



FastARTIST 1.5.1/FastRIP 9.0

User's Manual



Version 2.2

Basic Safety Instructions

Please read this entire Manual before attempting to Print.

- Follow all warnings on and about your printer.
- Use the proper power source type indicated on the printer's label and in its User's Manual.
- Connect all equipment to grounded outlets. Do not use the same outlet for any other system, such as a copy machine, an air conditioning unit or a Heat Press that may cycle ON and OFF.
- Place the printer where the power outlet is easily seen.
- Do not allow the power cord to become damaged.
- If you are using an extension cord, ensure the extension cord's power ampere rate does not exceed that of the printer's cord.
- Keep electromagnetic devices and other potential sources of magnetic fields away from your printer and computer hard drive(s).
- Do not use the printer in locations that may experience high humidity, shocks, vibrations, debris or dust.
- Leave enough space around the printer for proper ventilation.
- Do not leave your printer near heat sources such as radiators or heat vents.
- Do not leave the printer in direct sunlight.
- Place the printer on a stable surface that extends beyond the length and width of the printer supports. The printer will not work properly if it is tilted or leaning.
- When packing and moving the printer, do not set the printer on its side or upside down. This may cause the ink to spill.
- Turn the printer OFF before cleaning. Clean with a damp cloth and avoid spilling any liquid on the printer.

Caution:

- Do not unplug the printer to turn it OFF. Use the power button instead.
- Do not unplug the printer until the Main Power Switch has been turned OFF.
- Do not block any of the printer's vents or insert foreign object into its slots.
- Do not attempt to service the printer yourself beyond the troubleshooting techniques covered in this Manual.
- Do not attempt to modify any software or device settings not covered in this

Manual

- Keep the machine on a level surface.

Safety Instructions for Ink Cartridges:

- Always keep ink cartridges out of the reach of children.
- While handling ink, be careful not to spill it on your skin. If ink does get on your skin, wash thoroughly with soap and water. If ink gets in your eyes, flush them immediately with water.
- Do not put your hand in the printer or touch the ink cartridges while the printer is in operation.
- Do not move the Print Head by hand- doing so may damage the printer.
- If you remove the ink cartridges, make sure to place them in individual bags and keep them away from dust, dirt and debris.
- Store unused ink cartridges in a cool dark place.
- Allow ink cartridges to warm to room temperature before using them after storage.
- Do not dismantle the ink cartridge.
- Do not touch the IC chip on the ink cartridges. This will adversely effect normal printing operations.

Legend of Symbols

Throughout this Manual you will see three symbols used to notify you of important facts or procedures.



This icon is used to denote important points that may affect the proper operation of your machine or the viability of its output. Think of this as more than just a helpful hint.



This icon indicates recommendations based on research and development or years of experience within the Garment Decorating business. Following these helpful Hints, Tips or Reminders will make printing with your Fast T-Jet more enjoyable.



Where you see this icon, you should take note of the warnings. Failure to follow any of the listed procedures could result in severe damage to your printer, computer or software, large amounts of downtime and/or costly repairs, or the possibility of severe bodily injury or death.

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User's Manual

FastARTIST 1.5.1/FastRIP 9.0

This manual contains the latest and most accurate information at the time of printing.
We reserve the right to make product changes and improvements at any time. Some product photos in this Manual may vary slightly from the currently shipping machine.



Chapter 1

Installation and Getting Started

Welcome to FastARTIST

Your version of FastARTIST includes this Manual, an installation CD, a CD with clip art and fonts, a training CD and a training DVD. Your version of FastARTIST will work with any Fast T-Jet Inkjet-to-Garment printer, including the T-Jet 3 and the Fast T-Jet Blazer.

You should have also received a “Dongle.” The Dongle looks very similar to a “Flash Drive” and it plugs into any free USB port on your computer. The Dongle acts as a hardware protection key. Much like your car keys allow you to start your car, the Dongle allows you to use FastARTIST and FastRIP.



DO NOT LOSE OR DAMAGE the Dongle. Without the Dongle, your software will not function. Should you lose your Dongle, you will be required to **PURCHASE** a replacement. **DO NOT** insert your Dongle into your computer until instructed to do so by this Manual.

System Resources and Requirements

The speed and configuration of your PC will have a significant effect on the performance of the FastARTIST program. The minimum system requirements are:

- A Pentium IV 1.8 GHz PC with Windows XP, 2000 or Vista Operating System. This application is not compatible with Windows ME.
- 1 MB RAM (If you are currently using, or planning to upgrade to Windows Vista, you will need 2 GB of RAM for the best performance.)
- 10 GB of free hard drive space for the program files with an additional 50 GB needed for saved images, artwork, fonts and clip art
- A free USB port for the Dongle (A total of three USB ports may be required to accommodate the Dongle, a mouse and a printer connection.)

FastARTIST is a customized version of a sign and vinyl cutting program called SignLAB. Some routines and features that are not applicable to Inkjet-to-Garment printing have been removed, however this is still a very powerful program that can be used as a standalone graphics application comparable to Adobe Photoshop or CorelDRAW.

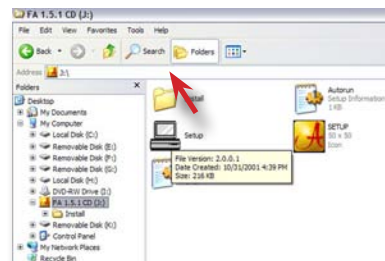
The purpose of this Manual is to familiarize you with this program, as well as get you started printing to garments as quickly as possible. It is not intended to be a comprehensive guide. If you wish to utilize any of the application's advanced features, the complete SignLAB 7.1 Help Section is accessible via a dropdown menu within the FastARTIST program.



It is extremely important that you read the entire User's Manual that came with your Fast T-Jet printer BEFORE you begin printing. That Manual contains specific details about your printer that are necessary for trouble free operation.

Installing FastARTIST

Insert the FastARTIST CD into your CD drive. Most Windows configurations will automatically launch the setup program, however, if this is not the case, double-click on your desktop My Computer icon and locate the drive containing the installation CD. Right-click on the driver and select *Explore*. Double-click on the *Setup* icon to launch the Installer.



Note: Due to software upgrades and changes, your installation menus may not look exactly like the following images.



You should always close any applications that are running before starting an installation. DO NOT insert the Dongle until AFTER FastARTIST has been installed.

You will be prompted for what language you wish the installation to use. Although FastARTIST menus and operations are ONLY in English, you may choose another language for installation prompts. The next screen will welcome you to the FastARTIST installation.

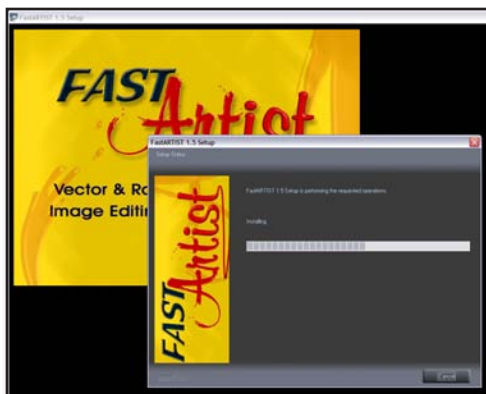




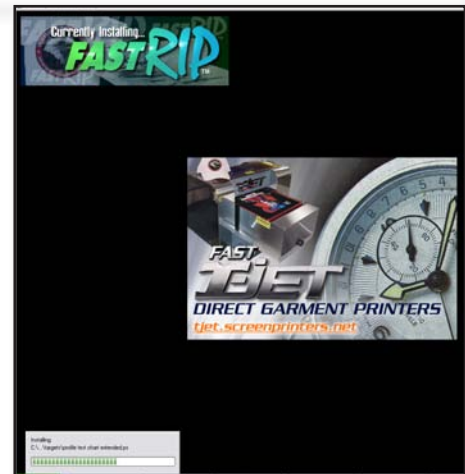
1. You will be prompted to approve the license agreement. Check *Accept* and click on *Next*.



2. You will be asked to choose an Installation Directory. Advanced Windows Users may wish to change the destination. For most Users, the default destination is the best choice. Click on *Next*.

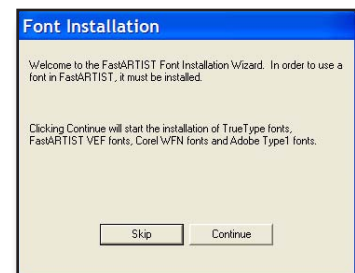


3. You will be prompted to approve the Program Folder. Advanced Windows Users may wish to change the folder name. For most Users, the default name is the best choice. Click on *Next*.



4. This screen will appear while FastRIP is being installed.

5. You will be asked if you wish to install the Fonts. Click on *Continue* to *Install* all the fonts that came with FastARTIST. You may be prompted to insert the Fonts CD. If the system does not find the fonts, you can copy the Fonts folder from the CD into your FastARTIST directory and install them later.



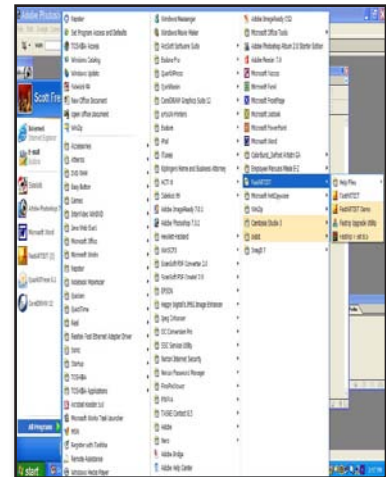
6. You will then be asked if you wish to *Install* the available clip art. This can take a long time and uses a fair amount of hard disk space. If you have the time and a large hard drive, go ahead and *Install* them.

7. When the installation is complete, check "Yes, I want to restart my computer now" and click on *Finish*.



After your computer reboots, you should see a FastARTIST icon on your desktop.

