# DesignMaster User Manual



# Thank you for choosing DesignMaster!

Additional tutorials are available at:

http://www.crafty-club.co.uk/

and you will find member support in the CraftROBO Forum of the following message board:

http://www.ukscrappers.co.uk/boards

# Table of Contents

# 1. Installation and Setup

## 1.1 Installation of the DesignMaster Software

- Please follow these instructions <u>very carefully</u> otherwise your software may not install correctly.



This software is supplied on 2 CD's. It is critical that you install the **BLUE CD** first.

**\*\*\* Important!**

DesignMaster shares the CraftRobo controller with the original RoboMaster. It is important that you leave RoboMaster installed on your PC before commencing this installation. If you do not have your original copies of RoboMaster, you can download the controller from:

http://www.graphteccorp.com/craftrobo/support/index.html

**Step One**



1. Insert blue CD into CD drive.
2. Open My Computer and double click on the CD drive.
3. Double click on the file 'Setup.exe'.
4. A window will open that says 'Welcome to DesignMaster license file setup wizard'



5.Click 'next'
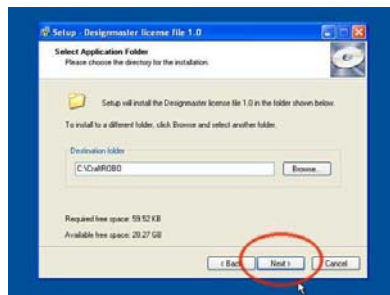
6. Click 'Next again'
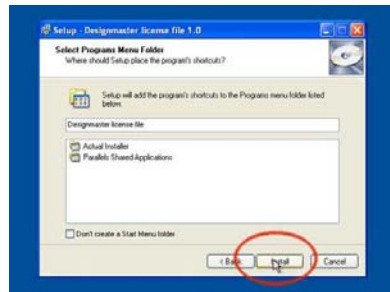


7. Click 'install'



8. Click 'Finish' then eject your CD

**Step Two**



1. Insert Red CD.
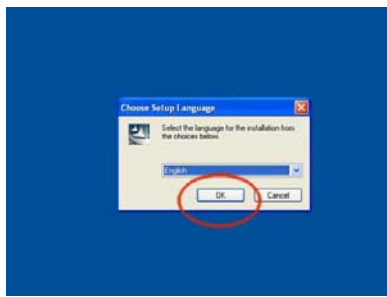
2. A window will open asking you in what language you wish to install. Choose your required language and then click 'OK.
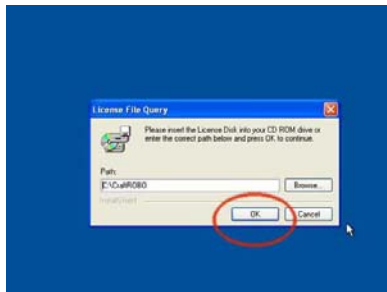


3. The next window will ask you where the license files are saved, just click 'OK' here.
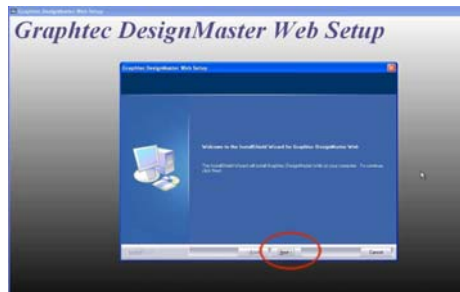


4. Installation wizard will launch, click 'Next'



5. Accept license agreement then click 'Next'
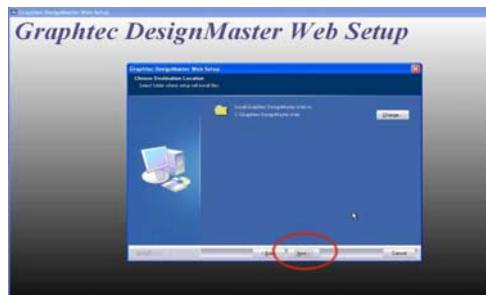
6. Click 'Next' again
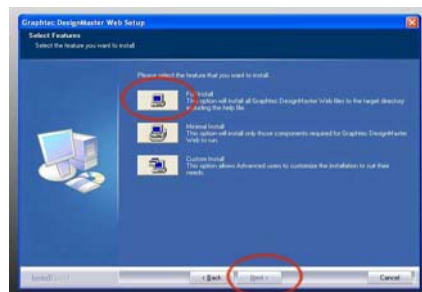


7. Click 'Full install' then click 'Next'
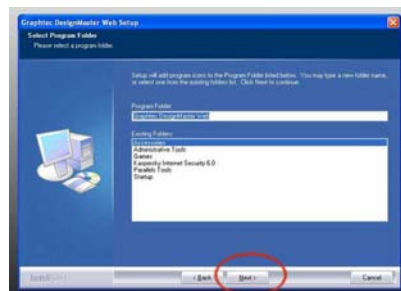


8. Click 'Next' again
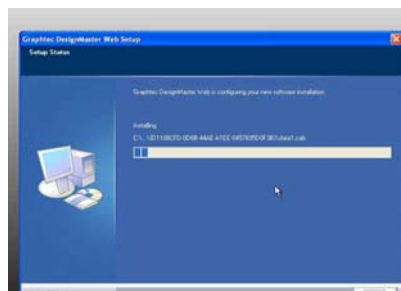


9. Go and make a cup of tea while it finishes the installation.
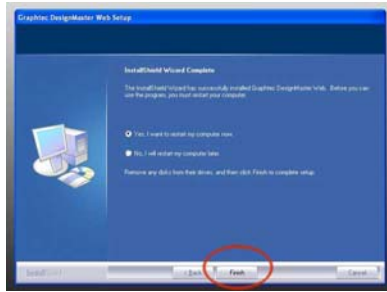
10. After it has completed installation restart your computer.

**Step Three**



1. From the Start Menu launch DesignMaster for CraftROBO.



2. When you launch the software, the first screen will ask you to register your software.
   You must be connected to the Internet for this step. Click 'OK'
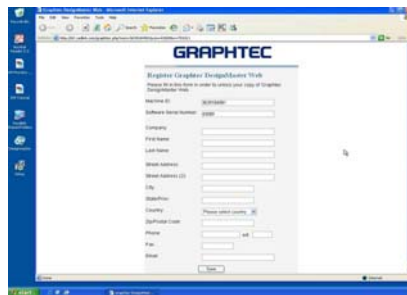


3. The registration button will take you to an on-screen registration form.
   Enter your details on this screen and click 'send.'
   Finish off that cup of tea and go and check your emails.

*** IMPORTANT!!!

- **Pay particular attention to your email address, as this is where your license files will be emailed!**
- **You need these files for your software to run. If you enter incorrectly or mispell your email address you will not receive these important files.**

**Nearly Done Now**
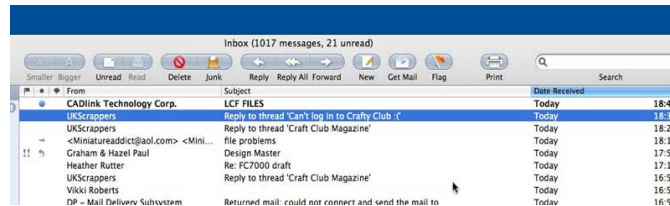


1. Check your email, and you will find an email from CADLink Technology Corp titled 'LCF Files.'

*(CADLink is the developer of DesignMaster. If you do not receive this email check your Spam folders and make sure that your Spam filters are set to accept emails from CADLink Technology Corp.)*

2. This email contains a zipped (zipped means it is compressed) file. This file is called 'licencefiles.zip'

3. Drag this file to your desktop. The icon will look like a folder with a zip going through

Customers with operating systems other than Windows XP or Vista may need a zip utility like Winzip to unzip these files

4. Double click to open this folder and inside you will find a file called 'ProductS.lcf' This file needs to be copied to the folder C:\Designmaster Web folder
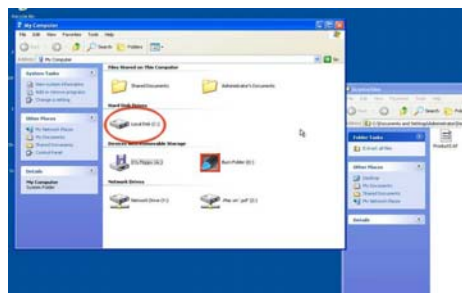


5. You can find this by going to 'My Computer' then double clicking 'Local Disk (C:)
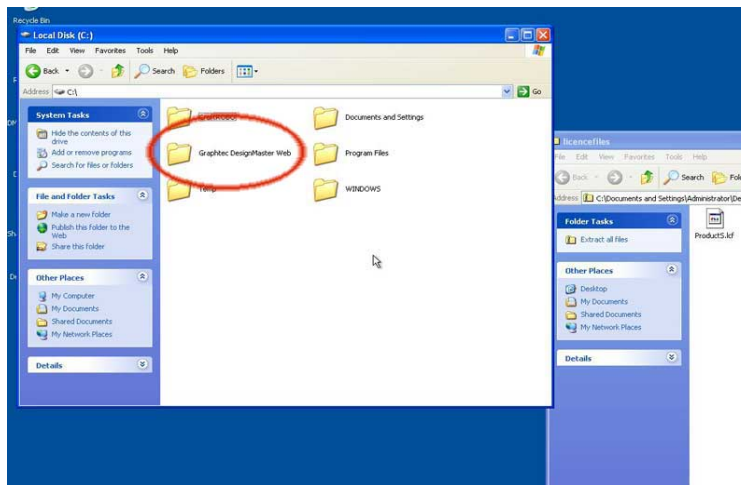
6. Here you will find the folder 'DesignMaster Web'
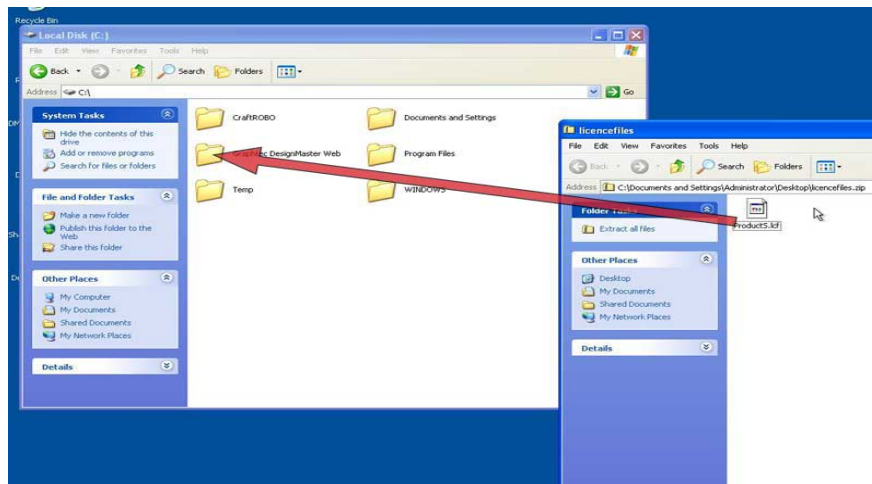


7. Drag this file 'ProductS.lcf to the DesignMaster Web folder
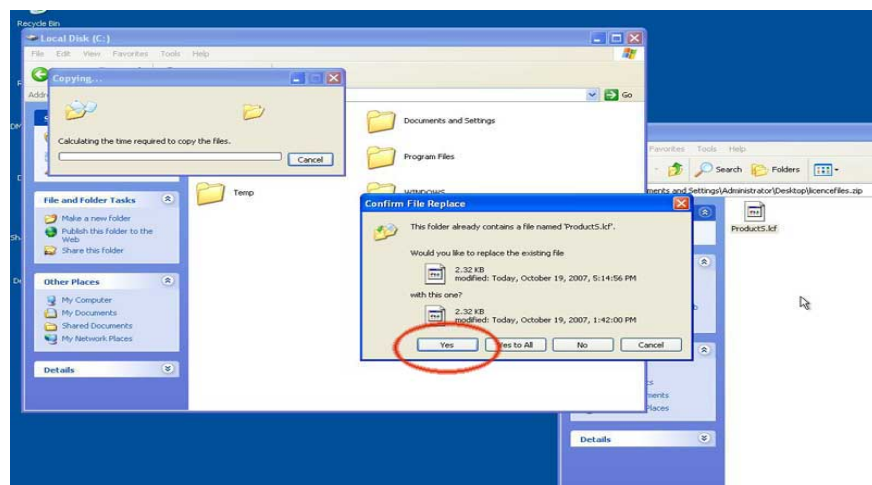


8. If you are asked to overwrite the existing file say yes. **That's It!!!** If you are having difficulty with this installation, please email us at: support@graphtecgb.com

## 1.2 Default Settings in Design Master

There are dozens of settings in DesignMaster which are either critical to getting the cutting results you want or are useful for customizing the software to meet your needs. The following are some of the very basic settings you'll want to check right away. To fully understand how certain settings affect cutting to a CraftROBO, please refer to Chapter 3.


- **Units** : Go to **Options>CraftROBO Setup>Preferences** and choose inches or mm.

- **Toolbars:** Go to **View>Toolbars –** there are five in total and it's useful to have them showing until you determine which features you find most useful. You can then create a custom toolbar with just those you need most often. (**View>Toolbars>Customize**)

- **Show Sign Blank**: Go to **View>Show Sign Blank** – makes document boundaries visible.

- **Orientation**: Go to **Layout>Blank Size** and choose Portrait or Landscape BUT note that this doesn't set the direction for cutting. Refer to **Axis Swap** below.

- **Axis Swap**: Go to **Cut>Plotting Defaults** and uncheck for Portrait or check for Landscape, but note additional important settings in Chapter 3! Note that you must click on **Save Default** to lock in a change in this window. Then you can click on **OK.**

- **Tool**: Go to **Cut>Plotting Defaults** – there are 4 tools available. Unless you are doing a Print and Cut, select **Pen** or **Knife** from the drop-down menu. As above, click on **Save Default.**

- **Machine Limits**: Go to **Cut>Plotting Defaults**, click on **Setup.** These are the maximum and minimum length and width for cutting and will seem reversed based on the length being shorter than the width. But it is simply the orientation of the software with respect to a CraftROBO. If you need to cut something longer (such as an envelope template or a vinyl sign), then you can adjust the width accordingly.  Special note for anyone using **inches** instead of **millimeters**: Reset the **Length** to 8.271 instead of 8.269. Otherwise, a warning message about tiling will occur when you enter the cut window.

- **Multiple Instance**: Go to **Options>Multiple Instance** - allows more than one file to be opened at a time.

- **Show Grid**: Go to **View> Show Grid** – turn on/off the grid. There is also an icon for this on the **Workspace** toolbar.

- **Grid Size**: Go to **Options>CraftROBO Setup>Preferences** – sets distance between grid lines.

- **Duplicates**: Go to **Options>CraftROBO Setup>Preferences** - When you use **Edit>Duplicate** to copy an image, this is the offset from the original. If you want the duplicate to be directly on top of the original, enter 0 for both values.

- **Show Fill**: Go to **View>Show Fill** – turn on/off the fill. With Show Fill turned on, closed images will be filled with the colour you select from the **Shop Palette** on the bottom of the screen. Open images will appear with dashed lines. There is also an icon for this on the **Workspace** toolbar or you can use Alt-S.

- **End Point**: Go to **Cut>Plotting Defaults**, click on **Setup.** Then click on the **Plotter Options** tab**.** In the lower of the two diagrams on the left, the **End Point** diagram, click to indent the lower left hand corner so that it matches the same indented corner as in the upper **Origin** diagram. This will ensure that the blade returns to the same point it begins. This is very important if you are using the Pounce function (dashed line cutting) or changing tools between cuts.

# 2. DesignMaster Basics

## 2.1 Main DesignMaster Screen

- Below is a screen shot of the main screen in DesignMaster with the major parts identified. Note the specific names of the items shown below, as they will be referenced throughout this user manual:
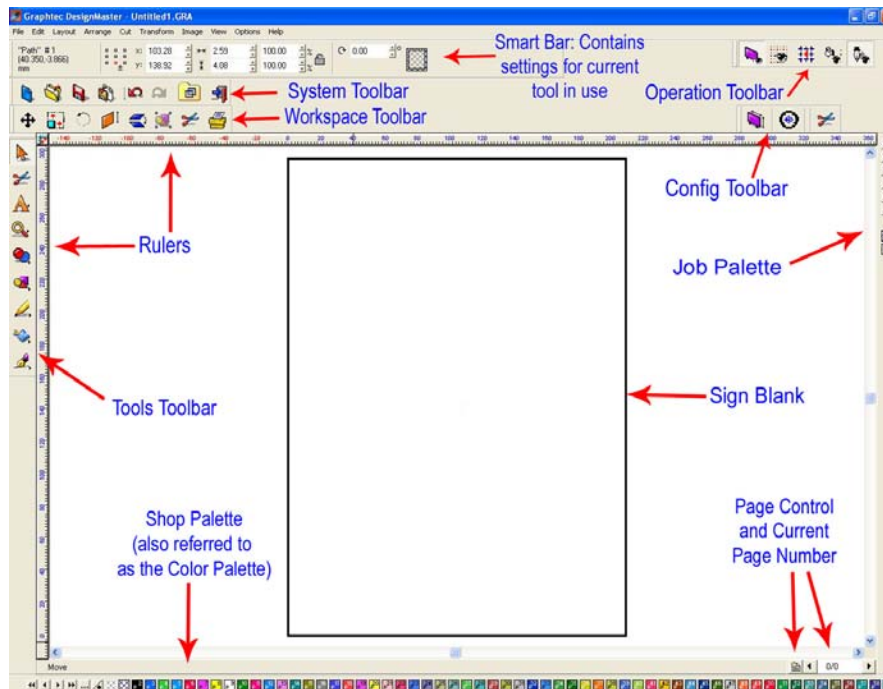


- The **Smart Bar** will always appear on the screen and shows all the parameters and settings for any given mode. In the figure above, the select mode is shown. If you go into the text mode, then the Smart Bar will show a different set of parameters and settings, such as the currently selected font, font height, and direction of font.

- The **Sign Blank** is the basic document area and can be turned on by going to **View>Show Sign Blank**. To edit the dimensions of the Sign Blank, go to **Layout>Sign Blank**. For more information, refer to *Opening a New Document (Sign Blank Setup)* under *Section 2.3 Manipulating Images in DesignMaster*.

