview** to see a preview while adjusting the color parameters.
- » Click **Apply.**

3.7.6.6. Reduce Noise Filter

Use this filter to clean up scanned images with small imperfections, known as noise.

- » **Select** the bitmap.
- » From the **Bitmap** menu, point to **Filters** and select **Reduce Noise**.

  The Reduce Noise tab appears in DesignCentral, and a sampling marquee appears on the screen.

- » Move the marquee over the area to be sampled and adjust its size.
- » In the **Reduce Noise** tab of DesignCentral, adjust the following parameters:

Radius	Specifies the percentage of noise that will be cleared.
Preview	When checked, this allows you to see a preview while adjusting the Radius parameter.

- » Click **Apply.**

3.7.6.7. Sharpen Filter

This filter focuses blurry images by increasing the contrast of adjacent pixels.

» **Select** the bitmap.

» From the **Bitmap** menu, point to **Filters** and select **Sharpen**.

The Sharpen tab appears in DesignCentral, and a sampling marquee appears on the screen.

» Move the marquee over the area to be sampled and adjust its size.

» In the Sharpen tab of DesignCentral, adjust the following parameters.

Amount and Radius	Specifies the percentage of sharpening that will be introduced (values are 100%, 75%, 50%, and 25%). Higher values will produce more sharp images.
Preview	When checked, this allows you to see a preview while adjusting the Amount and Radius parameters.

» Click **Apply**.

3.7.7. Working with Marquees

3.7.7.1. Clearing Marquees

» Select the bitmap with a marquee.

» From the Bitmap menu, select Clear Marquee.

3.7.7.2. Converting Marquees

3.7.7.2.1. Converting Objects to Marquees

You can convert vector objects into marquees.

» Place a vector object over the bitmap.

» Select the bitmap and the vector object.

» From the **Bitmap** menu, select **Convert Shape to Marquee**.

3.7.7.2.2. Converting Marquees to Objects

You can convert marquees into vector objects.

» Select the bitmap.

» From the **Bitmap** menu, select **Convert Marquee to Shape.**

3.7.7.3. Working with Marquees

Marquees select part of the image and allow only that part to be edited. The marquee can have any shape, and its border is marked by a flashing dotted line.

3.7.7.3.1. Selecting the Entire Bitmap

» Select the bitmap.
» From the **Bitmap** menu, select **Marquee Select All**.

3.7.7.3.2. Using the Marquee Tool

The Marquee tool selects rectangular portions of the bitmap.

With the bitmap selected, from the **Bitmap Edit toolbar:**

» Select the **Marquee** tool.
» Click and drag the cursor over the bitmap.
» After creating one marquee, you can add or subtract areas:
  » Hold **Shift** and drag to add additional sections to the selection marquee. A small + appears near the bottom of the cursor to indicate **Add**.
  » Hold **Ctrl** and drag to subtract sections from the selection marquee. A small - appears near the bottom of the cursor to indicate **Subtract**.

» Once drawn, click inside the marquee and drag it to move the marquee to the desired position.

3.7.7.3.3. Using the Lasso Tool

The Lasso tool allows you to select a marquee by tracing its outline on the bitmap.

With the bitmap selected, from the Bitmap Edit toolbar:

» Select the Lasso tool.

» Click and drag the cursor over the bitmap to create a closed shape.

To add and subtract areas from an existing marquee, hold Shift and Ctrl while you drag. (A small + or - appears near the bottom of the cursor to indicate Add or Subtract.)

» Click inside the marquee and drag it to move it to the desired position.

3.7.7.3.4. Using the Magic Wand Tool

The Magic Wand tool lets you select an area of a bitmap based on color. You can specify the color range, or tolerance, for the magic wand tool's selection.

With the bitmap selected, from the **Bitmap Edit toolbar**:

» Select the **Magic Wand** tool.

» Adjust the **Tolerance** in DesignCentral as needed.

Enter a low value to select colors very similar to the pixel you click, or a higher value to select a broader range of colors.

» Click the **Magic Wand** cursor over the bitmap.

Use **Shift** and **Ctrl** to add or subtract areas from the existing marquees. (A small + or - appears near the bottom of the cursor to indicate **Add** or **Sub-tract**.)

3.7.7.4. Inverting Marquees

» Select the bitmap with a marquee.

» From the **Bitmap** menu, select **Invert Selection.**

3.7.8. Using DesignCentral

When a bitmap is selected, DesignCentral displays the Bitmap and Profile tabs.

3.7.8.1. Bitmap Tab

The Bitmap tab will display some of the attributes of selected bitmaps. On this tab you can change the resolution of the bitmap. Changing the resolution will automatically change the bitmap's size. Uncheck the Proportional option to set different resolutions for horizontal and vertical directions.
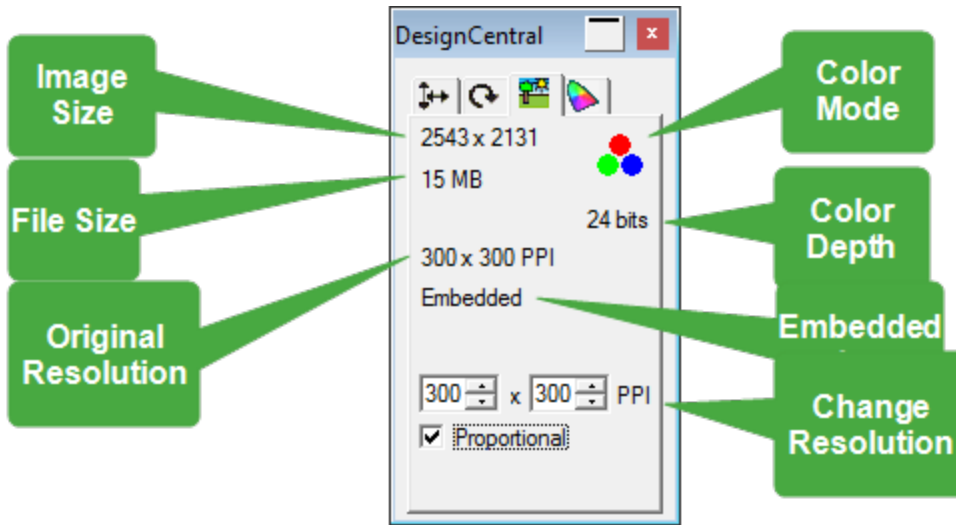
3.7.8.2. Profile Tab

On this screen you can specify the Input profile and the Rendering intent that will be used to print a particular bitmap. Each bitmap can have independent settings.
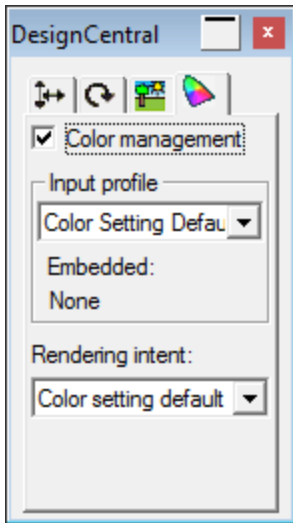
If the selected bitmap contains an embedded ICC profile, it will be listed on the Profile tab of DesignCentral.

To use the embedded ICC profile as the input profile, select Use Embedded ICC Profile from the Input profile dropdown list.

3.8. Color

3.8.1. Working with Color

Your software provides you with an array of tools for applying color.

Each object in your design can have a Fill color and a Stroke color. The Fill Color can be a solid color, pattern, or gradient.

| Solid | Pattern | Gradient |
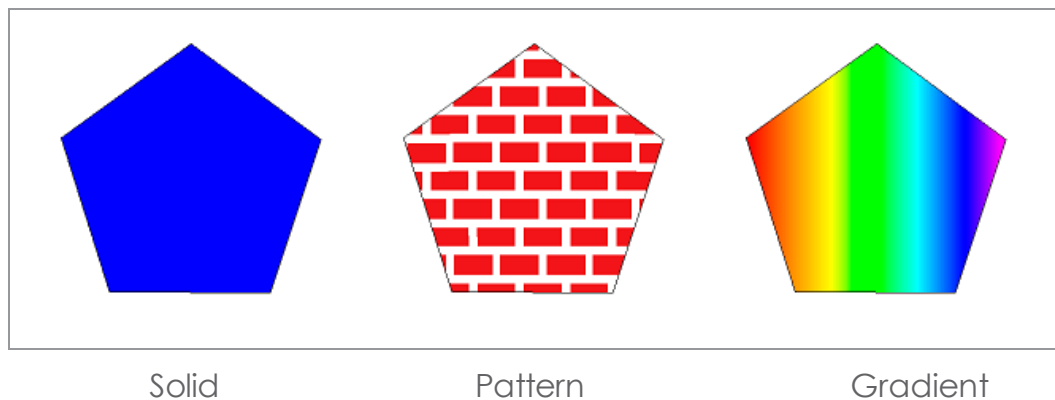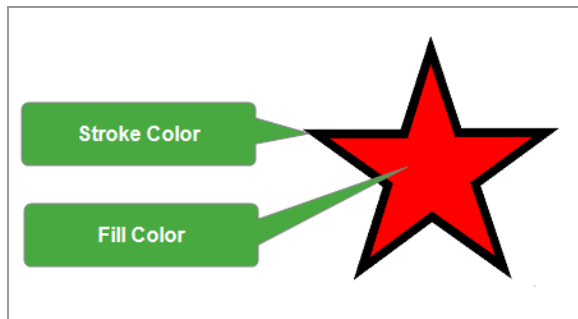
3.8.2. Available Color Modes

Colors can be defined using the following modes:

RGB   The color is expressed as a combination of red, green, and blue values. This is the color mode most commonly used for computer graphics.

CMYK	The color is expressed as a combination of cyan, magenta, yellow, and black values.
LAB	The CIE LAB mode is a device-independent color mode that expresses color using a luminance value and two chrominance values.
Spot	Spot colors
HSV (HSB)	The color is expressed using values for hue, saturation, and value (brightness).
Duotone	Duotone colors are made by overlaying two spot colors. The color that is printed first is called the base color; the color that is printed on top of the base is called the top color.

3.8.3. Setting the Default Fill and Stroke Color

When new objects are created, a set of default Stroke and Fill colors are used. These colors are shown in the Stroke and Fill indicators in the lower-right corner of the Status bar.
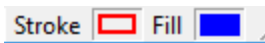
There are three sets of Stroke and Fill defaults:

» For the current document
» For new documents
» For the whole program

Each default has a specific level of permanence.

To set the default Stroke and Fill colors for the current document:

» Click on an empty area of the document.
» Drag the desired colors from a swatch table onto the default Stroke and default Fill color indicators on the Status bar.

The Stroke and Fill indicators display the newly selected colors.

These defaults only apply to the current document and will not be retained when the program is closed.

To set the default Fill color for new documents:

» Click on an empty area of the document.

» Open the Color Mixer (press M on the keyboard).

» Select the desired color from the color bar.

The Fill indicator displays the newly selected color.

This default applies to every new document but will not be retained when the program is closed.

To set the default Stroke and Fill colors for when the program opens:

» Click on an empty area of the document.

» Open the Fill/Stroke Editor (press I on the keyboard).

» From the Fill tab, select the desired fill color.

» From the Stroke tab, select the desired stroke color.

The Stroke and Fill indicators display the newly selected colors.

These defaults are applied when you close and reopen the program.

To be used as defaults, Fill colors must be solid.

3.8.4. Creating Test Swatches

3.8.4.1. Advanced Settings for CMYK Swatch Tables

The CMYK tab allows you to set lower and upper boundaries for the table's color range and specifies the percentage of change between adjacent swatches.

Step	Specifies the percentage of change in ink values between one swatch and the next.
Start	Sets the lower color-value boundary in the swatch table.
End	Sets the upper color-value boundary in the swatch table.

The Label tab lets you select a font and font style for the labels, and sets the label height

When finished, click OK.

3.8.4.2. Advanced Settings for Current Palette Swatch Tables

The Color tab lists all the available colors and lets you specify which colors will be included in the swatch table. By default, all the colors will appear in the table.

👁 The color will appear in the swatch table.

👁 The color will not appear in the swatch table.

» To hide a color, click the 👁 icon to the left of it. (An "X" appears through the icon.)

» To display a color, click the X'ed icon 👁.

Use Select All and Clear All to speed up the selection process.

The Label tab lets you select a font and font style for the labels, and sets the label height.

» When finished, click OK.

3.8.4.3. Advanced Settings for Duotone Swatch Tables

The Color tab lists the available Top colors and Base colors, and lets you specify which colors will be included in the swatch table. By default, all the colors will appear in the table.

👁 The color will appear in the swatch table.

» To hide a color, click the icon 👁 to the left of it. (An "X" appears through the icon.)

» To display a color, click the X'ed icon 👁.

Use Select All and Clear All to speed up the selection process.
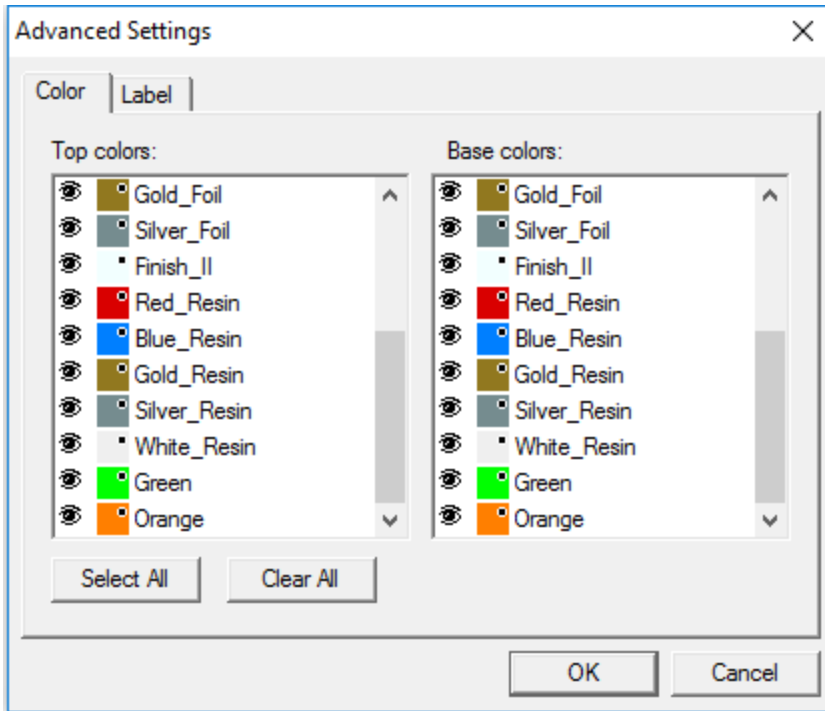
The Label tab lets you select a font and font style for the labels, and sets the label height.

» When finished, click OK.

3.8.4.4. Creating Test Swatches

The software has the ability to automatically create the following sets of test swatches:

Duotone	This set of swatches shows all of the duotone colors that can be created using the spot colors in the swatch tables you have open.
CMYK	This set of swatches shows all of the CMY color combinations currently available, plus the range of black values.
Current Palette	This set of swatches lists of all the colors in your current palette.

» From the **View** menu, point to **Create Swatch** and select **Duotone**, **CMYK**, or **Current Palette**.

» In DesignCentral, adjust the following parameters:

	Sets the size of each swatch cell.
	Set the size and position of the swatch labels.
	Duotone and CMYK labels appear above and to the left of the swatch table. Current Palette labels appear to the right. Only Duotone allows for the resizing of swatch labels.
	Sets the horizontal spacing between swatch cells.
	Sets the vertical spacing between swatch cells.
	Determines the number of swatches or sets of swatches per row.
	The number of Duotone swatches is determined by the number of Top colors and Base colors.
Default ▾	Lets you select which swatch table to list the colors from.
	(Available for Current Palette only)

» Click Advanced to open the Advanced Settings dialog box and make any desired changes.

Advanced Settings let you choose label fonts, set label height, and select the colors to include in the swatch table.

» Click Apply.

3.8.5. Working with Color Mixer

3.8.5.1. Applying Colors Using the Color Mixer

The Color Mixer dialog box is used to specify and apply color to elements in your design.

To view the Color Mixer, do one of the following:

» From the View menu, select Color Mixer.

» Click the Color Mixer icon on the Standard toolbar.

» Press M on the keyboard.

When you select an object, its fill color is displayed in the swatch button in the upper-left corner of the Color Mixer. When multiple objects are selected, the Color Mixer displays the color of the lowest selected object in the DesignEditor.
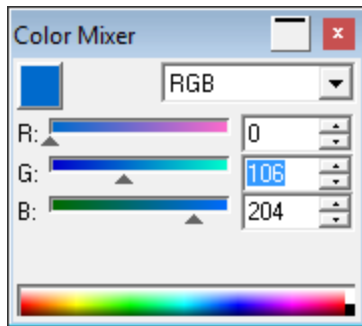
Use the dropdown list in the upper-right corner of the Color Mixer to specify a color model: RGB, CMYK, LAB, Spot, HSV, or Duotone.

Once you specify which color model to use, there are several ways to specify a color in the mixer:

» Enter numerical values in the number fields or click the up/down spin buttons.

» Click and drag the channel sliders.

» Click or click and drag the mouse over the color picker at the bottom of the Color Mixer. When you locate the color you want, release the mouse button.

Using the Color Mixer, it is possible to specify colors that are beyond the boundaries of the selected color space. When this happens, a warning icon will appear next to the color swatch, along with a smaller swatch that is actually a functional button.

» Click the Gamut Correction button to adjust the color so that it fits within the target gamut.

After you click the button, the color is redefined, and both the icon and the gamut correction button disappear.

The warning icon only appears when you are viewing objects in RGB, LAB, or HSV color space. The software checks to see if the color you specified can be reproduced accurately in CMYK color space, based on the active printer profile you selected in the Color Settings dialog box.

3.8.5.2. Creating Duotone Colors with the Color Mixer

» From the **View** menu, select **Color Mixer**.
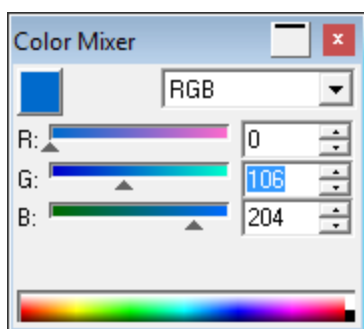
(Or click **Color Mixer** on the Standard toolbar, or press **M** on the keyboard.)