If you do not have an icon and you wish to place one on your desktop, go to *Start > Programs* and locate the FastARTIST program folder. Mouse over the folder to expand contents and you will see two FastARTIST listings- one will have a version number after it, the other will have "Demo". *Right-click* on the icon with the version number and select *Send To > Desktop*.



Any time you wish to launch FastARTIST, double-click on the desktop icon.

Dongle Error- Unknown USB Device

The USB Port Dongle is a sealed plug that is provided with FastARTIST as a means of preventing software piracy. It is important you do not connect your Dongle to your computer until **AFTER** FastARTIST has been installed. Otherwise, there is a risk that Windows will label the Dongle as an "unknown USB device."



After plugging your Dongle into your computer, if you receive a Windows error balloon stating, "Unknown USB device":

Go to *Start > Settings > Control Panel* and double-click on it to open a new window.

1. Within the Control Panel window, locate and *double-click* on the System icon. Click on the Hardware tab. Click the Device Manager button. You will see displayed all of the hardware that is currently connected to your computer.

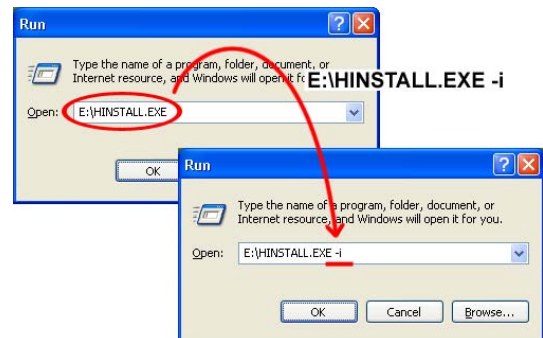


2. Within the Device Manager window, locate the USB device that is identified as an unknown device (this is your Dongle) and choose *Uninstall*.



3. Exit the Device Manager and close System window.
4. Unplug the Dongle from your computer.
5. Place the FastARTIST installation CD in your CD drive. If prompted to choose a language, click *Cancel*.
6. Go to *Start > Run*. Within the Run dialogue, click *Browse* and locate the file called "HINSTALL.EXE" on the installation CD. *Double-click* on it to select.

7. "HINSTALL.EXE" will now be displayed in the Run dialogue field. Click within the field and type " -i" (space-hyphen-lowercase letter "i") immediately after the filename.



8. Click OK and the Dongle driver will be reinstalled. After the installation is complete, restart your computer.

9. When your computer has rebooted, connect the Dongle to any available USB port. It should be properly recognized and associated with FastARTIST as a device. If you are still encountering problems, please contact Technical Support.

Support Hours

Toll Free	+1 888-MYTJETS (698-5387)
Technical Support	+1 480-929-2937
Corporate Office	+1 480-929-0640
Fax	+1 480-929-0766
E-mail	support@usscreen.com
Internet	www.screenprinters.net Click on the <i>Support</i> tab.
Support hours	7:00am to 8:00pm Monday through Friday 9:00am to 3:00pm Saturday and Sunday

24 hr. Emergency Support is available

All times listed are Mountain Standard Time USA

Note: Arizona does not observe "Daylight Savings Time."

Do Not Lose the Dongle



The Dongle acts like the key to a lock. It is an integral part of the FastARTIST and FastRIP programs and must be treated accordingly. If you lose the Dongle, you will be required to purchase a replacement. Protect the Dongle! Without it, your software will not function. The easiest way to protect yourself from loss or theft is to make sure the software AND the "hardware" Dongle are covered by your business or commercial insurance plan. (Most Homeowner's policies do not cover business related property!) To purchase a replacement Dongle, contact us for pricing and details

Dongle Warranty

If failure of the hardware (Dongle) has resulted from accident, abuse or misapplication, we shall have no responsibility to replace the hardware. Replacement will be warranted for the remainder of the original warranty period or 1 year, whichever is longer. If the Dongle ceases to operate within the 1 year warranty period, it will be replaced at no charge AFTER it has been returned. You must insure the Dongle for at least \$750 against loss or damage during mailing. If the Dongle is not under warranty,

a replacement Dongle may be purchased. Contact us for pricing or for details on purchasing or returning a defective Dongle. All returns must be shipped by a trackable carrier and have a return authorization number on the box provided.

Installing and Configuring FastRIP

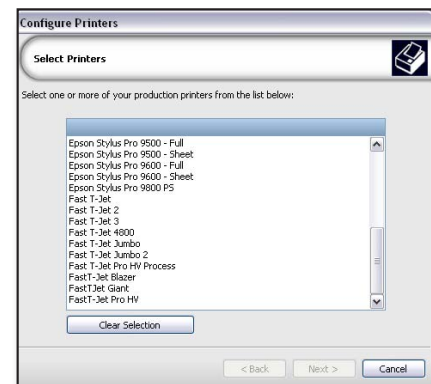


FastRIP is the heart of the printing process, performing the task of a Raster Image Processor (RIP), controlling how much ink is laid down, how many passes are made by the Print Head and how White ink is printed. FastRIP also manages the memory needed for raster images and the spooling of multiple jobs to the printer by utilizing Virtual Memory (VM) disk processing.

FastRIP does most of this with PostScript. PostScript is an industry-standard scripting language used to communicate the text and graphic elements of a job from a computer to a printer. When FastRIP processes a job, these PostScript elements are used to generate a raster image (a series of horizontal lines) that the printer is capable of rendering. The printer will then output your image one raster (line) at a time.

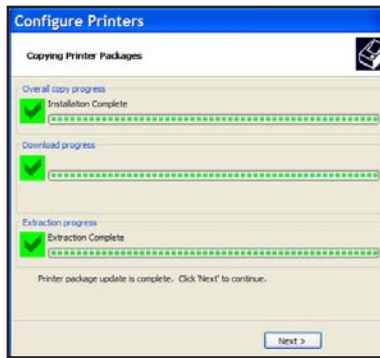
When the FastARTIST installation is complete, it can be launched by *double-clicking* on its icon. However, you will not be able to PRINT an image using your Fast T-Jet until FastRIP has been configured.

From your desktop go to *Start > Programs > FastARTIST*. A dropdown menu will open to the right. Click on the FastRIP listing. A Configure Printers window will open, prompting you to select a printer. Select the applicable Fast T-Jet printer.



The second window will query you for the location of a Printer Package. A printer package contains all of the custom Print Modes that tell FastRIP how to print on garments and they located are on the FastARTIST CD labelled "Printer Package Drivers." (Also check www.screenprinters.net for any recently released Printer Package updates.)

When prompted, select the option "Search for new printer package versions



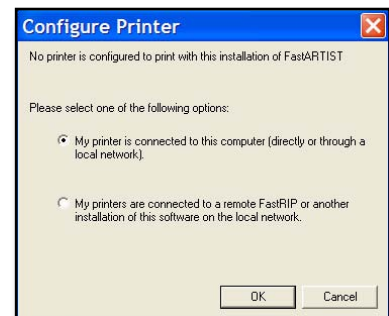
from CD" and insert the CD in the CD Drive. Put a check mark by "Search CD-ROM or floppy drive." Click *Next*. Click *Next*. Click *Finish*.

You will then be asked to tell FastRIP to which port your printer is attached. Select your printer and verify the connection port. If the printer is connected to your computer by a USB cable, the correct port will look like Epson Stylus 2200_USB00*, Epson Stylus Pro 4800_USB00*, Epson Stylus 7600, or Epson Stylus Pro 1800_USB00*. If you are using a parallel port cable (this option is not available for the Fast T-Jet Blazer), the extension will be LPT*.



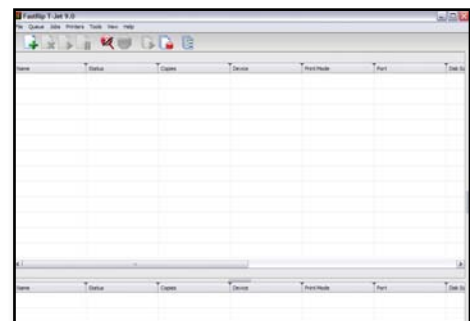
Configuring FastRIP from within FastARTIST

You may also configure FastRIP from within FastARTIST. Select *File > FastRIP Setup*. This will bring up a different window that will determine how your printer is connected. It will then launch FastRIP, allowing you to perform the setup process. (Chapter 7 covers in detail FastRIP configuration as well as Print Modes and other options.)



The FastRIP Queue

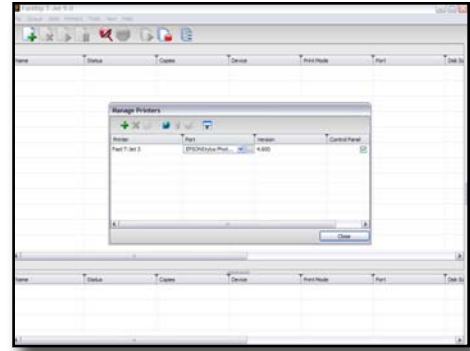
This is the same window you will see when the RIP is working. The top menu allows you to change many of the RIP settings.



Verify Printer Installation

Open the Manage Printers window. Go to *Printers > Manage Printers* and ensure sure your Fast T-Jet appears under Printers. Verify the Port settings as well.

From this screen, you may also troubleshoot and change ports, if necessary.

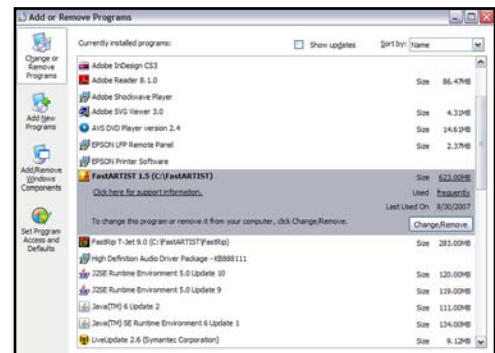


If you wish to be able to print DIRECTLY to FastRIP from programs like CorelDRAW, Illustrator or Photoshop, you MUST put a check in by it in the Control Panel menu. This will add the printer to the Printers Window, allowing other programs access to it. Fast T-Jet Blazer Users may ONLY print directly from programs other than FastARTIST when outputting CMYK images that do not need white ink. However, we recommend you Import ALL images into FastARTIST for printing, even if using an eight color system.