- There are five **Toolbars** which can be turned on and off by going to **View>Toolbars** and checking or unchecking the toolbar from the menu. You can also <u>right</u> click on any toolbar and check/uncheck any of the toolbars from the menu. By resting your mouse over any of the toolbar icons, a popup will appear indicating that icon's name/function. More information about the **Tools** toolbar is presented in *Section 2.2 Tools Toolbar.*

- Similarly, there are three palettes which can be turned on and off by going to **View>Palettes**. Only the Shop Palette and Job Palette are shown, as they are the most useful to paper crafters. Use the **Shop Palette** to select colours for the objects[1] in the Sign Blank.  Use the **Job Palette** to track which colours have been used. This makes it easier to keep using the same colours rather than having to remember which particular shades you previously chose.

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[1] Throughout this manual, the terms "image" and "object" are used interchangeably to refer to vector images.

- Any of the toolbars or palettes can be dragged to a different location. On the horizontal ones, hold down the left mouse button on the two vertical gray bars on the left side and drag. On the vertical ones, drag the two gray bars at the top.

- To create your own custom tool bar, go to **View>Toolbars>Customize** and click on **New**. In this window, you can also select to have large sized icons on the screen.

- To further customize the screen, check out the following items:

  o **Options>Guides>Edit Guides** or <u>right</u> click on the screen (adds guidelines to the screen) This feature will especially be important if trying to fit images close to the boundaries of the Sign Blank. Unlike in RoboMaster where there are red guidelines automatically shown to indicate where the cutting boundaries are located, in DesignMaster the user must determine where those boundaries exist. For more information, refer to *Section 3.2 Where Will Images Cut?*

  o **Options>Workspace Colors** (changes the colours of the grid, guides, background, or Sign Blank)

  o **Options>Ruler Positions** (moves the rulers to the opposite sides)

  o The **Page Control** function allows for multiple pages within a single file. Refer to *Section 6.8 Features for Professionals* for instructions on using this.

## 2.2 Tools Toolbar (where the good stuff resides!)

- The **Tools** toolbar contains the most common tools for image creation, editing, and cutting. Below is a screen shot with a description of the functions of each tool.
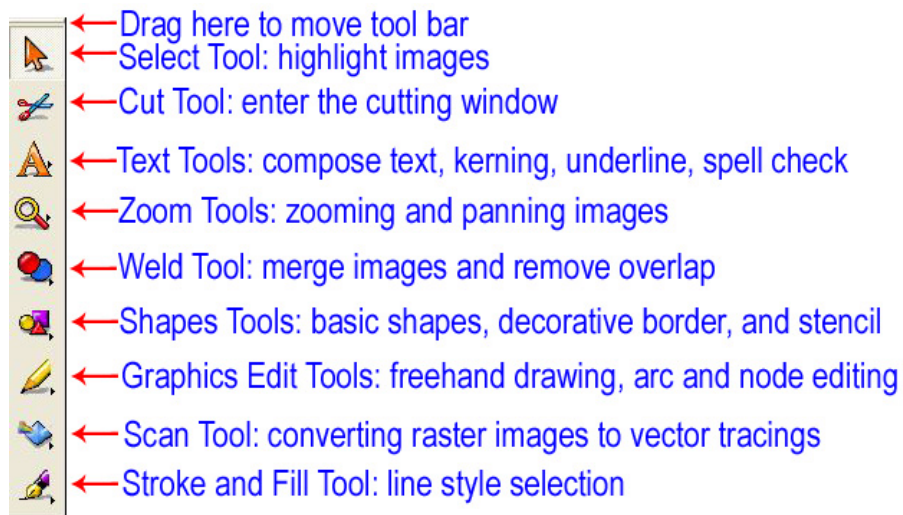


- For those tools with a tiny black arrow in the lower right corner, a pop-out menu will appear when the tool is selected.

- Each tool will have a different Smart Bar appear at the top of the screen. The Smart Bar will contain individual settings used for that tool.

- The tools with pop-out menus can be moved into the main screen area by holding the mouse over the two pale vertical lines on the left side of the pop-out menu. To close a pop-out menu that has been moved, click on the **Tools** toolbar icon again.

## 2.3 Manipulating Images in DesignMaster

### Opening a New Document (Sign Blank Setup)

(1) When you launch the DesignMaster software, a new blank document will appear. You may or may not wish to work with that particular size, so there's a document-setting window you can set up to open every time the program is launched or every time you go to **File>New**:

- Go to **Layout>Blank Size**. A new window will open. Click on **Advanced** at the bottom to expand this window.

- If needed, you may want to add the most common sizes you use to the menu under **Current Selection**.

- Click on **Create** and **Add New Blank Size** in the upper right portion of this window. That portion of the window will change and provide you a field to name your document and then specify the dimensions. When finished, click on the **Add New Blank** button. Your new choice will be available for selection under **Current Selection**.

(2) Below the **Add New Blank Size** portion, you will see a checkbox for **Display at Startup**. Checking this box will always open this particular window upon going to **File>New** or launching the software.

(3) Note two other parameters in this window:

- In the upper left, you may wish to set the (0,0) origin of your Sign Blank to be in the lower left corner. Note that this has nothing to do with setting the origin on the cutter. This simply sets the relative location of objects in your Sign Blank region.

- Select the **Orientation** setting of **Landscape** or **Portrait** for the Sign Blank. This is also ONLY an orientation for your screen and does NOT then invoke landscape cutting! You must check the **Axis Swap** box under **Cut>Plotting Defaults** to switch to landscape cutting.

(4) At any time, you can open a new document by going to **File>New** or by clicking on the little blue icon (first one on the left) on the **System** toolbar.

### Opening an Existing GRA File

(1) Go to **File>Open** or click on the second icon from the left (**Open**) on the **System** toolbar and browse your hard drive to locate subfolders where .gra files are stored.

(2) Upon locating the file, select the file name and click on **Open**.

(3) Note that **Alt-S** will turn on and off the fill for vector objects on the screen. This can also be accessed by clicking on the **Show Fill** icon on the **Workspace** toolbar. Outline mode will show all the lines that will be cut. In fill mode, the image appears as your final product.

(4) To view thumbnail images of common graphical file formats, such as .jpg, .bmp, .ai, .wmf, go to **Layout>Clip Art Viewer** and browse to find the subfolder of your choosing. Double click to import that file. Also, you can label specific subfolders under **Layout>Clip Art Categories Setup** and then directly open those subfolders under **Layout>Clip Art Go To.**

(5) Note that other vector formats, such as .ai, .eps, .wmf, .pdf, can also be opened using **File>Open**. Change the **Files of Type** to "All Files" and browse to the location of the vector file. When opening .eps files, select the pdf import filter, when asked.

## Saving

(1)   To save a file, click on the third icon from the left on the **System** toolbar or go to **File>Save**.

(2)   If you've made changes and wish to save under a different file name, choose **File>Save As**. Name the file, choose a location and click on **Save**.

## Zooming

- The quickest way to zoom in and out on an image is to move the scroll wheel on your mouse.

- If you click on your middle mouse button it will toggle on the Hand cursor which then allows you to move your image around on the screen (also referred to as panning)

- There is also a **Zoom Tools** icon on the **Tools** toolbar. The options under this toolbar will allow you to perform various zoom functions, such as marquis-zoom, zoom to Sign Blank, zoom on selected object, etc. Experiment with each.

- Note that when you are not in the zoom mode, you can use the function keys **F5 – F8** to perform these same functions. (Refer to *Zoom Shortcuts* in *Appendix A*)

## Selecting

- The top icon on the **Tools** toolbar is the **Select Tool**.  Clicking this icon will always close other tool windows and place the 9 small bounding boxes on the current object. In most other modes (one exception being the text mode), pressing the **spacebar** will also invoke the select mode.

- To select an object, click on any of the trace lines. Hold down the **Shift** key to select additional objects. Alternatively, drag the left mouse button to marquis-select one or more objects. If you wish to select all the objects on the screen, use **Ctrl-A**.

- When an object is selected, each press of the **Tab** key will move to another object, cycling through all objects on the screen.

- If more than one colour has been used for the objects on the screen, one can hold down the **Ctrl** key and then click on one of the colours from the **Shop Palette** or **Job Palette.** All objects of that colour will immediately change to a dotted line indicating they are "hidden" and no longer selectable. Repeating this step will return objects of that colour to a normal state.  Alternatively, holding down the **Alt** key while selecting a colour will make all objects NOT that colour hidden. Again, this is a toggle process.

- One can also select objects based on size. Go to **Edit>Select By Size** and the Smart Bar provides a number of options such as the biggest, smallest, bigger than an object you select, or smaller than an object you select. Note that if you pre-select an object before going to this window, the Smart Bar will show the dimensions of the selected object in the top left corner.

## Deleting

- To delete an image, select it and press the **Delete** key or go to **Edit>Clear**. One can also use **Ctrl-X** or **Edit>Cut to Clipboard,** which will make the deleted item available for pasting elsewhere.

## Moving

- Click on the **Select Tools** icon (top icon) on the **Tools** toolbar.

- If your image is not already selected, click once on any of the image's trace lines and nine small squares will appear.

- Hold down your left mouse button on the centre square. A new cursor with double-headed arrows will appear. You can now move the image to another location on the screen.

- You can also move an object in small increments by pressing the arrow keys on the keyboard. Further, if you hold down the **Shift** key while pressing these arrows keys, the object will move in larger increments with each keystroke.

- Also, while an object is selected, the **Smart Bar** at the top allows you to specify an exact location for your image under **x:** and **y:**
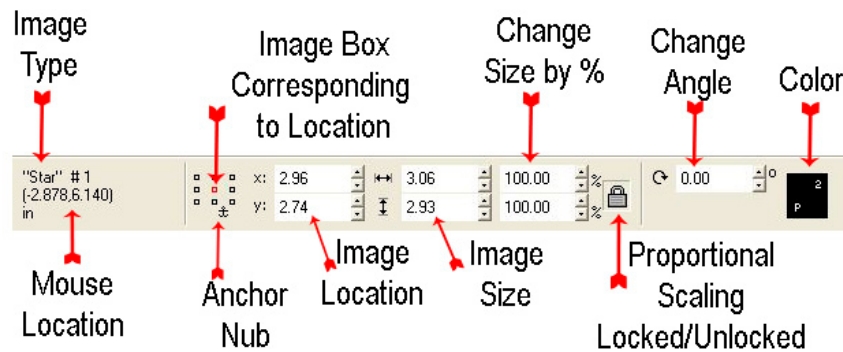


- Note the tiny array of boxes to the left of the **Image Location** settings. The red box indicates which particular location of your image corresponds to the **x:** and **y**: settings. You can click on another box of your choice to use in positioning.

## Copying

With the image selected, you can copy in any of these possible ways:

- Go to **Edit>Duplicate** or press **Ctrl-D** to make a duplicate copy, slightly offset to the top right of the original. The amount of offset for a duplicate image can be changed under **Options>CraftROBO Setup>General Preferences**.

- Use **Edit>Copy** and **Edit>Paste** from the top menu. A small rectangular cursor appears. Go to any area inside or outside of your document boundaries and drag the mouse to draw a rectangle. The image will appear when you release the mouse button. Note that the size of the image will depend on the size of the rectangle, rather than duplicating the original. If you DO want the exact same size then, instead of dragging the mouse, just click once on the screen and the same size copy will appear.

- Select your image, then hold down the **Alt** key and begin dragging the centre of the selected image as if moving it. A copy of the image will move leaving the original in place.

- Go to **Layout>Array**. A new menu of choices will appear at the top of the screen. Under **Total X:** and **Total Y:**, you can choose the number of duplicate images to appear in any row or column relative to the original. On the left side you can select how the images will be arranged, as well as the spacing between the images.

## Resizing

- With the image selected, use your mouse to drag any corner of the image to resize proportionately. Dragging a square not in a corner will allow you to resize either vertically or horizontally while leaving the other dimension constant.

- You can also resize the image from the Smart Bar. Enter any number into the boxes to the right of the arrows. Note that if you do not want to hold the aspect ratio, click the lock box icon to unlock. You can also resize percentage-wise (scaling) using the two boxes just to the left of the lock icon.

## Rotating

- With the image selected, you will notice a curved arrow in the upper right region of the image. Hold down your left mouse button and drag that arrow either clockwise or counterclockwise to rotate the image manually.

- Alternatively, you can specify the number of degrees of rotation in the Smart Bar and then press the **Enter** key on your keyboard.

## Mirroring

- Select the image and go to **Layout>Size/Move>Mirror**. Or you can <u>right </u>click on any of the little squares surrounding the image and select **Mirror** from the list. Then select either **Vertical** or **Horizontal** to flip the image accordingly. The vertical mirror function is also an icon on the Operations toolbar.

## Flipping

- To flip an object, go to **Layout>Size/Move>Flip** and choose to flip the object either horizontally or vertically. Note that a guideline will appear which can be moved to set the location of the flipped object. There is also an option to keep the original image.  Note that this is the same as Mirroring, but with a little more functionality.

## Slanting

- To slant an object, go to **Layout>Size/Move>Slant** and either drag one of the two handles, which will appear on the selected object or change the setting on the Smart Bar. Note that either a horizontal or a vertical slant can be chosen. **Slant** is also an icon on the **Operations** toolbar.

## Locking

- Select one or more objects and go to **Arrange>Lock Object**. This will lock in the size, rotation, and colouring. To unlock objects, select and go to **Arrange>Unlock Object**.

## Re-Colouring

- To re-colour the interior fill and exterior tracing lines of an image, first make sure the Shop Palette is visible at the bottom of the screen. If not, then go to **View>Palettes>Show Shop Palette**.

- Click any of the colours on the **Shop Palette**. Note that the first two colours on the left of the **Shop Palette** allow you to make an image clear or make an image invisible.

- If you have the **Job Palette** turned on, only the specific colours you've used for your images will appear in that palette. When creating additional images of the same colour, it is often easier to pick the same colours from this palette, rather than from the **Shop Palette**.

- A quick way to change all images of a particular colour to another, drag and drop a new colour from the **Shop Palette** onto the colour to be replaced on the **Job Palette**.

- To create a custom colour, click on the **Context Menu** icon (looks like 3 little dots) on the **Shop Palette**. Select **Custom Color Creator** and enter the precise colour parameters you wish to use.

- Go to **View>Show Line Style** and check this item. With this option turned on, objects will have a black (or other colour) outline IF they have either **Hair Line** or **Thick Line** set. To make these settings, click on the **Stroke and Fill** icon on the **Tools** toolbar and select the **Line Style** icon. In the Smart Bar, click on either the **Hair Line** or **Thick Line** icon. Note the first icon is **No Line**.

## Arranging

- Under **Layout>Arrange and Distribute**, you have several options for aligning objects: 1. Based on the last object created, 2. Based on the Sign Blank, or 3. Based on whichever object is furthest already in the direction you choose.

- If you go to **Layout>Arrange and Distribute>Alignment**, the Smart Bar will provide all of the above options along with alignment to grid. These settings will be saved and when you then select other objects and go to **Layout>Arrange and Distribute>Align** (or use **Ctrl-K**), these same settings will be applied.

## Grouping

- Grouping is used to link objects together so they are treated as one. Select all objects to be grouped and go to **Arrange>Group**. Now when you click on any one of the objects, all will be selected and most any function or operation chosen will be applied to all, such as resizing, re-colouring, stretching, flipping, deleting, etc. To ungroup, go to **Arrange>Ungroup.**

## Undo

- As with most Windows applications, **Ctrl-Z** (**Edit>Undo**) will undo the last action invoked and **Ctrl-Y** (**Edit>Redo**) will reverse the last Undo. In DesignMaster, you can continue selecting the Undo action to back up many steps! The number is based on how much memory is allocated. This setting can be changed in **Options>CraftROBO Setup>Undo Setup.**

# 3. Cutting From DesignMaster

## 3.1 Quick Testing Tutorial

New owners tend to be VERY eager to try out their software.  In the following mini-tutorial, a simple shape will be drawn on the screen and then drawn on your CraftROBO. Start with a pen or pencil in your penholder and draw on ordinary paper.

(1)   Set a page size to match your paper or cardstock. Go to **Layout>Blank Size** and, from **Current Selection**, pick **A4 Letter** (or, if working in inches and 8-1/2" x 11" paper, then choose that) or enter whatever size matches the paper you plan to place on the mat). Make sure **Portrait** is selected under **Orientation**. Click on **OK**.  Also, go to **View>Show Sign Blank** and make sure it is checked.

(2)   Go to **Cut>Plotting Defaults**. Under **Tool**, select the **Pen** tool. Under **Cut**, check the boxes next to **Sign Blank** and next to **Selected**. Make sure **Axis Swap** is unchecked. Click on **Save Default** BEFORE clicking on **OK** to lock in the defaults.

(3)   On the Tools toolbar, select the **Shape Tools** icon, which is about halfway down. Resting your mouse cursor on any icon will pop up a title for that icon. Click once on any one of the icons that appears under **Shape Tools,** such as a star or arrow. Your Smart Bar will change to indicate you are in that tool's mode.

(4)   In the Sign Blank area, hold down your left mouse button and drag the mouse to draw your shape. Press the **spacebar** to select it or click on the top left arrow icon on the **Tools** toolbar.

(5)   Go to **Cut>Plot** from the top menu or click on the **Cut Tool** (scissors) icon (second from top on the **Tools** toolbar) to enter the cutting window.

(6)   Verify that the **Pen** tool is showing in the top left of the screen.

(7)   When you are ready to draw, click on the scissors icon (far right) in the long thin **Cut Toolbox** window. Or you can click on **Cut Preview** and then **Cut Now** at the top of the screen to the right. The CraftROBO Controller window will open and you can proceed with making your usual settings for drawing.

The location of the image you drew should be consistent with what you get with RoboMaster. Before experimenting with a landscape cut, however, please read the next section.

## 3.2 Where Will Images Cut?

- It's important to continue experimenting using a pen or pencil so that you will know where images on the screen will cut relative to the material on your mat. Note that the images in your Sign Blank will NOT necessarily end up in the same positions on the mat as you are using to having with RoboMaster. Thus, you MUST learn which settings will give you the result you want. A thorough explanation of these settings is presented in *Section 3.3 Cutting Defaults.*

- It can also be deceiving when sending an image to the Cut window. In certain cases, it will appear that the image has moved, even though you are in Sign Blank mode. But note that the Sign Blank may have simply been rotated.