» Select **Duotone** from the dropdown list of color modes.
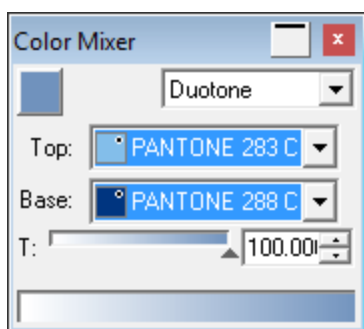
» Select the **Top** and **Base** colors.

You can only select colors from swatch tables that are currently open.

» Select the percent coverage. This will apply to both Top and Base colors.

» Click and drag the colored swatch button onto the swatch table and release it at the desired location.

» Save the swatch table.

3.8.6. Working with Swatch Tables

3.8.6.1. Adding a New Color to a Swatch Table

New colors can be added to a swatch table using the Eyedropper tool, the Color Mixer, the Color Specs dialog box, by merging colors from a document, by merging similar colors or by copying a color from another Swatch table.

3.8.6.1.1. Using the Eyedropper tool

To add a fill, pattern, or gradient selected with the eyedropper to a swatch table, click and drag the fill swatch out of the Fill/Stroke dialog box and onto the swatch table.
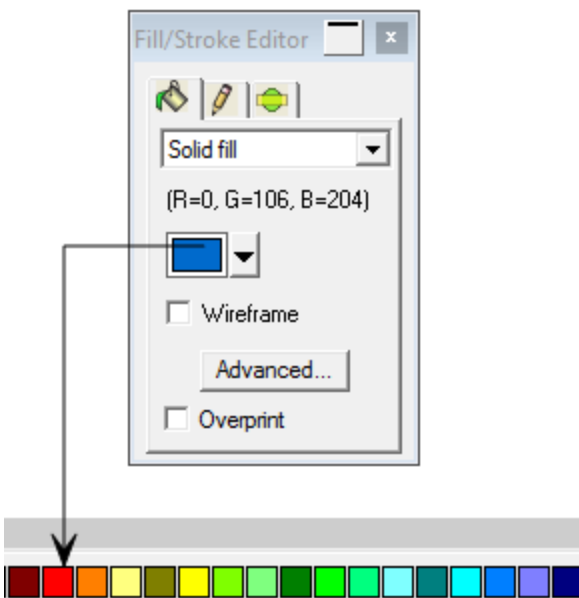
3.8.6.1.2. Using the Color Mixer

» Do one of the following:
   » From the **View** menu, select **Color Mixer.**
   » Press **M** on the keyboard.
   » Click the Color Mixer icon on the Standard toolbar.
» Create the new color to be added.

» Click and drag the colored swatch button onto the swatch table and release it at the desired location.
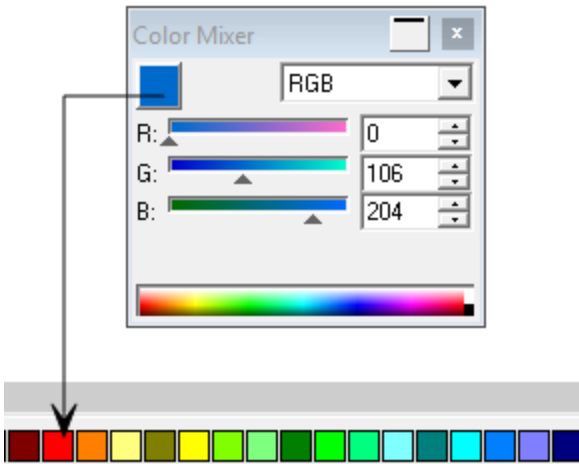
3.8.6.1.3. Using Color Specs

In the Color Specs - Library tab dialog box, you can remove colors from swatch tables and add colors from the Vendor color libraries into the swatch tables.
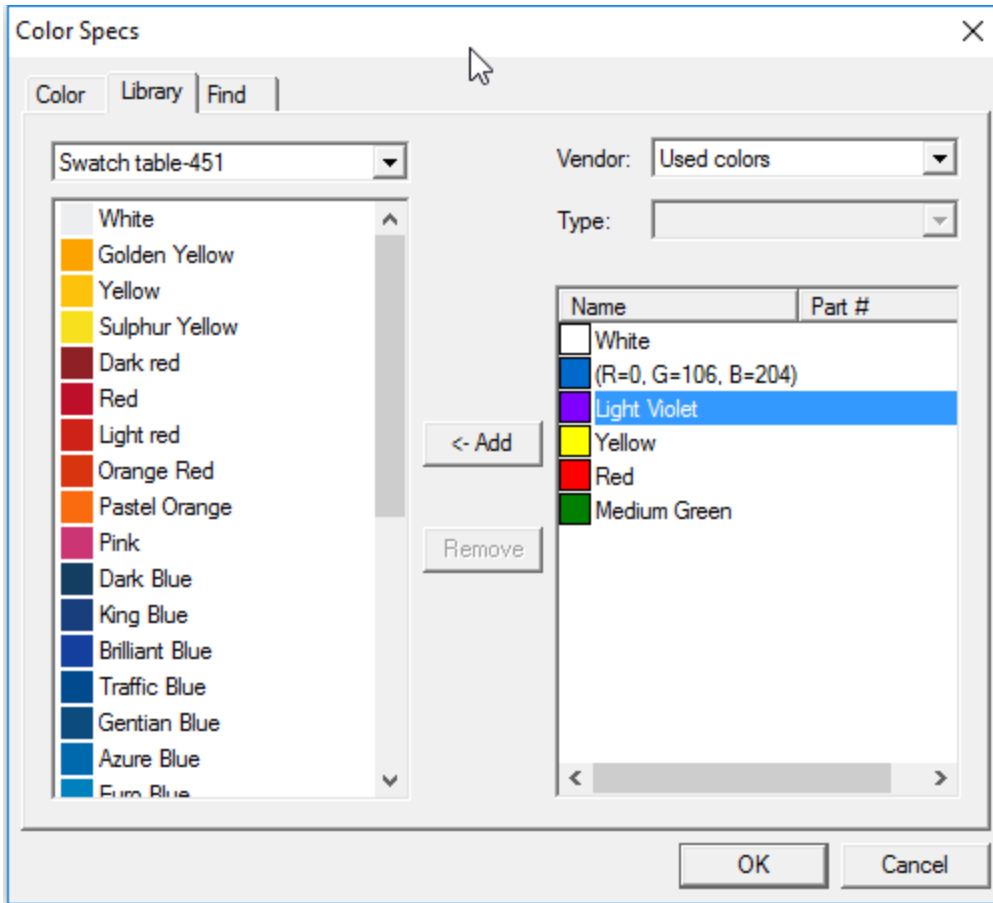
3.8.6.1.4. Merging Colors from Document

Merge From Document creates swatches for every color in the current document in the swatch table of your choice. If your document has gradient fills, they will also be added to the swatch table.

» Open or create the swatch table that you want to save the colors in.

» From the **View** menu, point to **Color** and select **Merge from Document.**
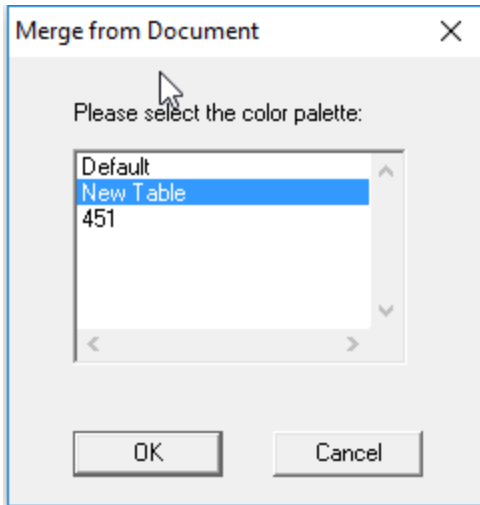
» Select the color palette you want to store the color swatches in and click OK.

If you access Merge from Document by right-clicking on a swatch table, the documents colors will be added to the swatch table without any prompting.

3.8.6.1.5. Merging Similar Colors

To merge colors that have different names but the same color values as other colors in the table, from the View menu, point to Color and select Merge Similar Colors.

3.8.6.1.6. Copying a Color to another Swatch table

To copy a color from one swatch table to another:

» Left-click on the desired color swatch.
» Drag it onto the target table.
» Release it at the desired position.

3.8.6.2. Applying Colors from a Swatch Table

» Select the objects.
» Select the desired fill color in the swatch table. Hold **Ctrl** and select to apply the color to the object's stroke.

Or

» Click and drag colors directly from the swatch table.
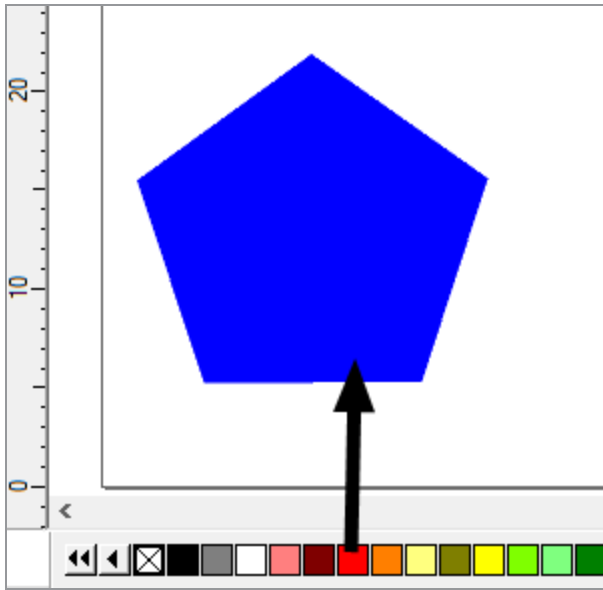
When you click and drag the mouse pointer over objects, its shape changes, depending on its location.

Changes the color of the object's **fill** to the selected color.

Changes the color of the object's **stroke** to the selected color.

Changes the color of the **substrate** to the selected color.

3.8.6.3. Changing Color Order in a Swatch Table

Do one of the following:

» Click and drag a color in the swatch table to a new position and release it.

» Use the Color Specs dialog box.

  » To reorder the colors in the palette using Color Specs, click on the color in the color list and drag it to its new location.

  » To move a color beyond the bounds of the visible color list:

    » Click and drag the color to an end of the list.

    » Click the vertical scroll bar to advance the list.

    » Repeat the process until the desired target location comes into view.

» Right-click the swatch table, point to Sort and select a sort option.

  You can sort the swatch table by Name, RGB or HSV value, Vendor, Type, or Part #.

3.8.6.4. Changing Existing Color Libraries

» From the View menu, point to Color and select Modify Color Libraries.

» Select a Vendor and Type from the dropdown lists.

» From the list on the right, select the color to be changed.

» Type a new Name / Part # for the color to modify it, or click Delete to remove the color from the Color Library.

  You can also click Measure to measure a new color using a measurement device and Replace to replace the selected color.

» Click Done.

  A warning message—"The color library has been changed"—appears on the screen.

» Click Yes to save the changes.

3.8.6.5. Changing the View of a Swatch Table

Changing the View of a Swatch Table

Each swatch table has two different views.

» Palette view—displays all of the colors in the table as color swatches.

» List view—displays a list of all of the colors, along with their name, vendor, type, and part number.
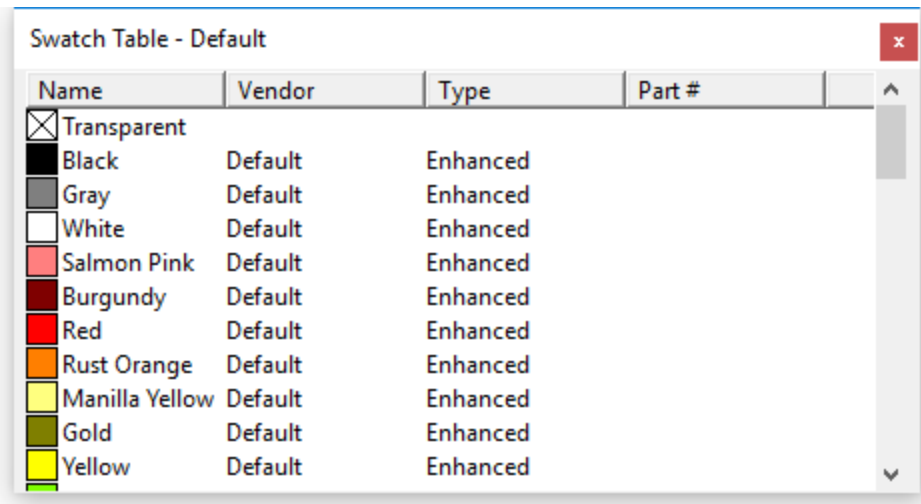
List view is only available when a swatch table is floating.

To switch between views, right-click in a floating swatch table and select Palette View or List View.

3.8.6.6. Creating New Swatch Tables

To create New Swatch Tables, do one of the following:

» From the View menu, point to Color and select New Table.

» Right-click on an open swatch table and select New Table.

If you add colors to a new swatch table and try to close the table or application without saving it, you will be prompted to save the table to a file.

To Save a Swatch Table to a File

» To open the Save As dialog box, do one of the following:
    » Right-click on the swatch table and select Save Table As.
    » From the View menu:
        » Point to Color and select Save Table As.
        » .Select the swatch table you want to save and click OK.
» Select the folder you want to save the swatch table in.
» Enter a filename for the table and click OK.

3.8.6.7. Deleting Colors from a Swatch Table

To delete colors from a swatch table, right-click on the color swatch you want to delete and select Delete.

Transparent is not a color and cannot be deleted.

You can also delete colors from the swatch table using the Color Specs dialog box.

From the Color tab in the Color Specs - dialog box:

» Locate and select the color you want to delete.
» Click Delete.

3.8.6.8. Docking or Floating Swatch Tables

By default, swatch tables are docked just above the Status bar at the bottom of the screen.

To make a swatch table float, do one of the following:

» Click and drag its light grey border to move it from its docked position.
» Double-click its light grey border to undock the table.

To dock a floating swatch table, do one of the following:

» Drag its title bar into the area of the Status bar.
» Double-click its title bar.

3.8.6.9. Hiding and Displaying Swatch Tables

To toggle the display of all swatch tables on and off, from the **View** menu, select **Swatch Table**. This will also force hidden swatch tables to be displayed.

3.8.6.10. Working with Swatch Tables

Every line of ink, film, or foil that a manufacturer makes is represented by a separate swatch table, which lists all of the colors available for that line.

The swatches in the swatch tables change appearance based on the color mode in use. Spot colors have a small dot on the right side of the swatch. Duotone colors have two dots on the right side of the swatch.

Process Color   Spot Color   Duotone Color

In order to use a color of foil in your design, you must first open the swatch table for that type of foil.

- » To display the Open dialog box, do one of the following:
    - » From the View menu, select Color, and then Open Table.
    - » Right-click on the default swatch table (or any other open swatch table) and select Open Table.
- » Browse to the desired Swatch Library subfolder within the software installation folder.
- » Select the manufacturer of the foil type (such as Gerber Scientific Products) and click Open (or simply double-click it).
- » Select the swatch library for the desired foil type and click Open (or simply double-click it).

    A new swatch table displays along the bottom of your screen.

To close a swatch table, right-click on the table and select Close.

3.8.7. Working with the Color Specs Dialog

3.8.7.1. Color Specs - Color Tab

In the Color Specs - Color tab dialog box, you can set the properties for each color.

From the dropdown list at the top left of the dialog box, you can select the colors that will be displayed in the list. You may select any of the following:

[swatch table]	Displays all the colors defined in the selected swatch table.
Used colors	Displays only the colors used in the current document.
All colors	Displays all the colors from all the open swatch tables, plus the colors used in the current document.

Each color in the list will have an icon on the left side that indicates whether the color is being used in the document.

The color is being used in the document. Clicking this icon hides all objects in the document that use this color.

The color is not being used in the document.

The color is being used in the document, but all the objects using it are hidden. Clicking this icon will show all objects in your document that it is using this color.

For each color you can control the following properties:

Color Name	Color name defined in the swatch table
Color Mode	The color mode can be RGB, CMYK, Lab, Spot, HSV, or Duotone. Spot colors have a small dot on the right side of the swatch. Duotone colors have two dots on the right side of the swatch.

Process Color   Spot Color   Duotone Color

Color Values	Color values for the selected color. The parameters vary according to the color mode selected.

Color Info	Vendor, Category, Part #, and Comments defined in the swatch table.
Use Color Management	When selected, settings from the color management system are used to print the color. You can set a different Input profile and Rendering intent for each color.

3.8.7.2. Color Specs - Find Tab

In the Color Specs - Find tab dialog box, you can search for a color in the color libraries that matches the color you are using in your design.

» Select the swatch table that contains the color you want to match.

» From the list on the left, select the color to search for.

You can also use your measuring device to measure a specific color by clicking the Measure button.

» From the list on the right, select the desired vendors and types.

» From the Tolerance dropdown list, select the desired search tolerance.

» Click Search.
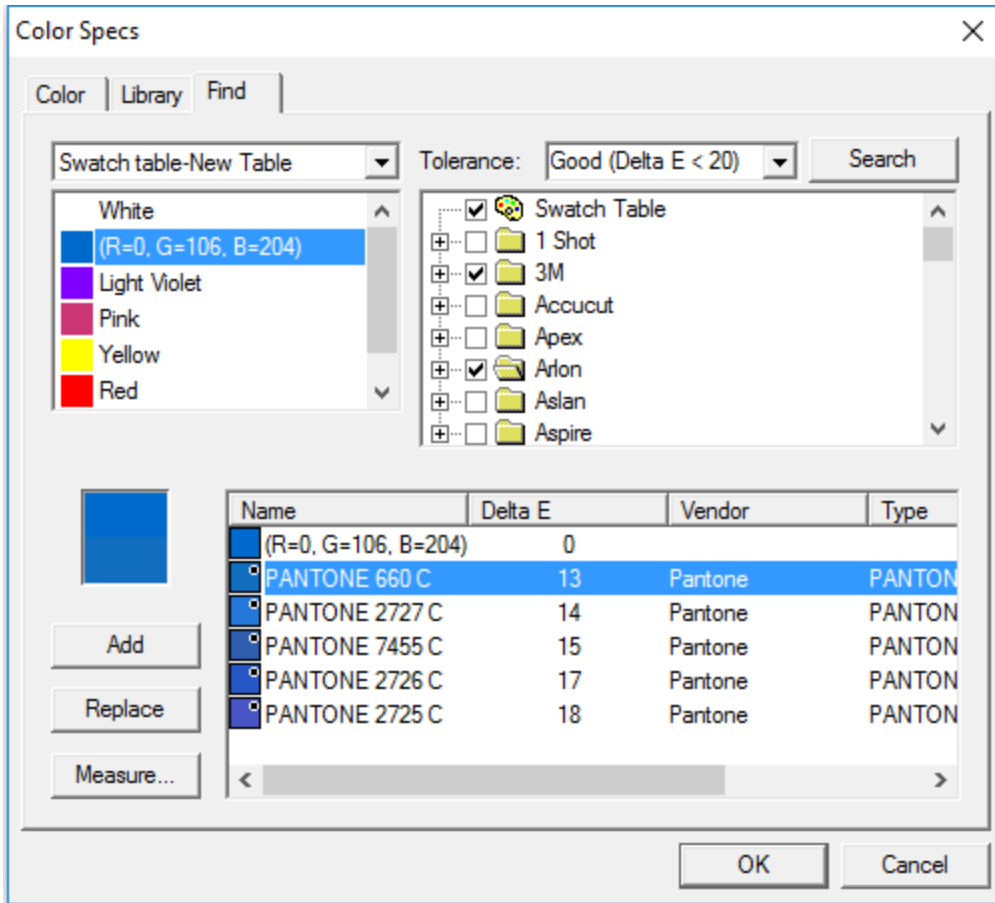
The matches closest to the selected color are displayed in the list near the bottom of the screen. When you select a color from the list, the swatch panel will display the original color on top and the color found in the Color Library on the bottom.