Removing FastARTIST

If FastARTIST is not operating correctly and you are asked to uninstall it, move any artwork you have stored in the FastARTIST root directory into a separate folder before deleting the program. Select *Add/Remove programs* from the Control Panel (*Start > Settings > Control Panel*), highlight FastARTIST and select *Change/Remove*.

Repeat this process to remove FastRIP. **You MUST remove BOTH FastARTIST and FastRIP or the reinstallation can cause serious system errors.**



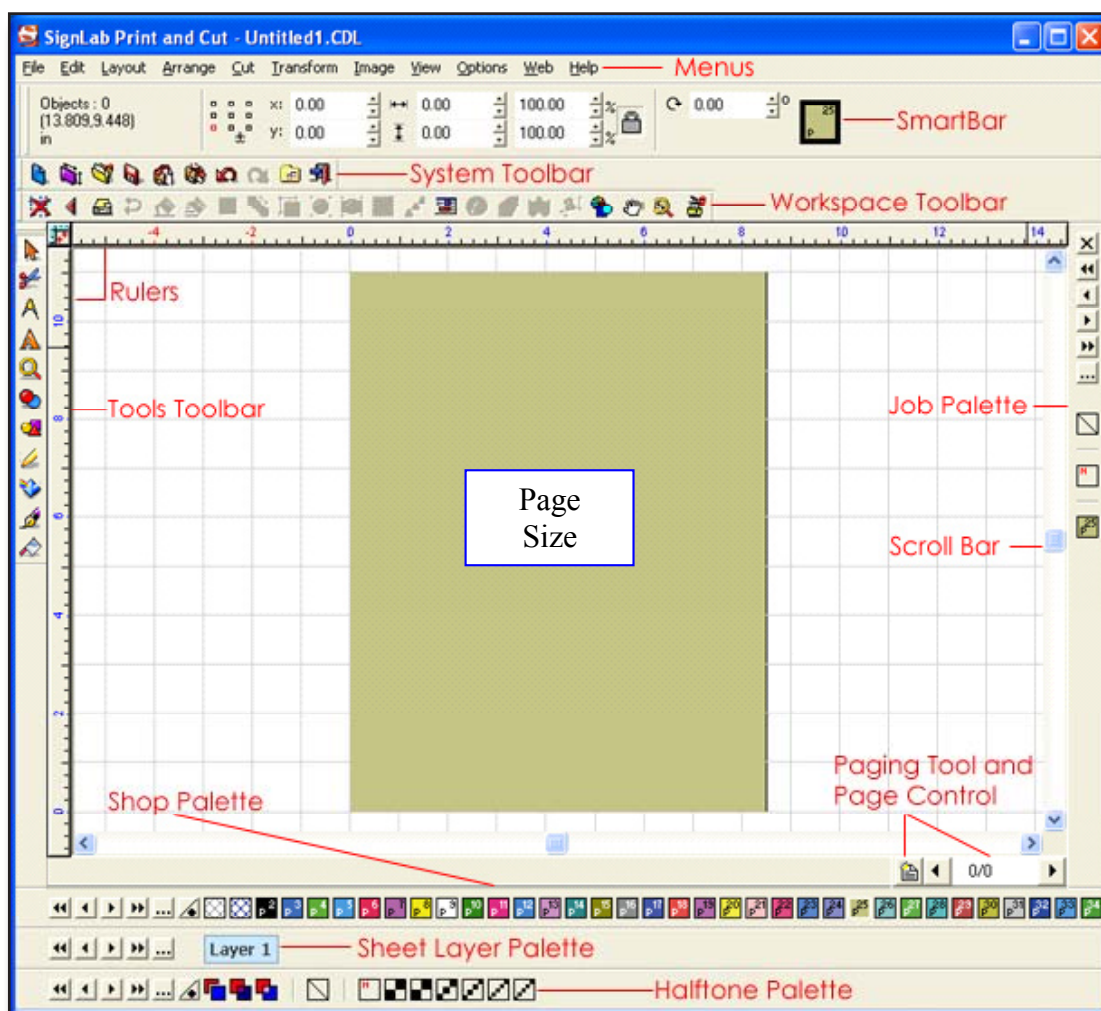
After removing both FastARTIST and FastRIP, locate the FastARTIST folder on your hard drive and delete it. Empty your Recycling Bin and begin the reinstallation process as directed.

Chapter 2

An Overview of the Workspace

Workspace Elements

The FastARTIST Workspace is a visual representation of a *Page* in which you can compose and/or manipulate an image for output. Surrounding the *Page* are numerous Toolbars to assist in creating and modifying text and images. The dimensions of the *Page Size* are determined by the printable area of your Fast T-Jet (consult your printer's User's Manual for more details), but what you can create using this powerful software is limited only by your imagination.



The basic display of Workspace Objects may be modified by accessing the View menu. The functions available from this *dropdown* are summarized in the following table:

Show Page Size	Toggles ON/OFF an outline that visually represents the <i>Page Size</i> .
Show Substrate	Set the <i>Page Size</i> color according to the substrate color, as indicated by the currently selected <i>Sheet Layer Plate</i> . When the <i>Show Substrate</i> option becomes disabled, the <i>Page Color</i> will be reset to White.
Show Fill	Toggles ON/OFF the use of wireframes to improve screen refresh time.
Show Bitmap Outlines	Toggles ON/OFF outlines in place of bitmaps to improve screen refresh time.
Link Show Fill and Bitmap Outlines	When <i>Show Fill</i> is toggled, this causes wireframes to be shown instead of the bitmap image.
Show Line Style	Toggles ON/OFF the display of line styles for Workspace Objects.
Show Overprint and Overlap	Toggles ON/OFF the display of crosshatch and diagonal patterns used to indicate a shape that will be printed with the <i>Overprint</i> or <i>Overlap</i> property.
Show Rulers	Toggles ON/OFF the display of the Workspace rulers.
Show Bitmaps Only	Hides all Objects that are not bitmaps.
Show Reduced Bitmaps	For display purposes only- reduces the color depth and resolution of bitmaps. This will improve the screen refresh time.
Show Grid	Toggles ON/OFF the display of grid lines.
Show Guide Labels	Toggles ON/OFF the display of guideline labels.
Palettes	Allows the User to choose which color palettes are visible.
Toolbars	Allows the User to choose which custom toolbars are visible.
Show Instant Replay	Displays the <i>Instant Replay</i> window.
Show Storage Bin	Displays the <i>Storage Bin</i> window.

Multiple Document Windows

To have more than one design window open at the same time, enable *Multiple Instance* under the *Options* menu. To create additional windows, you would use the *File > New* command. To manage these windows, there will be two

additional commands under the *File* menu:

- Close – Closes the current design window (You will be prompted to Save your work.)
- Close All – Closes all open design windows

Having extra FastARTIST windows allows for components of a design to be edited separately and then combined. To move a selected Object between windows, use the *Copy* and *Paste* commands. You may also *drag-and-drop* Objects between windows.

Workspace Colors

This will customize the basic appearance of the Workspace. For access, select *Options > Workspace Colors*:

- Background Color refers to the area around the *Page*.
- Grid Color refers to the grid lines in the Workspace.
- Guideline Color refers to the guides.
- Page Color refers to the edge of the *Page*.

The color of the *Page* is set within the *Current Selection* attributes found in the *Layout > Page Size* dialogue.

Refresh Screen

To refresh the Workspace, select *Edit > Redraw*.

Origin Selection

Origin Selection is used to indicate the zero-zero (0, 0) position of the *Page*. By default, this position is set to the **top left corner**.

Orientation

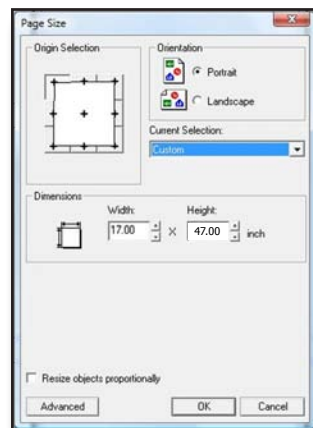
Orientation refers to the rotation of the *Page*. This setting is independent of *Page Orientation*, which is used when printing.

Page Size

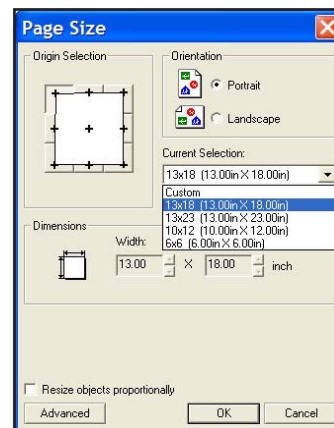
Page Size is a visual representation of the area that is available for placement of a printable image. This allows for the spatial arrangement of Workspace Objects to be verified prior to sending a job to FastRIP. *Page Size* is normally selected by using a template specifically designed for your Fast T-Jet printer, but you may

customize this as long as you don't exceed the maximum printable dimensions of your machine. (Consult your printer's User's Manual for details.)

The *Page Size* dialogue is accessed by choosing *Layout > Page Size*.



T-Jet Blazer



T-Jet 3

Current Selection

The *Current Selection* dropdown menu is used to choose the dimensions (width by height) of the *Page Size*. If *Custom Size* is chosen, then the Width and Height fields must be manually entered.



FastARTIST refers to its Page dimensions in terms of “Width” and “Height.” For purposes of printing a two-dimensional image on a garment or non-textile item, it is important to be aware of the fact that “height” means the same thing as “length.”