- In portrait mode cutting, following the steps presented above in the Quick Testing Tutorial. The following photographs indicate the results you should see in each step:
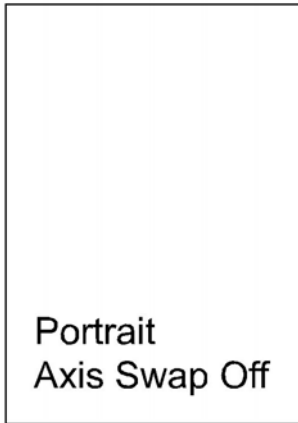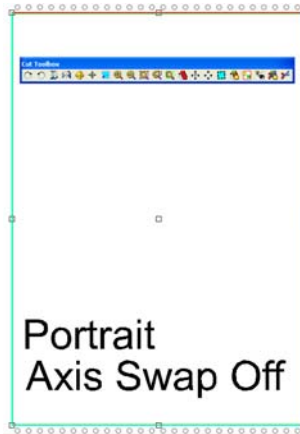
| Sign Blank | Cut Window | CraftROBO |

- If you wish to do a landscape mode cut, then an extra step will be required. This is due to the fact that RoboMaster moves the origin on the CraftROBO when going into Landscape mode (from the right side to the left side).

    (1) Create your title or image in your Sign Blank area:

    

    (2) Select your image and click on the Scissors icon on the **Tools** toolbar. The cut window will appear like this:
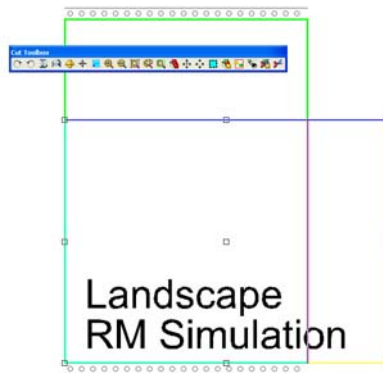
    

    (3) In the **Cut Toolbox** window, click on the second icon from the left (**Rotate –90 degrees**). This will rotate the image and place it in the "RoboMaster location":

(4) Click on the Scissors icon (far right in **Cut Toolbox** window) to cut and the result should be:



(5) Note that the mat may not be returned to the original position after cutting.

- In RoboMaster, there are red guidelines automatically added in the document area to indicate where images must be located. In DesignMaster, one can manually add guidelines, if needed, to use in placing images:

  o Under **Layout>Blank Size**, indent the lower left corner of the **Origin Selection** diagram. Select either Portrait or Landscape mode. Click on **OK**.

  o RIGHT click anywhere in the Sign Blank area and the **Edit Guides** window will open. In Portrait mode, select the middle (vertical guideline) icon and type in for X: 200 mm (or 7.87 in). In Landscape mode, select the top left (horizontal guideline) icon and type in for Y: 10 mm (or .394 in). A guideline will appear in the Sign Blank area and will indicate the boundary for that image. Note: Only the restricted width of the Craft ROBO has been set. Since a CraftROBO can actually cut up to 1000 cm (or 39.37") the placement of an image in the other direction will be restricted by the Sign Blank itself.

Portrait Mode Guideline                    Landscape Mode Guideline
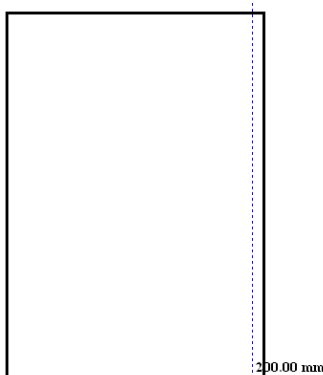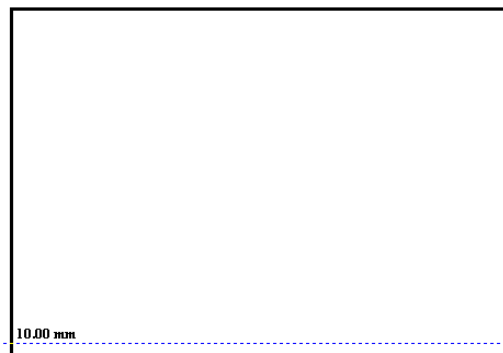
o   When entering the Cut window, the guidelines will remain set, even if you click on the **Rotate –90 degrees** icon for Landscape cutting. It is assumed that the image has been properly placed while in the Sign Blank window and it is not necessary to use the guidelines any further in the Cut window.

o   For those cutting from 8.5" x 11" cardstock, take note that the default A4 setting in **Layout>Sign Blank** has an equivalent length of 11.694," thus will cut further than the 11" length of your cardstock! You may want to add a separate guideline at 279mm (or 11").

## 3.3 Cutting Defaults

- Just as you set preferences for your printer, DesignMaster has a window of default parameters for cutting.

- Go to **Cut>Plotting Defaults** and check any settings that you wish to be your defaults. Be sure to click on the **Save Defaults** button at the bottom of the screen to lock in your choices before clicking on **OK**.

- Note that you do not necessarily have to change these parameters with every cut. These are the default settings. When you open the cutting control window, you can select or override *most* of these settings for any particular cut

- The following settings are under **Options**:

   o   <u>Mirror</u>: Image is flipped both horizontally and vertically before cutting.

   o   <u>Sort</u>: Checking this box allows you to pick from four ways to order the objects on the screen to cut. For more information, refer to *Section 6.4 Controlling The Order and Direction of Cuts.*

   o   <u>Axis Swap</u>: Checking this box will change the orientation of your cut. With the box unchecked, the cutting will be portrait. With the box checked, the cutting will be landscape. There is an exception: in landscape Print and Cuts, leave the box unchecked.

   o   <u>Weed Border</u>: A rectangular border will be cut around the image. This is useful for those cutting vinyl to remove the waste around a cut image. Note that if Sign Blank versus Page is checked, then the size of the border will be the entire Sign Blank! So, use this feature in **Page** mode. A default size can be set up under **Options>CraftROBO Setup>General Preferences**. Or one can RIGHT click on the **Weed** icon in the **Cut Toolbox** window to specify a particular weed offset for the current cut.

   o   <u>Cut by Color</u>: Checking this box will cause only images that match the colour you specify later to be brought into the cutting window. For example, if you select 3 objects that are red, yellow, and green and then click on the **Cut Tool** icon, a query window will immediately appear. You then select which colour to cut and that particular image then appears on the screen. After cutting that colour, the same query window appears and you pick another colour or cancel.  Another alternative is to have all the images appear in the cutting window and then select which colours to cut and which ones to ignore. Refer to *Section 3.6 Cutting by Colour.*

   o   <u>Banner Fill:</u> Banner Fill is used with a pen or engraving tool to provide filled colouring or embossing. *Refer to Section 6.3 Using Banner Fill for Embossing or Drawing in Colour.*

   o   <u>Jog</u>: Checking this box indicates that you have registration marks set in your document for a <u>manual</u> print and cut. When you click on the scissors to make your cut, a small window will open where you can set the position of each registration mark. Because the CraftROBO has an optic eye, this feature will probably <u>not</u> be of interest to most users.

- Under **Tools,** there are four choices. The **Pen** is used for drawing with pens, pencils, markers, etc. or with the embossing tip. The **Knife** is used for cutting with a blade. The **Pen with reg marks** is used for Print and Cuts where a pen is used in place of a blade and the **Knife with reg marks** is used for Print and Cuts with the blade.

- Beneath the tool menu are several options:

    o <u>Multi-Cut</u>: Checking this box opens a second box where the number of repeat passes can be set. Currently, this only works with the Pen tool.

    o <u>Pounce</u>: This is the same as cutting a dashed line. Checking this box opens two additional boxes where you can enter the length of the dashed cut and the spacing between the cuts. Suggested starting values are 2mm and 4mm or .07" and .15", respectively. Refer to *Section 6.2 Using the Pounce Feature to Cut Dashed Lines.*

- The settings under **Cut** are:

    o **Page:** the selected images will be moved to the origin for cutting, regardless of their location on the Sign Blank. You can, however, use your mouse or arrows keys on the keyboard to move the image away from the origin, as needed. Also, the overall size of your image is shown to the right of the location information in the Smart Bar. You can modify the size by dragging one of the corners of the image or typing in a specified size in the length or width field. When you make this change, it only applies to the version you are about to cut. When you close this window and return to your regular document area, the original size will still be in tact.

    o **Sign Blank**: the images will be cut in the exact location as shown in the main Sign Blank area. The images cannot be moved nor resized. If you wish to make changes, click on the **Select Mode** icon (fourth from right in the **Cut Toolbox** window). The top choice is **Page.** The bottom choice is **Sign Blank**. Switch to the **Page** mode, if desired.

    o **Selected**: when checked, you must then select images to send to the cut window. When unchecked, all images will be sent. Warning: if you are using **Page** mode, then you must keep the images within the Sign Blank area as the program will still try to cut those that are outside the boundaries and the software can crash. But in Sign Blank mode, any images outside the Sign Blank area will be ignored (just as in RoboMaster).

- **Smoothing** refers to the number of vectors used during the cutting. The **Medium** setting is recommended for most work. Setting the smoothing to **Low** will speed up the cut, but may result in a poorer drawing resolution. Setting the smoothing to **High** will slow down the cut, but the cutting will be more accurate.

- **Move** allows for an automatic offset of the image from where it would normally cut. After using, however, note that your origin has been reset by this same offset. Use with caution.

- **Object Start Point** allows the user to specify what part of the image to begin cutting.


## 3.4 Cut Toolbox


- The **Cut Toolbox** window provides additional options such as rotating and mirroring the image, cutting only certain colours or dashed lines (pounce), banner fill (using a pen to colour in the image or engraving tool to emboss), weeding (cutting a rectangular border around your image), etc. Below is a screen shot of the Cut Toolbox window and an indication of each function.
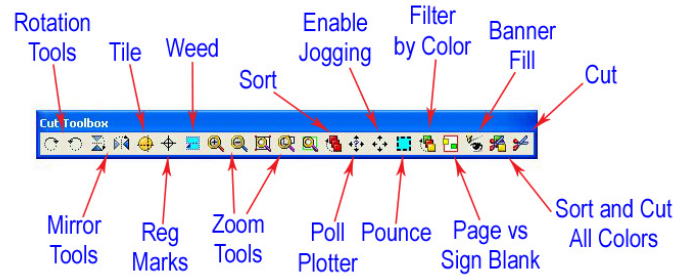
- With the **Weed, Enable Pounce**, and **Banner Fill** functions, you need to <u>right</u> click to open a window of settings. Left clicking these functions will toggle them on or off.

- Note that **Reg Marks, Poll Plotter**, and **Enable Jogging** functions will not be of interest to those using a CraftROBO.


## 3.5 Filling a Page with the Same Image

### Method A: Array

Use this method if you wish to fill the **Sign Blank** area:

(1) Select your image and move it to the lower left corner of the Sign Blank area. Go to **Layout>Array**.

(2) In the top left corner of the Smart Bar, you can click on a drop-down menu to select the layout you wish to use. In general, if you plan to fill the entire page, you would select the default: grid.

(3) Below this setting, you can choose either **Object to Object** or **Between Object.** For this application, choose the latter.

(4) Under **Total X** and **Total Y**, begin clicking on the tiny arrows to add images in rows and columns. Adjust those numbers to fit as many copies into the document area as possible.

(5) Adjust the spacing values to economize the use of your available material. Repeat Step (4) to add more images, if desired.

(6) You can further try the various spin icons to help oddly shaped items fit closer together.


### Method B: Repeats

Use this method <u>after</u> you have selected your image and you go into the cutting window. Note: This method is for use with the **Page** mode only (versus the **Sign Blank** mode).

(1) In the cutting window, zoom out so you can see your image relative to the document size. Make sure you have the correct media size entered on the Smart Bar.

(2) Click on the **Repeats Setup** button under **Repeats**.

(3) Check the box by **Stack Repeats** if it is okay to have more than one row of the image. Then enter the number of images you wish to cut and the spacing, if any, between the images. Click on the up arrow next to **Stack Size**. Note that it will only allow you to enter the maximum number of rows which will actually fit based on the media size you entered above.

(4) Enter any spacing between the images next to **X Space:** and **Y Space:** Note that you can save your settings, if you wish, by clicking on the diskette icon, entering name for this setting, and clicking on **Save Defaults**.

(5) Click on **OK** to return to the cutting window. At this point you can add or remove copies by clicking on the arrows under **Repeats**.

(6)  Before cutting, you may need to nudge the objects away from the boundaries so that complete objects are cut on your mat.


## 3.6 Cutting by Colour

If you have images of varying colours and wish to cut some of the colours at once but not all, then you can select which ones to allow and which ones to ignore. There are several methods to achieve this:

### Method A: Sort and Cut All Colours

(1)  Select your images in the main document window and then click on the **Cut Tools** icon to open the cutting window.

(2)  In the **Cut Toolbox** window, click on the second icon from the right. This will open the **Sort Cut Order by Color** window. You can check off which colours to cut or uncheck the colours to ignore.   Then click on **Cut** to proceed with the cut.

(3)  Note that you can drag and drop the colours in the list to change the order in which they will cut.

(4)  If you have used many colours or if you wish to link a colour to the name of the object being cut, go back to Sign Blank. Select your first object and double click on the colour box on the Smart Bar. Enter whatever you wish under **Color Name**. For example, if you had an apple design with a red apple, brown stem, and green leaf, you could double click on the red outline and name it "Apple". Then similarly name the green "Leaf" and the brown "Stem." Click on **Change** in each window to save the name. Then, when you enter the **Sort and Cut All Colors** window, these names will appear next to the colours and may help you better identify which parts you wish to cut. Note that these name changes are specific to this file only, which makes this feature all the more useful!

### Method B: Filter By Colour

(1)  Select your images in the main document window and then click on the **Cut Tools** icon to open the cutting window.

(2)  In the **Cut Toolbox** window, click on the fifth icon from the right. This will open the **Filter by Color** window. One of the colours will appear in a small rectangle. Either click on **Select** and then **Cut** to cut the images of that colour OR click on the **down arrow** to open the menu of colours to select a different one, OR click on **Select All** to go ahead and cut all the images of all colours at once.

(3)  Note that after the first colour is selected and the image cut, the same **Filter by Color** window will open and the next colour will be shown. If you click on the down arrow and go into the colour menu, the first colour will be marked out so that one can track which colours have already been cut.

### Method C: Filtering Colours in the Sign Blank

While still in the main Sign Blank screen, hold down the **Alt** key and click on the colour you wish to cut from the **Shop Palette** or **Job Palette**. All objects NOT in this colour will change to dashed lines and no longer be selectable. Thus, when you click on the **Cut Tools icon,** only your objects in your selected colour will be sent to the **Cut** window.

# 4. Working with Text

## 4.1 Installing New Fonts

Unlike most other Windows applications, new fonts must be installed separately into DesignMaster:

(1)  Install new fonts into Windows using your usual method. Note that you can simply copy fonts into the C:\Windows\Fonts folder to automatically install. For temporary installation, you can locate a font using My Computer or Explorer, double-click the file name to open a preview window, and that font will be installed until you close it. But once closed, it will no longer be installed in DesignMaster either.

(2)  In DesignMaster, go to **File>Install>Fonts**.

(3)  Click on the **Search Now** button to list all fonts currently installed in Windows.

(4)  You can click on **Install All** and the entire list of fonts will be made available in DesignMaster.

(5)  Alternatively, you can pick and choose individual fonts by clicking on the names in the list. Note that holding down the **Ctrl** key will allow you to select/unselect more fonts from the list. Click on the **Install** button when you are ready to make those highlighted available in DesignMaster.

## 4.2 Text Basics

(1)  On the **Tools** toolbar, click on the **Text Tools** icon, and then select the first icon on the left (**Text Compose**).

(2)  Click once inside the Sign Blank area to enter text mode or hold down the left mouse button and drag a marquee to create a text frame.

(3)  In the upper left portion of the **Smart Bar**, a new drop down menu of your available fonts will appear. If needed, click on the "**+**" next to **All Fonts** to open the complete list. Locate and double click on the font of your choice:
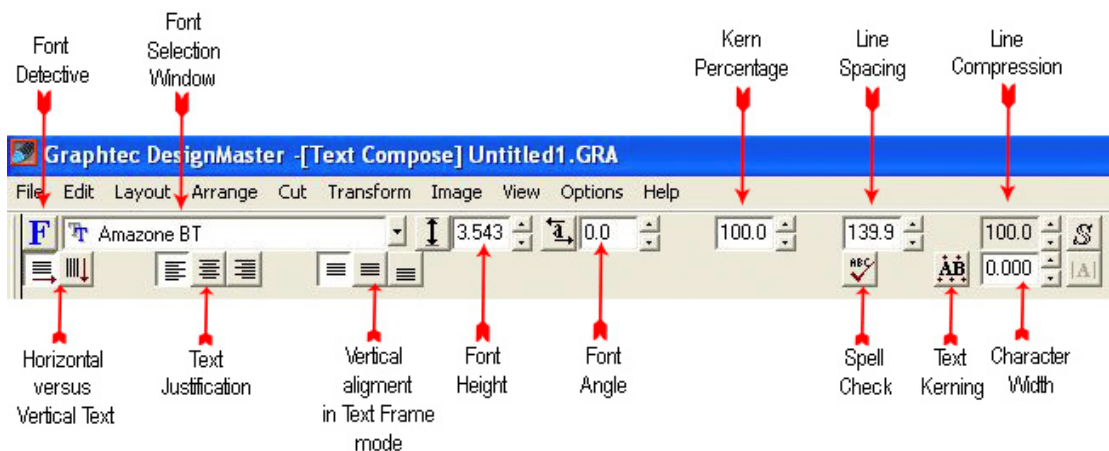


(4)  At any time, you can begin typing the letters of your text title. Pressing the **Enter** key will do a line break and allow you to continue typing a second line of text.

(5)  Note that on the Smart Bar are the options for **Vertical Text, Font Height, Font Angle, Spell Check**, and more.

(6)  When done, either click outside the text area or click on the **Select** icon on the **Tools** toolbar.

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(7)   If you wish to edit your text after leaving text mode, double click the title.

(8)   If you wish to use your entire Sign Blank as the text window, then select the **Frame Text Compose** icon after clicking on the **Text Tools** icon in the **Tools** toolbar. The **Text Justification** choices and the **Vertical Alignment** choices (on the Smart Bar) may now be of interest depending on your project.

(9)   Also available under the **Text Tools** icon on the **Tools** toolbar are **Text Kerning**, **Spell Check**, and **Text Underlining**.