» Select the desired color from the list.

» Do one of the following:

  » Click Add to add the new color to the swatch table.

    (Or you can double-click the new color to add it.)

    The newly added color will not appear on the Find tab, but it does appear on the Library tab.

  » Click Replace to overwrite the original search color with the newly found vendor color.

The newly found color replaces the original in the swatch table list.

» When finished, click OK.

3.8.7.3. Color Specs - Library Tab

In the Color Specs - Library tab dialog box, you can remove colors from swatch tables and add colors from the Vendor color libraries into the swatch tables.
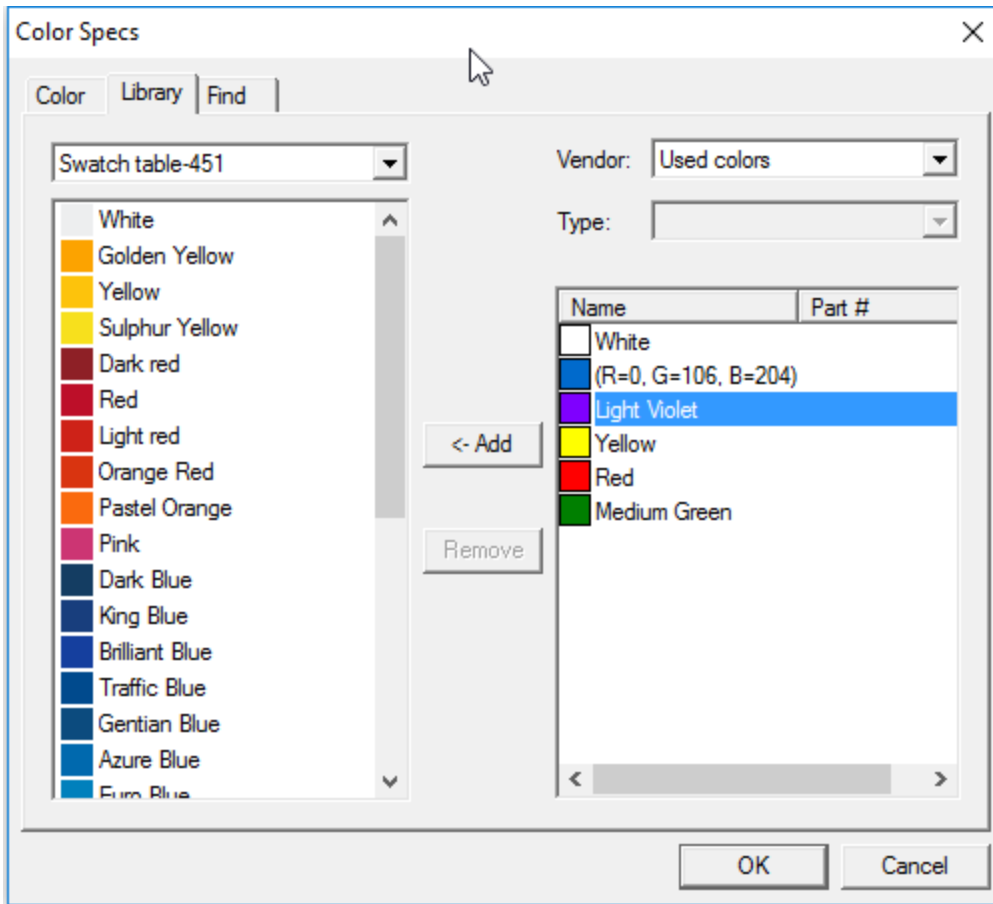
3.8.7.3.1. To Add a Color:

» From the top-left dropdown list, select the swatch table you want to add colors to.

» Select a Vendor and Type from the dropdown lists.

» From the list on the right, select the color or colors to be added to the swatch table.

Hold Shift or Ctrl to select multiple colors.

» Click Add.

3.8.7.3.2. To Remove a Color :

» From the top-left dropdown list, select the swatch table you want to delete from.

» Select one or more colors from the list.

Hold Shift or Ctrl to select multiple colors.

» Click Remove.

» Click OK.

3.8.7.4. Creating New Colors Using Color Specs

From the **Color** tab in the Color Specs - dialog box:

» In the top-left dropdown list, select the swatch table you want to add colors to.

» For each color you want to add:

  » Click New.

  » Enter values in the **Color Info** fields.

  » Type or change the color name in the **Name** field.

  » Select the color **Mode**.

    If you are creating a spot color, first select **RGB** Mode and enter the values that will be used to display the spot color. Then change the Mode to **Spot.**

  » Specify the color values in one of the following ways:

    » **Type** them in the numeric fields to the right.

    » Click or click and drag in the **color bar** underneath the Mode field.

» Click the up/down spin buttons.

While adjusting the colors, the swatch button will show the original color on top and the new color on the bottom.

» When finished adding colors, click **OK.**

3.8.7.5. Measuring a New Color

To determine the color values of a new color by measuring them with a measuring device (such as a spectrometer), click **Measure**.

To use this option, you must first set up your measurement device.

To set up your meter for color measurement:

» From the Main Menu, select Edit and choose Preferences.
» Click the Tools tab.
» Select Meter in the left-hand column.
» Choose a Meter and a Port from the dropdown lists.
» Click Calibrate.
» .When calibration has finished, click OK.

3.8.7.6. Viewing the Color Specs Dialog Box

Do one of the following:

» From the View menu, point to Color and select Color Specs.
» Double-click on a solid process, spot, or duotone color in any open swatch table.
» Right-click on a swatch table and select Color Specs.

3.8.8. Working with the Eyedropper

3.8.8.1. Working with the Eyedropper

The Eyedropper tool sets the fill options of the selected objects to match the color, pattern or gradient fill of whatever it clicks on.

If you click on a bitmap, the eyedropper will return a solid color that matches the pixel you clicked on.

3.8.8.1.1. To use the Eyedropper

- » Select the objects.
- » Click the Eyedropper Tool.
- » Move the eye dropper over the object with the desired color and click.

> To select a solid color from a pattern or gradient, hold Shift while you select the color. The fill color will be set to match the color of the pixel that was clicked on

3.8.8.1.2. To Set Stroke Colors with the Eyedropper

To use the eyedropper to set the stroke color of objects instead of the fill, hold **Ctrl** The stroke color will be set to match the fill color of the object that is clicked on.

If the object has a pattern or gradient fill, or if it is a bitmap, the stroke color will be set to the color of the pixel that is clicked on.

3.9. Effects

3.9.1. Using Color Trapping

The Color Trapping effect removes most of the overlapping material between objects. The effect leaves enough overlapping material to ensure that no gaps will exist between the objects, even if the registration is slightly off.
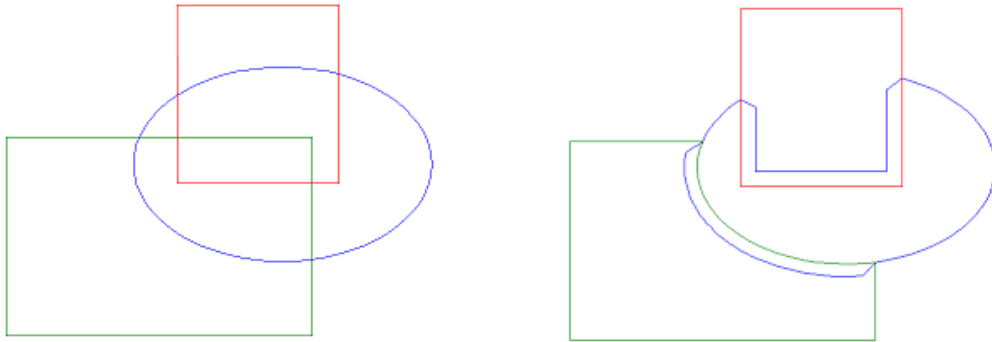
Original objects (Show Fill is off)   Objects after Color Trapping

3.9.1.1. Applying Color Trapping

» Select the desired objects.

» From the Effects menu, select Color Trapping.

The Color Trapping tab appears in DesignCentral.

» Adjust the parameters in DesignCentral.

  » Choke/spread distance : Specifies the amount of overlap distance.

  » Light to Dark/ Dark to Light Selects whether the trapping will be performed from light-to-dark colors or vice versa.

  » Include Strokes : When checked, causes color trapping to be applied to the object strokes.

» Click Apply.

3.9.2. Using Combine Effects

Combine effects are applied to overlapping objects, separating or merging the portions that are overlapping. Combine effects can only be applied to vector objects; they are not available for bitmaps.

Effects will be always applied to the topmost object. If you want to apply the effect to other objects underneath, first group the top objects.

Combine Effect	Before	After	Notes
Weld			Weld effects weld selected objects into single objects, removing overlapping. Use this tool to eliminate extra lines in overlapping objects that will be cut.
Weld by Color			The Weld by color effect will automatically weld together any overlapping objects that have the same color.
Cut out			The Cut Out effect is applied to overlapping objects. It deletes the top-most object and removes the overlapping areas from the objects underneath it.

Remove Overlap
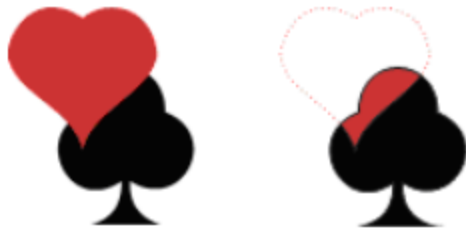
The Remove Overlap effect is applied to overlapping objects. It deletes the areas from the bottommost objects that overlap the top-most object, but does not delete the topmost object.

Common

The Common effect deletes all of the selected objects except for their over-lapping areas.

Exclude Common

The Exclude Common effect is applied to over-lapping objects. It deletes the overlapping areas of the objects.

Fuse

The Fuse effect is applied to overlapping objects. It removes the entire topmost object, except for the over-lapping area. The over-lapping area and the objects on the lower layers are combined into one object. The objects on the lower layers remain intact, and the fused portion retains its original color.

Separate Overlap

The Separate Overlap effect is applied to overlapping objects. It takes the overlapping areas in the objects and makes them into separate objects

3.9.3. Using the Blending Effect

Your software allows you to blend two objects. The shape and color of one object will gradually change to another object. Both objects must be vector objects.

» Select two objects. The last object selected becomes the target object.

» From the **Effects** menu, select **Blend**.

The Blend tab appears in DesignCentral.

» Adjust the number of steps in DesignCentral.

» Click **Apply**.

3.9.4. Using the ContourCut Effect

Contour Cut is a feature that creates one or more cutting lines around objects, either vector or bitmap.

This allows you to output an image to a printer and then cut its contours using a cutting plotter. If you have a hybrid device (printer with cutting capabilities), you can print and cut using the same machine.

To allow Contour Cut to trace the outline of objects in a bitmap, make the background of the image transparent using the Make Transparent function. Otherwise, the effect will only trace around the outside of the bitmap

3.9.4.1. Creating a Contour Cut around an object

» Select the desired objects.

» From the Effects menu, select Contour Cut.

The Contour Cut tab appears in DesignCentral.

» Adjust the parameters in DesignCentral, or drag the Control Point on the Contour Cut line. (See Adjusting Contour Cut Using DesignCentral for more information.)

» Click Apply.

To create multiple Contour Cuts around objects, repeat the above steps.

You can set different actions or colors for each contour path in the Contour tab of the RIP and Print dialog box.

3.9.4.2. Adjusting a Contour Cut

Contour   Selects the type of Contour Shape. Options are Contour, Rectangle, and Ellipse.

Contour mode   Rectangle mode   Ellipse mode

Selects the Stroke (line) Style of your contour cut. To create a custom cut line, choose Edit from the dropdown menu.

Edit	Opens the Customize Line Styles dialog box. Lets you modify an existing line style by adjusting the dash and gap widths.
	Add — Adds a new line style to the Customize Line Styles dialog box.

	Update	Allows you to make adjustments to the Dash and Gap parameters. Click to save the changes.
	Remove	Permanently deletes a customized line style from the Customized Line Styles list.

Specifies the Offset distance from the object to the cutting line. Negative values can be entered, allowing you to make a contour cut line inside the design. This prevents misalignments during the printing and cutting process (only available in Contour mode).

To manually adjust the contour offset using a handle:
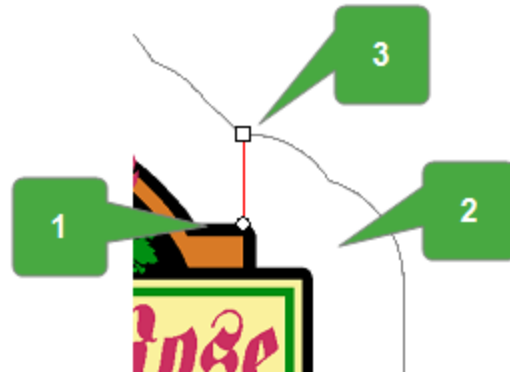
1. Reference Location	Specifies where the Offset distance will be measured from. Drag this point around the design and drop it where you want the Offset distance to originate from.

2. Offset distance	Specifies the distance between the Offset point and the Reference Location.
3. Offset point	Adjusts the offset distance. Drag this point toward or away from the contour cut line to specify the offset distance.
↔	Specifies the width of the contour shape (not available in Contour mode).
↕	Specifies the height of the contour shape (not available in Contour mode).
Pro-portional	When checked, ensures that the cutting line will be resized proportionally when you change its height or width. (Not available in Contour mode.)
With Holes	When checked, all holes in the selected objects will have an inner contour cut line (only available in Contour mode).

Contour with Holes   Contour without Holes
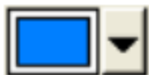
Specifies the color of the selected contour. CutContour and PerfCutContour colors are compatible with VersaWorks.

Joint Type. Selects how the corners will be contoured. Options are Round, Bevel, and Square.

3.9.4.3. Transforming Objects into a Cutting Line

If you need a cutting line with a special shape, you can create a vector object and transform it into a cutting line.

Once you convert an object into a cutting line, its outline color will change to a light gray, indicating that it has been converted to a cutting line, and its fill color will change to Transparent. Even after being converted to a cutting line, the object will retain its original attributes.

» Select the desired object.
» From the Arrange menu, point to Contour Cut and select Make Contour Cut.

3.9.5. Using the ContourCut Mark Effect

Contour Cut Marks for a limited list of cutters can be added into the design. This is used only when the job will not be printed in Graphtec Pro Studio but the contourcut job will.

This option is only avaiable for objects containing a contour cut path.

» Select the objects with a contour cut path
» Select Effects and then Contour Cut Mark

The Contour Cut Mark tab appears in DesignCentral

» Select the Registration mark for your cutter from the drop down list.

» Click Apply

3.9.6. Using the Distort Effect

Your software allows you to distort vector objects. The following distortions are available in your software. When a distortion effect is applied to a bitmap, it will mask the bitmap using the distortion shape.

3.9.6.1. Applying Distortions

» Select the desired objects.

» From the Effects menu, select Distort.

The Distort tab appears in DesignCentral.

» Adjust the parameters in DesignCentral or drag the control points.

» Click Apply.

3.9.6.2. Adjusting Distortions Using DesignCentral

When distortions are applied to objects, the following attributes can be adjusted in DesignCentral:

Selects the distortion type.

Adjusts the Rotation Angle of the distortion envelope.

Rotates the distortion envelope 90 degrees counterclockwise or clockwise.

Mirrors the distortion envelope vertically or horizontally.

3.9.6.3. Adjusting Distortions Using Control Points

For each distortion, there are a number of control points that can be dragged to adjust the distortion to your requirements. The number of points and the effect when the points are dragged will vary according to the distortion type.

In some symmetric distortions, like Wave-Top and Patch, holding Ctrl and dragging will allow you to move one handle independently from the others.

3.9.7. Using the Finisher Effect

The Finisher effect defines a coating that will cover an area of the design and protect it from scratches and UV. The finish can be applied as a rectangle covering an entire area of the design, or as a shape that follows the outlines of the design.

> After a finish area is created, the area and the objects it was created for become a single compound object.
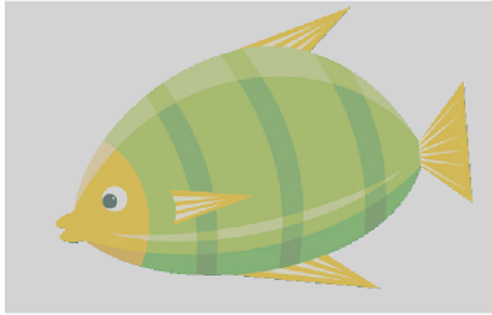
Rectangular Finisher   Shape Finisher
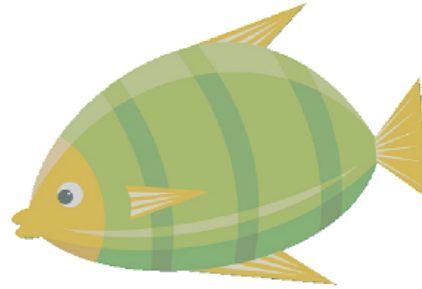
» Select the desired objects.

» From the **Effects** menu, point to **Finisher** and select Rectangular or Shape Finisher .

The Finisher tab appears in DesignCentral.

» Select the finish spot color from the dropdown list.