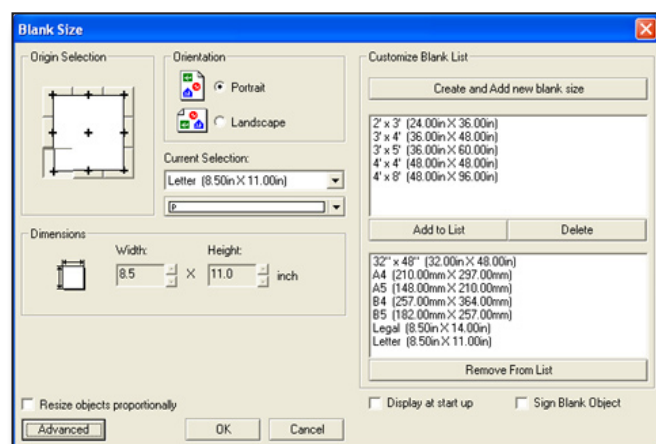
Dimensions

The *Dimensions* section of the *Page Size* dialogue displays the current dimensions of the *Page*. If the *Landscape* option is enabled, the image's orientation will be rotated 90° clockwise.

Advanced Settings

Click on the *Advanced* button to toggle ON/OFF the display of the *Advanced Blank Size Controls*.

(Note: *Blank* and *Page* are synonymous within this application).



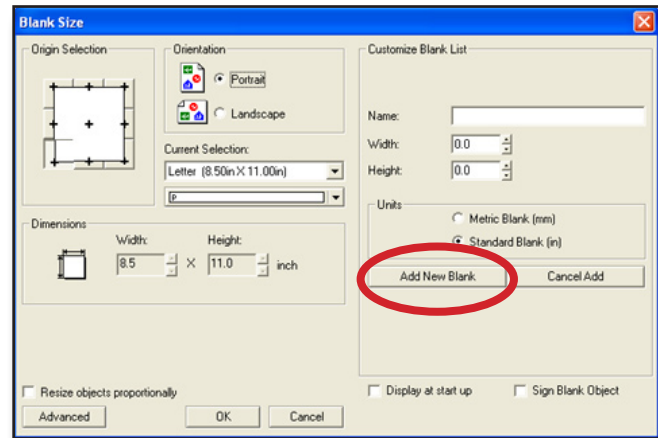
These controls are used to create a new *Page Size (Blank)* that can be added to the *Current Selection* list.

The *Advanced Controls* window contains two lists of *Page Sizes*. The top list contains *Page Sizes* that have yet to be added to the *Current Selection* dropdown menu. The bottom list contains *Page Sizes* that are already available from the *Current Selection* dropdown menu.

Create and Add a New Blank

If the *Create and Add new blank* size button is pressed, the *Advanced Blank Size Controls* will be temporarily replaced with controls for entering a new *Page Size*.

After entering the Name, Width, Height and Units for the new *Blank*, click on the *Add New Blank* button. The new *Page Size* will be added to the list of available *Page Sizes*.



Add to List

For a selected *Page Size* in the top list, click on the *Add to List* button to add it to the *Current Selection* dropdown menu.

Delete

For a selected *Page Size* in the top list, click on the *Delete* button to remove it completely.

Remove From List

To remove a *Page Size* from the *Current Selection* dropdown menu, highlight it in the bottom list and click on the *Remove From List* button. The *Page Size* will remain in the top list to be selected at a later time.

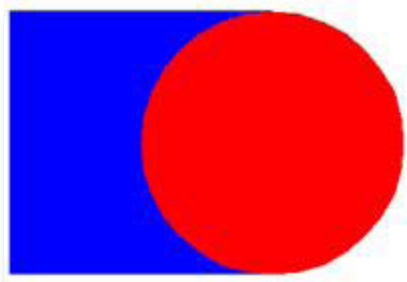
Display at Start Up

If the *Display at start up* option is enabled, the *Page Size* dialogue will open when a new *Workspace* is created.

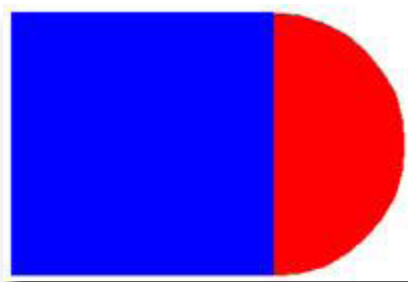
Order of Workspace Objects

Objects are usually edited in terms of their width and height, however Workspace Objects also have a layering order that determines which Objects appear on top of other Objects. The order of individual Objects may be modified using the following commands from the *Arrange > Order* menu.

To Front	[Ctrl + F]	Position the selected Object before all other Objects
To Back	[Ctrl + B]	Position the selected Object behind all other Objects
Forward	[Ctrl + U]	Increase the relative position of the Object
Backward	[Ctrl + L]	Decrease the relative position of the Object
Reverse	[Ctrl + M]	Invert the relative order for a group of selected Objects



Circle has a **higher** layer order than the square



Circle has a **lower** layer order than the square

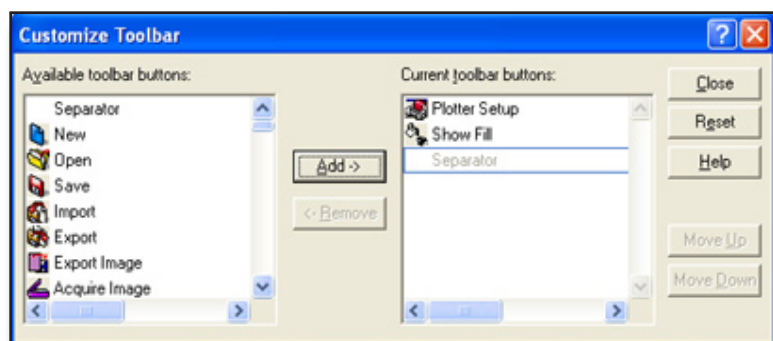
Toolbars

There are four toolbars available in FastARTIST- *System*, *Operation*, *Workspace* and *Tools*.

- To toggle a toolbar ON or OFF, select *View > Toolbars*.
- To customize the toolbars, select *View > Toolbars > Customize*.
- Toolbars may also be customized by *right-clicking* on them.

Custom Toolbars

The *System*, *Workspace* and *Tools* toolbars are available by default. The additional toolbar, *Operation*, may be toggled ON from the *View* menu.



Should you wish to create a new Toolbar, you would use the *Customize Toolbar* dialogue to *Add*, *Remove* or rearrange the available commands.

The *Customize Toolbar* controls available are:

Available Toolbar Buttons	This list displays the buttons that are not currently on the <i>Customizable Tool Palette</i> . To add a button to the palette, first select the button from this list, and then click on the <i>Add</i> button.
Add	To add a button to the Customizable Tool Palette, select a button from the Available toolbar buttons list, and then click on the <i>Add</i> button.
Current Toolbar Buttons	This list displays the buttons that are currently on the Customizable Tool Palette. To remove a button from this list, first select the button from this list, and then click on the <i>Remove</i> button.
Remove	To remove a button from the <i>Customizable Tool Palette</i> , select a button from the Current toolbar buttons list, and then click on the <i>Remove</i> button.
Close	Click on the <i>Close</i> button to exit the <i>Customize Toolbar</i> dialogue.
Reset	The <i>Reset</i> button returns the <i>Customizable Tool Palette</i> to the settings that were in effect when the <i>Customize Toolbar</i> dialogue was opened.
Help	Press the <i>Help</i> button to access the On-line Help.
Move Up	To increase the priority of a button, first select that button in the Current toolbar buttons list, and then click on the <i>Move Up</i> button.
Move Down	To decrease the priority of a button, first select that button in the Current toolbar buttons list, and then click on the <i>Move Down</i> button.

System Toolbar



The System toolbar includes the tools for file operations. To toggle the toolbar ON/OFF, select *View > Toolbars*.



New Open a new Workspace



Blank Size Opens the *Blank Size* dialogue where you can change the dimensions and orientation of the *Page*



Open Open a previously stored selection of operations

	Save	To save operations for later use, select the desired operations and click on <i>Save File</i> .
	Import	Import a file into the Workspace
	Export	Exports the Workspace, allowing you to save it in a variety of file formats
	Undo	Reverse the previous operation. When node editing, only five levels of <i>Undo</i> are permitted.
	Redo	Reverse the previously performed <i>Undo</i> operation
	Close Window	Closes the current FastARTIST window
	Exit	Exit FastARTIST.

Workspace Toolbar

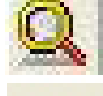
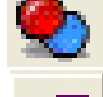
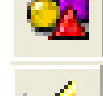


	Remove All Guides
	Instant Replay
	Show Storage Bin
	Simplify
	Gradient Fills
	Multi-Spot Gradient Fills

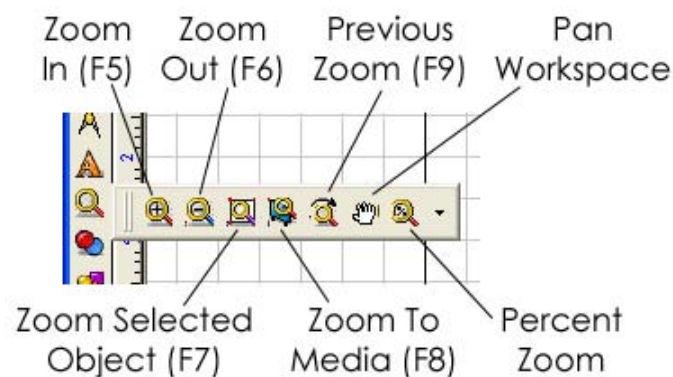
	Pattern Fills
	Metamorphosis
	Render to Bitmap
	Clipping
	Clipping Clear
	Contour Cut
	Array
	Alignment
	Outline
	Shadows
	Transformation
	Fit Text to Path
	Sort Colors - By All Objects
	Pan State
	Percent Zoom
	Print and Cut

Tools Toolbar



	Select	The <i>Select</i> tool is used to select Objects.
	Measure	<i>Measure</i> tools are used to label Workspace dimensions, and to place notes about Workspace Objects.
	Text	<i>Text</i> tools are used for creating text on the Workspace.
	Zoom	<i>Zoom</i> tools are used to zoom in and out to view the <i>Page</i> .
	Weld	<i>Weld</i> tools are used to bond overlapping shapes into a combined Object.
	Shape	Basic shapes are available from the <i>Shapes</i> toolbar.
	Graphics Edit	The <i>Graphics Edit</i> tools are available for <i>node</i> , <i>free</i> , and <i>arc</i> editing.
	Scan	The <i>Scan</i> tools include <i>FastScan</i> , <i>Photo_Machine</i> , and <i>Center_Line_Tracing</i> .
	Stroke and Fill	<i>Line Style</i> , <i>Gradient</i> and <i>Pattern Fills</i> are available from the <i>Stroke and Fill</i> toolbar
	Ginsu Knife	<i>Open</i> and <i>Close Path</i> tools are available from the <i>Ginsu Knife</i> toolbar.