## 4.3 Copying Text Style from One Title To Another

If you have several different text titles with differing formats, it's possible to copy various characteristics of one title and apply them to another:

(1)   Select the title with the format you wish to copy, right click, and select **Settings**. Check which format settings you wish to copy. Click on **OK**.

(2)   Right click again on this same title and select **Copy Style**.

(3)   Select the title(s) to change, right click, and select **Paste Style**.

## 4.4 Connected Letter Title With a Mat

(1)   Using the instructions from *Section 4.2 Text Basics*, type the letters of your title. In this example, Lucida Calligraphy has been selected:



(2)   To overlap your letters, click on the **On-Screen Kerning** button (icon with the letters "**AB**") towards the bottom right of the Smart Bar. Now you can shift the letters to overlap by dragging any of the boxes in between the letters. All letters to the right of that box will move together. OR, click ONCE on any of the boxes below a letter and then use the left/right **arrow keys** on the keyboard to move the letters in smaller increments, which is recommended when trying to be precise:



(3)   If you inadvertently exit the Text window after typing your title, you can also access the **Kerning** function under **Text Tools** on the **Tools** Toolbar (3rd icon).

(4)   When you are satisfied with the overlap, click on the **Select Tools** icon on the **Tools** toolbar to select the entire title. You may also wish to press **Alt-S** to go to outline mode to see the actual overlap of the letters.



(5)   Now click on the **Weld Tools** icon (6th from top on **Tools** toolbar) and select the first icon on the left (**Basic Weld**). The overlap will vanish:

(6)  You have now converted the title to a vector image. If you wish to modify the overlap, the font, the spelling, etc, then you must repeatedly use the **Edit>Undo** function (or **Ctrl-Z)** to back up to the text mode.  Then, double-clicking a title that is still in a text format will bring up the Text Smart Bar for revisions.

(7)  To make a mat after welding your title, select the image and go to **Transform>Outline.**

(8)  Check the box next to **Outline** and uncheck the box next to **Inline** (if necessary).

(9)  Just to the right of the **Outline** checkbox, you can specify how large to make the mat.

(10) Further to the right, click on the coloured rectangular box and select a colour for your mat. Note that it will appear that the entire mat is filled with colour. That's okay.



(11) Immediately below the colour choice, select a style for the mat. Click on each one of the three choices to note the differences and pick the one you wish to use.

(12) To the far right of the Smart Bar, verify that the two upper choices are indented. These are "Create Original" and "Create Mask". If you are simply using the Outline feature to thicken a font, then you can deselect "Create Original."

(13) Click on the **Close** button and the mat will become a single outline of the colour you chose. (Note you can deselect the title, then click on the mat line and drag the mat away from the original.)



(14) If you wish to custom arrange the individual letters, rather than having them in a straight line, then after typing the title, click on the **Select** icon on the **Tools** toolbar. Then go to **Arrange>Text to Graphics**. Now each letter can be individually selected and arranged, as desired. Then continue from Step (5) above.

## 4.5 Fitting Text to Curves

(1)  Type the letters you wish to fit to a curve using the method described in *Section 4.2 Text Basics.* In this example, Arial Narrow is the select font and the text will be fit to a circle.



(2)  With the title selected, go to **Transform>Fit Text to Arc**. The title will immediately be placed at the top of a circle and the Smart Bar will show a series of settings to use to customize the look. Specifically changing the **Arc Angle** or **Radius** will adjust the amount of the curve.

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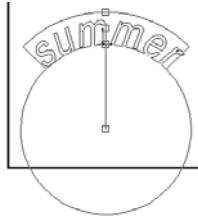
(3)　Clicking on a different icon in the **Smart Bar**, the word can be fit to the arc at the bottom which will curve the word in the other direction:
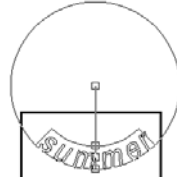


(4)　When the desired look is achieved, click on the **Arrow** icon on the **Tools** toolbar to complete the process. The arc will disappear leaving the curved word:



(5)　To put a welded title on a curve, select the image and go to **Transform>Transformations.** Note the various transformation options that now appear on the Smart Bar. Use the last set on the right to curve your welded title. Adjust the little handles on the ring to customize the look.
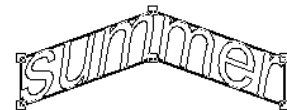
## 4.6 Other Text Transformations

- Shaping a title into variations formations is also available by going to **Transform>Transformation**.

- Twenty icons appear on the Smart Bar, providing a vast assortment of shapes for the text. Additionally, a different look will be achieved depending on which of the nodes surrounding the title is selected to drag. Further, holding down the **Ctrl** key or the **Shift** key will also change how the text is transformed (whether the bottom moves in the opposite direction or with the top):
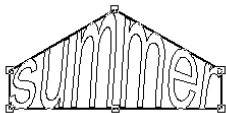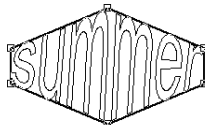
 Drag centre top　　　　 Ctrl + drag centre top　　　　 Shift + drag centre top

- When the desired look is achieved, click outside the text area to close the Smart Bar for the transformation mode.

- For more text transformations options, Microsoft Word contains a Word Art function to create another large variety of interesting looks. A Word Art title can be copied in Microsoft Word, pasted into DesignMaster. Then, with the word selected, go to the **Stroke and Fill Tool** on the **Tools** Toolbar and select the only icon. On the Smart Bar, click on either the first or second choice (**No Line** or **Hairline**). Then click on the **Select Tools** icon to return to the Select mode. The image should now be ready to cut.
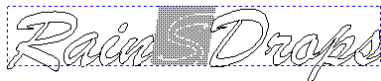
## 4.7 Incorporating Dingbat Images in a Title

A quick way to create a welded-letter title with an image attached it to use any of thousands of dingbat fonts available from the Internet for free. In this example, Brush Script font is being used for the letters and Wingdings will be used for the image. In advance, you will want to use a font browser (like The Font Thing) or Windows Character Map to determine which letter/keystroke corresponds to the image you wish to include.

(1)  Using the steps in *Section 4.2 Text Basics,* create the title in the Brush Script font, adding in the letter which will be converted to the dingbat font. In this example, the upper case "S" is placed in the middle:

*RainSDrops*

(2)  While still in text mode, use the left **arrow key** to back up to the letter "S" and drag the mouse to highlight that letter.

*RainSDrops*

(3)  From the font menu on the Smart Bar, locate Wingdings and double click that font name. The letter "S" will change to the corresponding raindrop image. At this time, you can also click on the **Font Height** (next to the Font Menu) to make the character larger, as necessary:

*Rain◊Drops*

(4)  Continue with the welding steps outlined in *Section 4.4 Connected Letter Title with a Mat:*

*Rain◊Drops*

(5)  Note that dingbat fonts are not the only images one can weld to letters. Once a title has been converted to a graphic, the letters can be arranged around any other vector image and welded.


## 4.8 Welding Text to Frames

Creating a frame for welding single letters (monograms) or a title is very easy. For a very quick circular monogram, go to *Modifying a Fan* in *Section 6.6 Twelve Cool Features to Aid In Design.* Welding to the inside of any other frame shape requires a few more steps. In the following example, a rectangular frame is created:

(1)  Turn off Fill by unchecking the option under **View>Show Fill**. Go to the **Shapes Tools** (**Tools** toolbar) and select the **Rectangle** shape. Drag to draw a rectangle. If you need a specific size for a project, then go ahead and set the dimensions. Make the rectangle any colour you wish.

(2)  Select the rectangle and go to **Transform>Outline**. Make sure **Inline** is NOT checked, and **Outline** IS checked. Just to the right of the **Outline** checkbox, you can specify how thick you

want to make your frame. In this example, we have chosen 10. Further to the right, click on the coloured rectangular box and select a different colour for your mat. Note that it will appear that the entire mat is filled with colour:



(3)    Click on Close. The image on the screen will now be this:
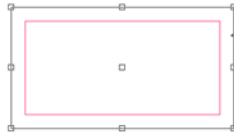


(4)    Use **Ctrl-A** or marquis select both images and go to **Arrange>Make Path**. The lines will be the same colour now and, if you switch to Fill Mode, you will see that a frame has been created.



Fill turned on using Alt-S

(5)    Using the steps in *Section 4.2 Text Basics*, create the title using the font of your choice. Note that when welding more than one letter, you may wish to use all upper case characters so that the letters are the same height. In this example, we are using a font called Brush Script Italic.



(6)    Select the title and go to **Arrange>Text to Graphics**. The purpose of this step is to break apart the individual letters so they can be arranged as desired to overlap the frame edges AND overlap one another.

(7)    Drag each letter into the frame and place. Note that with some fonts, the height of the letters may not be consistent and slight resizing may be necessary to get the desired overlap. If you do not need your frame to be a particular width, then you may wish to change it, in order to better fit the letters.



(8)    Once all letters are in place, use **Ctrl-A** to select the frame and all letters.  Click on the **Weld** tools (**Tools** toolbar) and choose the **Basic Weld** tool. The overlapping lines will vanish and your welded title/frame is ready to cut.

# 5. Tracing and Editing Images

## 5.1 Auto-Tracing Graphical Images

Note: There are two methods presented here for auto-tracing. They are both called **Accuscan** but one is a manual version while the other uses a Wizard approach to walk you through the process, step-by-step. Because the Wizard is more user-friendly, it's presented first:

**Method A: Scan and Trace Wizard** (note: this also works for existing images; it is not necessary to scan)

(1)  Select **File>Acquire Image>Scan and Trace Wizard**.

(2)  Click on **Next** and then check one of the following choices: to use your scanner, open an existing image, or paste in an image you've copied to the Windows clipboard from another application. Click on **Next**.

(3)  In the following steps, we have elected to open an existing file. The coloured image will appear and show the size of the image, file size, and the resolution.
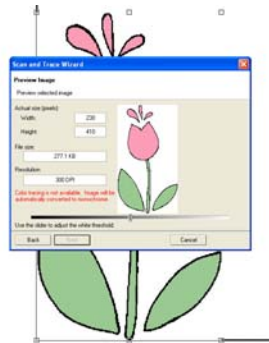


(4)  Below the image is a scroll bar. Move that bar to the left or right to alter how the image will be handled during the tracing. For example, if you want internal details to be traced, then move it slightly to the right or if you want just an overall outline, then move it towards the left just until the image turns solid black.
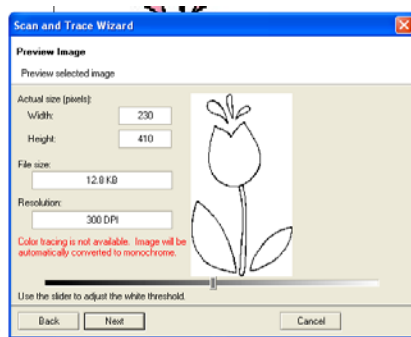
 or 
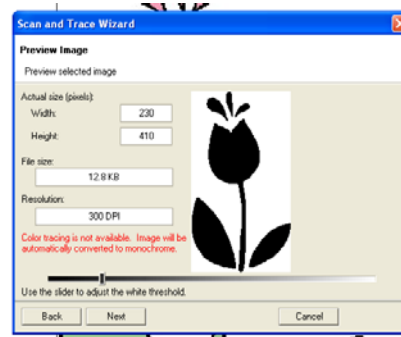
(5)  Note that in this example, if we trace the clear image, we will get a double tracing due to the black outlines around the image. In the solid image, we will get a single trace line. If you elect to have the double lines, note that it is easy to remove them later. Click on **Next** to continue.

(6)  In the Trace Settings window, the first option is in the Current Settings window. Click on the down arrow to view built-in settings to use as a starting point based on the nature of your image.

In this example, we will pick **LOGO: Complex with Detail**[2] as it seems the best description amongst the choices. Normally, just leave the settings for the other tolerances alone. You can change them later, as needed, in Step (8). Click on **Next**. Then click on **Apply.**

(7) A tracing will appear in the main document window. Note that you may need to use **Alt-S** to go into outline mode to see the flower as a tracing. Examine the tracing closely and make sure you are satisfied with the results. If not, in the upper left corner of the screen, you will see a small window has opened where you can click on **Retrace** and return to the window with the settings. Changing the **Trace Settings** can greatly improve the accuracy of your tracing. Refer to *Appendix D Settings for Auto-Tracing* to understand the function of each setting and to get recommended values to use.

(8) Once satisfied with the tracing, click on **Finish** and the tracing is ready to cut.

## Method B: Normal Vectorization

(1) Import the image using **File>Import** and locate the graphic file. To preview thumbnail images of common graphical file formats, go to **Layout>Clip Art Viewer** and browse to find the subfolder of your choosing. Also, you can label specific subfolders under **Layout>Clip Art Categories Setup** and then directly open those subfolders under **Layout>Clip Art Go To.**

(2) We will again trace the same flower in this second method:
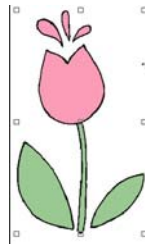


(3) With the image selected as shown, double click anywhere inside the image boundaries or click on the **Scan Tools** icon on the **Tools** toolbar and select the first icon: **Accuscan**. A new window will open.

(4) From the drop-down menu, select **LOGO-Complex with Detail**. Click on **OK**.
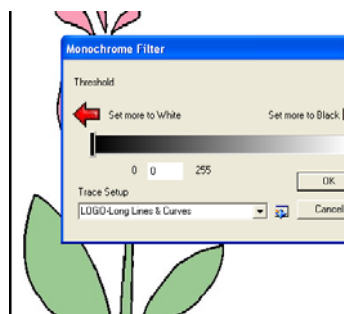


(5) Under Trace Setup (see diagram below for location), you can adjust the trace settings. Changing these values can greatly improve the accuracy of your tracing. Refer to *Appendix C Settings for Auto-Tracing* to understand the function of each setting and to get recommended values to use.

(6) New parameter settings will appear in the Smart Bar. Select the second icon from the right, which is the **Vectorization** tool.

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[2] Note: there are other choices from that dropdown menu which may better describe the image you are tracing. The LOGO-Complex with Detail is, in general, the best selection for the clipart typically chosen by paper crafters.

Vectorization     Trace Setup
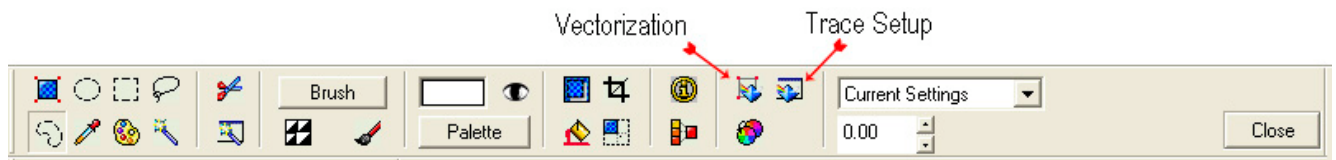
(7) Click on the **Close** button (far right) and your image will look something like this:
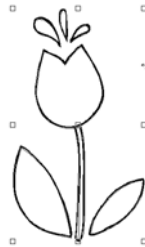


(8) With the image selected, use your left mouse button to drag away the top image from the tracing. This is your original and you may delete it if it's no longer needed. On the other hand, if you need to adjust your trace settings, simply delete the tracing and double click on the bitmap to return to the Vectorization window in Step 5. (Note: with a Print and Cut, after achieving the best tracing, you will want to re-import your original image to have the colour restored.)


Tracing     Original

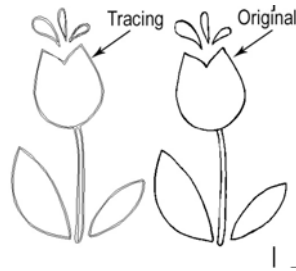(9) Now, select the tracing and go to **Arrange>Break Path**. You should end up with your traced image as shown:



(10) Note that you see double lines due to the black outlines on the original image. To remove, click OUTSIDE the image and then click on any of the interior lines. The complete path of this interior line will be selected. Click on the **Delete** key. Note that you may need to use **Alt-S** to go into outline mode if parts of the flower begin to fill in with black.

(11) Repeat to delete other interior lines. Your final image should be the outline of the original coloured graphic.

## 5.2 Editing Vectorized Images

### Breaking Paths in the Image

- Select the entire image and select **Arrange>Break Path** or **Ctrl-J**. This will break the image into individual paths and allow you to delete separate paths or edit them.

- Click once on any line and only the connected path of that line will be selected. Press the **Delete** key if you wish to delete that path.

- Double click on any line and the vector points will appear along the path and be available for editing.

### Editing Nodes

- Depending on what kind of object you've created, you may need to break path or convert to curves first:

   o  Welded Title: double click any line.

   o  Unwelded Title: select title and select **Arrange>Text to Graphics**. Then double click any letter to edit.

   o  Imported Vector File (such as .wmf): double click any line. It may be necessary to first select the entire image and perform a **Ctrl-J** to break the path.

   o  Shape created within DesignMaster (e.g. a star): Select image and go to **Arrange>Convert to Curves**. Change **Allowable Error** to 0. Click on **OK** and then double click the image.

   o  .GRA File: double click any line.

   o  Auto-traced image in DesignMaster: Select the entire image and perform a **Ctrl-J** to break the path. Then double click on any line.

- Besides double clicking a line, you can also use **Edit>Edit Path** or **Ctrl-E** to show the individual nodes.

- Note that the image may be a polyarc (all nodes are curved nodes) or polygon (mixture of three kinds of nodes). To convert from one format to the other go to **Arrange>Convert To.**

- To edit more than one path at a time, double click the first path, then hold down the **Shift** key and click once on a second path. Nodes on both paths will appear.

- There are three kinds of nodes: Corner, Curve, and Tangent.

   o  A **Corner Node** appears as a cross and indicates that the two lines leaving that node are straight.

   o  A **Curve Node** appears as a circle and indicates that the two lines leaving that node are curved.

   o  A **Tangent Node** appears as a triangle and indicates that one line leaving that node is straight and the other is curved.

- Once in the editing node mode, the cursor on the screen will turn into a pencil.  Double click anywhere along a path to add a node.

- As you move the pencil cursor towards a node, it will turn into cross. You can now hold down the left mouse button to drag that point as needed.