3.9.8. Using the ICut Mark Effect

The ICut Mark effect adds registration marks for Flatbed cutters that support the iCut camera system.

This effect is only available when one or more objects with a contour cut path are selected.

» Select the objects with contour cut and click Effects and then Icut Mark

» In DesignCentral, select the desired number of marks and specify the diameter of the mark.

» Click Apply
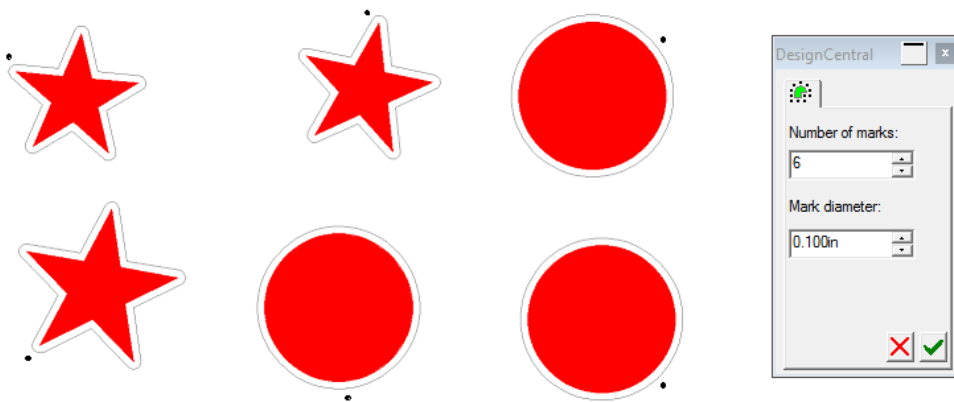
3.9.9. Using the Lens Effect

Use Lens effects to control the transparency and appearance of object color.

Lens effects are applied to the topmost object and can only be applied to vector objects. The one exception is the transparent lens, which can be applied to bitmaps.

» Select the desired objects.

» From the Effects menu, point to Lens and select the desired Lens Effect

» Adjust parameters in DesignCentral.

All Lens effects have a parameter for Hide Stroke : When checked, applies the transparency to the stroke of each selected object.

Lens Effect	Result	DesignCentral parameters
Transparency	With this effect, the object receiving the effect will have a transparency that allows you to see the objects underneath.	Opacity : Specifies the degree of opacity to be applied to the selected objects (0 to 100%).

Invert	The colors of all vector and bitmap objects under the object where the effect is applied will be inverted.	
Brighten	The colors of all vector and bitmap objects under the object that receives the effect will be brightened.	Brightness : Specifies the degree of brightness to be applied to the selected objects (0 to 100%).
Wireframe	The vector objects underneath the object receiving the effect will be displayed without any fills.	
Magnify	The objects under the object receiving the effect are magnified.	Zoom Scale : Specifies the degree of magnification to be applied to the selected objects. Values above 100% will magnify the objects; values below 100% will reduce them.

3.9.10. Using the Outline Effect

Your software allows you to place inlines, outlines, or contour lines around any object.

Outline	ABCD	A closed path created around the outer edges of a selected object and inside holes, such as the inside of closed letters (a, o, etc.)
Contour	ABCD	An outline without holes
Inline	ABCD	A closed path created around the inner edge of a selected object

> The term "outline" in this chapter refers to Inlines, Outlines, and Contours.

3.9.10.1. Applying Outlines Effect

» Select the objects that the effects will be applied to.

» From the **Effects** menu, select **Outline**.

In DesignCentral - the Outline tab appears.

» Adjust the parameters in DesignCentral or drag the control points.

» Click **Apply.**

3.9.10.2. Adjusting Outlines Using DesignCentral

When outlines are applied to objects, the following attributes can be adjusted in DesignCentral.

Contour Type	Selects the effect type. The options are Outline, Inline, and Contour.

Sets the width of the outline.

Sets the distance between outlines.

Specifies the number of outlines.

Interpolate Color. Lets you to choose between using the same color for each generated outline or creating a "gradient" of colors for each outline.
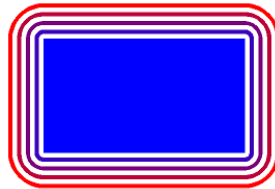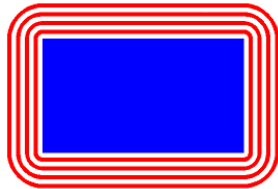
Outlines with same color

Gradient Outlines

Allows you to create a backing behind the original object or leave it transparent. This option is only available when the Offset Distance between outlines is zero.

Specifies the outline color.

Selects the appropriate Join Type option to specify how corners will be outlined.

Round Join Type   Bevel Join Type   Miter Join Type

Miter Limit. Controls the sharpness of the corners.

Round Cap Style   Square Cap Style   Butt Cap Style

Keep Original	When checked, the original object will be retained with the outline. When cleared, only the outline will be retained. The original object will be deleted.

3.9.10.3. Adjusting Outlines Using Control Points

When you apply an outline, a reference line is displayed with control points. You can adjust some of the attributes by dragging the control points.

» Click and drag the **Width** point to change the outline width.

» Click and drag the **Offset** point to change the gap between outlines.

» Click and drag the **Reference Location** point to change the position of the Reference line over the object where the outline is applied.

Width

Offset

Reference Line

Reference Location
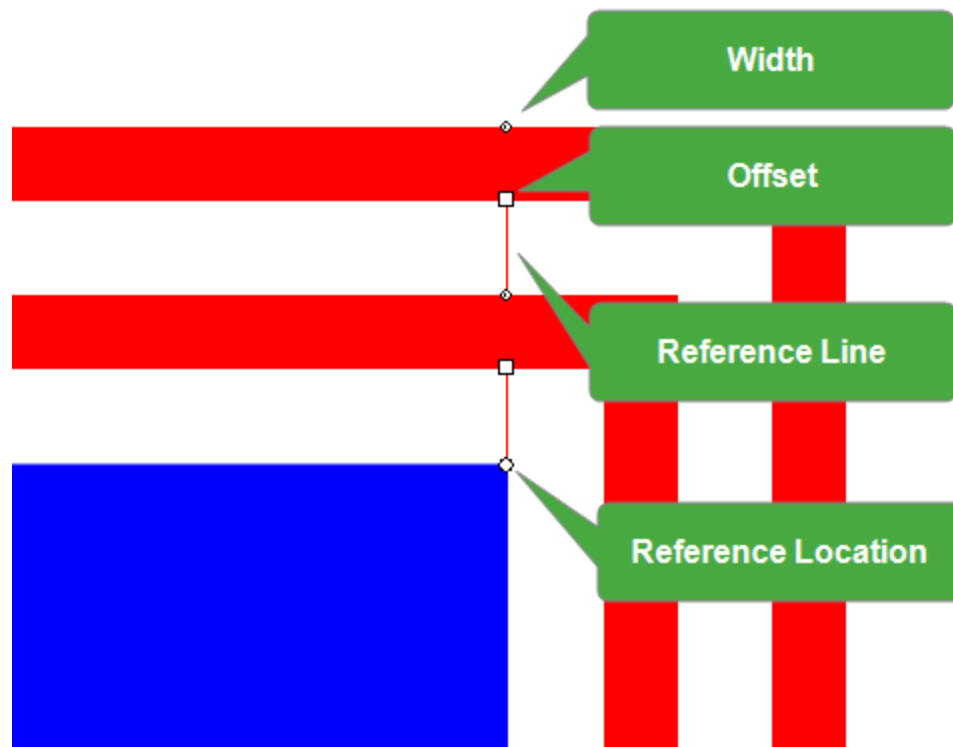
3.9.11. Using the Rhinestone Effect

The Rhinestone effect allows you to quickly create rhinestone patterns.
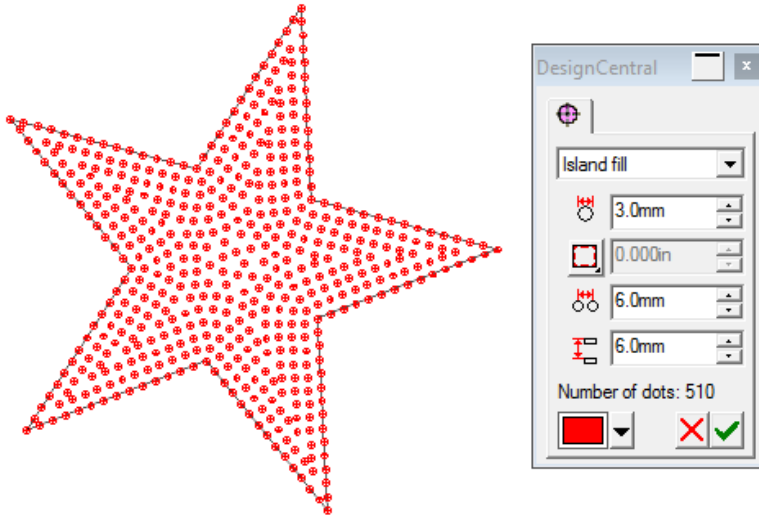
To create a Rhinestone pattern :

» Select the object or text you created

» Select Effects and then Rhinestone

» Choose the type of Rhinestone pattern in the drop down menu

» Change the necessary parameters and click apply.

The following parameters can be adjusted

Island fill	Hole Style
⬡	Dot Diameter. Changes the size of the Rhinestone dot.
▢	Offset. Select whether the Rhinestone dots will be on, outside or inside the object border.
⬡⬡	Hole Distance. Changes the distance from one hole to the next

⬚	Row Distance. Changes the distance between one row of dots and the next.
🟥 ▼	Select the color for your Rhinestone dots

3.9.12. Using the Shadow Effect

Your software allows you to place a shadow around any object.

The following types of shadows are available:

Drop Shadow   Block Shadow

Perspective Shadow   Cast Shadow

3.9.12.1. Applying Shadows

» Select the desired objects.
» From the Effects menu, select Shadow.

The Shadow tab appears in DesignCentral.

» Adjust the parameters in DesignCentral or drag the control points.
» Click Apply.

3.9.12.2. Adjusting Shadows Using DesignCentral

When shadows are applied to objects, the following attributes can be adjusted in DesignCentral:

Specify the Horizontal and Vertical Offset (distance) from the original object. These fields are not available for Cast shadows.

Specify the Height Ratio and Slant Angle relative to the original object. These fields are only available for Cast shadows.

Specifies the distance between the object and shadow when offset or overlap is selected.

Specifies the Perspective Ratio. This field is only available for Perspective shadows.

Selects the shadow color.

Relief mode. Determines how the shadow is produced with respect to the original object.

Apply Transparency — When selected, activates the Advanced Shadow options.

Advanced — Advanced shadow, also known as Smooth Shadow. applies a transparency to objects to smooth and soften edges, or to create a neon effect.

3.9.12.3. Smooth Shadows

Select Apply Transparency and click Advanced to adjust Smooth Shadow settings

Blending Mode	Offers a number of blending options: Normal, Darken, Lighten, Hue, Saturation, Color, Luminosity, Multiply, Screen, Overlay, Hard Light, Soft Light, Difference, Exclusion, Color Dodge, Color Burn, and Linear Burn.
Opacity	Specifies the amount of transparency.
Blur Amount	Specifies the amount that the edges of the shadow are softened. The presets are 100, 75, 50, and 25%.
Blur Radius	Specifies the amount of softening of the shadow color. A higher radius will produce more blurring, a lower radius less blurring.
Resolution	Allows you to increase the on-screen resolution to improve shadow smoothness, but at the risk of slower processing speeds. Select a lower resolution to speed processing time. The presets are 72 (default), 100, 150, 200, 250, and 300 DPI.

EXAMPLES OF SHADOW RELIEF MODES

3.9.12.3.1. Block and Perspective Shadows

No Backing   With Backing   Offset   Surround   Offset Surround

3.9.12.3.2. Drop Shadows

| No Backing | With Backing | Offset | Surround | Offset Surround |

3.9.12.3.3. Cast Shadows

| No Backing | With Backing | Overlap | Offset Relief |

> You can see the difference when backing is applied if you separate the shadow from its original object.

No Backing   With Backing
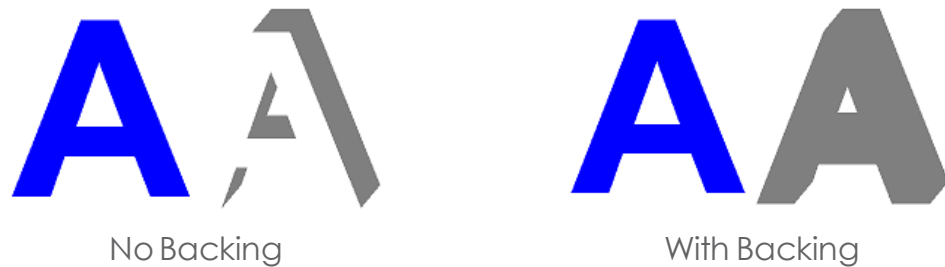
3.9.12.4. Adjusting Shadows Using Control Points

Click and drag the shadow to adjust the Horizontal and Vertical Offset (Drop and Block shadows), Perspective Ratio (Perspective shadow), and Height Ratio and Slant Angle (Cast shadow).

3.9.13. Using the Stripes Effect

Use the Stripe effects to apply stripes to any vector objects. There are three types of stripes that can be applied.

| Radiant Stripes | Circular Stripes | Gradient Stripes |

» Select the desired objects.

» From the **Effects** menu, select **Stripe**.

The Stripe tab appears in DesignCentral.

» Adjust the parameters in DesignCentral.

Radiant Stripes

3.9.14. Using the Underbase Effect

The underbase effect is used to create a "primer" coat of base color that the actual image will be printed on top of.

» A **solid underbase** is generally used with vector objects and text. It consists of a solid coat of a single spot color, typically white, that follows the contour of the objects above it. The ink is always at 100% coverage. A solid underbase can be the same size as the objects above it, choked down to fit inside the object margins, or bled to extend outside the margins.

» A **variable underbase** is used with bitmaps and gradients. The density of the underbase varies to match the image above. This allows the color of the media to show through behind a transparent area (a picture, for instance).
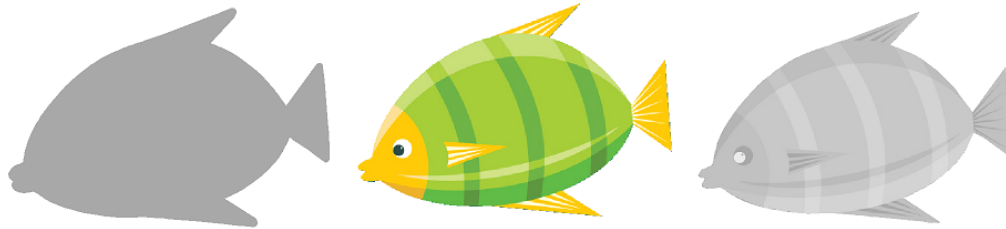
Solid Underbase	Original Bitmap	Variable Underbase

After creating an underbase, the underbase and associated objects are joined together into a compound object.

3.9.14.1. Creating a Solid Underbase

» Select the desired objects.

» From the **Effects** menu, point to **Underbase** and select **Solid Underbase**.

The Underbase tab appears in DesignCentral.

» In DesignCentral, select either **Choke** or **Bleed** .

» Set the size of the Choke or Bleed in the Choke **Distance** field .

» Check **With holes** to make holes in the underbase beneath any holes in the selected objects above.

» Select the color of the underbase from the dropdown list.

» Click **Apply**.

3.9.14.2. Creating a Variable Underbase

» Select the desired objects.

» From the Effects menu, point to Underbase and select Variable Underbase.

The Variable Underbase tab appears in DesignCentral.

» Set the size of the choke in the Choke Distance field.

» Select a Resolution from the dropdown list that the underbase will be applied at. T

» Select the color of the underbase from the dropdown list.

» Click Apply.

3.9.14.3. Making a Vector Object into an Underbase

» Select the desired object.

» From the Arrange menu, point to Underbase and select Make Underbase.

» Select the color of the underbase from the dropdown list and click OK.

3.9.14.4. Separating an Underbase from the Objects It Was Based on

To make the underbase into a separate object and the objects it was based on into normal

objects again:

» Select the compound object containing the object and its underbase.

» From the Effect menu, select Separate Underbase.

3.9.14.5. Removing an Underbase

» Select the compound object containing the object and its underbase.

» From the Effects menu, select Clear Underbase.

3.9.14.6. Releasing an Underbase Back to a Vector Object

» Select the objects.

» From the Arrange menu, point to Underbase and select Release Underbase.

3.10. Working with Measurements and Labels

3.10.1. Working with Measurements and Labels

The software allows you to measure, label, and dimension objects. By using the measuring tools, you can indicate the horizontal, vertical, and diagonal dimensions of a design, or you can label objects.

The lines and labels can be output to a printer or a cutter.

3.10.2. Automatically Dimensioning Objects

The Automatic Dimension Tool allows you to automatically create horizontal and vertical dimension lines around objects. These dimensions lines are not linked to the object and will not be updated automatically if the object changes size.
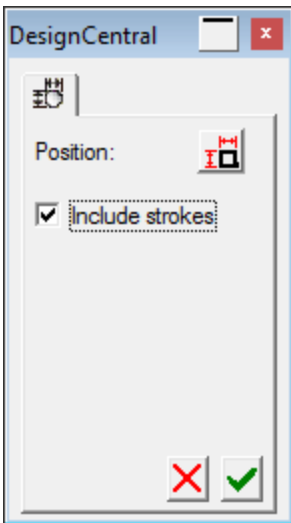
» Select the objects.
» From the Measurement toolbar select the Automatic Dimension Tool.

The Automatic Dimension tab appears in DesignCentral.

» Adjust the following parameters:

	Positions the dimensions at the top and left side of the object.
	Positions the dimensions at the top and right side of the object.

	Positions the dimensions at the bottom and left side of the object.
	Positions the dimensions at the bottom and right side of the object.
Include strokes	When checked, includes an object's stroke in the dimensions.

3.10.3. Creating Labels

Use the Label Tools to draw an arrow with text attached to it.

There are two types of labels:
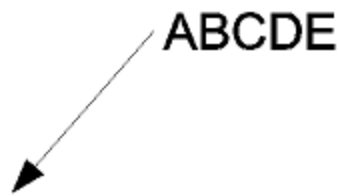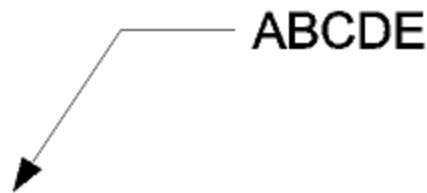
One Segment Label   Two Segment Label

» Select a Label Tool.