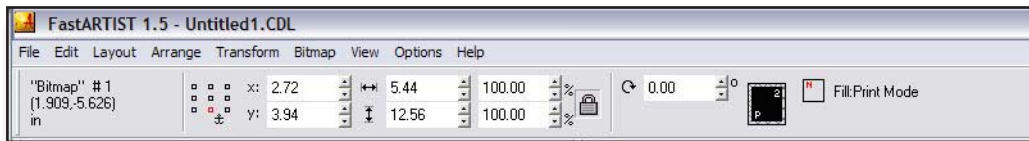
Zoom Tools



The zoom functions:

	Zoom In	[F5]	Focus on marquee drawn by cursor. <i>Right-click</i> on to zoom out.
	Zoom Out	[F6]	Display more area of the Workspace.
	Zoom to Selected Object	[F7]	Fit the viewing area to the selected Objects. If no Objects are selected, then fit to all Objects.
	Zoom to Blank Size	[F8]	Fit the viewing area to the <i>Page</i> .
	Zoom to Previous View	[F9]	Toggle between the current and previous zoom levels.
	Pan Workspace	[Middle Button]	Click-and-hold on Workspace, then drag view.
	Percent Zoom	[Mouse Wheel]	View Workspace at a specific zoom level.

SmartBar Controls



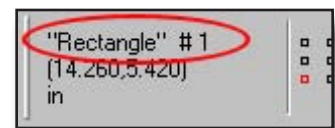
The SmartBar is a special toolbar in FastARTIST that provides context-sensitive controls according to the type of operation that is being performed. When a shape is selected, the SmartBar displays information such the Object's Size and Position.



If you undock or close the SmartBar, there is no button to push to "find" or restore the SmartBar. If you do not have a SmartBar, please call Technical Support for help with restoring it.

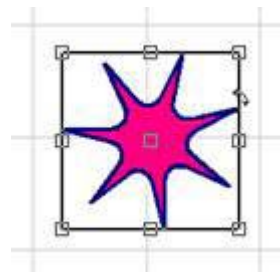
Objects Selected

The Object type is listed at the far-left of the SmartBar. The number after the Object type indicates the database order of the Object. When pressing [TAB] to advance between different Objects, the [TAB] order is the same as the database order.

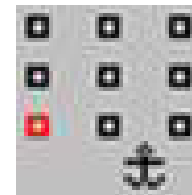


Current Nub

Selecting an Object will reveal its bounding-box, which are nine square nubs used for moving, scaling and resizing. Within the SmartBar, the anchor controls indicate the current nub. When the SmartBar is used to move or resize an Object, the current nub is used as the reference point. For example, clicking the lower-left nub in the SmartBar will indicate that Object should be resized with respect to its lower-left bounding box.



Selected object

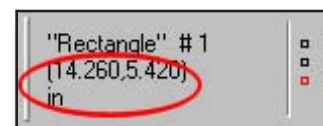


Anchor controls

If the anchor nub is clicked in the SmartBar, then a small, "anchor" icon will appear within the bounding box. To use the anchor nub, position the anchor over a specific part of the shape and type new X and Y coordinates in the SmartBar. The anchor will be moved to the new coordinates and the Object will be moved with the anchor.

X & Y Coordinates of Mouse/Cursor

Below the *Objects Selected* field, the X and Y coordinates of the cursor are displayed, as well as the current units of measurement that are being used on the Workspace.



Object Coordinates

The X and Y fields display the coordinates of the selected Object.

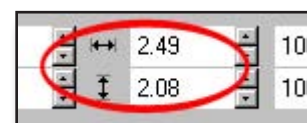
These coordinates may be changed by dragging the Object with the mouse or by entering a new value in one of the fields. After entering new data in a field, press the [Enter] key to confirm the new coordinates.



Object Width and Height

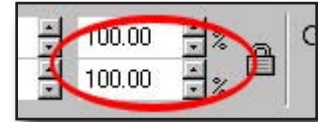
The *Width* and *Height* fields display the size of the selected Object.

These dimensions may be changed by resizing the Object with the mouse or by entering a new value in one of the fields. After entering new data in a field, press the [Enter] key to confirm the new values.



Object Scale

The *Object Scale* fields are used to resize the Object as a percentage of its original dimensions.



The *Object Scale* arrows will resize the Object in 5% increments or you may the values by manually entering data into one or both fields. After entering new data in a field(s), press the [Enter] key to confirm the new values.

Aspect Ratio

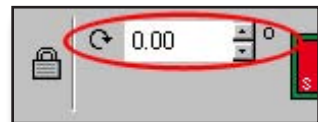
When an Object is either resized or scaled, the *Aspect Ratio* button may be maintained by activating this button.



Rotation

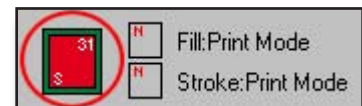
The *Rotation* field indicates to what degree the Object will be rotated.

Rotation Arrows will rotate the Object in 15 degree increments. Rotation may be manually changed by entering a new value in the field. After entering new data in a field, press the [Enter] key to confirm the new value.



Object Color

The *Fill* and *Stroke* color for the selected Object is displayed at the far right of the SmartBar . If no Object is currently selected, then the default *Fill* and *Stroke* colors are displayed.



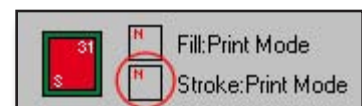
Fill Primer

The *Fill Primer* indicates which *Primer* color has been applied to the Object *Fill*. If no Object is currently selected, then the *Fill Primer* will not be displayed.



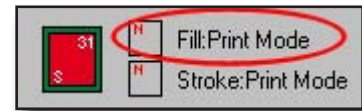
Stroke Primer

The *Stroke Primer* indicates the primer color that has been applied to the Object *Stroke*. If no Object is currently selected, then the *Stroke Primer* will not be displayed.



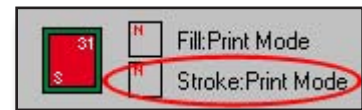
Fill Halftone

Fill Halftone indicates the halftone that has been applied to the Object *Fill* color. If no Object is currently selected, then *Fill Halftone* will not be displayed.



Stroke Halftone

Stroke Halftone indicates the halftone that has been applied to the Object *Stroke* color. If no Object is currently selected, then *Stroke Halftone* will not be displayed.



Scrolling and Panning

Scroll bars along the vertical edge and bottom of the screen enable viewing any portions of a graphic not currently in the window.

Vertical/Horizontal Scroll Bars

Vertical and *Horizontal Scroll Bars* are used to scroll through the current window to view another part of the image. This is very useful when viewing a graphic in zoom mode.

Scroll Bar Arrows

Clicking on an *Arrow* causes the viewing window to move in the direction indicated by that *Arrow*. This will have the appearance of moving the graphic in the opposite direction a short distance. This distance is approximately 1/10 the width or height of the view screen, depending on whether you are moving the screen vertically or horizontally.

Scroll Bar Elevators

Clicking on a *Scroll Elevator* causes the viewing window to move in the appropriate direction a large distance. The distance moved is approximately equal to 1/3 the width or height of your view screen, depending on whether you are moving your view vertically or horizontally.

Scroll Bar Thumb

Dragging a *Scroll Bar Thumb* within the *Scroll Bar* causes the viewing window to move in the direction of the thumb in very large increments. How far the view

screen actually moves depends on how far the thumb is moved within the *Scroll Bars*. When deciding how far to drag the *Scroll Thumb*, be aware that the ends of the *Scroll Bar* represent the outer edges of the file on screen.

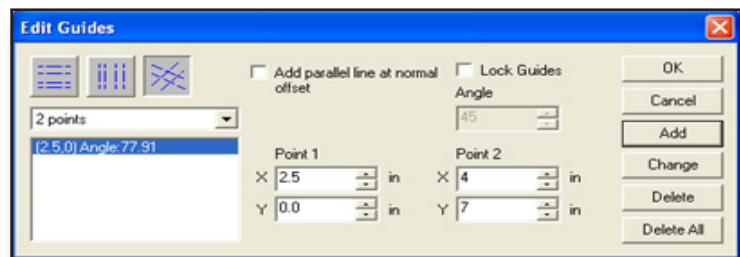
Guidelines

A guideline is a vertical or horizontal reference that is used for placing Objects. Objects will “snap” to a location when they pass over a guideline.

You may create and edit guidelines several different ways:

1. *Right-click* on a ruler to create a guide

2. To create guidelines for a selected Object, press [Shift] and *right-click* on the Object handles. (This will not work when editing a parametric shape.)