- Right click on the path or a node and a menu of icons will pop up. Each of those little icons performs a different function. While this menu is showing simply drag the mouse towards any icon and the action will be executed.

| | | |
|---|---|---|
| ✚ | **Corner Node Tool** | Change the currently-selected node into a Corner node, or specify that new nodes must be Corner-type. |
| 🔺 | **Join Tool** | Join two selected nodes, or join the endpoints of a selected contour. |
| ● | **Curve Node Tool** | Change the currently-selected node into a Curve node, or specify that new nodes must be Curve-type. |
| 🔄 | **Toggle Rotation Tool** | Toggle the direction of the selected contour between Clockwise and Counter-Clockwise. |
| ↗ | **Set Start Point Tool** | Set the start point at which routing or engraving this contour will begin. |
| 🗑 | **Trash Can Tool** | Delete the selected nodes. |
| ↪ | **Break Tool** | Break the contour at the selected node. |
| ▲ | **Tangent Node Tool** | Change the currently-selected node into a Tangent node, or specify that new nodes must be Tangent-type. |

- A series of hot keys can also come in handy while editing nodes. For example, simply moving the mouse over any node and pressing the **R** key on the keyboard will delete that node. Or pressing the **A** key at any time will add a node at that location. Refer to the complete list of shortcut keys under *Editing Vectorized Images* in *Appendix A.*

## Reducing Nodes

(1)  With the nodes showing, drag the left mouse button to marquis select any group of nodes.

(2)  To select ALL the nodes in a given path, use **Ctrl-A** on the keyboard.

(3)  You can also hold the **Shift** key and repeat in a different area to select more nodes at the same time.

(4)  Press the **U** key on the keyboard and every other node will be selected in red. Press the **Delete** key and those selected nodes along those paths will be deleted, thus instantly eliminating half. Repeat the process, if desired but use with care! Deleting too many nodes can distort the image.

(5)  If the image is a polyarc, then the overall number of nodes can be reduced by going to **Arrange>Reduce Nodes.** A window will open with a setting for **Allowable Error.** The smaller the number entered, the more nodes that will be removed. Thus, the quality of the tracing will be compromised with smaller settings. Try 0.01 and check the results. Use **Edit>Undo**, if necessary, and enter a different setting, larger or smaller, until you are satisfied.

(6)  Yet another method of reducing nodes involves using Segment Edit. Refer to the next section.

## Using Segment Edit to Smooth Curved Sections

Segment Edit can be used to make uneven curves smoother and more natural. In this example, we have a font that produces uneven letters but we want to smooth the edges:
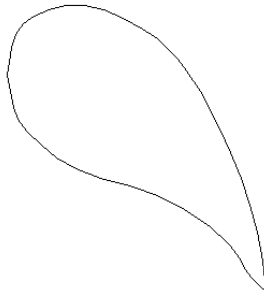
(1) Use **Ctrl-J** to break the paths of the traced image. Convert the image to curved nodes only by going to **Arrange>Convert to>Polyarc**. Then double click this particular part of the flower:

(2) Click on the third icon to the right at the top (**Segment Edit**)

(3) Click once at the beginning of the segment you wish to edit and then again at the end of the segment. The segment will turn red:

Segment
turns red
between
two points
selected.
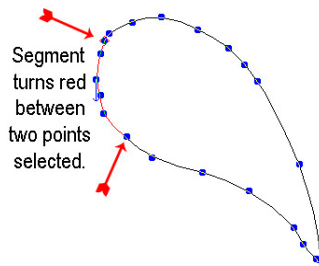
(4) Right click anywhere along the red segment and a popup window of icons, similar to the node edit menu, will appear. Select the top right icon, which is the **Arc Segment** option:
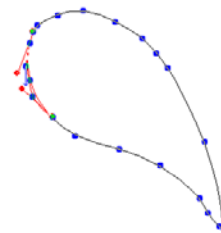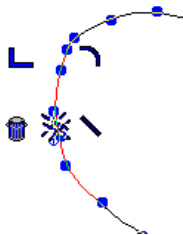
Right click on red segment to bring up menu          Two straight red lines will appear

(5) Then click on **Apply** and the segment is replaced with a smoother arc. Repeat along other parts of the image, as needed.

(6) The other icons in the **Segment Edit** popup menu also allow straight lines, corners, and even guide lines to be created:

Corner                   Arc
Segment                  Segment

Trash 🗑 ※ ＼   Line
                 Guide  Segment
                 Line
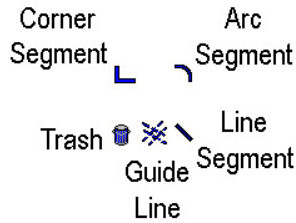
## Making Paths or Grouping

- When you have completed the editing of an image, select the entire image by using **Ctrl-A** or dragging a large box around the image to select all parts. Select **Arrange>Make Path** or **Ctrl-H**. This will now re-colour the entire image to one colour and the image will be treated as a single object. If you have used individual colours within the image and wish to retain those colours, then instead of using Make Path, just group the image using **Layout>Group** or **Ctrl-G**.

## Example of Editing a Vectorized Image

- Using the information from the prior sections, the following image will be edited. The purpose of this editing will be to make the image a paper piecing (i.e. break the image into the apple, the leaf, and the stem). But first, we will make the image simpler and more curved.

(1)   This is the apple we wish to edit:

(2)   Turn off the fill by pressing **Alt-S**:

(3)   Select the image and use **Ctrl-J** to break the paths in the image. In this example, the interior parts are going to be deleted. Click away from the image and then click on each interior part and press the **Delete** key:

unwanted interior paths selected                    after deletion

(4)   Double click the image to reveal the nodes:
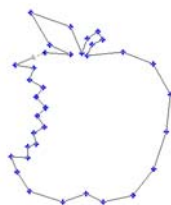
(5) The apple is not smooth and curved because the nodes are corner nodes. Select all the nodes. Press the "**C**" key several times until the nodes turn into circles. Click on **Apply**:



(6) To separate the leaf and stem from the apple, double click on the outline and the nodes will appear:
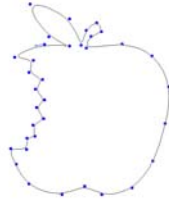


(7) Zoom in close. Then right click on the node at the base of the leaf and select the middle bottom icon:
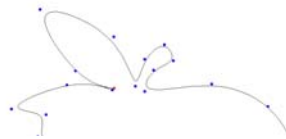


(8) Repeat on the other side where the stem meets the apple:
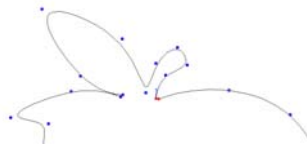


(9) Click on **Apply** and then, with the image still selected, go to **Arrange>Break Path.**

(10) Click away from the image to deselect it. Then click once on the leaf/stem path and then move the leaf and stem away from the apple:



(11) To close the paths on the apple, double click again and drag the left node to overlap the node on the other side:



(12)  Marquis select the two overlapping nodes and right click. In the popup window, select the top centre icon to join those two nodes into one.

(13) On the leaf and stem section, right click on the node joining the two items and select the bottom centre icon to break the node into two parts:
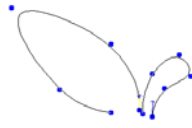
(14) Repeat step (9) and the drag the leaf away from the stem:

(15) Double click on the leaf and drag the left node to overlap the right side. Repeat with the stem.

Double click on path to add this node
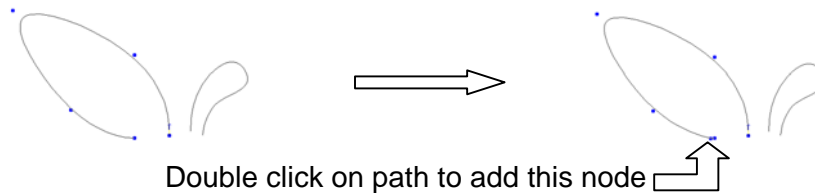
(16) Drag the last node over to overlap the end node on the right side:
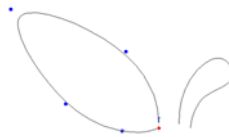
(17) Marquis select these two overlapping nodes and right click. Select the top middle icon to join the two nodes into one.

(18)  Repeat the process with the stem, first adding a node right before the last node and then dragging the last node to the other side:
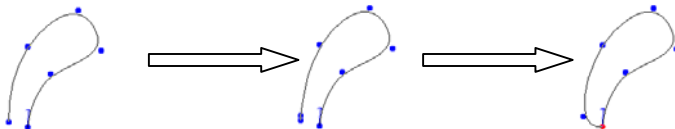
(19) Marquis select these two overlapping nodes and right click. Select the top middle icon to join the two nodes into one.  Click on **Apply:**

(20) At this point each piece can be edited if the curves need smoothing or the shapes need altering, according to what you might prefer.

(21) Finally, select each separate piece and click on a different colour from the **Shop Palette** so that when you are ready to cut, you can change your cardstock or paper for each cutting.



## 5.3 Manual Tracing and Design

With the terrific auto-tracing capabilities in DesignMaster, you may never need to manually trace a design! But, if your imported image has very poor resolution or is too dark or too light to produce a decent tracing, you can use the Graphics Edit Tools to trace manually. You may also wish to learn these tools to design images from scratch. It's fairly easy and can be done quickly. The important things to remember are:

- Zoom in close so you can more precisely trace the actual outline.

- Don't try to be so exact the first time around the image. Remember that nodes can be added, deleted, and moved as necessary.

**Importing the Image to Trace**

(1) Select **File>Import** and browse to locate the graphic file.

(2) Select the file name and click on **Import**.

(3) Increase the size of your image by dragging a corner. In this tutorial, we will be tracing two different items to illustrate the two types of tracing, straight-line and curved :
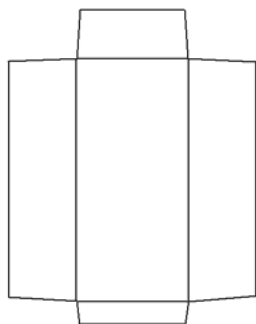


**Straight Line Tracing**

(1) Zoom in on the image in order to clearly see the lines. Don't worry about only seeing a portion, as you can scroll while tracing without interrupting the process.

(2) Manual tracing is performed using the **Graphics Edit Tools** on the **Tools** toolbar (the tool with the pencil icon). Since you will be accessing it over and over, you can drag the popup menu to a handier location on your screen by holding your mouse over the two pale vertical lines on the left side of the three icons. This will remain in place until you click on the **Graphics Edit** tool again.

(3) With the **Graphics Edit** popup menu in place, pick the first tool on the left called **Node Edit**.

(4) Select a colour from the **Shop Palette**, which is different from the colours in your image. In this example, red has been chosen.

(5) Click on any corner of the image to plant the first node. Then go to the next corner and click again. Continue around the outside of the image, again scrolling to other parts of the image, as

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necessary. In the diagram below, the blue outline doesn't show up yet because the tracing process is still underway, but the notes being planted in each corner do appear:



Click in each of these spots to place the corner nodes.

and here
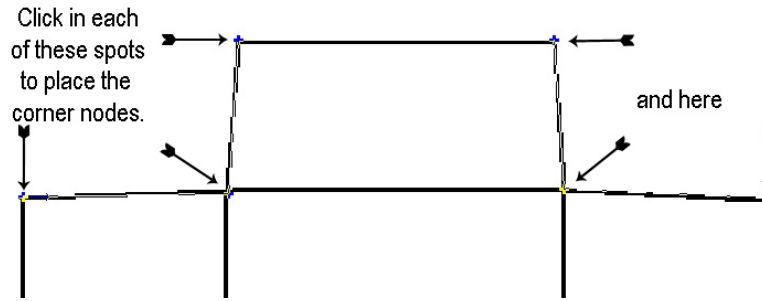
(6) Finish tracing the perimeter, ending at the first node. Note that because you ended at the first node, you do have the option of begin another trace at another location.

(7) Press the **spacebar** (or click on **Apply** at the top) to select the tracing. Double click in the middle of the selected image to bring up the nodes. To move a node, drag it with the left mouse button.

(8) To trace the internal folding lines, again select the **Node Edit** tool.

(9) Select a different colour for the folding lines: in this case, blue has been picked. Again, click around the exterior, ending at the starting point. Press the **spacebar** to end and return to the **Select** mode. Double click the image if you need to move or edit any of the nodes. Refer to *Section 5.2 Editing Vectorized Images* for instruction.

(10) Note that, during a tracing, once you reach the starting point, this completes a closed path and you can begin tracing at a different location. If you need to stop a trace before a path is closed, and restart elsewhere, you will need to click on **Apply** at the top or press the **spacebar** and then reenter the **Node Edit** window again.

(11) To cut images such as this, where you may wish to pounce the folding lines (i.e. cut dashed lines), refer to *Section 6.2 Using the Pounce Feature to Cut Dashed Lines.*
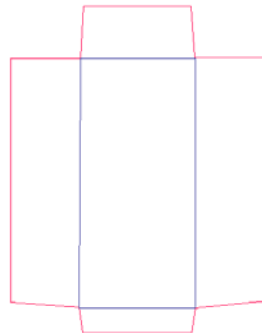


**<u>Curved Line Tracing</u>**

(1) The flower image, in this example, is made up of curves. The tracing method is very similar. As with the envelope template, choose the **Graphic Edit Tools** and then the first **Node Edit** icon. (Since you may need to reenter the menu over and over, follow the instructions from step (2) in the previous section to keep the submenu of tools readily available.)

(2) Select a colour from the **Shop Palette** for the tracing line.

(3) Click once to place your first node. Then, <u>right</u> click and select the upper right circle icon (**Curve Node)**. From this point forward, curved lines will be drawn as you trace around the outside of the flower. In general you will need more nodes when tracing around tight curves and far fewer nodes when tracing along gentle curves. As you practice this technique, you will see that a node only needs to be placed when the trace curve begins to deviate from the original curve of the imported graphic.

(4) Once you return to the first node, press the **spacebar** to end. Note that you don't have to end at the first node. At any point, you can simply stop by pressing the **spacebar** and then re-enter the **Node Edit** mode and start tracing at a different location. If you do end at the first node, then you can begin tracing at a different location without leaving and re-entering the **Node Edit** mode.

(5) Below is part of the tracing showing the nodes. Note that the nodes with sharp pointed turns were changed to corner nodes. Also note that the stem was separately traced and the top extended by a small amount. This gives you the option of cutting the two paths separately for a paper piecing: the flower bulb in one colour and the stem in another.



(6) Alternatively, the stem and bulb can be selected and then welded to remove the overlap by selecting the **Weld Tools** icon and clicking on **Basic Weld** icon.



Before Welding          After Welding

(7) Finally, the individual pieces are re-coloured so that they can be cut from different coloured pieces of paper or cardstock:



## Freehand Drawing

- Freehand drawing, like manual tracing, is performed using the **Graphics Edit** tools on the **Tools** toolbar. Select the middle tool called **Free Edit**. You can now use the mouse to freely draw on the screen.

- Unlike Node Edit mode, in **Free Edit** mode you can release the mouse button to stop your drawing at any point and begin again at another point on the screen.

- If you wish to draw a straight line, at any point, hold down the **Shift** key or **Ctrl** key and continue drawing. It will appear that you are no longer drawing, but upon releasing the key, a straight line will appear.

- At any time, you can click on the **spacebar** and close the **Free Edit** mode. Double clicking any of your paths will bring up the nodes for editing.

## Drawing an Arc

- The third tool in the **Graphic Edit** tools menu is the **Arc Edit**. This can be use to construct segments of a circle.

- With this tool selected, click once. As you move to a second location, you will notice a line being drawn:



- At this point, hold down the left mouse button and begin moving in any direction away from the point. An arc will suddenly appear. The direction you move will control the size of the arc. This long "handle" will not be a part of your final arc… it is only there to help control the shape. The further away you drag this handle, the more control you will have.
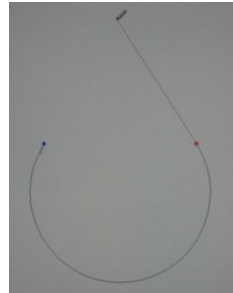


- When the desired look is achieved, press the **spacebar** to end the construction and the arc will be complete:

# 6. Special Topics

## 6.1 Print and Cut with Registration Marks

- The following is a tutorial for performing a Print and Cut in DesignMaster in Portrait mode.

    (1) Create your design in a **Portrait** mode Sign Blank. If you are importing coloured clipart, such as a .jpg or .bmp image, it must be traced first using one of the methods presented in Chapter 5. In this tutorial, a coloured flower is used and it has been traced.

    

    (2) Under **Cut>Plotting Defaults**, change the tool to **Knife with reg marks** (or **Pen with reg marks** if using a pen instead of a blade). Make sure **Sign Blank** is checked. Click on **Save Default** and then click on **OK**.

    (3) With your image on the screen, add registration marks by clicking on the **Registration Marks** icon on the **Operations** toolbar. Select **3 marks**, check on **Use Registration Marks**, and then accept the other defaults. Click on **OK**.  Three registration marks will appear in the **Sign Blank** area.

    

    (4) You may wish to add black outlines to your image. The advantage is to add a little room for error during the print and cut. To do this:

    - Click on your image and then click on the **Stroke and Fill Tools** icon on the **Tools** toolbar.

    - Click on the **Line Style** icon.  On the Smart Bar, select the **Thick Line** icon (3rd from left), enter a **Thickness** value, and select a colour from the **Color Picker** on the far right side of the Smart Bar.

    - When done, click on the **Arrow** icon on the **Tools** toolbar. If your image doesn't show the outlines, go to **View>Show Line Style.**

    (5) To print the image:

    - Click on the **Print** icon on the **Operations** toolbar or go to **File>Print**.

    - Select your printer from the list and click on **Setup**. Verify your printer is set to print in Portrait mode.

    - Check the box next to **Preview** and then click on **OK**.

    - In the Preview window, centre the image on the page by indenting the middle box of the blue and gray orientation diagram and set the scaling percentage to 100%. [3]

---

[3] If the orientation diagram doesn't appear, click once on the **Fit to Page** icon (the one with four black arrows - third from left).
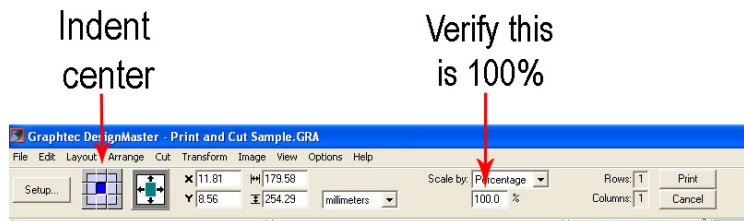
- The image should appear as:
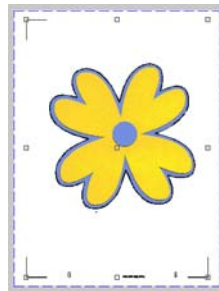


- Click on **Print** and your image should be printed.