The Label tab appears in DesignCentral.

» Click the place where the label line will start.

As you move the cursor, a line shows the direction in which you are moving.

» If you are creating a two segment label, click to define the point where the first segment ends and the second segment begins.

» Click the point where the label will end.

» Type the label text in the DesignCentral field and press **Tab** or **Enter**.

» In DesignCentral, adjust the following parameters:

	Specifies the Font and Font Style to be used.
	Specifies the Font Size of the used.

Linked
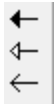
Determines the Arrow Type to be used in the label line.

Advanced   Opens the Advanced Settings dialog box.

» In the Advanced Settings dialog box, adjust the following parameters:

Border Text   When checked, a box encloses the label text.

Sets the arrow Height (length).

Sets the arrow Width.

» When finished, click **OK.**

3.10.4. Dimensioning Lines

The Dimension tool allows you to create dimensioning lines between two points in your design. The dimension lines can be horizontal, vertical, or diagonal.

When you are creating a dimension label, the Snap to Point feature is automatically enabled.

3.10.4.1. Creating Dimensioning Lines

» From the **Measurement** toolbar, select a **Dimension** tool.

» Click the point where the dimension line will start.

» Either click the point where the dimension line will end, or drag from the start point to the ending point. As you move the cursor, a line displays the direction you are moving.

» Click a third time to set the distance between the dimension line and the starting and ending points.

  » Hold **Shift** to constrain the line angle to the increment set in the Constrain angle (default = 45 degrees).

  » Hold **Ctrl** to constrain the dimension lines to be perpendicular to the object.
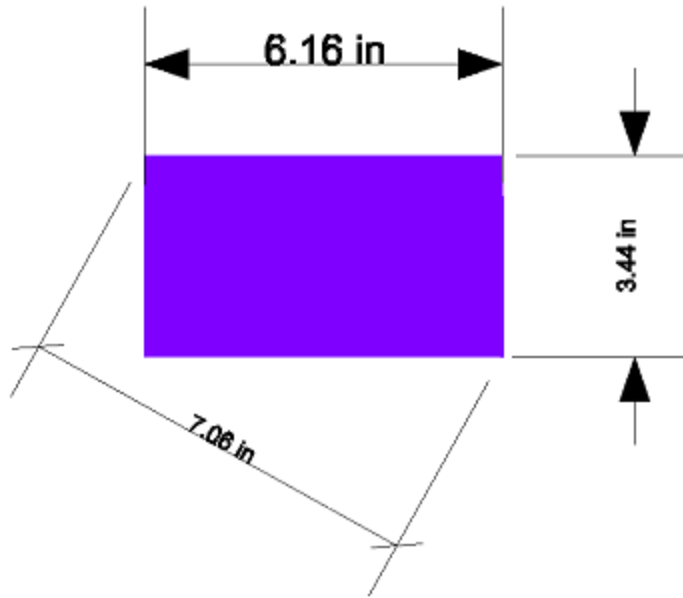
3.10.4.2. Editing Dimensioning Lines

» In **DesignCentral**, on the **Dimension tab**, adjust the following parameters:
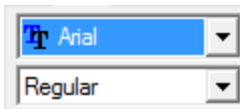
Tr Arial / Regular	Specifies the Font and Font Style of a dimension label.
IA	Specifies the Font Size of a dimension label.
🔒	When locked (default), the dimension value displays on the dimension line. When unlocked, you can enter dimension text in the field above the padlock. This text then displays instead of the dimension value.
arrow types	Lets you select the Arrow Type to be used at both ends of a dimension line.
⊢⊣ / ⊣⊢	Sets the Arrow Position with respect to sidelines. Options are inside and outside.
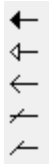
Linked	When checked, any resizing of an object in the direction measured by the dimension line will automatically reflect the resizing.
	This option is only available at dimension creation. Once unchecked (or left unchecked), the Linked option disappears.
Advanced	Opens the Advanced Settings dialog box.

» In the **Advanced Settings** dialog box, adjust the following parameters:

Prefix	Lets you enter text that will be placed before the dimension value.
Suffix	Lets you enter text that will be placed after the dimension value.
Scale	Scales the displayed dimension value (default = 100%). A scale value of 50% will display only half of the actual dimension value.
Unit	Specifies the unit of measurement to display after the dimension value. Options are ", in, inches, ft, m, cm, and mm.
Precision	Determines the number of decimal places used in a dimension value.
Trailing Zeros	Displays the number of insignificant zeroes to display, based on the Precision setting. When unchecked, no insignificant zeroes will be displayed.
Suppress unit	When checked, no unit of measure will be displayed after the dimension value.
Border text	When checked, a box will enclose the dimension text.
	Text Position. Allows the dimension text to appear above, on, or under the dimension line.

Text Alignment. Fixes the dimension text at the edge or center of the dimension line.

Diagonal Text Position. On diagonal dimension lines, aligns the dimension text on the diagonal line or positions it horizontally above it.
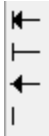
Suppress. Lets you control the display of dimension lines, sidelines, and arrows.

Sets the arrow Height (length).

Sets the arrow Width.

» When finished, click **OK.**

3.10.4.3. Changing the Text Position of a Dimension Line

The dimension text can appear inside the dimension line or to either side, depending on whether the third click was made below the dimension line or to one side.
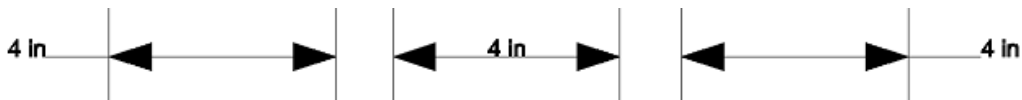
To change the position of the dimension text:

» Double-click the dimension line.
» Click and drag the circle next to the dimension text.
» Drag the text to the desired position.
» Release the mouse button.
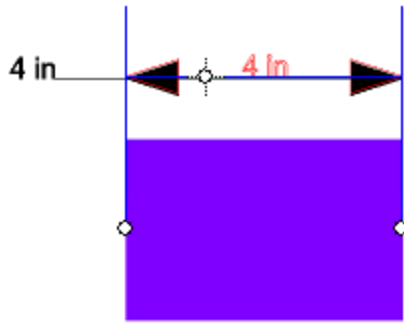
3.10.5. Dimensioning to Page

The Dimension to Page Tool allows you to automatically create horizontal and vertical dimension lines that measure the position of the object to the lower-left corner of the design area. These dimension lines are linked to the object and will be updated if the objects change position.
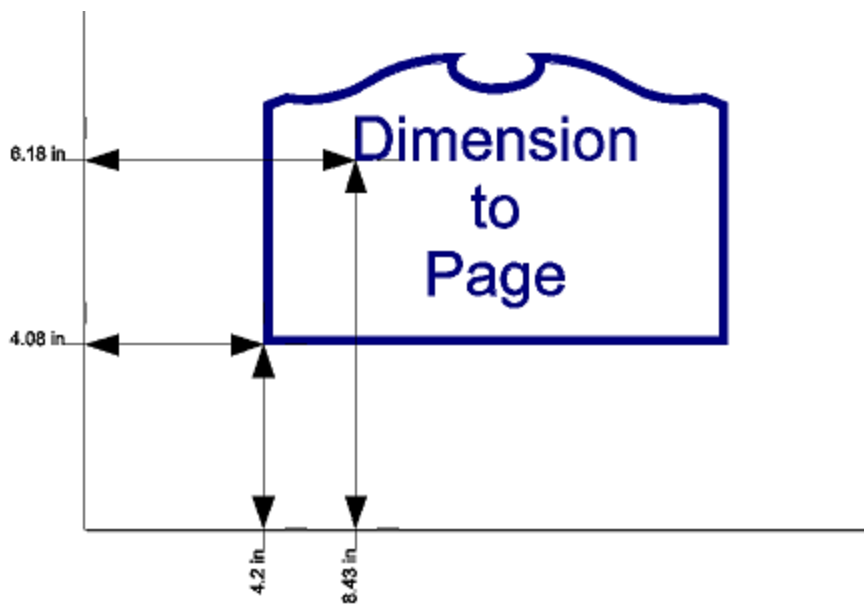
Text objects are measured from the baseline of the text.

» Select the desired objects.

» Select the Dimension to Page Tool

3.10.6. Measuring Distances

Use the Measure tool when you need to know the distance between two points in your design.

» From the Main toolbar, select the **Measure Tool.**

The Measure tab appears in DesignCentral.

» Click and drag the cursor between the desired points.

» Release the mouse button.

The following information displays in Design Central:
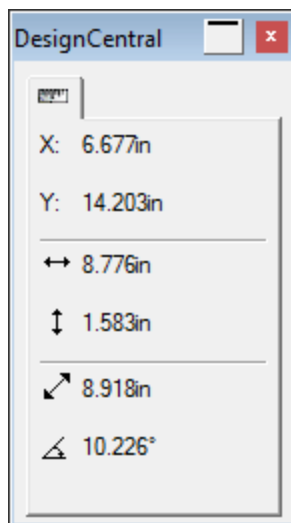
X, Y	X,Y coordinates of the first point
↔ ↕	Horizontal and vertical distances
⤢	Actual distance between start and end points
⊿	Angle of the line that joins the start and end points will have with the horizontal

DesignCentral

X: 6.677in

Y: 14.203in

↔ 8.776in

↕ 1.583in

⤢ 8.918in

⊿ 10.226°

Click a single point to show its position in the design.

3.11. Working with Templates

3.11.1. Applying Templates

Templates allow you to create multiple copies of your document using a pre-defined layout. Additionally, you can create documents (such as invoices) based on Job Information.
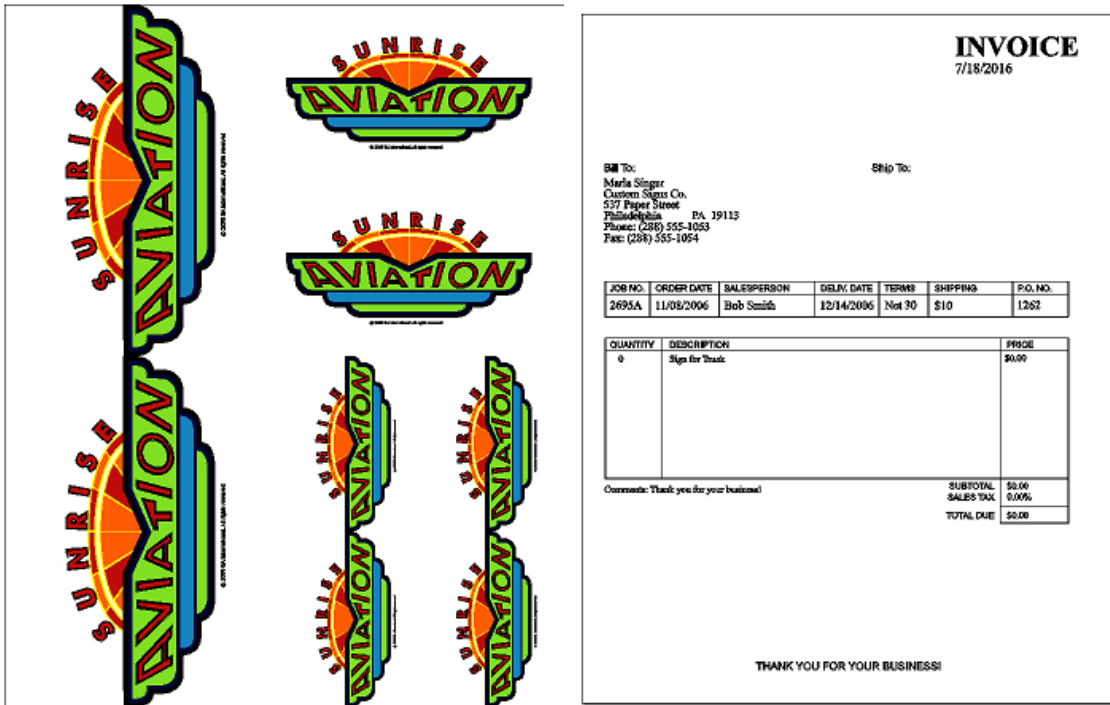
| Creating multiple copies of a document | Invoice created using the template feature |

If necessary, the original document will automatically be rotated to fit into the space provided by the picture placeholders in the template.

» Open an existing document or create a new one.

» From the File menu, point to Templates and click Apply Template.
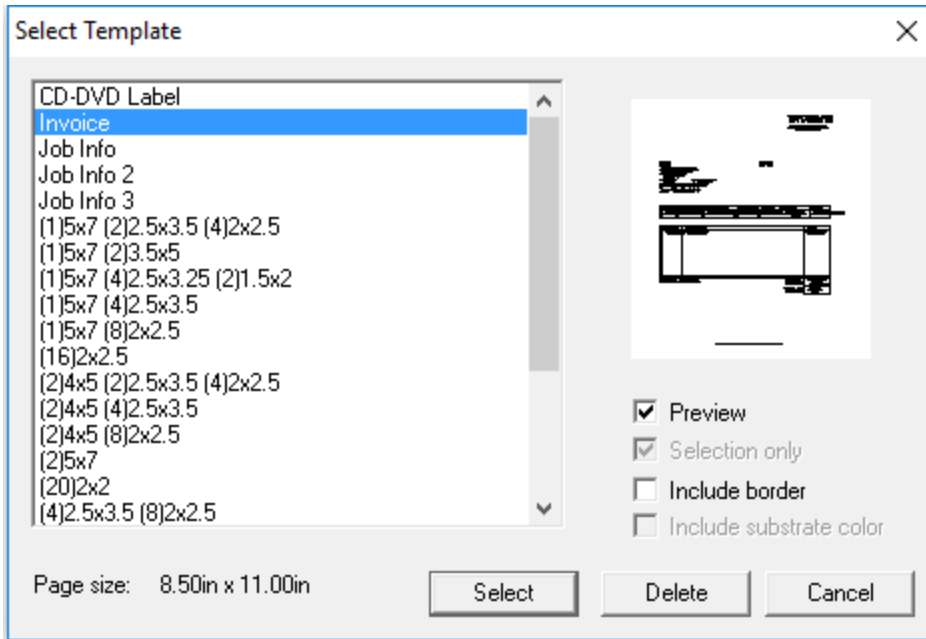
» Choose the template from the list. The templates are named following the convention:

(1) 5x7 (2) 5x3 (4) 2x2.5
        (2) : Number of Copies
        5x7 : Size in inches

» Adjust the following parameters:

Preview	Check to display a preview of the template.
Selection only	If checked, only objects selected in the original design will be copied over into the template.
Include border	If checked, the entire page of the design out to and including the borders will be copied over into the template. If not checked, only the design objects will be copied over.
Include substrate color	If checked, the colored substrate in any original design will be copied over into the template. This option is only enabled when Include border is checked.

» Choose Select.

When a template is applied to a document, any dimensions or registration marks contained in the document are converted into outlines.
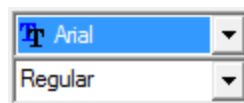
3.11.2. Changing Placeholders Attributes in DesignCentral
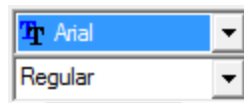
Each placeholder will have different fields in the DesignCentral - Template tab. Adjust the following parameters:

⟷	Object width of the drawing placeholder
↕	Object height of the drawing placeholder
Auto Orientation	Check to automatically change the orientation of the drawing to match the original file.
Scale the drawing	Check to resize the drawing by percent of original size.

3.11.2.1. For Used Color placeholder:

Tr Arial / Regular	Font and font style used in the color description
⟷	Object width of the Used Color placeholder
↕	Object height of the Used Color placeholder
#	Number of colors per line
IA	Font size used in the color description
ab / cd	Line spacing
⊘	Circle / square size of a color swatch
⦿● ○■	Selects circular or square swatch color style.

3.11.2.2. For Used Fonts placeholder:

Tr Arial / Regular	Font and font style used in the font description
⟷	Object width of the Used Fonts placeholder
↕	Object height of the Used Fonts placeholder
#	Number of colors per line

𝐈A	Font size used in the font description
𝐚𝐛𝐜𝐝	Line spacing

3.11.2.3. For Job Info placeholder:

File Name	Source of the information (Job info, Customer Info, or Other)
Other	Information type
Arial / Regular	Font and font style used in the job info description
↕	Font size used in the job info description
Label	Check this option to place a label before the information text. Edit the label text in the field to the right of this option.

3.11.3. Creating New Templates

» Open a new document.

» Select a placeholder from the **Template** toolbar.

» Click and drag the cursor in the design area.

» Adjust the placeholder's attributes in the DesignCentral **- Template** tab.

You can add objects other than placeholders. Every object available in your software—bitmaps, text, shapes, etc.—can be used in a template.

» From the **File** menu, point to **Templates** and then click **Save as Template.**

Template objects can be masked, colored, and have an effect applied to them.

3.11.4. Editing Existing Templates

» From the **File** menu, point to **Templates** and select **Open Template.**

» Select the desired template in the list and click **Select.**

> You can also double-click the desired template to select and open it.

» Adjust the placeholder's attributes in the DesignCentral - **Template** tab.

» From the **File** menu, point to **Templates** and then click **Save Template** or **Save as Template.**

> **Save Template** will save the current template; **Save as Template** will save the template as a new file.

3.11.5. Setting the Default Template

» From the **Edit** menu, select **Preferences**.

» Select the **Tools** tab in the **Preferences** dialog box.

» Select **Apply Template** from the list of tools.

» Select the template you want to make the default from the **Default Template** list.

» Click **OK.**

3.11.6. Templates Toolbar

To display the Template toolbar, from the File menu, point to Templates and select Template Toolbar.

> You can also display the Template Toolbar using View > Toolbars > Template.

You can use the Templates toolbar to create and modify existing templates. This toolbar contains buttons that represent template placeholders. Placeholders are fields that will be replaced by objects, images, or information from the original document when a template is used.

The following placeholders are available:

The Active Drawing placeholder is replaced by the original document.

The Used Colors placeholder is replaced by a list of all the colors used in the original document.

● Ocean Blue

● Bright Orange

● Black

The Used Fonts placeholder is replaced by a list of all the fonts used in the original document.

Arial-Regular   Bodoni MT-Regular

Garamond-Regular

The Job Info placeholder is replaced by a value from job info and other information from the original document.

Job Number: 12345
Price: $395.00
Order Taken By: John Smith
Order Number: 32154
Order Date: 06/17/2016
Delivery Date: 06/30/2016

Job Info	Shows information from the Job info - Job tab.
Customer Info	Shows information from the Job info - Customer tab.
Other	Shows other information from the original document, such as the number of colors, fonts, and characters used.