3. To add guides when Node editing, press [Shift] and *right-click* on the Node

4. Open the *Edit Guides* dialogue by *right-clicking* on the Workspace with no Objects selected

5. Open the *Edit Guides* dialogue by selecting *Options > Guides > Edit Guides*

6. When dragging the position of a guide, press [Shift] to constrain a guideline to the nearest ruler increment

7. To remove a guide, press [Shift] and *right-click* on the guide with no Objects selected

As an example, the following steps will create a guideline between two points:

1. *Right-click* on the Workspace to open the *Edit Guides* dialogue

2. Set the guideline orientation to diagonal and choose two points from the drop-down list

3. Set the coordinates for Point 1 and Point 2 and click on the *Add* button. The resulting guideline will pass through the indicated points

Note: As many as sixty guidelines in either direction may be displayed on the screen at one time.

Align Palette

Holding down the [Ctrl] key while *right-clicking* on the Workspace will display the *Align Palette*. This provides tools for aligning Objects with respect to any grid lines.



Set Origin

Set the grid origin to the selected location.



Resize grid

Resize the grid increments based on the distance between the selected location and the grid origin.



Snap to Grid Intersection

Move the Object, such that the nub is at the nearest grid intersection.



Snap Vertically

Move the Object, such that the nub is at the nearest horizontal grid line.



Snap Horizontally

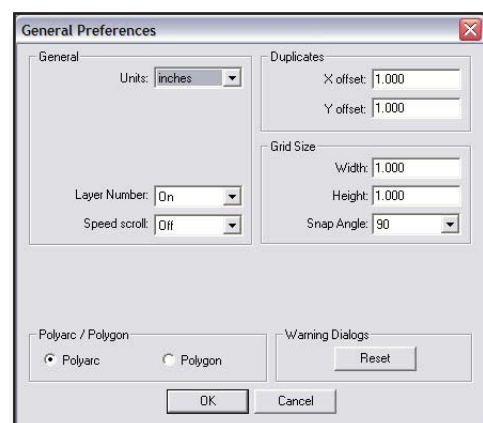
Move the Object, such that the nub is at the nearest vertical grid line.

To reset the Origin, choose *Reset Origin* under the *Options* menu.

Workspace Options

General Preferences

The *General Preferences* dialogue contains basic Workspace settings that are common to most features. To access this window, select *Options > FastARTIST Setup > General Preferences*.



Units

Unless otherwise specified, the *Units* set in the General Preferences dialogue will be used throughout the FastARTIST Workspace and features. You may also change the *Units* used by clicking on the Workspace rulers.

Layer Number

The *Layer Number* toggles the display of *Color Plate* numbers.

Speed Scrolling

If *Speed Scrolling* is active, then dragging off the edges of the Workspace will cause the Workspace to scroll. There are three options for speed scrolling:

Off	Disable speed scrolling
Object Move	Only perform speed scrolling when dragging an Object.
Full	Perform speed scrolling when dragging an Object, or when dragging a marquee.

Duplicates

When using the *Duplicate* command, *Offsets* specified here will be applied to the placing of new Objects with respect to the original.

Grid Size

The grid dimensions are set in the *General Preferences* dialogue. The *Snap Angle* is used when [Ctrl] is held during certain operations, such as when editing line segments and corners.

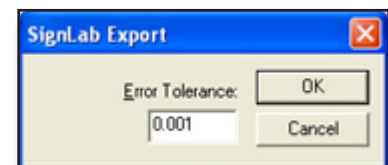
Polyarc/Polygon

The Polyarc/Polygon setting indicates the type of shape that is produced by certain features, such as *Welds*, *Shadows* or *Outlines*.

Export Error Tolerance

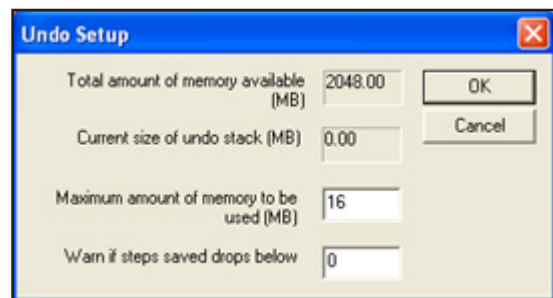
When *Exporting* a file from FastARTIST, the file sometimes contains a very large number of *Nodes*. This is especially true of artwork that was originally imported from another software application. As a solution, FastARTIST files can be exported using a certain *Tolerance Level*. This will make the exported artwork smoother, as well as substantially reduce the number of required *Nodes*.

Error Tolerance is specified using the current Workspace units. We caution against a high *Error Tolerance* value, since this may introduce distortions of the exported Objects. Generally, the default values (0.001 or 1/1,000 of an inch) will work very well for most files.



Undo Setup

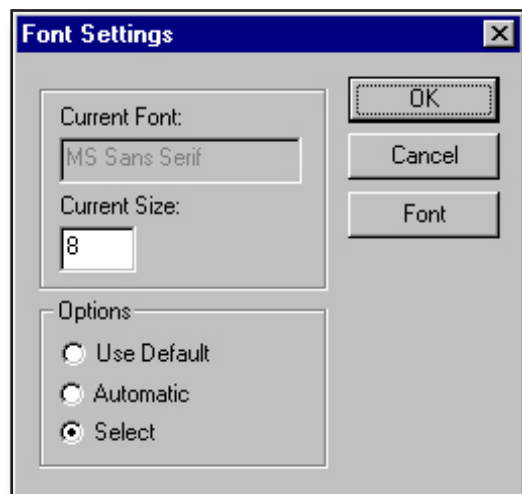
The Undo Setup dialogue is used to limit the resources that are used for storing Undo operations. Limiting the resources can prevent the loss of system performance that could occur when large quantities of image data are in the Undo stack.



Font Setup

Font Settings are used to specify the font type and point size used in dialogue boxes.

Use Default	Indicates that the standard Windows font should be used.
Automatic	Chooses the most appropriate font to be used.
Select	Enables the dialogue font to be chosen.



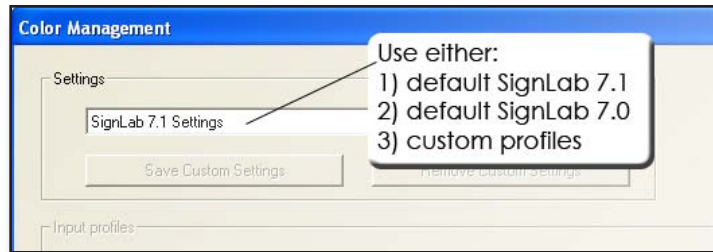
Color Management

Monitors and printers are sometimes referred to by the quality of their *gamut*. Gamut represents the entire range of colors that a device is capable of reproducing. Although it is not possible, a perfect gamut would be all the colors the human eye is capable of perceiving. Compared to large format printers, monitors have a smaller gamut. Furthermore, some printer colors are not reproducible on a monitor and vice-versa.

Color Management settings can be accessed through the *Options* menu. These settings indicate the input and output profiles that will be used when:

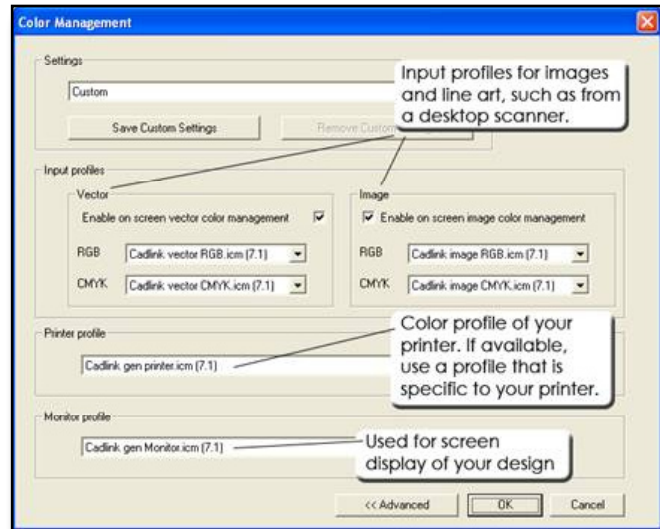
- Using a device (i.e., a scanner) to import an image or line art
- Using a monitor to display the artwork while editing
- Printing to a specific model of printer with specific media and loaded inks

When FastARTIST is installed, SignLab 7.1 settings are used as the default profile. For previous FastARTIST users, SignLab 7.0 profiles are available if needed.



Select *Custom* and click on *Advanced* to select the specific desired.

When using FastARTIST for screen proofing, the *Color Management* profile is used to reconcile printer colors with that of the monitor and produce an image as it would appear when printed.

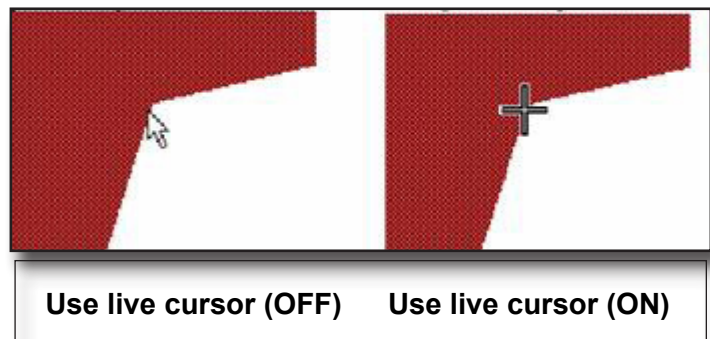


Selection Tool Settings

The *Selection Settings* determine Workspace behavior when shapes are selected and moved using the cursor.

Use Live Cursor

The *Use live cursor* will recognize when it passes over an Object.



Use Filled Region to Select

By default, clicking within the filled region of a shape will cause that shape to become selected. However, this may not be desirable where a complex Workspace has multiple overlapping shapes. If the *Use Filled Region to Select* option is disabled, then a shape may only be selected by clicking the edge of that shape.

Use Default Snapping Range

The *Snapping Range* determines how close a mouse click must be before it snaps to the nearest grid or line. The default range is three pixels. Uncheck this option and enter a number in the data box to create a custom range.