(6) Place the printout on the mat and load into the CraftROBO in the direction indicated on the printout.

(7) If you created thick outlines in Step (4), turn them off now by going back into the same **Line Style** window and clicking on the **No Line** icon (first icon on the left in the Smart Bar).

(8) Select your image and click on the **Cut** icon on the **Tools** toolbar. You will enter the Cut window and your image will appear like this:
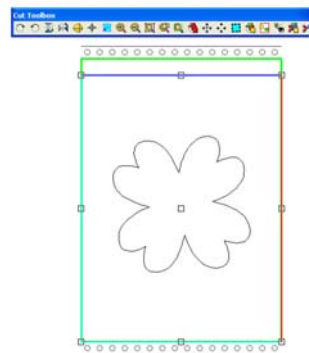


(9) Click on the **Cut** icon in the **Cut Toolbox** window and the CraftROBO Controller window will open and you can proceed with your print and cut, as usual.

- To create a Print and Cut in landscape mode is slightly different than the way it works in regular cutting. It is not necessary to rotate the image. Here are the basic steps:

(1) Repeat Steps (1) – (4) except use a **Landscape** orientation for your Sign Blank. Your image on screen will look something like this:
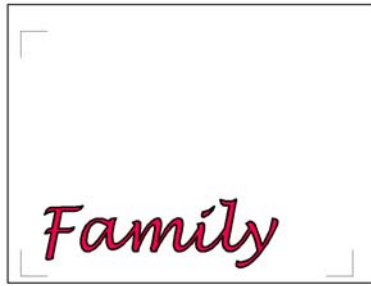
(2) In Step (5), be sure to change your printer's setup from Portrait to Landscape. When you then enter the Print Preview window, your image should appear like this:
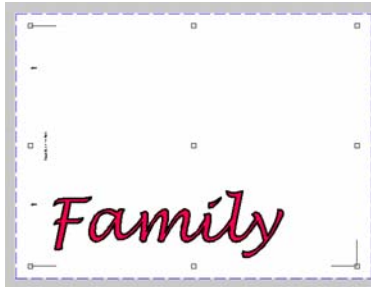


(3) Proceed with Steps (6) – (8). When you enter the **Cut** window, the image will appear like this.
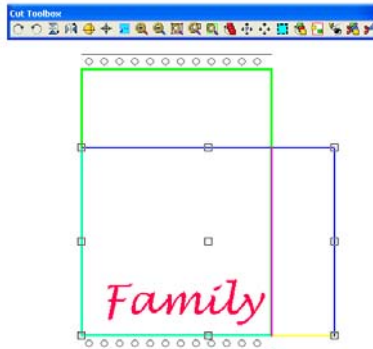


(4) Unlike with regular cutting, do NOT rotate the image. Go ahead and click on the **Cut** icon in the **Cut Toolbox** window. The CraftROBO Controller window will open and you can proceed with your print and cut, as usual. The mat will not slide back to the origin at the end but you if you need to repeat your cut, then the a repeat of the registration mark search can be done.

## 6.2 Using the Pounce Feature to Cut Dashed Lines

• In this example, the following policy envelope will be used as the example. The exterior red lines will be cut and the interior blue lines will be pounced (cut as dashed lines).
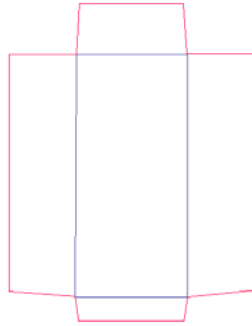
- Select the entire image for cutting and click on the **Scissors** icon on the **Tools** toolbar.

- In the **Cut Toolbox** window, click on the sixth icon from the right (blue box with black dashed lines) to indent the box and **Enable Pounce**. Right click on this icon and the settings window will appear. Try a value of 2mm or 0.07" for **Dash** and a value of 4mm or 0.15" for **Space**. Click on **OK.**

- Now click on the second icon from the right, which is **Sort and Cut All Colors**. In this example, you would uncheck the Red colour and leave the Blue checked and then click on **Cut**. The Blue fold lines will be pounced.

- When it is completed, click on the **Enable Pounce** icon again to un-indent and turn off pounce. Then click on **Sort and Cut All Colors** again, uncheck Blue, check Red and then click on **Cut** to cut the exterior red lines.

- In general, it is recommended that pounced lines always be cut first and then the solid lines cut. This prevents slippage of already-cut images during pouncing.


## 6.3 Using Banner Fill for Embossing or Drawing in Colour

- The **Banner Fill** option in DesignMaster will "fill in" images in either a line sweep or an "S" sweep movement. This allows the user to emboss using an engraving tool or to draw coloured images using coloured markers, gel pens, etc.

- **Banner Fill** can be selected inside **Cut>Plotting Defaults**, but it can also be turned on in the **Cut Toolbox** window as well. This latter choice is probably the better for most users unless it's needed frequently. Note, that if you have it turned on when using the blade, it will most likely "chop up" the paper/cardstock on your mat!

- Several settings are involved in getting the Banner Fill to produce the results you want. Thus, it is recommended that you experiment before using it on your nicer paper, cardstock, or vellum:

    o **Speed**: Because you are using either pens or the engraving tool AND the "fill in" typically takes much longer than a simple cut, you may wish to increase the speed to the maximum level.

    o **Pressure:** For pens, use the same lighter pressure you use with the pen tool. For embossing, you will need to experiment. For example, with vellum, both lighter pressures and heavier pressures can be used and both will work. A lighter pressure produces a fainter white look on the vellum, which can be just as beautiful as the brighter white produced with a heavier pressure.

    o **Pen Diameter:** In the **Cut Toolbox** window, right click on the third icon from the right called **Banner Fill**. A new window of settings will be displayed (see screenshot below). The **Pen Diameter** is the size of the mark made on the surface of the material. For an engraving tool, set this number to .5mm or 0.02" for vellum and thin papers, 1.25mm or 0.05" for thicker cardstocks. For markers and gel pens, simply

estimate the size relative to the engraving tool. It's not critical that the number be all that accurate since the other settings in this window will be tweaked to give you the results you need.

o **Fill Style:** Change from None to **Line Sweep** or **S-Sweep**. The latter appears to work more efficiently but may not give you the look you want.

o **Fill Overlap:** Adjust either the amount or the percentage. These two values are linked and modifying one will alter the other.

o **Fill Angle**: This is the angle of the sweep relative to the horizontal axis. Try 45 degrees, but any angle will be fine. Again, select based on the look you want.

- In the diagram below are the settings used with a gel pen on paper. These settings provide a guideline for initial testing:
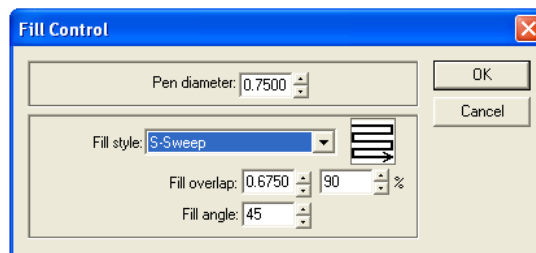


- When you click on OK, you will observe that your images in the cut window had filled or partially filled with black, indicating how much fill you can expect. With pens you will want the image to be almost entirely black. The exception would be when you would like to only do stripes in your lettering. Here's an example of both:



View in Cut window (Overlap at 90%)          Results when drawn on CraftROBO



View in Cut window (Overlap at 10%)          Results when drawn on CraftROBO

- You will observe that **Banner Fill** automatically produces a double outline of the image. To change this, colour your image to anything but black. Then, when ready to use Banner Fill, go to the cut window and click on the **Sort and Cut All Colors** icon and uncheck the colour you chose, leaving only black. A single outline and the fill will be performed.

## 6.4 Controlling The Order and Direction of Cuts

### Sequence:

- The order in which individual paths will be cut can be rearranged by going to **Layout>Sequence>Start Sequence by List**. This window shows all the paths in the cut order, where the bottom item will cut first and the top item will cut last. The buttons to the right of the list can be used to move individual paths up or down in cut order.

- Alternatively, and this is especially important if all the objects are the same basic shape, use **Layout>Sequence>Start Sequence by Vector**. In this case, select the first object BEFORE invoking this command. A blue line will appear extending from the centre of your selected "first object". Click anywhere in the middle of the next object you wish to cut, and then the third, and the fourth, and so forth. After the last object is selected, click anywhere outside of the objects. These objects will now cut in the order you clicked.

### Sort:

- The order in which objects are cut can also be set either by going to **Cut>Plotting Defaults** OR within the **Cut** window itself by clicking on the **Display Sort Dialog** icon (9th icon from the right in the **Cut Toolbox** window).  There are four options for the order: **Nearest** (objects closest on one another will be cut first), **Database** (based on front to back arrangement), **Horizontal**, and **Vertical**. In the **Cut** window, when the **Sort Dialog Box** is opened, one also has the option of checking a box which will then number the objects on the screen, showing the cut order.

### Object Start Point:

- In the **Cut>Plotting Defaults** window, the **Object Start Point** can be modified to change the location within each object for the cut to begin. Note that "Current" refers to the arrow locations shown when you enter the **Node Edit** mode for any object.

## 6.5 Contour Cutting

- Go to either **Cut>Contour Cut** or **Transform>Contour Object** to create a contour cut line around either a vector or bitmap image. In the Smart Bar will be settings for the colour of the contour line, the offset of the contour line, shape (pointed, rounded or mitered), as well as additional settings for tracing bitmap images. Note that Contour Cutting is very similar to creating an outline from **Transform>Outline** but the contour will be shown as a dashed line. Otherwise, the cutting will be the same… you can choose to turn on/off the contour cut colour in the **Cut** window.

## 6.6 Twelve Cool Features to Aid In Design

The following features are briefly presented. With each feature, the before-and-after results (or several examples) are shown with instructions for the menu location. Note that in every case, there are many more variations that could have been created! Use these samples to help you learn the feature, but then soar with it!

## Basic Weld



Circle, pentagon, heart     Overlap shapes     Use **Basic Weld** (**Tools** toolbar)     Result: Balloon

## Modifying a Rectangle
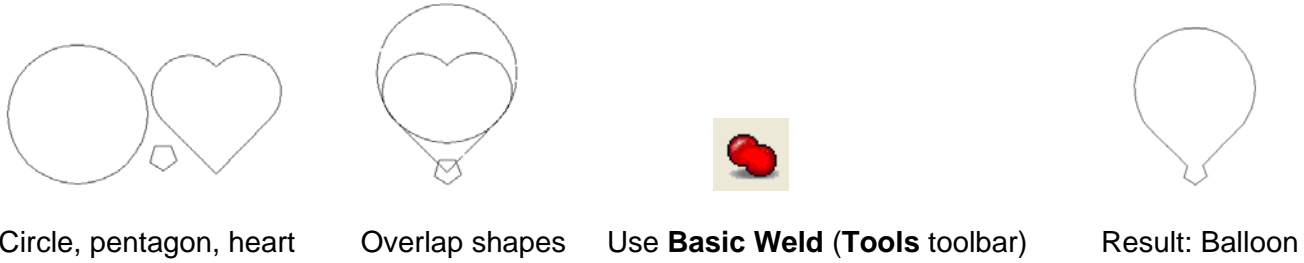


    Draw a **Rectangle**     Drag one of the corner handles     Result: Rounded Rectangle
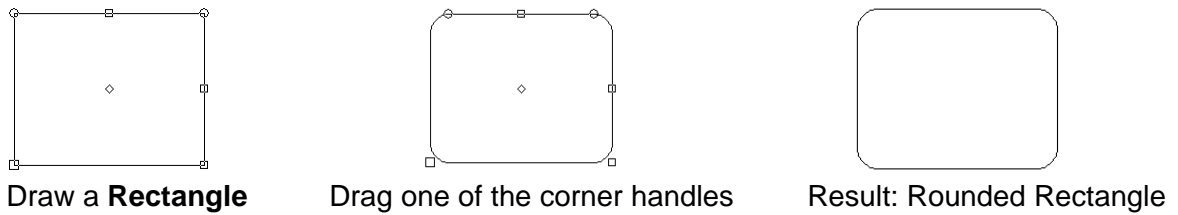
## Modifying a Polygon
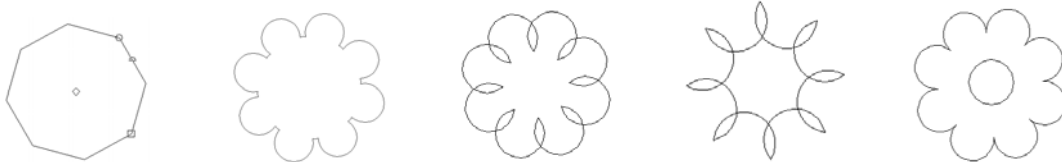


From the **Shapes Tools**, draw a **Polygon** (in this example, 8 points were selected) and then drag the semicircle handle along the side of the polygon. Also experiment with settings in the Smart Bar. Add a circle in the final image to create a flower. (Note: third and fourth images should be drawn, not cut, based on design)

## Modifying a Star
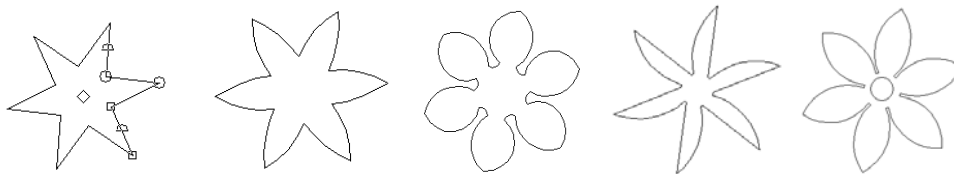


From the **Shapes Tools**, draw a **Star** (in this example, 6 points were selected) and then drag one of the semicircle handles along one side of the star. Then drag the other semicircle handle, if desired. Experiment with settings in the Smart Bar. Add a circle in the final image to create a flower.

## Modifying a Fan
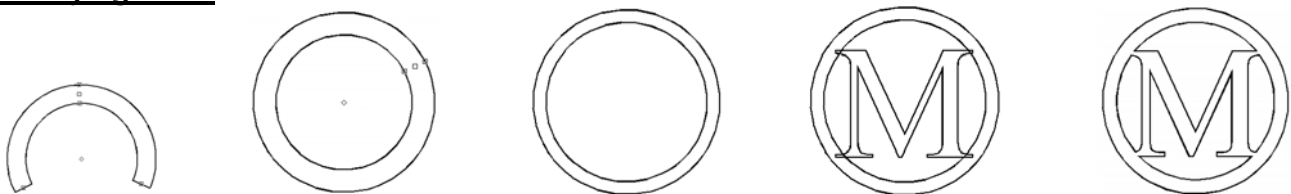
From **Shape Tools**, draw a **Fan**. Drag one of the end handles to form a circle frame. Drag the handle on the inner circle to make the frame thinner. Type a letter and resize to overlap. Use Basic Weld to create a Monogram.

**Stencil Tool**

The purpose of the Stencil Tool is to apply one of five possible effects to an image. The choices are Horizontal, Vertical, Square, Circular and Conical and samples of each of the five are shown:



After selecting an effect, slowly drag the various handles on the image until desired effect is achieved. (Note: these five examples were all done with **View>Show Fill** turned on.)

**Arc Edit**   (Refer to *Drawing an Arc* in *Section 5.3 Manual Tracing and Design*)
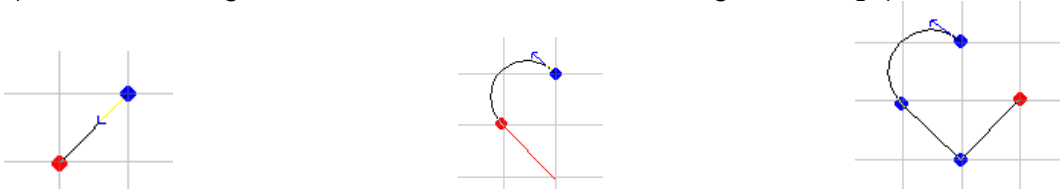


Turn on **Options>Grid>Snap to Grid.** Click at blue and then red, but continue to hold down mouse button and drag to bottom of heart, click to plant node and then up to fourth node and click.
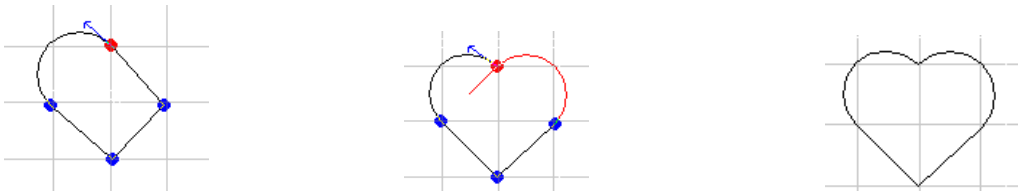


Return to first node and again hold down mouse button and drag down and to the left, forming symmetrical heart. Then press **spacebar** to complete image.

**Round Corner**



**Transform>Round Corner** (Setting of 0.2)

**Fillet Round Corner**



**Transform>Fillet Round Corner**
(Setting of 0.07; <u>middle image</u>: no miter, <u>right image</u>: **miter** checked;
click on which part you wish to fillet)

**Fit Object to Path**
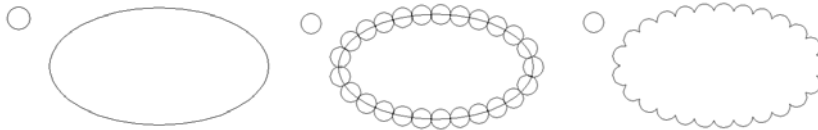


**Transform>Fit Object to Path** (Start with a small **Circle** and large **Oval**. After **Object to Path**,
middle image is created (settings: **Number** = 25). Then apply **Basic Weld** to create scallop.

**Shadow**



**Transform>Shadow** (Choose shadow style on Smart Bar, along with other settings. Shadow is a
separate path that can be cut separately.)

**Decorative Border**
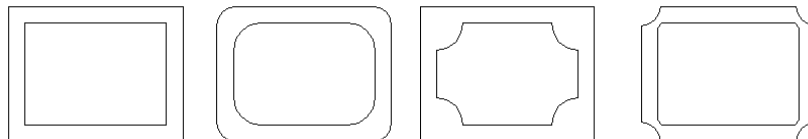


**Layout>Decorative Border**
(Select from available styles and experiment with Settings)

## 6.7 File Conversions

### Converting from .GSD to .GRA

First, check to see if the .gsd file will import into DesignMaster. Some do and some do not. If
the gsd appears to successfully import, be sure to zoom in close to make sure there are no
gaps in the paths. This does happen. While these gaps may be correctable using vector

editing, you may also find that it would simply be faster to use one of two other methods to convert your images. These are presented below.