CHAPTER

4

Production

4.1. Cutting

4.1.1. Sending a Cut Job

» From the File menu or the Standard toolbar, select Cut/Plot.

If you have any object selected, only the selected objects will be cut.

» Adjust the settings in the Cut/Plot dialog box as needed and click Send.

> You can only connect to copies of Production Manager that have the same version as the design software. Attempting to connect to an older version of Production Manager will yield an error.

4.1.2. CutPlot Dialog Box Settings

The Cut/Plot dialog box gives you complete control over how a job is produced.

The fields at the top of this dialog box are common to all tabs:
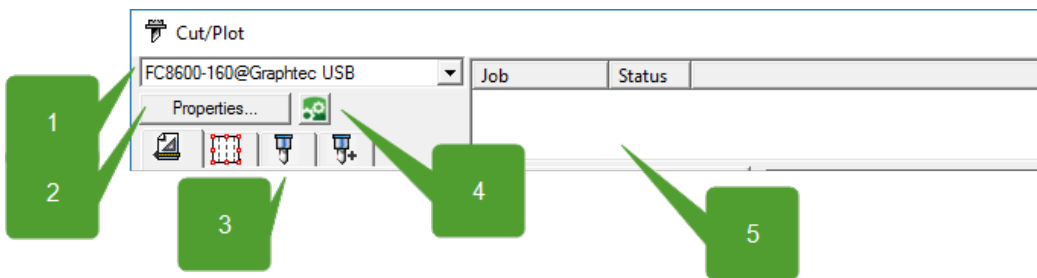
1 Current Cutter
2 Displays the Setup Properties.
3 Tabs
4 Switches to Production Manager.
5 Lists active jobs for this device.

4.1.2.1. Viewing Tools

The viewing tools allow you to manipulate the job on the preview area.

⬉	**Select Tool.** Changes the position of the job on the media by clicking and dragging the job preview.
🔍	**Zoom Tool.** Click to zoom in, Ctrl+Click to zoom out.
🖼	**Zoom to Width.** Returns the preview area to the default view.
🔍	**Zoom to All Objects.** Zooms to fit all objects into the preview area.

4.1.2.2. Color Palette

Selects the color to display in the preview area. Only the displayed color will be processed.
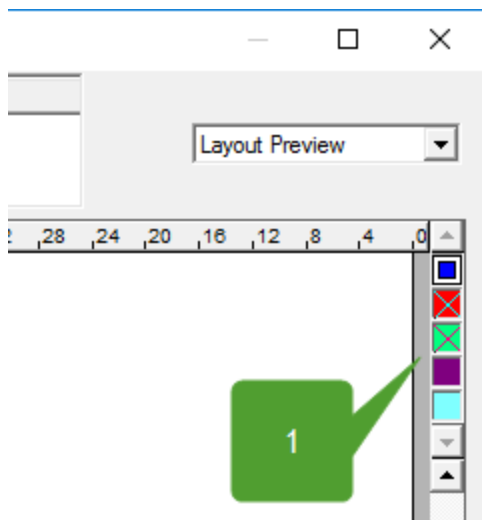
1 Color Palette

Click and drag the colors to change their output order.

> If Send all colors is checked on the Options tab, you will not be able to select individual colors.

Right-clicking on a color in the color palette allows you to toggle the Visible setting on and off for that color. A color that is set to invisible (marked by an "X" through the color square) will not be output.

If you want to output all colors except one, check Send all colors on the Options tab; then turn off the Visible setting on the color you do not want to output.

4.1.3. CutPlot Dialog Box General Tab

The General tab allows you to specify the size of the media, the position and size of the job, the number of copies, and the location of your output on the media.
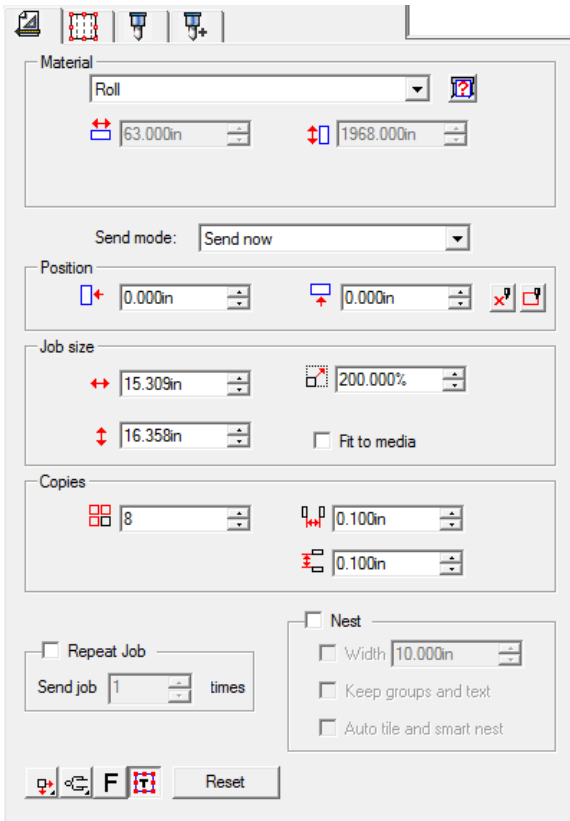
You can resize the Cut/Plot dialog box by clicking and dragging its lower-right corner.

The following parameters can be adjusted :

4.1.3.1. Material Settings

The Material group allows you to specify the size of media used in your output device by entering the Media Width and Media Height. The media size is used to panel your job if it is larger than the media.

63.000 x 1968.000in ▼	Selects your media size from the drop-down list, or lets you specify a custom size after selecting User Defined.
🔲	**Poll Size.** Polls the size of the media loaded in the cutter. This feature only works if the device and the port support bi-directional communications.
↔	Specifies the Width of the Media.
↕	Specifies the Height of the Media.

4.1.3.2. Sending Mode

The Send mode list allows you to select what to do with the job once it arrives in the Production Manager queue.

Send now	Automatically processes the job and sends it to the output device.
Hold in list	Holds the job in the Production Manager queue until it is manually sent from Production Manager.
Save to file	Processes the job and saves it as a native (.prt) file.

Send now mode is not available if the output device is inactive, or if the Production Manager is on another computer on the network and the Allow remote Send Now/Interactive option is not selected in Production Manager Preferences.

4.1.3.3. Positioning Settings

□←	Specifies the Horizontal Offset distance.
⬇	Specifies the Vertical Offset distance.

⊞ When selected, activates Interactive mode. Interactive mode allows you to dynamically interact with the tool head by repositioning the tool as you change the position of the job in the preview area.

⊡ When selected, the Show Me tool draws a bounding box around the job without lowering the tool.

> You can also change the position of objects by choosing the Select Tool at the bottom of the Cut/Plot dialog box and dragging the preview to a new position.

4.1.3.4. Size Settings

The Size group allows you to change the size of your output.

↔	Specifies the Job Width.
↕	Specifies the Job Height.
⤢	Specifies the Job Scale (default = 100%).
Fit to media	Scales the job proportionally so that it is as large as possible while still fitting within the printable area of the output media.

4.1.3.5. Copies Settings

⊞ Specifies the number of copies to be made.

↔ Sets the amount of space between the copies.

Copies are automatically positioned to optimize the media usage.

4.1.3.6. Repeat Job

Repeat Job allows you to resend entire jobs a number of times

Repeat Job	Turn Repeat Job on or off
Send Job	Specify the amount of times the job has to be repeated

4.1.3.7. Nesting Settings

When a vinyl job calls for more than one color, you can nest each color separately to maximize the media savings.

Nest	Check this box to nest per vinyl color.
Width	The width of the media the nested objects will occupy
Keep Groups and Text	Check this box to keep grouped objects or text together as one, rather than nested individually
Auto tile and smart nest	When checked, the software will automatically tile objects that are larger than the page size and use any available white space for the tiled off pieces.

4.1.3.8. Positioning Tools

	Places the job at the specified distances from the right and leading edges of the media.
	Centers the job on the leading edge of the media.
	Centers the job on the length and width of the media.
	Places the job at the specified distances from the left and leading edges of the media.
	Rotates the job in 90-degree increments.
	Mirrors the job vertically.
	Selection Only. Automatically selected when you select one or more objects before opening the Cut/Plot dialog box.
	Displays the feed direction of the media.
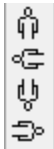
4.1.4. CutPlot Dialog Box Panel Tab

Jobs that are bigger than the media should be tiled before output. The panel can be divided into several columns and rows. Each section or cell is called a Tile.
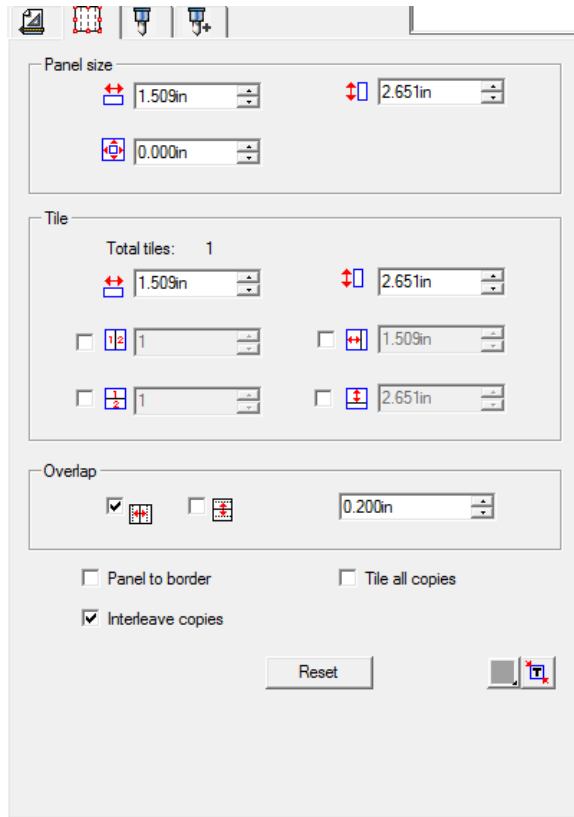
The following parameters can be adjusted :

Panel Size The panel is the part of the job that will be split up into tiles and output by the software. If the panel is reduced in size so that it does not cover the entire job, only the parts covered by the panel will be output.

Shows the width and height of the panel. To adjust, enter a number or use the arrows.

The size of the margin. The margin is the part of the panel that extends outside of the boundaries of the job.

Tile   The parameters below apply to the selected tile.

                                    Shows the width and height of the selected tile. To adjust, enter a number or use the arrows.

                                      Selecting this option divides the job vertically into the number of columns specified. Each column will be of equal width.

                                      Selecting this option divides the job into the number of rows specified. All rows will be of equal height.

                                      If you know that you want tiles of a certain size, enter the values for the width and height of the tiles here. All tiles will be changed to the specified size.

Overlap   Specifies the amount of overlap between rows and columns. By overlapping, you can eliminate any gaps between the tiles when assembling the final output. Overlap is measured as the total amount two rows or columns overlap.

                                      Check to create an overlap on the vertical edges of tiles.

                                      Check to create an overlap on the top and bottom edges of tiles.

       0.200in   The width of the overlap. Enter a negative number to create an offset between tiles.

Panel to   The entire design page is automatically tiled. If the page is too
Border   large to fit on the selected media, it will be tiled so that each tile is the maximum possible size.

Tile All Cop- When checked, shows all copies in the Preview so that the tiles
ies   can be adjusted on each copy. When this option is checked, Job Width and Job Height in the General tab will update as the number of copies is changed.

	Sets the primary direction of the panel mode to vertical. This allows for the vertical tiles to be split individually horizontally
	Sets the primary direction of the panel mode to horizontal. This allows for the tiles to be split individually vertically.
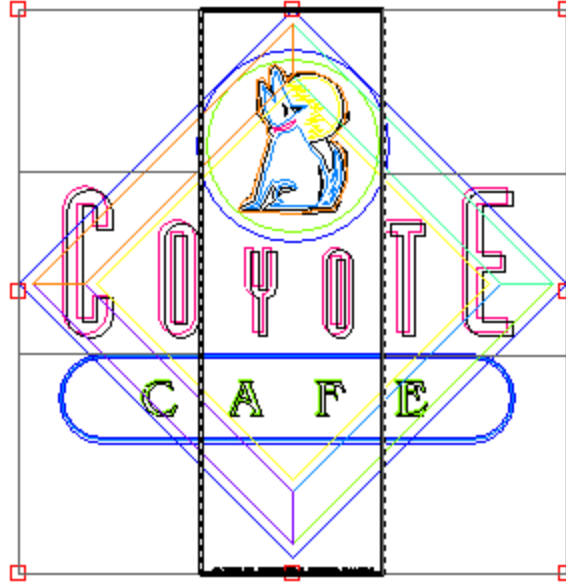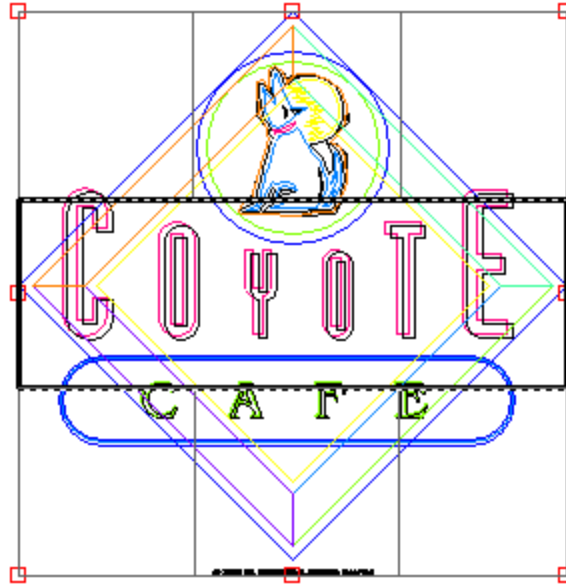
⊞   Sets the panel mode to be adjusted both horizontally and vertically.
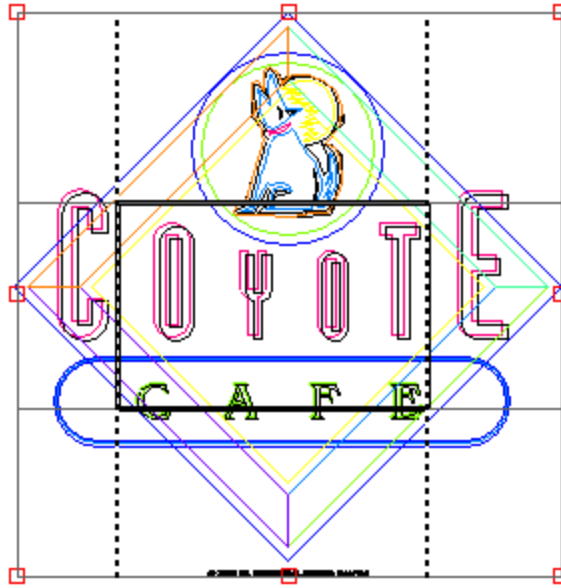
Auto-panel   Automatically sizes the panel to fit the job.

Interleave Copies   Defines in which order objects with multiple copies and multiple tiles will be cut. If checked, the objects will remain grouped together. If unchecked, similar tiles will be grouped together.

Interleave copies checked
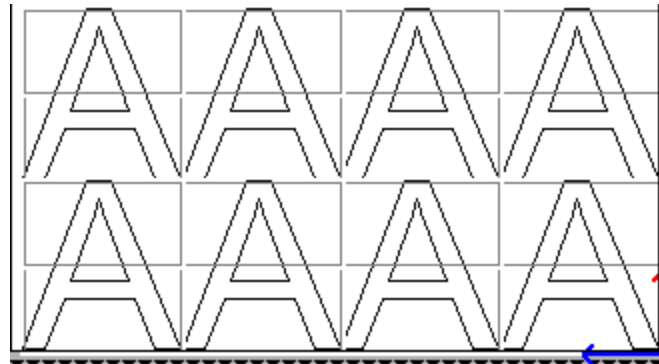
Interleave copies unchecked
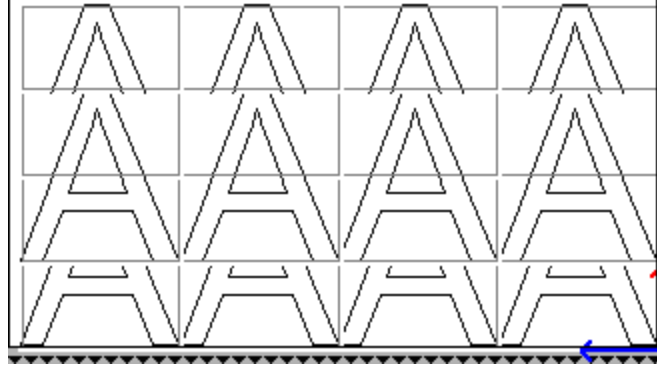
4.1.5. CutPlot Dialog Box Options Tab

The Options tab allows you to set a number of commonly used options for cutting jobs.
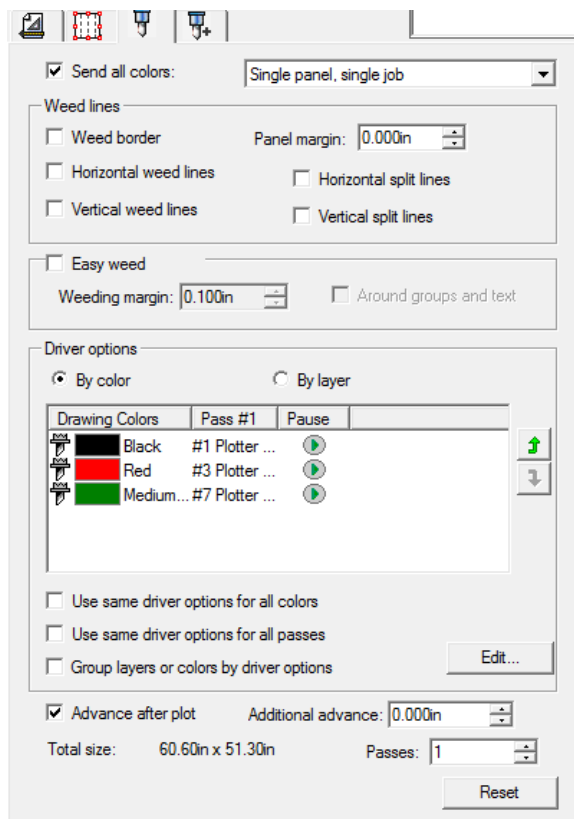
The following parameters can be adjusted :

Send all colors   Check this option to process each color separately. When checked, you can select how each color will be processed:

Single panel, single job   Sends the job as a single file and processes it using the same panel size for all colors.