Highlight Selected Objects

The *Highlight selected Objects* option is used to draw a border around the desired Objects. The Highlight size field may be used to make the highlight more prominent.

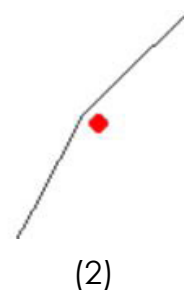
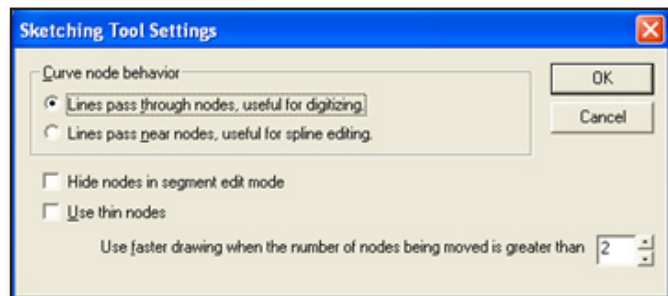
Shapes that are on a *Cut Only* layer will be given a **Red** highlight. For shapes that are on a *Print and Cut* layer, you may select the color for the highlight. These highlights are intended as a quick visual cue to confirm the nature of a given shape.

Sketch Tool Settings

Sketch Tool Settings are used in conjunction with Graphic Creation tools and for editing vector graphics.

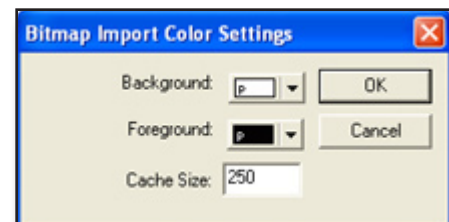
Under the *Curve node behavior* heading there are two options.

1. The *Lines pass through nodes* option will cause lines to pass directly through the center of a given Node.
2. The *Lines pass near nodes* option will cause the line to pass near but not touching the Node.



Import Bitmap Setup

When importing a monochrome bitmap, the *Bitmap Import Color Settings* dialogue will specify the Foreground and Background colors of the bitmap.



Display Units

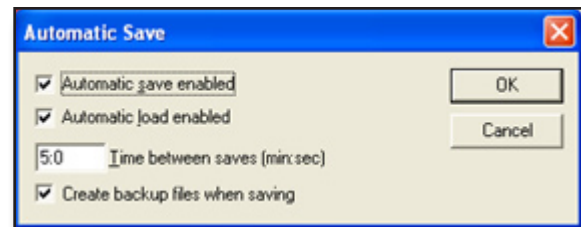
The *Unit Properties* dialogue specifies the units and precision with which Workspace controls are displayed.



Automatic Save

The *Automatic Save* feature is used to store the current Workspace at preset intervals. This protects against the loss of work due to system failure.

If a system failure does occur, then restarting FastARTIST will restore the Workspace. The amount of work recovered will depend on the *Time between saves* setting. If the time interval is too large, then a significant amount of work could potentially be lost. However, setting a time interval that is too small will cause FastARTIST to frequently interrupt your work when performing auto saves.



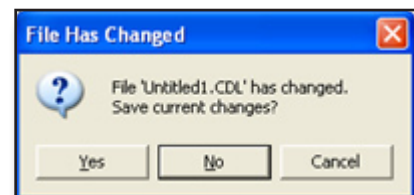
Automatic Load Enabled

Automatic Load is only valid when the *Automatic save enabled* option is checked. When active, restarting FastARTIST will automatically restore the last Workspace that had been stored by the *Automatic save enabled* option.

This feature is useful where FastARTIST has been shut down using the *File > Exit* command, but when you neglected to save the Workspace.

Create Backup Files When Saving

When the *Save* or *Save As* commands are used, a backup (.BAK) file will also be created. The backup file will have the same preface name as the Workspace (.CDL) file, and it will be stored in the same directory.



Backup files are a good safety measure against losing work. However, old backup files must be periodically purged from the system- they can potentially consume tremendous amounts of hard drive space.

Ruler Positions

To change the ruler positions on the Workspace, select *Options > Ruler Positions*. Select *View > Show Rulers* to toggle the rulers ON or OFF.

Hot Key Listings

Customize Shortcuts

This dialogue box allows you to modify any Hot Key combination to one of your choosing. Listed on the following pages are the default Hot Key combinations.

Generic Hot Keys

Nudge selected Object by one pixel	[Arrow key]
Nudge selected Object by five pixels	[Shift + arrow key]
Change current focus to next Object in sequence	[Tab]
Change current focus to previous Object in sequence	[Shift + Tab]
Move/Draw/Edit/Select with horizontal and vertical constraint	[Ctrl + Select tool]

Alignment Hot Keys

Horizontally align Objects along left-edge of bounds	[Alt + 1]
Horizontally center Objects within bounds	[Alt + 2]
Horizontally align Objects along right-edge of bounds	[Alt + 3]
Vertically align Objects along top-edge of bounds	[Alt + 4]
Vertically center Objects within bounds	[Alt + 5]
Vertically align Objects along bottom-edge of bounds	[Alt + 6]
Center Objects both horizontally and vertically	[Alt + 7]

Note: "Bounds" refers to the rectangular outline of each Object.

File Menu Hot Keys

New Workspace	[Ctrl + N]
---------------	------------

Open Workspace	[Ctrl + O]
Save Workspace	[Ctrl + S]
Print Workspace Objects	[Ctrl + P]

Edit Menu Hot Keys

Undo last command	[Ctrl + Z] or [Alt + Backspace]
Redo last command	[Ctrl + Y] or [Ctrl + Backspace]
Repeat last command	[Ctrl + R]
Cut selected Object	[Ctrl + X] or [Shift + Del]
Copy selected Object	[Ctrl + C] or [Ctrl + Insert]
Paste Object	[Ctrl + V] or [Shift + Insert]
Delete selected Object	[Del]
Duplicate selected Object	[Ctrl + D]
Edit selected Object	[Ctrl + E]
Edit font of selected text	[Ctrl + I]
Select all Objects on Workspace	[F3] or [Ctrl + A]
Deselect all Objects	[Shift + F3]
Inverse the selection of Objects	[Alt + F3]
Refresh the Workspace display	[F4] or [Alt + D]

Layout Menu Hot Keys

Activate the Alignment feature	[Alt + K]
Apply the current <i>Alignment</i> dialogue settings	[Ctrl + K]
Group the selected Objects	[Ctrl + G]
Ungroup the selected Objects	[Alt + G]

Arrange Menu Hot Keys

Move the selected Object to the top layer	[Ctrl + F]
---	------------

Move the selected Object to the bottom layer	[Ctrl + B]
Move the selected Object up one layer	[Ctrl + U]
Move the selected Object down one layer	[Ctrl + L]
Reverse the layer order of the selected Objects	[Ctrl + M]
Create a common path from the selected Objects	[Ctrl + H]
Reverse the common path that was applied to a group of selected Objects	[Ctrl + J]
Convert the selected text to graphic Objects	[Alt + B]
Simplify the selected Object	[Shift + F2]
Create a clipping shape from the current selection	[Alt + C]
Remove the clipping that was created	[Alt + U]

View Menu Hot Keys

Toggle the display of Object fills	[Alt + S]
Toggle the display of bitmaps	[Alt + M]
Toggle the display of the line style	[Alt + N]
Toggle the display of the rulers	[Alt + R]
Toggle the display of the <i>Instant Replay</i> window	[Alt + I]

Options Menu Hot Keys

Snap to grid	[Ctrl + W]
Use guides	[Alt + W]

Functions Keys

Help	[F1]
Disable all <i>Shop palette</i> colors except the current target color	[F2]
Select all Objects	[F3]
Refresh the Workspace	[F4]
Activate the Zoom In tool	[F5]

Zoom out	[F6]
Zoom in	[Shift + F6]
Zoom to selected Object	[F7]
Zoom to <i>Page</i>	[F8]
Toggle between current and previous zoom levels	[F9]
Select the menu bar	[F10]
Pan Workspace toward current mouse position	[F11]

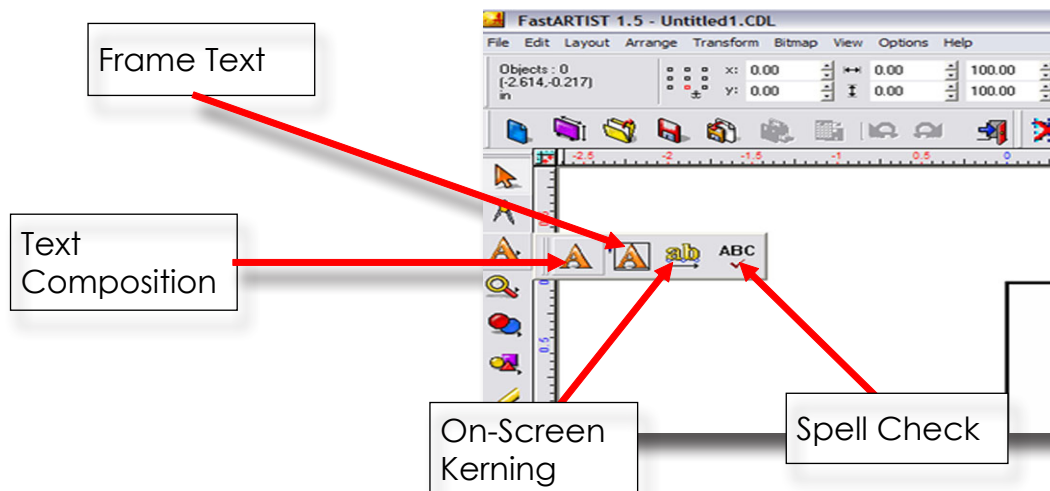
Cut Menu Hot Keys

Open the Cut Preview plotting controls	[Alt + P]
--	-----------

Chapter 3

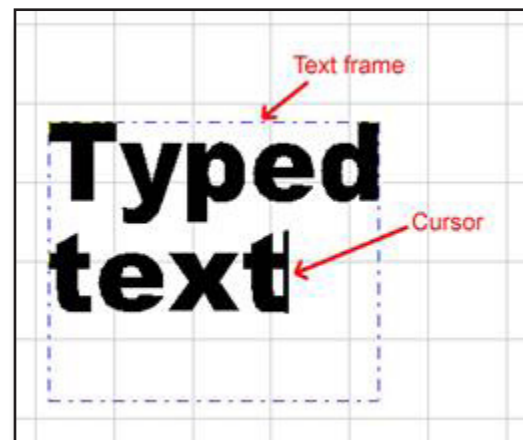
Working with Text

Text tools can be accessed through the *Text Tools flyout*. Here you will find four options:

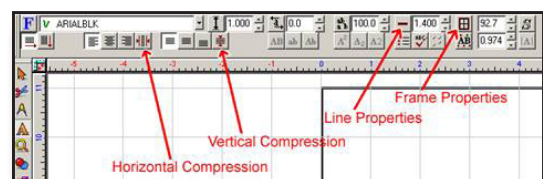


Text Composition

This is the main option you will use when adding text. Select this option and drag a marquee within the Workspace with the mouse. The marquee will be represented by a dashed rectangular that will remain fixed as text is typed. When adding characters inside the marquee, its properties will determine how the text will compress, expand and wrap.