Method 1: Using Microsoft Paint and Accuscan

(1) Install Screen Hunter, King Kong Capture, or any other free, screen capturing program that allows you to marquis-select a portion of your window for copying to the Windows clipboard. In this example, King Kong Capture has been used.

(2) In the gsd program (e.g. RoboMaster), open the file you wish to convert. Under **View**, uncheck all the choices so that no margins, other than the document area, appear on the screen.

(3) Select the image and drag a corner to make as large as possible to fill the screen. Note that if there are multiple objects in the file, you may wish to convert them one at a time to get the best results.

(4) With the image still selected, click on the pencil icon at the bottom of the screen and change the **Line Width** to .8mm or 0.03".

(5) Use **Ctrl-K** to launch KingKongCapture and marquis select the image. Go to the King Kong Capture window and select **Edit>Copy** to copy the image to the Windows clipboard

(6) Click on the Windows **Start** button, and then **Run**. Type in: mspaint and then click on **OK**. Microsoft Paint will open. Use **Edit>Past**e to insert the image in Paint.

(7) Click on the **Fill With Color** icon, select black from the colour palette at the bottom, and click in the image to fill.

(8) Click on the **Select** icon and then marquis-select the image. Go to Edit>Copy. Open DesignMaster, and you can then auto-trace with the **Accuscan** function as described in Method B in *Section 5.1 Auto-Tracing Graphical Images.*

Method 2: Print the GSD Image to PDF

(1) The method presented below requires using Adobe Acrobat Pro. (Other pdf-creating programs may provide equivalent results, so you can also try the trial version of PDF Factory and the free program, Cute PDF Writer.) After installation, open the gsd program (e.g. RoboMaster) and open the gsd file to convert.

(2) Click on the **Output Settings** icon and select the **Print Settings** tab. Under **Printer**, select the Adobe PDF. Check the box next to **Print Cut Lines**. Then click on **Output to Printer** and then **OK**. A pdf version of the image will be created and you will be prompted to save.

(3) Open DesignMaster and go to **File>Open**. Change **Files of Type** from .**knk** to **All Files**. Locate the pdf file and open, accepting defaults.

(4) Select the image and go to **Arrange>Make Path.** Then **Arrange>Convert to>Polyarc**. Then **Arrange>Reduce Nodes** and try 0.005.

(5) Double click the image to reveal the nodes. If there are may broken paths, then use **Arrange>Connect Path** with a fairly large **Allowable Error** (0.5 or higher) to force the nodes to connect to their nearest "neighbor" and complete the paths.

(6) With image still selected, click on the **Stroke and Fill Tools** icon on the **Tools** Toolbar. On the Smart Bar, click on the hairline icon (second from left). The image should now be ready to cut.


**Converting from .GRA to .GSD**


(1) Install Screen Hunter, King Kong Capture, or any other free, screen capturing program that allows you to marquis-select a portion of your window. In the following steps, King Kong Capture is used.

(2) In DesignMaster, resize your image to fill the screen. Turn off the Sign Blank, as needed. Use black for the trace lines and use **Show>Fill** to make the image solid black.

(3) Execute the screen capture (in King Kong Capture, one uses **Ctrl-K**) and then save the file as a .bmp or .jpg.

(4) In the gsd program (e.g. RoboMaster), start a new document.

(5) Go to **Edit>Get Outline** and a new window will open. Select **File>Load Image** and browse to locate and then import the saved screen capture. Click on **Convert to Outline**. Then click on **Paste then Exit.** The image is ready to be saved as a .gsd.

## Converting from Klic-N-Kut Studio .KNK to .GRA

In Klic-N-Kut Studio, export the file as .ai. In DesignMaster, import the file and select Layout>Ungroup.

## Converting from Inkscape .SVG to .GRA

From within Inkscape, save the file as .eps. When asked, check the boxes next to **Make bounding box around full page** and **Convert Text to Paths.** When importing into DesignMaster, select **Use PDF Import Filter.** In some cases, the file may need to have the path broken (**Arrange>Break Path**) to remove a bounding box.

## Converting from .WPC to .GRA

In WinPC Sign or Funtime Scrapbooking, use **Ctrl-A** to select all images. Go to **File>Export** and select .ai from the drop-down menu. Name the file and save. In DesignMaster, go to **File>Open**. Change **Files of Type** from .**gra** to **All Files**. Locate the .ai file and open.

## 6.8 Features for Professionals

### Templates

- Templates are used for starting a new design and can be set up to bring in any of four different parameters: the current date, the current time, a graphic file (such as a logo), and/or any specific text you wish to enter.

- To create a template, start with a **Sign Blank** of a desired size, and create four text objects with any text in the font and font size you wish to see. Move these objects to any location (inside or outside the **Sign Blank** area):
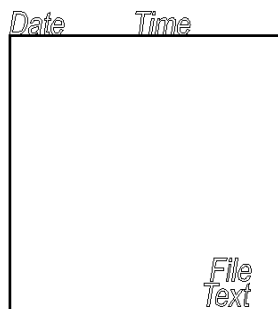


- Select one of the objects and go to **Layout>Templates>Set Template>** and pick any of the four choices. With the **File** option, you will have the choice to either select a file from your hard drive or wait to be prompted when the original template is opened.

- After setting each of the four items, there will be no change to the screen. Save the file and then reopen it. You will be prompted if you have chosen to set the **Text**. Enter any text you desire. The sample being used now appears like this:



Friday, March 30, 2007 1:06:52 PM

File #345
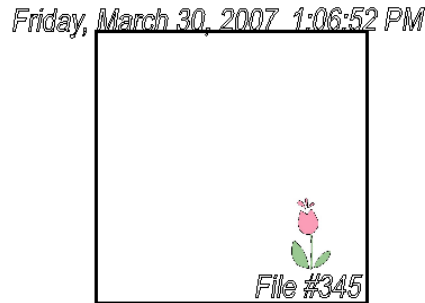
- Note that when you save this file under a new name, these settings are now saved, as shown. To start with a new date/time set, for example, you must reopen the template file.

**Labels and Instructions**:  File designers often wish to label parts of their files or add instructions. To do this:

  (1)  Use the Text function to type up your labels and/or instructions.

  (2)  Make sure that **View>Show Fill** is checked.

  (3)  Select the text object and go to **Transform>Render To Bitmap** and select a **Color Depth** from the drop down menu. Also select a **Resolution** (at least 200 is recommended for clarity of the text). Note the resulting file size is shown and the settings may need to be adjusted if you are trying to keep the file under a certain limit.

  (4)  Click on **Apply** when you are ready to convert to a bitmap image.

  (5)  This same process can be used on any other vector images that are not meant to be cut (for example, an arrow).

## Insert New Object

- DesignMaster has the capability of inserting other popular Windows applications, as needed, into the workspace area for reference. Go to **Edit>Insert New Object** and select from the menu of choices. Check either the box next to **Create New** to open a new file or check the box next to **Create From File** to open a browse window for an existing file created with the application you wish to use.

- The Smart Bar will change to that of the other application. For example, if you create a new Excel spreadsheet or open an existing .xls file, the toolbar at the top will now have the Excel icons and functions. To return to DesignMaster, click anywhere on the workspace outside of the Excel document and the Excel file will simply become another object on your workspace and the DesignMaster toolbars and menu will be visible again. To return to Excel, marquis select the document, then double-click on any of the nine bounding boxes.

## Notepad, Calculator, Time Sign

- Under **Help**, you will find a link to open Windows **Notepad** and Windows **Calculator**. Additionally, a menu item called **Time Sign** works as a stopwatch for tracking the amount of time spent on any project.

**<u>Page Control</u>**

- The **Page Control** function allows for multiple pages within a single file. This is very useful when you have images that will not be cut from the same materials but should be included in the same file (for example, a custom-sized greeting card and it's matching envelope). This can also be useful if you would like to make the first page of your file a title with instructions for cutting and assembling your project. To use:

  o Select an existing object on the screen. Then click on the **Page Control** icon near the bottom right corner of the screen and enter the maximum number of pages you plan to use and uncheck the box next to **Use On All Pages** (unless you want that). Then, under **Use on Page**: enter that last page number. If you choose a different page, then the maximum number of pages will be reset to the page you chose.

  o Use the arrow keys next to the **Page Control** window OR click on the page number to move to a different page.

  o To copy or move selected objects to another page, use the typical copy/paste or cut/paste commands.

  o Note that anything now placed on Page 0 ends up on all pages and can't be deleted from those pages. Thus you might prefer to use Page 0 for a title only and Page 1 for project instructions.

# <u>Appendix A   Key Board Shortcuts</u>

**<u>Zoom Shortcuts</u>**

| | |
|---|---|
| F5 and then marquis area | Zoom in on marquis area |
| <u>Right</u> click while in F5 | Zoom out |
| F6 | Zoom out |
| Shift+F6 | Zoom in |
| F7 | Zoom to selected object |
| F8 | Fit viewing area to sign blank |
| F9 | Previous zoom (toggle) |
| F11 | Pan screen based on mouse position |

**<u>Basic Functions</u>**

| | | |
|---|---|---|
| Ctrl+C | Copy to Windows Clipboard | Edit>Copy |
| Ctrl+Insert | Copy to Windows Clipboard | Edit>Copy |
| Ctrl+N | Open a new sign blank | File>New  (also 1st icon from left on System toolbar) |
| Ctrl+O | Open an existing .gra file | File>Open (also 2nd icon from left on System toolbar) |
| Ctrl+P | Print | File>Print |
| Ctrl+S | Save the file | File>Save (also 3rd icon from left on System toolbar) |
| Ctrl+X | Cut to Windows clipboard | Edit>Cut |
| Shift+Delete | Cut to Windows clipboard | Edit>Cut |
| Ctrl+V | Paste from Windows clipboard | Edit>Paste |
| Shift+Insert | Paste from Windows clipboard | Edit>Paste |
| Ctrl+Y | Redo last action | Edit>Redo (also 2nd icon from right on System toolbar) |
| Ctrl+Z | Undo last action | Edit>Undo (also 3rd icon from right on System toolbar) |
| Alt+Backspace | Undo last action | Edit>Undo (also 3rd icon from right on System toolbar) |
| Ctrl+Backspace | Redo last action | |
| Ctrl+R | Repeat last action performed | Edit>Repeat |

**<u>Screen Functions</u>**

| | | |
|---|---|---|
| Alt+M | Toggle showing bitmap outlines | View>Show Bitmap Outlines |
| Alt+N | Toggle showing line style | View>Show Line Style (also 1st icon from right on Workspace toolbar) |
| Alt+R | Toggle the ruler guides | View>Show Rulers |
| Alt+S | Toggle the fill | View>Show Fill (also 2nd icon from right on Workspace toolbar) |
| Alt+W | Use guides | Options>Guides>Use Guides |
| F4 | Refresh the workspace (redraw) | Edit>Redraw |
| Alt+D | Refresh the workspace (redraw) | Edit>Redraw |
| Ctrl+W | Snap to the grid | Options>Grid>Snap to Grid (also 3rd icon from left on Workspace toolbar) |
| <u>Right</u> Click Screen | Open edit guides window | Options>Guides>Edit Guides |

| Keystroke | Function | Menu or Screen Location |
|---|---|---|
| **Manipulating Images** | | |
| Ctrl+A | Select all objects | |
| F3 | Select all objects | |
| Shift+F3 | Unselect all objects | Edit>Select None |
| Alt+F3 | Inverse select objects | Edit>Inverse Select |
| Ctrl+D | Duplicate object | Edit>Duplicate |
| Ctrl+B | Send object to back | Arrange>Order>To Back |
| Ctrl+F | Send object to front | Arrange>Order>To Front |
| Ctrl+L | Send backward | Arrange>Order>Backward |
| Ctrl+U | Send forward | Arrange>Order>Forward |
| Ctrl+M | Reverse positions of objects | Arrange>Order>Reverse |
| Hold Ctrl while moving object | Force move vertically or horizontally | |
| Hold Alt while moving object | A copy of the object is moved | |
| Delete | Delete (clear) object | Edit>Clear |
| **Layout ShortCuts** | | |
| Ctrl+G | Group objects selected | Layout>Group |
| Alt+G | Ungroup objects selected | Layout>Ungroup |
| Ctrl+K | Align | Layout>Arrange and Distribute>Align |
| Alt+K | Alignment | Layout>Arrange and Distribute>Alignment |
| | **Align to Last Object** | |
| B | Align to last object: bottom | Layout>Arrange and Distribute>Align to Last Object |
| C | Align to last object: centre vertically | Layout>Arrange and Distribute>Align to Last Object |
| E | Align to last object: centre horizontally | Layout>Arrange and Distribute>Align to Last Object |
| L | Align to last object: left | Layout>Arrange and Distribute>Align to Last Object |
| R | Align to last object: right | Layout>Arrange and Distribute>Align to Last Object |
| T | Align to last object: top | Layout>Arrange and Distribute>Align to Last Object |
| | **Align to Selected** | |
| Alt+1 | Arrange objects to left side | Layout>Arrange and Distribute>Align to Selected>Left |
| Alt+2 | Arrange objects vertically | Layout>Arrange and Distribute>Align to Selected>Centers Horizontally |
| Alt+3 | Arrange objects to right side | Layout>Arrange and Distribute>Align to Selected>Right |
| Alt+4 | Arrange objects to top | Layout>Arrange and Distribute>Align to Selected>Top |
| Alt+5 | Arrange objects horizontally | Layout>Arrange and Distribute>Align to Selected>Centers Vertically |
| Alt+6 | Arrange objects to bottom | Layout>Arrange and Distribute>Align to Selected>Bottom |
| Alt+7 | Make selected objects concentric | |
| Alt+8 | Arrange >2 objects with equal V spacing | Layout>Arrange and Distribute>Align to Selected>Equal Vertical Spacing |
| Alt+9 | Arrange >2 objects with equal H spacing | Layout>Arrange and Distribute>Align to Selected>Equal Horizontal Spacing |
| | **Align to Sign Blank** | |
| Alt+Delete | Align objects to the left | Layout>Arrange and Distribute>Align to Sign Blank>Left |
| Alt+Insert | Align objects to the top | Layout>Arrange and Distribute>Align to Sign Blank>Top |
| Alt+Page Down | Align objects to the right | Layout>Arrange and Distribute>Align to Sign Blank>Right |
| Alt+Page Up | Align objects to the bottom | Layout>Arrange and Distribute>Align to Sign Blank>Bottom |
| Alt+End | Centre Horizontally | Layout>Arrange and Distribute>Align to Sign Blank>Centers Horizontally |
| Alt+Home | Centre Vertically | Layout>Arrange and Distribute>Align to Sign Blank>Centers Vertically |
| Ctrl+Q | Arrange objects with equal spacing | Layout>Arrange and Distribute>Align to Sign Blank>Equal Spacing |

| Keystroke | Function | Menu or Screen Location |
|---|---|---|
| **Editing Vectorized Images** | | |
| | **Outside Node Edit Mode** | |
| Ctrl+E | Edit path | Edit>Edit Path |
| Ctrl+T | Edit path | Edit>Edit Path |
| Ctrl+H | Make path | Arrange>Make Path |
| Ctrl+J | Break path | Arrange>Break Path |
| Alt+B | Convert text to graphics | Arrange>Text to Graphics |
| | **Inside Node Edit Mode** | |
| A | Add node at current location | |
| C | Change node: cycle through types | |
| R | Remove selected node | |
| L | Reset origin at selected node | |
| G | Resize grid dimensions based on node | |
| S | Snap to intersection | |
| H | Snap to nearest horizontal grid line | |
| V | Snap to nearest vertical grid line | |
| J | Join to selected nodes with a line | |
| B | Break contour at the select node | |
| D | Deselect nodes | |
| O | Create perfect circle from oval contour | |
| T | Toggle start point | |
| K | Select node under the mouse curson | |
| **Miscellaneous** | | |
| F1 | Link to Crafty Club | Help>Index |
| F2 | Disable all shop colours except current | |
| Ctrl+F7 | Text compose | On left Tools toolbar, select Text Tools, then select 1st icon from left |
| Ctrl +F8 | Frame text compose | On left Tools toolbar, select Text Tools, then select 2nd icon from left |
| Alt+P | Open the cutting window | Cut>Plot (also 2nd icon from top on Tools toolbar) |
| SpaceBar | Return to select mode | |
| F10 | Select the menu bar | |

## Customizing Hot Keys

The following keystrokes are available to use in creating your own hot keys.

| A, D, S | Ctrl+0 thru Ctrl+9 |
|---|---|
| F thru K | Home |
| M thru Q | End |
| U thru Z | Page Up |
| 0 thru 9 | Page Down |

**To do this:**
(1)  Select **Options>Customize Shortcuts**
(2)  Select menu item from left side.
(3)  Under **Press New Shortcut Key**, enter keystroke you wish to use.
(4)  Click on **Assign** and then **Apply**.