Single panel, separate jobs   Creates a separate job file for each color and processes them using the same panel size for all colors.
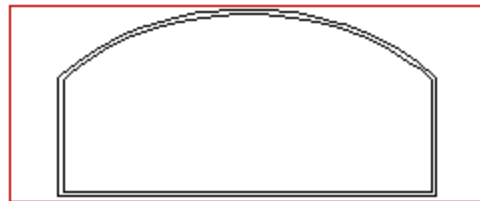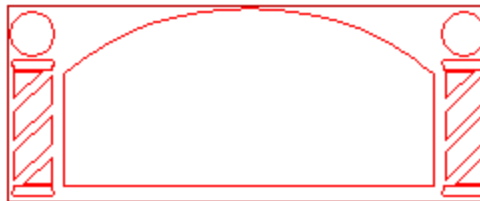
Separate panels, separate jobs   Creates a separate job file for each color, but allows you to define the panel size for each separately.
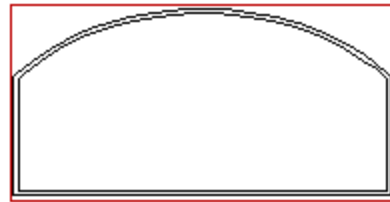
Pause between colors   Selects whether the Production Manager should pause after processing each color, allowing you to change the pen or the media. (This option is only available when Send all colors is checked.)

Weed border   Cuts a border with the specified Panel margin around all objects in the selected color.

Horizontal weed lines   Adds weed lines between lines of text (or objects).

	For customized weeding, you can right-click anywhere in the Preview Area to manually add or delete horizontal split lines.
Vertical weed lines	Adds weedlines between characters (or objects).

Horizontal split lines	Adds horizontal lines that run down the center of the rows of text, but do not cut the text. The split lines are interrupted where they cross the text.

	For customized weeding, you can right-click anywhere in the Preview Area to manually add or delete horizontal split lines.
Vertical split lines	Adds vertical lines that run through characters but do not cut the text. The split lines are interrupted where they cross the text.

Easy weed	Cuts a weeding border within the specified weeding margin around each object in your design.
Weeding margin	Sets the distance between the objects and the weeding border.

Driver options	This set of controls allows you to set a number of cutter-related output options, such as cutting speed and pressure. Different cutter options can be specified for each color/layer in the design.
	To edit the cutter driver options for a given color/layer, select the color or layer in the list and click **Edit.**
	To disable a color from being output, click on the knife icon 🔪 to the left of the color. A red X will appear over the knife icon 🔪, indicating that it will not be cut. To re-enable the color to be output, click on it again to clear the red X.
	To pause between a certain color / layer and the next, click on the ▶ button. The button will change to ⏸ , which indicates there will be a pause added after the cut.
	To change the order of colors / layers, use the ⬆ and ⬇ buttons to move the selected color/ayer up and down
Use the same driver options for all colors	Check **Use same driver options for all** colors to force all of the colors or layers to use the same cutter driver options.
Use the same driver options for all passes	Forces all of the passes to use the same cutter driver options
Group layers or colors by driver options	Groups colors or layers that have the same cutting conditions
Advance after plot	Advances the media and resets the origin.
Additional Advance	Allows you to set an additional media advance after plot.
Passes	Defines the number of times that the blade will cut the same path. Set this option if you are using thick or hard media that can't be cut in a single pass. When increasing the number of passes, an extra column will be added to the driver options, allowing you to specify different driver options per pass.

Total size   Displays the total size of the job. This option cannot be edited.

4.1.6. SAICut/Plot Dialog Box Advanced

The Advanced tab allows you to set advanced options specific to cutting jobs.
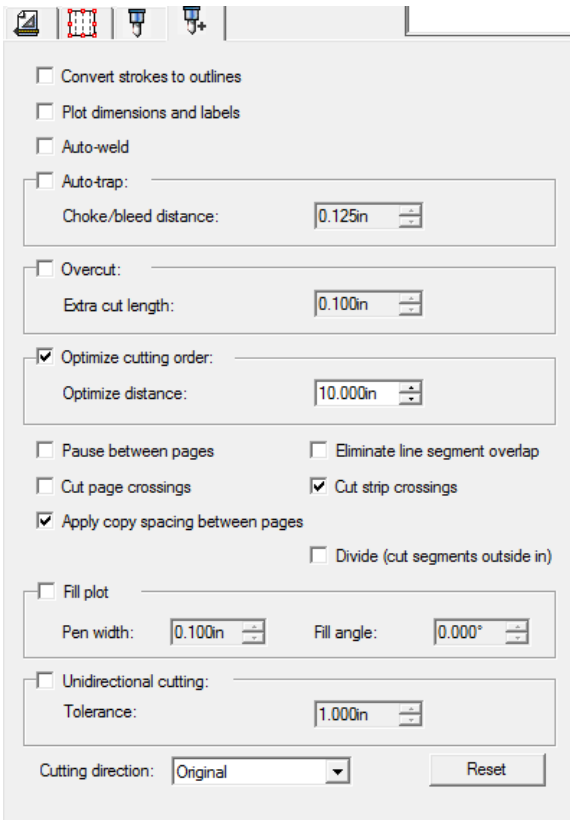
The following options can be adjusted in this dialog box:

Convert strokes to outlines   Selects whether the strokes will be cut separately as objects.

Plot dimensions and labels   Selects whether the labels and dimensions created with the Measure Tool will be cut or plot.

Auto-weld   Removes intersections of overlapping objects of the same color.

Auto-trap   Specifies the amount of overlap between objects of different colors.

Overcut   If selected, when the software is cutting around closed curves, it will continue cutting around the curve a second time, for a specified distance. This ensures that the curve is cut out completely.

Optimize cutting order   When this option is not selected, the objects are cut or plot in the order they were created. When selected, the software processes the objects within the specified section of length before moving to the next section.

Pause between pages   Selects whether the Production Manager should pause after each page is processed, allowing you to load the media after each page.

Cut page crossings   Cuts the borderline of a page when the output is tiled into several pages.

Apply copy spacing between pages   Separates pages, tiles and panels using the amount of space specified for spacing out copies in the Copies group on the General tab.

Automatic registration marks   Adds small rectangles to the corners of each layer to aid in positioning each piece.

> If you want to use the automatic registration marks to align different colored objects to each other, either the panel size must be identical for all layers, or you must use Send All Colors with the single panel option enabled.

Eliminate line segment overlap   When two objects have a line that overlaps, the line will only be cut once.

Cut Strip Crossings   Cuts the borderline of a strip when the output is tiled into several strips.

Divide	Cuts segments from the outside in.
Fill plot	Allows you to define the angle and pen width for fill plot.
Unidirectional cutting	Ensures that all cutting will be done in a forward direction and never backwards. This is necessary for certain sensitive materials.
Cutting Direction	Allows you to override the cutting direction of paths to clockwise or counter clockwise. Original will maintain the direction of paths specified in the design.
Reset	Restores all parameters to their defaults

4.1.7. Preventing Tiles from Being Output

To disable a tile and prevent it from being output with the rest of the job, do one of the following:

» Double-click on the tile in the preview pane.

» Right-click on the tile in the preview pane.

Disabled tiles are marked with a hash pattern.
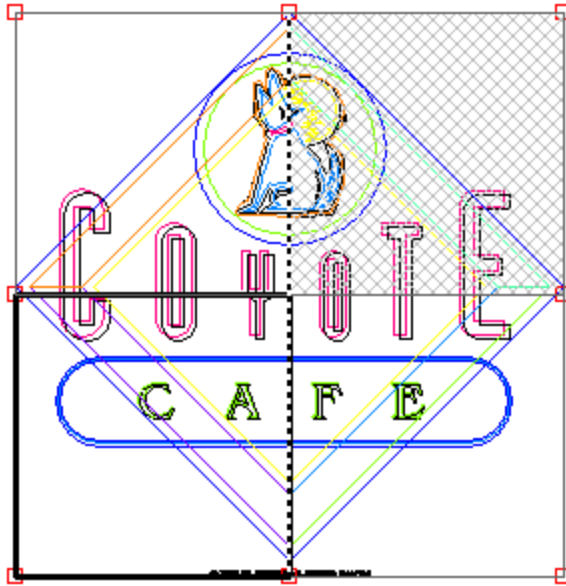
To make a disabled tile able to be output again, double-click or right-click the disabled tile a second time.

One tile in each job must always be enabled. If you try to disable all of the tiles, one of the other tiles will become enabled again.

4.1.8. Setting Cutter Driver Options

The Cutter Driver Options allow you to control the parameters of operation of your output device such as cut speed, pressure and execute common tasks (roll forward, roll backward, go to origin) from your computer.

The settings available in the Cutter Driver Options vary according to your output device.
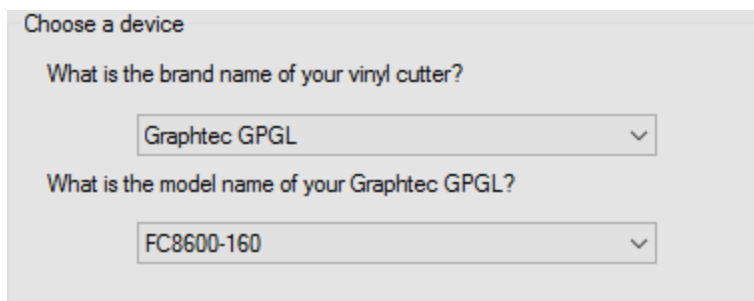
Each command has a checkbox to enable or disable it. When enabled, you can change the value, and the command will be sent to the output device overriding the settings in the output device. When the option is unchecked, the settings from the output device are used.

4.2. Production Manager

4.2.1. Adding New Setups

Upon first launch of the software, a dialog will be displayed to add a setup. You can add additional setups by click Setup and then Add Setup.

» Choose the model name of your Grapthec cutter

» Type in a name for your cutter
» Select how the cutter is connected to the computer

» If you have more than one cutter of the same model, you can use the Set Unit ID to identify the cutter
» Click Finish

4.2.2. Default Job Properties
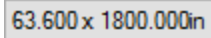
4.2.2.1. Default Job Properties Layout Tab

On the Default Job Properties Layout tab you can set defaults for media and job size, position and number of copies.

Default Job Properties

Media size

Roll

63.000in		1968.000in	
0.000in		0.000in	
0.000in		0.000in	

Remove

Job size

	%	100.000%
	↕%	100.000%

☐ Fit to media   ☐ Proportional

Position

0.000in		0.000in

Copies

		0.100in
		0.100in

Reset

OK   Cancel   Apply
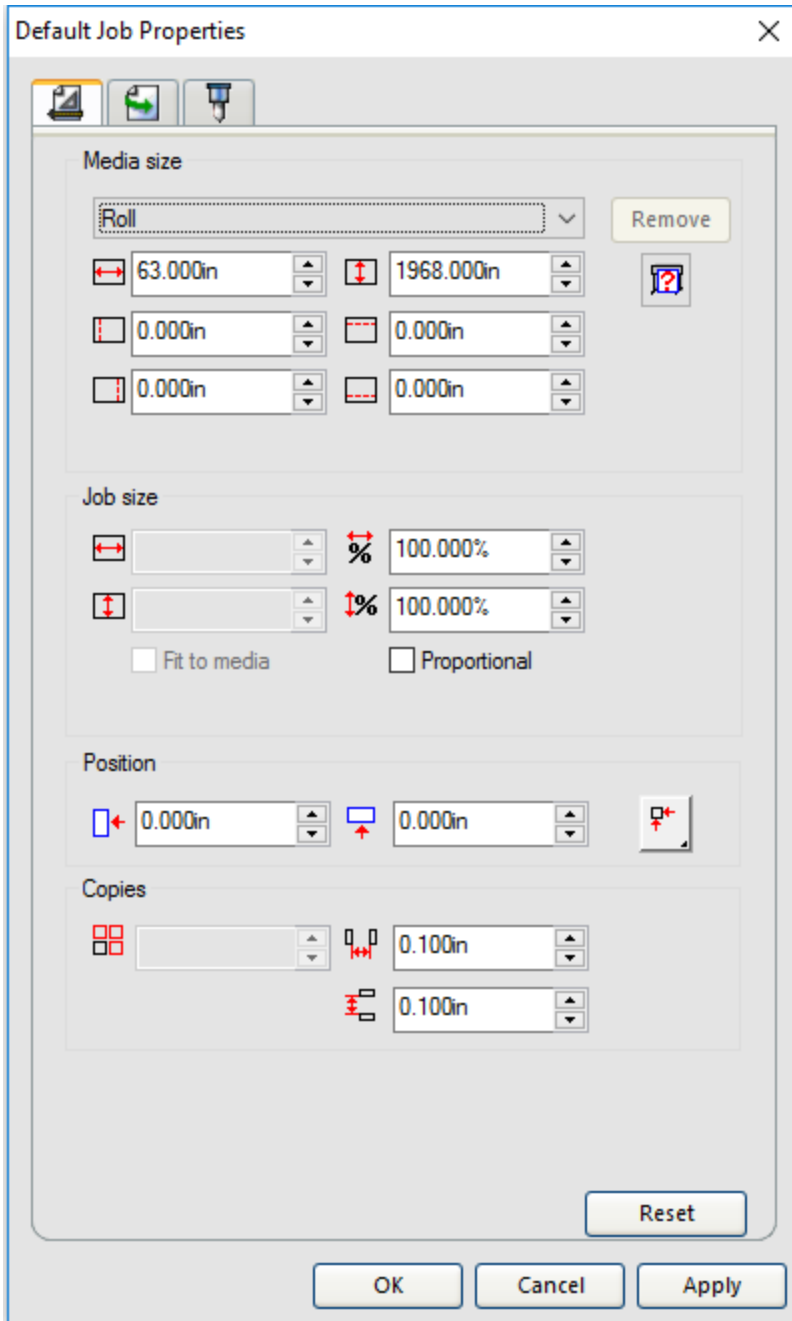
4.2.2.1.1. Media Size

The size of the media loaded into your output device. Select from one of the pre-set sizes, or specify unique dimensions.

| 63.600 x 1800.000in | The size of the media. |
| The width and height of the media. |
| The margins of the printable area. |

4.2.2.1.2. Job Size

The width and height of the job.

> You can also change a job's size by selecting it in the Preview Area and dragging its handles.

%   The width and height of the job as a percentage of the original.

Fit to Media Scales the job proportionally so that it is as large as possible while still fitting within the printable area of the output media.

Proportional Increases or decreases width and height together to keep the original proportions intact.

4.2.2.1.3. Position

The distance between the job and the right and bottom margins of the printable area.

Places the job at the specified distances from the lower and right edges of the printable area of the output media.

Centers the job along the width of the printable area.

Centers the job in the middle of the printable area. Only available for sheet material.

Places the job at the specified distances from the lower and left edges of the printable area of the output media.

4.2.2.1.4. Copies

The number of copies to be output.

The amount of space between the various tiles, copies and/or nested jobs that are output as part of the job.

4.2.2.2. Default Job Properties Work flow Tab

On the Default Job Properties Work flow tab, you can change what to do with a job once it is done cutting or configure if jobs always need to be repeated a number of times.
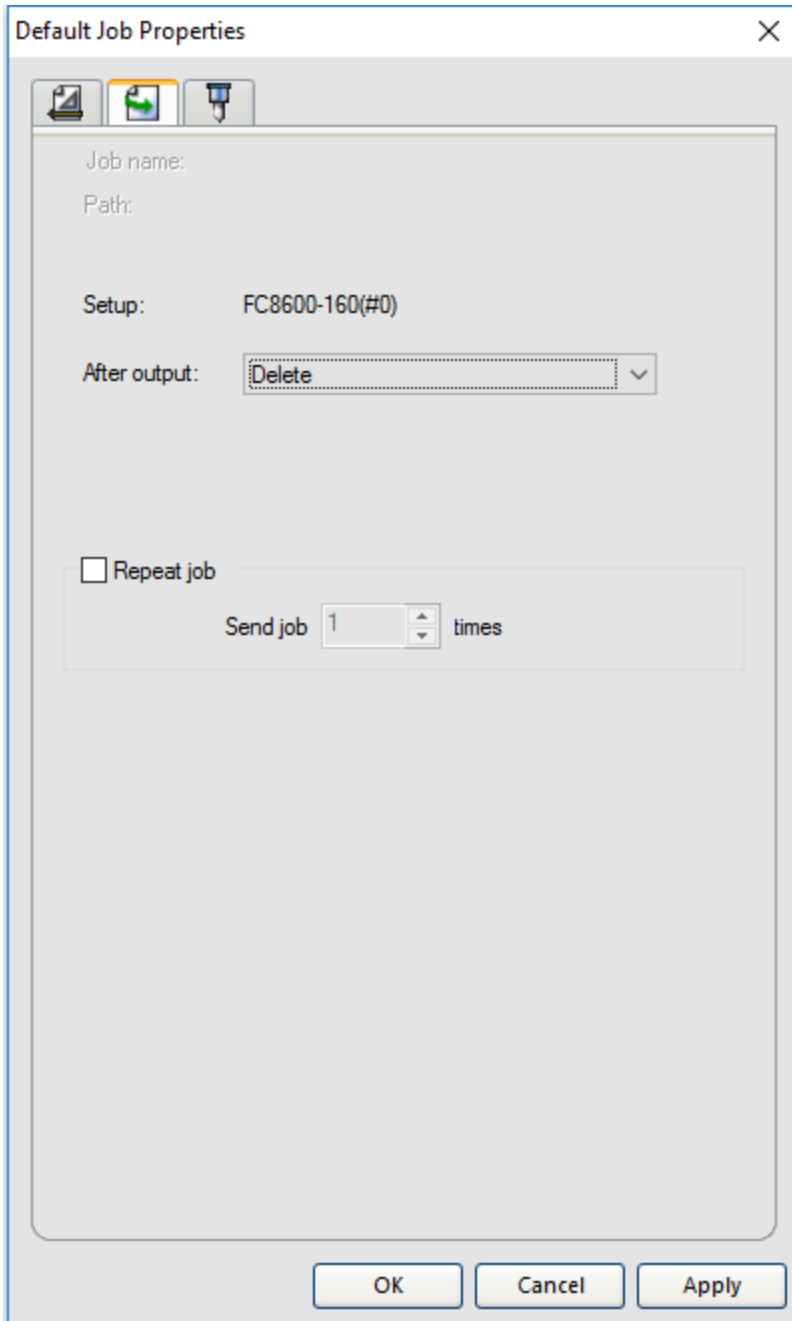
After Output Sets what to do with the job after output:

Delete	Removes jobs from the queue after output.
Hold	Places jobs in the Hold Queue after output or at the bottom of the queue.
Archive	Saves the job after output.
Repeat Job	Enter the number of times you would like the software to automatically re-send the job.

4.2.2.3. Default Job Properties Cut Tab

The default Job Properties Cut tab allows you to specify settings related to cutting
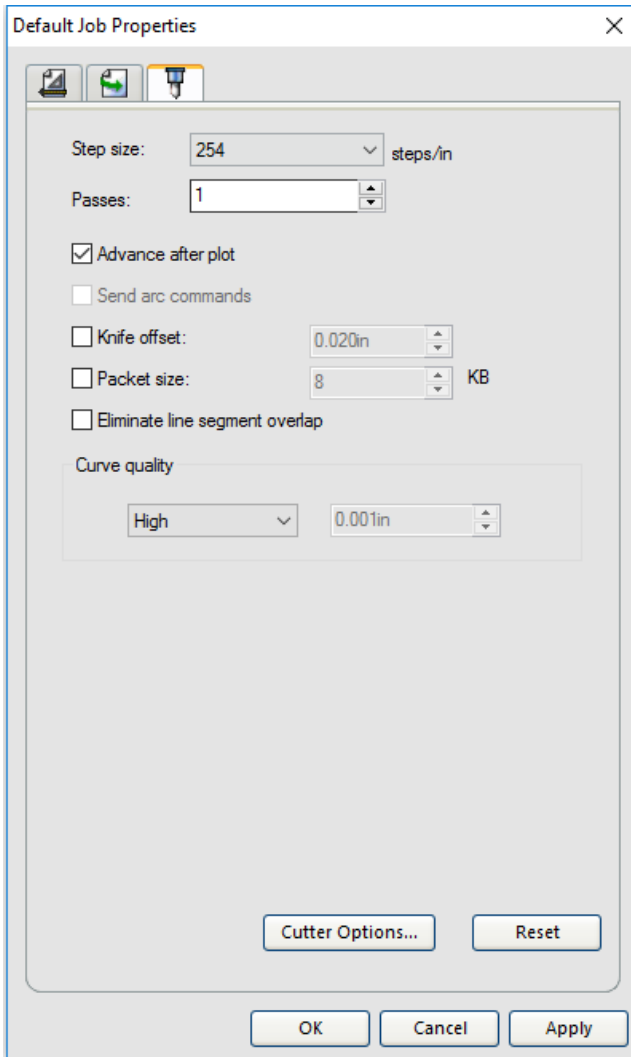
Resolution   Sets the resolution of your cutting device. The default value is already set for optimal results. You should not change this value unless you are experiencing problems with your output, such as the output size not matching the design size.

Passes   Specifies how many times the blade will move over each line.

Advance after plot   Advances the media after output and reset the origin.

Send arc commands   Activates the device's internal curve handling.

Knife offset	Check to enter custom values for knife offset.
Packet size	Check to specify the packet size sent to the device.
	This setting applies to a limited number of cutters and you should not change it unless your cutter requires it.
Curve qual-ity	Determines the precision of the curves by setting the maximum space allowed between the curve and the line. Higher quality requires more lines, resulting in increased plot file size and cutting time.
Cutter Options	Displays the Cutter Driver Options dialog. See your cutter manual for more information on available driver options.
Reset	Restores the default settings.

4.2.3. Preferences

To set application preferences, from the Edit menu select Preferences.
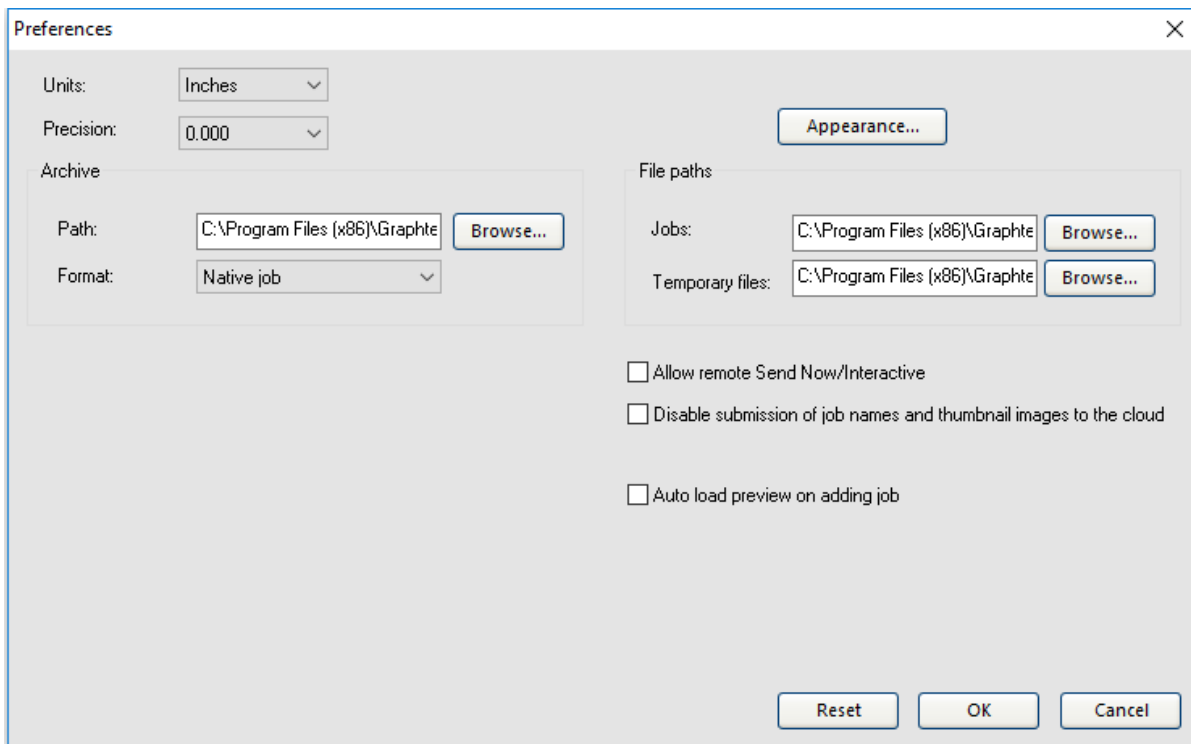
Units	The units of measurement displayed.

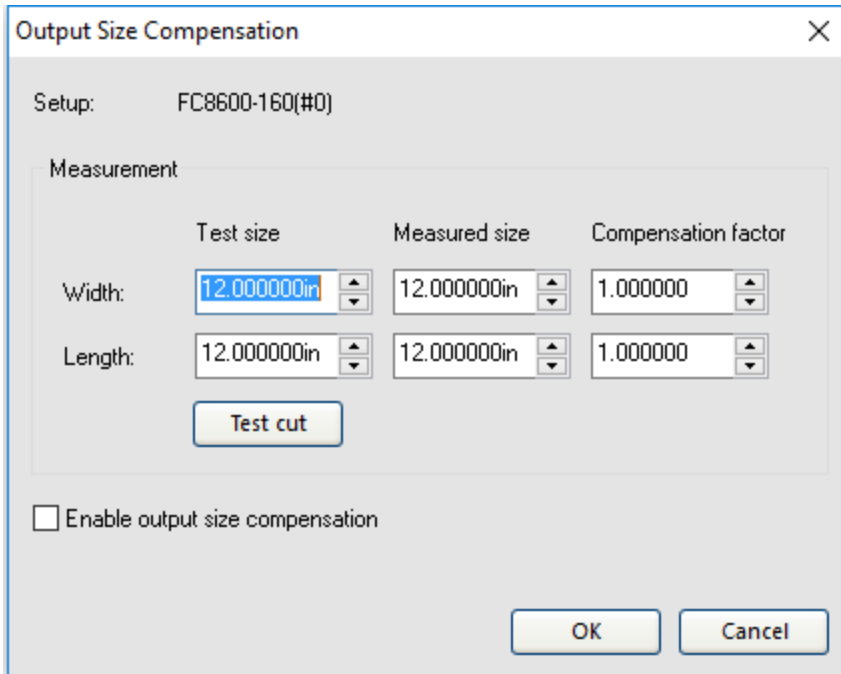|		
Precision	The degree of precision to use with measurements.	
Archive	Select the path and format in which archived jobs are stored.	
	Path	Choose the folder where jobs are saved.
	Format	Select the format in which jobs are saved.
File paths	Sets the folders which will be used for the following:	
	Jobs	The folder in which job files are stored.
	Temporary files	The folder for temporary files that are created during the processing of jobs.
Allow remote Send Now/ Interactive	Allows Send Now and Interactive from a remote design station.	
Auto load preview on adding job	Automatically generates a preview for each job as it is added to the Queue.	
Disable submission of job names and thumbnail images to the Cloud	Job names and thumbnails are sent to your cloud account so you can access them in the reporting tool and the SAi App. Checking this job will disable this.	

4.2.4. Using Output Size Compensation

Output Size Compensation allows you to measure slight variations in output size and compensate for them.

You must set up Output Size Compensation separately for each output device setup. Output size compensation does not affect the size of the job as it appears in the Job Properties dialog.

» Click the **setup** menu button and select **Output Size Compensation.**

Output Size Compensation

Setup: FC8600-160(#0)

Measurement

	Test size	Measured size	Compensation factor
Width:	12.000000in	12.000000in	1.000000
Length:	12.000000in	12.000000in	1.000000

Test cut

☐ Enable output size compensation

OK   Cancel

» Enter the **Width** and **Length** of the test cut you want to output under Test size.

For best results, the cut should be as large as possible while still fitting onto the output media.

» Click **Test Cut.**

» Measure the actual size of the test cut and enter the Width and Length of the test print under Measured size.

The software automatically calculates the compensation factors that will scale the output size to compensate for the difference between the test size and the measured size.

» Check **Enable output size compensation** to automatically scale all future output from this setup using the compensation factors derived from your measurements.

» Click **OK.**

4.2.5. Printing to a Desktop Printer

» Make sure all the objects and colors you want to print are visible in your document.

» From the File menu, select Print.
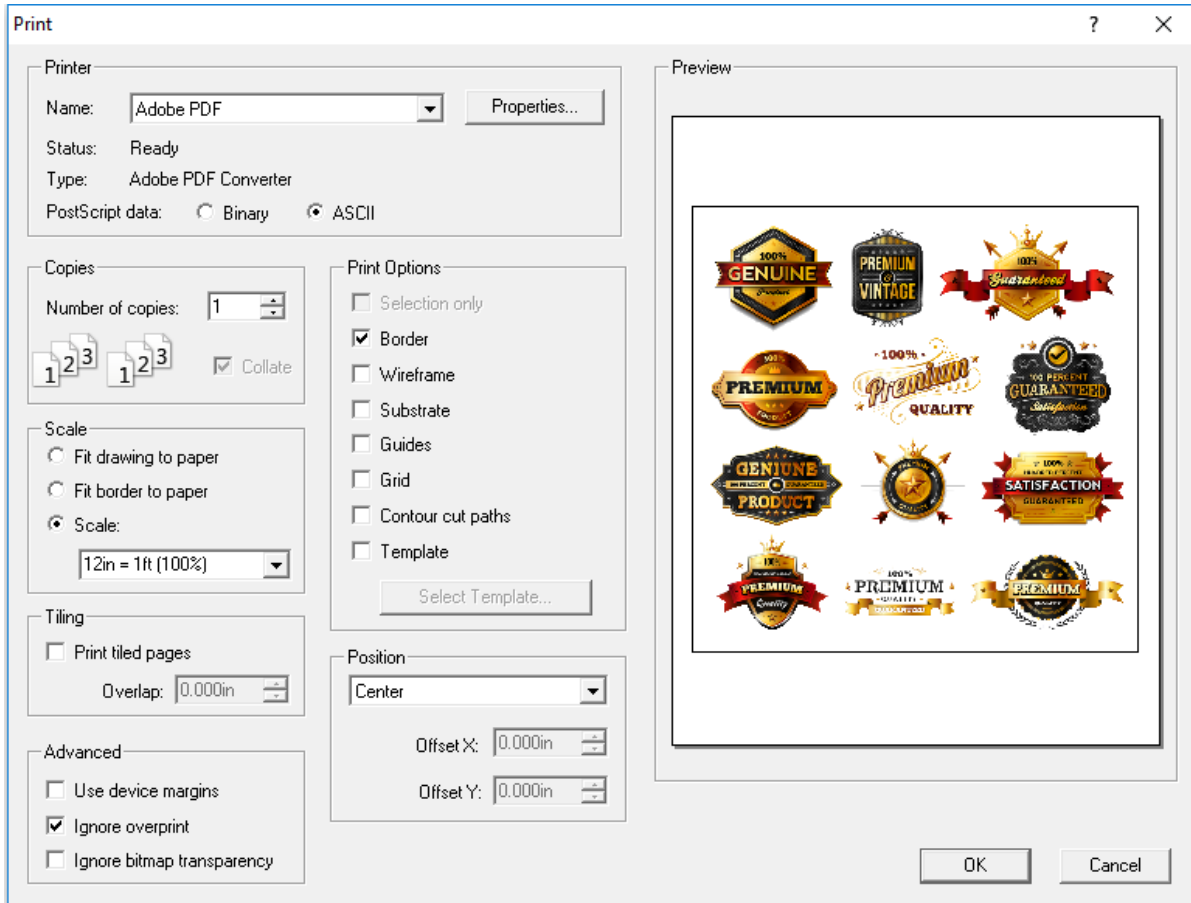
» Select your desktop printer and select the desired options.

To print only selected objects, check Selection in the Print Options group.

» Adjust the following parameters:

Printer   Lets you select the following printer-related properties:

        Name   Selects the name of the printer you want to print to.

	Properties	Adjusts printer-specific properties. (See your printer documentation for details.)
	PostScript data	Specifies the data output form: Binary or ASCII. When Binary is selected, the data is first compressed using binary encoding and then sent to the printer.
Copies		Lets you specify the Number of copies you want to print.
	Collate	When checked, all the pages of a multi-page file will be output in order before starting on the next copy. (For example, three copies of a three-page job would print out 1,2,3; 1,2,3; 1,2,3.)
		When cleared, the entire specified number of copies will be output for a single page before starting on the next page. (Three copies of a three-page job would print 1,1,1; 2,2,2; 3,3,3.)
Scale		Lets you select one of the following:
	Fit drawing to paper	Resizes the output to fit the entire design onto the paper.
	Fit border to paper	Resizes the output to fit the entire drawing area onto the paper.
	Scale	Lets you select or enter a percentage to scale (resize) the output. You can use the Tiling option to print images that are bigger than the size of paper your printer can handle.
		For example, if you want to print a scale of 1 inch = 1 feet, enter 1:12 in this field.
Printer Options		Let's you select from a number of print options:
	Selection only	Only prints the selected portions of a design.
	Border	Prints the border around the design area along with the design.
	Wireframe	Prints all vector objects without fill.
	Substrate	Prints the substrate color (if any) along with the design.

Guides	Prints the guides (if any) along with the design.		
Grid	Prints the grid along with the design.		
Contour cut paths	Prints the contour cut paths along with the design.		
Template	Applies a layout template to the output.		
		Select Template	Opens the Select Template dialog box, where you can select from a number of predefined layout templates.
Tiling	Allows you to divide the output into tiles and set an overlap between the tiles.		
	Print tiled pages	When checked, this tiles the output.	
	Overlap	Specifies the amount of overlap between the tiles.	
Position	Lets you select the position of the design on the page		
	Custom	Lets you position the design precisely by specifying the following offsets:	
		Offset X	Specifies the distance from the left edge of the design to the left edge of the printable area of the page.
		Offset Y	Specifies the distance from the top edge of the design to the top edge of the printable area of the page.
Advanced	Check to enable the following advanced options:		
	Use device margins	When checked, uses the margin information from the printer driver.	
	Ignore over-print	When checked, ignores any overprinting set up in the design stage. This can be useful if you want to save the time and output media needed to do overprinting.	

If you check Ignore Overprint, your output will automatically be changed so that it will not use features that depend on overprinting. For example, output that had been set up to use color trapping will now output untrapped.

Ignore Bitmap Transparency

When checked, temporarily overrides any transparent portions of a bitmap.

» When finished, click **OK**

CHAPTER

SAiCloud

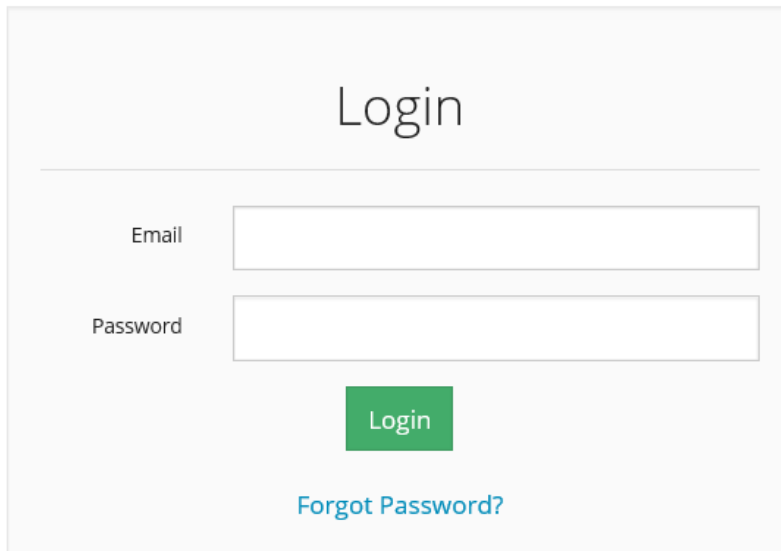## 5.1. Logging into your SAi Cloud Account

Browse to http://saicloud.com

Enter in the email address and password you signed up with and click Login.

5.2. Change your email address

To change your email address, which is also your username, in the SAIcloud :

» Log in to http://saicloud.com
» Click Login Settings
» Under Login Settings, click the Change email link
» Type in a new email address
» Type in your current password
» Click Send

5.3. Change your password

To change your password :

» Log into your saicloud account and click Login Settings
» Scroll down to Set Password.
» Type in a new password
» Retype the new password
» Click Set Password

5.4. If you have forgotten your password

» Browse to http://saicloud.com

» Click the Forgot Password? link underneath the login section

» Enter in your email address and click reset password

You will receive an email with instructions to reset your password