# Appendix B  Terminology

| | |
|---|---|
| Accuscan | The **AccuScan** feature contains the tools required to convert a bitmap into a line-traced drawing format, which can then be cut. (Tools Toolbar>Scan Tools) |
| Anchor Nub | The **Anchor Nub** is a small, "anchor" icon appearing in the Smart Bar during select mode. Position the anchor over the image and the coordinates will appear. Or, type new X and Y coordinates in the SmartBar and the anchor (and image) will be moved to the new coordinates. |
| Arc Edit | The **Arc Edit** tool is used for creating and editing polyarcs. (Tools Toolbar>Graphic Edit Tools) |
| Aspect Ratio | The **Aspect Ratio** is the width of an image relative to its length. Refer to: Proportional Scaling |
| Axis Swap | Checking the **Axis Swap** box changes the orientation of the cut by 90 degrees. (Cut>Plotting Defaults) |
| Banner Fill | The **Banner Fill** feature is used with pens or the engraving tool to fill a shape or title. (Cut Toolbox window) or (Cut>Plotting Defaults) |
| Basic Weld | The **Basic Weld** tool is used to merge selected objects into one combined object, such as when creating welded letter titles or welding images to words. (Tools Toolbar>Weld Tools) |
| Bitmap Images | **Bitmap Images** (aka Raster Images) are made up of pixels, arranged in a grid pattern in which each dot includes information about its colour and its position. Common bitmap file formats are .jpg, .bmp, .tif. |
| Break Path | Use **Break Path** to revert a combined path of objects into individual paths for each object. This is required in order to delete paths and edit nodes in a traced design. (Arrange>Break Path) |
| Center Nub | When an object is selected, nine small boxes appear. The middle box is the **Center Nub**. Holding the left mouse over this nub and dragging it will move the object. |
| Close Graphics | **Close Graphics** is used to join the first and last nodes of a contiguous path with a curve or straight line. (Arrange>Close Graphics) |
| Connect Path | Use **Connect Path** to connect nodes in a broken path; the two nodes will merge into one. (Arrange>Connect Path) |
| Contour Cut | The **Contour Cut** feature creates a hairline trace around an object or graphic. (Cut>Contour Cut) |
| Contour Object | **Contour Object** is used to create a single shape that matches the contours of an image. It can be set to retain or ignore the inner contours of the original shape. (Transform>Contour Object) |
| Corner Node | A **Corner Node** is used to construct straight lines, thus two corner nodes on a path will be joined by a straight line. (In node edit mode, it appears as a "+") |
| Curve Node | A **Curve Node** is used to construct a curved contour, thus two curve nodes on a path will be joined by a curve. (In node edit mode, it appears as a small circle) |
| Cut by Color | Checking the **Cut by Color** option will evoke the Filter by Color feature in the cut window. This will result in only one colour at a time being sent to the cutter, allowing the user to change materials or tools between cuts. (Cut>Plot>Cut Toolbox or Cut>Plotting Defaults) |
| Display Sort Dialog | Refer to: Sort (from Plotting Defaults) |
| End Point | The **End Point** is the final resting position of the tool after drawing or cutting an image, normally set to match the origin or set at end of the document area. (Cut>Plotting Defaults>Setup>Plotter Options) |
| Fillet Round Corner | Similar to Round Corner, **Fillet Round Corner** can be applied to individual corners of an object. (Transform>Fillet Round Corner) |
| Filter by Color | Invoking the **Filter by Color** (or Cut by Color) brings up a window in which the desired colour can be selected to cut. After the cut is complete, another colour will appear and the user may choose it, yet another colour, or cancel the cutting process. (Cut>Plotting Defaults) or (Cut Toolbox window) |
| Flip | **Flip** is similar to the Mirror command, except that the line of reflection can be adjusted. (Layout>Size/Move>Flip) |
| Frame Text Compose | Choosing **Frame Text Compose** will automatically set the text frame equal in size to the sign blank. (Tools Toolbar>Text Tools) |

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| Free Edit | The **Free Edit** tool is used to create vector paths by free movement of the mouse on the screen. (Tools Toolbar>Graphics Edit Tools) |
| Group | Use **Group** to combine two or more objects so they are treated as one when resizing, re-colouring, moving, etc. (Layout>Group) |
| Guides | **Guides** are reference lines used for placing objects. These may be placed at any location and at any angle. (Options>Guides>Edit Guides) or (right click on the workspace) |
| Inlines | Refer to: Outlines |
| Job Palette | The **Job Palette** shows the colours that are being used on the workspace. This palette is also used to perform global colour substitutions, such as instantly replacing all shapes of a given colour with another colour. (View>Show Palettes>Show Job Palette) |
| Jog | Use the **Jog** feature when an image is printed first and then cut out based on setting registration marks in three corners outside the image. (Cut Toolbox window) or (Cut>Plotting Defaults) |
| Kerning | **On-Screen Kerning** is used to make manual adjustments to text using kerning nubs. This is the process for merging letters to make welded titles. (Tools Toolbar>Text Tools) or (AB icon in Smart Bar during Text Compose) |
| Lock Object | The **Lock Object** command is used to prevent the given object from being resized, scaled, rotated, or slanted. However, a locked object can still be moved or deleted.  (Arrange>Lock Object) |
| Machine Limits | Use the **Machine Limits** to set the maximum length and width for the cutter. (Cut>Plotting Defaults>Setup) |
| Make Path | **Make Path** will combine a selection of multiple objects or paths into a single path. (Arrange>Make Path) |
| Mirror | The **Mirror** feature can create a vertical or horizontal mirror image of the selected object. (Cut Toolbox window) |
| Mode | Use the Image>**Mode** command to change the type of data that a raster image is composed of, thereby determining the maximum number of colours that can be represented (i.e., its colour depth). (Image>Mode) |
| Multi-cut | Certain materials, such as chipboard, may require multiple passes of the cutting blade. The **Multi Cut** field is used to set the number of passes that should be performed. (Cut>Plotting Defaults) |
| Multiple Instance | When **Multiple Instance** is checked, more than one copy of DesignMaster can be open at once. (Options>Multiple Instance) |
| Node Edit | **Node Edit** allows individual and group node editing, such as adding, removing, joining, moving, changing node type, etc. (Tools Toolbar>Graphics Edit Tools) |
| Nodes | A vector image (tracing) is made up of individual **Nodes** connecting straight or curved lines. |
| Open Path | **Open Path** in an object means the path is not complete. These objects cannot be shown with a fill and will appear with a dotted line instead. |
| Origin | On a CraftROBO, the top right corner (closest to the cutter) is the **Origin**. When entering the cut window, the bottom left corner corresponds to this position. |
| Outline | **Outlines** and Inlines are objects that are drawn to follow the contour of another object. An **Outline** (such as a mat on a title) will typically be "outside" the base object, and an **Inline** will be "inside" the object. (Transform>Outline) |
| Overcut | **Overcut** is the amount the blade will go past the start point in order to complete the cut. This is necessary for angled-cut blades. (Cut>Tool Options) |
| Page (from Plotting Defaults) | Checking **Page** will automatically move images to the top right corner (relative to the cutter) when sent to the cut window. (Cut>Plotting Defaults) |
| Page Control | The **Page Control** icon in the bottom right corner allows the user to set up multiple pages within a single file. Identical images can be present on every page or not. |
| Parametric | A **Parametric** object is created using the shapes tools. When selected, these objects have specialized editing handles that are used to adjust the object properties. To edit the nodes, these objects need to be converted using Arrange>Convert to Curves. (Tools Toolbar>Shapes Tools) |
| Polyarc | A **Polyarc** object is composed entirely of curve nodes. |
| Polygon | A **Polygon** object is composed of a combination of corner, curve, and tangent nodes. |

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|---|---|
| Pounce | Same as dashed or perforated lines, **Pounce** can be used to make cuts of a specified length and spacing; useful for fold-up projects or adding detail to a die cut image. (Cut>Plotting Defaults) or (Cut Toolbox window) |
| Proportional Scaling | When the **Proportional Scaling** icon is "locked", the aspect ratio is held constant if the length or width of an object is changed. When unlocked, the user can independently change the length or the width without altering the other. (On the Smart Bar after clicking Select on the Tools toolbar) |
| Raster Images | Refer to: Bitmap Images |
| Registration Marks | **Registration Marks** are special marks placed in three corners surrounding an image to be printed and then cut out. (Tools Toolbar>Shapes Tools) |
| Render to Bitmap | **Render to Bitmap** will create a bitmap from any selected vector image. (Transform>Render to Bitmap) |
| Reduce Nodes | The **Reduce Nodes** function will eliminate excessive nodes from a polyarc image. (Arrange>Reduce Nodes) |
| Round Corner | Use the **Round Corner** feature to round either the inner or outer corners of objects. (Transform>Round Corners) |
| Segment Edit | The **Segment Edit** tool is used to reshape a section of the contour to fit a straight line, a corner, or a curve. (third icon in Arc Edit Smart Bar) |
| Sequence | The **Sequence** feature has two uses: Arrange objects on-screen and arrange the order in which objects are cut. (Layout>Sequence) |
| Shadow | The **Shadow** option creates shadow effects (of varying styles, depths, and angles) for objects. (Transform>Shadow) |
| Shop Palette | The basic colour palette is the **Shop Palette**, which lists the colours that are available for use on the workspace. (View>Palettes>Show Shop Palette) |
| Sign Blank | The **Sign Blank** is a visual representation of the area that is available for printing and/or cutting, thus it is recommended that the sign blank size be the same dimensions as the material placed on the mat. (Layout>Blank Size) and (View>Show Sign Blank) |
| Sign Blank (from Plotting Defaults) | Checking **Sign Blank** will place images in the cut window in same location as in the Sign Blank (Cut>Plotting Defaults) |
| Sign Blank Object | When selected, a new object with the exact dimensions of the current Sign Blank is created. (Layout>**Sign Blank Object**) |
| Smart Bar | The **Smart Bar** is a changing toolbar, which appears at the top of the screen and provides settings according to the type of operation that is currently selected. |
| Smoothing | **Smoothing** refers to the number of vectors or arcs used to represent the actual curves when cutting. A higher setting will increase the number that creates the curve, producing a smoother cut. (Cut>Plotting Defaults) |
| Sort (from Plotting Defaults) | The **Sort** option controls the order in which objects will be cut. It can be set based on proximity of the objects to one another, front-to-back order, horizontal or vertical. (Cut>Plotting Defaults) or (Cut Toolbox window) |
| Sort and Cut All Colors | Invoking **Sort and Cut All Colors** brings up a list of all colours used in the objects selected to cut. The user can uncheck any colours not needed for that cut. (Cut Toolbox window) |
| Stencil | The **Stencil** tool is used to apply a clipping style to one-or-more selected shapes. The resulting stencil bands will be like "windows" through which the underlying shapes may be viewed. (Tools Toolbar>Shapes Tools) |
| Tangent Node | A **Tangent Node** is used to provide a smooth transition from a straight line to a curved line. (In node edit mode, it appears as a small triangle) |
| Template | A **Template** operation is used to convert a text object into a date, time, graphic or text input variable, which is then saved with the workspace. When the file is again opened, the text object will be converted into the type designated by the **Template** operation. (Layout>Templates) |
| Text To Graphics | **Text to Graphics** will convert a text object into a path. This is important when creating a non-welded title to share with others, who may not have that particular font installed on their computer. (Arrange>Text to Graphics) |
| Transformations | **Transformations** are used to apply special effects and distortions to selected objects. (Transform>Transformations) |

| | |
|---|---|
| Ungroup | **Ungroup** a grouped set of objects so that the objects can then be individually selected and modified. Refer to: Group   (Layout>Ungroup) |
| Vector Images | **Vector Images** use mathematical equations (vectors) to define an image's shape, colour, position, and size. Manually or auto-tracing a bitmap image in DesignMaster creates a vector image which can then be cut. |
| Weed Border | A **Weed Border** is an additional rectangular cut around the outside of the object being cut. (Cut Toolbox window) or (Cut>Plotting Defaults) |
| Welded Title | A **Welded Title** consists of merging the individual letters and then welding to remove the overlap, so that the title will cut as one piece. |

# Appendix C  Settings for Auto-Tracing

## AccuScan Trace Settings:

- **Line Fit Tolerance**: indicates the precision with which edges are traced.
    - For a detailed bitmap, use a setting of 7 or greater. More nodes will be produced.
    - If the bitmap is of poor quality or has long, smooth edges, then use a setting of 3 or less. A loose Tolerance will avoid imperfections in the bitmap, though fine details may also be lost.
- **Line Cornering:**  modifies corner recognition and is used to help distinguish parts of the bitmap that represent a corner, versus parts that represent a tight curve.
    - For angular bitmaps that are composed mostly of sharp corners, use a setting or 7 or greater.
    - For bitmaps that are composed mostly of curves use a setting of 3 or less.
    - For bitmaps that have a mixture of curves and sharp corners, use a setting of 4 to 6.
- **Speckle Filter Factor:** Bitmaps that are generated using a scanner often contain speckles, which are usually caused by a scratched or dirty scanner bed. To ignore these imperfections, the Speckle Filter may be applied as part of the trace. However, be cautious of using a high setting, since small details could be mistaken for speckles. Set the speckle filter factor as a percentage of the overall bitmap size.
- **Snap Line Degree:** When using a scanner to create a bitmap, the original document may not be perfectly aligned. As a result, lines that were intended to be precisely horizontal or vertical will be slightly incorrect. Set the value to the number of degrees that need to be corrected. For example, a setting of 5 degrees will correct lines that are "off" by that amount. If the Degrees cannot be set high enough, then the document should be scanned again or the bitmap can be rotated on the workspace.
- **Small Shape Accuracy:** assess the ratio between the largest bitmap objects versus the smallest.
    - When the ratio appears large, set the accuracy to high (7-10).
    - When objects are similar in size, set the accuracy to low (Off - 3).

# Appendix D Troubleshooting

## Error Messages

**Objects with thick line attributes have been found in this graphic.**

> Click on the **Stroke and Fill Tools** icon on the **Tools** toolbar and select the **Line Style** icon. On the Smart Bar, click on either the **No Line** icon ($1^{st}$ from left) or the **Thin Line** icon (2nd from left).

**There are small tiles in the job, do you want to continue cutting?**

> The image you are cutting or the Sign Blank size is larger than the machine limits, which have been set. Check the machine limits under **Cut>Plotting Defaults** (click on **Setup**).

**No objects to cut**

> A. There is no vectorized object in the Sign Blank to cut. Imported raster images must be traced before cutting.

> B. No image has been selected to cut (under **Cut>Plotting Defaults**, if **Selected** is checked, then an object must be selected before entering the **Cut** window).

**Error locating security device**

> DesignMaster is not locating the user's license files.

**Possible error with password – 1**

> DesignMaster is not locating the user's license files.

**Invisible objects are present. Do you wish to cut them?**

> Sometimes images are imported as invisible even though you can see the trace lines on the screen. Turn on the Job Palette and note if it contains any white or invisible lines that you may miss seeing before cutting. Select the items and change to another colour from the Shop Palette.

## Software Issues

**The image moves after entering the Cut window.**

> Under **Cut>Plotting Defaults**, check the box next to **Sign Blank** (**Page** will then be unchecked). Click on **Save Default** before clicking on **OK**. Also not that the Sign Blank rotates 90 degrees in the cut window but the actual images have not moved unless **Page** is checked. In this case, the images are moved to the Origin for cutting.

**When I cut pounced lines they are offset from the solid cut lines.**

> Under **Cut>Plotting Defaults**, check the box next to **Sign Blank** (**Page** will then be unchecked). Click on **Save Default** before clicking on **OK**.

**Why isn't the bottom left corner of my Sign Blank set to (0,0)?**

> Go to **Layout>Sign Blank** and check the bottom left corner of the diagram at the top.

**When I try to move an object with my mouse, it suddenly jumps up outside of the Sign Blank area.**

> A built-in function called Smart Move in some mouse brands can cause this. Go to **File>Control Panel>Mouse** and locate the Smart Move option. Uncheck the box and click on apply.

**My title appears on the screen as an outline rather than with coloured letters.**

> The fill has been turned off. Use **Alt-S** to toggle the fill on and off or click on the Show Fill icon.

**The letters inside a circle disappear and will not draw after being welded. The letters are visible on the edges of the inner circle, but the centre of the letter is not there.**

> Letters must be welded to a frame, rather than a single shape. Refer to Section 4.8. If you want a single circle, then, after welding, break apart the image and delete the outer circle.

**Can fonts be edited using nodes, or vectorized? Can one drag the bottom right portion of the letter R to underline the rest of a title/word?**

> Select the word and go to **Arrange>Text to Graphics**. The letters are now individual paths with editable

*nodes.*

**Typing a title from an open or hollow font results in double lines.**

Use ***Arrange>Text to Graphics*** *to convert your title for editing. Then go to* ***Arrange>Break Path.*** *Select one of the paths to delete.*

**Some fonts result in very jagged edges. Also some of my tracings, too.**

Use ***Segment Edit*** *to smooth jagged edges as needed. Refer to Section 5.2.*

**With some fonts, the letters are almost on top of each other.**

*After typing the title, use the* ***On-Screen Kerning*** *function to space letters, as desired. See Section 4.4. Also, the* ***Kern Percent*** *variable on the Smart Bar can also be adjusted before typing the letters.*

**When I type a title in text mode, nothing happens. I see the hourglass appear but no text appears.**

*Make sure the font height on the Smart Bar is set to at least 5mm or 0.25 inches. At the minimum value, the text is too small to be visible on the screen.*

**I noticed the outline of my page is not showing. I have the rulers set on the top and side, but cannot see the black line around the workspace. I only see it when in cut mode.**

*Go to* ***View>Show Sign Blank*** *to turn on the Sign Blank.*

**When trying to resize an image by using the boxes at the corner of the image, I am having a problem controlling the sizing.**

*Make sure Snap to Grid (****Options>Grid>Snap to Grid****) is not turned on. Also the size of an image can be manually entered on the Smart Bar.*

**How can I edit the edges of a graphic to make it smooth?**

*Refer to Segment Edit in Section 5.2.*

**When I double click on an image and proceed to move the nodes, I cannot move them.**

*Check to make sure Snap to Grid isn't turned on (****Options>Grid>Snap to Grid****).*

**I cannot weld together two images?**

*A. The images must be the same colour.*

*B. The images must both have closed paths. To close, select the open path image and go to* ***Arrange>Close Graphics*** *or go into node editing and repair. Turn on* ***View>Show Fill*** *to verify as unclosed paths will be dotted lines.*

**I imported an eps file from PSE and tried to cut. I get a "no object to cut" message. I then exported the file as an Illustrator file and I'm still unable to import and cut. How can I get it to work?**

*Images from Photoshop Elements are raster graphics and not vector, thus there are no trace lines to cut. You must either use one of the auto-tracing techniques or manual tracing to convert the image. Refer to Chapter 5.*

**I imported and traced a drawing. When I cut it, however, it cuts on both sides of the line.**

*This happens whenever images are hollow and the vector lines are then created for both sides of an outline. Use Arrange>Break Path to separate the two paths and then click on one of the outlines to delete.*

**I'm using a CAD program to draw an object and then convert to a DXF file. When the DXF file Is imported into DesignMaster the dimensions of my object are always larger than what was drawn.**

*All .dxf files tend to change from their original size during exporting and importing. If this is a problem, check to see if .eps is an available export option in your CAD program.*

**Why do I have trouble importing some png and jpg files?**

*You cannot import some .jpg images into DesignMaster. Save these images as .bmp in another program, such as Microsoft Paint, and the image will then be importable.*

**My Sign Blank is no longer white! Help!**

*Drag the colour White from the Shop Palette onto the Sign Blank. It will be come white again.*

# Index