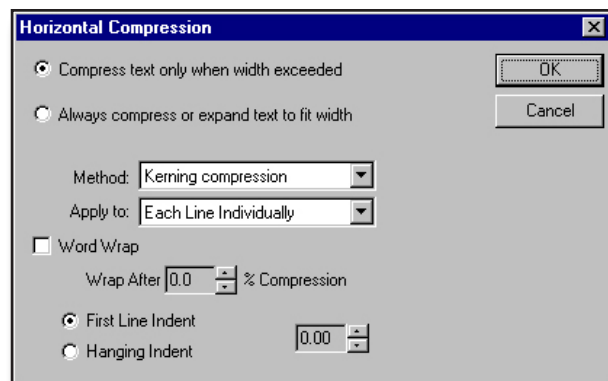


The *Horizontal Compression*, *Vertical Compression* and *Line Properties* buttons are used to change the behavior of how text fits within the frame.



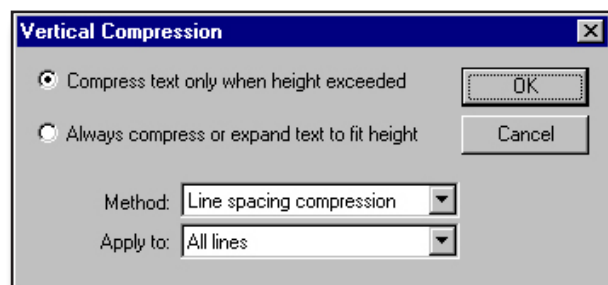
Horizontal Compression

Click on the *Horizontal Compression* button to modify how text is arranged to fit on a line. Using compression, text may be prevented from exceeding a set line length. Conversely, expansion may also be used to spread text over the entire line length. *Word Wrap* can be set to occur after a specific amount of compression has occurred. This command is only available when the text frame width is fixed.



Vertical Compression

The *Vertical Compression* button may be clicked to specify how lines of text are arranged within a text frame. This command is only available when the text frame height is fixed.



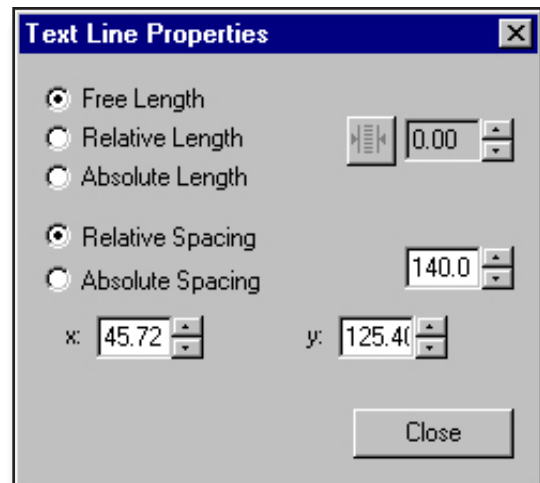
If a given line of text contains a mix of character sizes, then vertical compression will be based on the height of the first character on that line.

Line Properties



Clicking on this button brings up the *Text Line Properties* dialogue.

- The *Free Length* option allows the line to run to its "natural" length, based on the height, width and kerning settings.
- *Relative Length* will resize the line to a percentage of its natural length.
- *Absolute Length* will fix the line to a specific length.

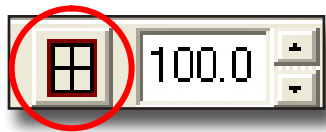


Spacing is used to determine the vertical distance between successive lines of text.

- *Relative Spacing* is expressed as a percentage of the font height. Typically, a relative spacing of 150% is a reasonable default.
- *Absolute Spacing* will maintain a set distance between successive lines, expressed in current Workspace units.

The X and Y fields will position a line of text at specific coordinates.

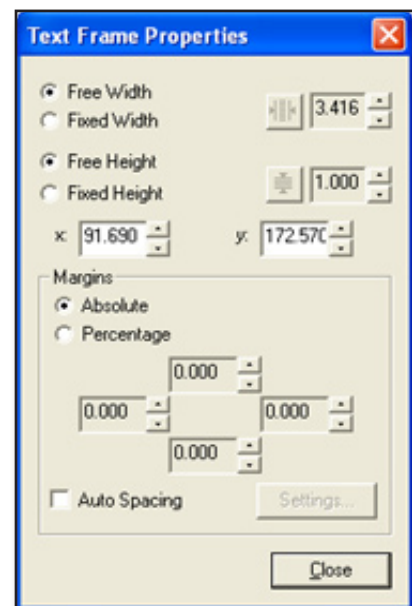
Frame Text



The purpose of a *Text Frame* is to constrain text to a given height and width. Click on the *Frame Properties* button to open the Text Frame Properties dialogue.

If you select the *Free Width* or *Free Height* options, the text will be set according to the default height, width and kerning settings for the given font. *Fixed Height* and *Fixed Width* will constrain fonts to User Defined values.

The X and Y fields are used to position a line of text at specific coordinates.



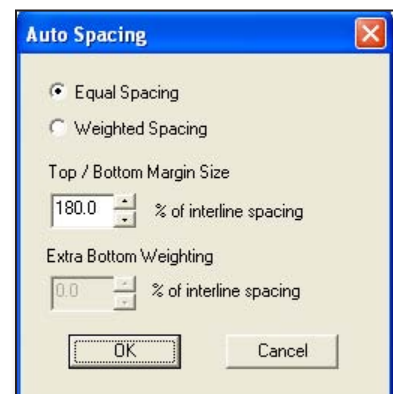
Text frame *Margins* may be set in terms of absolute distances from the text frame edge, or by a percentage of the text frame size.

Auto Spacing

Checking the *Auto Spacing* option will enable the *Settings* button. Clicking on the *Settings* button will open the *Auto Spacing* dialogue.



To use the Auto Spacing controls, the text must have been created using the Frame Text Compose option.

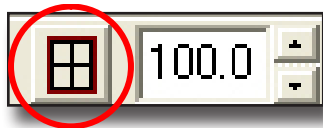


Equal Spacing

Equal Spacing establishes lines of text at equal distances apart. The *Top/Bottom Margin Size* settings affect interline spacing. A value of less than 0 will decrease the distance between the lines of text. A value greater than 0 will increase the distance between the lines of text.

Weighted Spacing

Selecting *Weighted Spacing* will enable the spacing between lines of text to vary. Entering a value of greater than 100% in *Extra Bottom Weighting* will increase the size of the bottom margin. Entering a value of less than 100% in *Extra Bottom Weighting* will decrease the size of bottom margin.

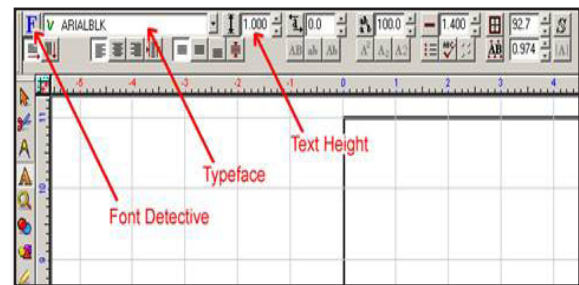
Line Compression

Next to the *Frame Properties* button is the *Line Compression* field. This field is used to compress a line to a percentage of its original width. For example, enter 50 to compress the line to 50% of its original length.

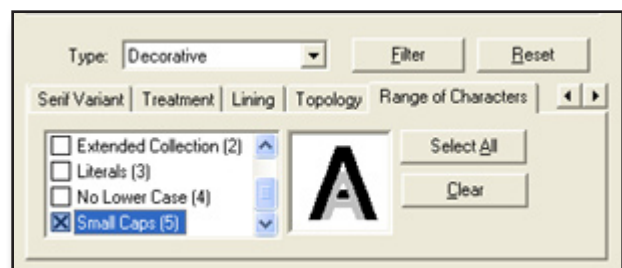
Choosing the Font

The *Typeface* dropdown list will display a menu of all installed fonts in alphabetical order.

In addition to the *dropdown* list, the *Font Detective* can be used to search for installed fonts based on specific criteria, such as thickness, script lettering and serifs. In addition to general info and location information about each font, Panose font information is displayed. Panose is a typeface matching system used to classify and/or match type styles.



For example, if you wished to locate all Small Caps fonts, set the *Type* of font to "Decorative" and limit the *Range* of characters to "Small caps." After clicking on the *Filter* button, the *Font Detective* will show all the available Small Caps fonts.



Picture Guide

When choosing which font attributes to filter for, a picture guide is provided as an aid. Some examples are as follows:



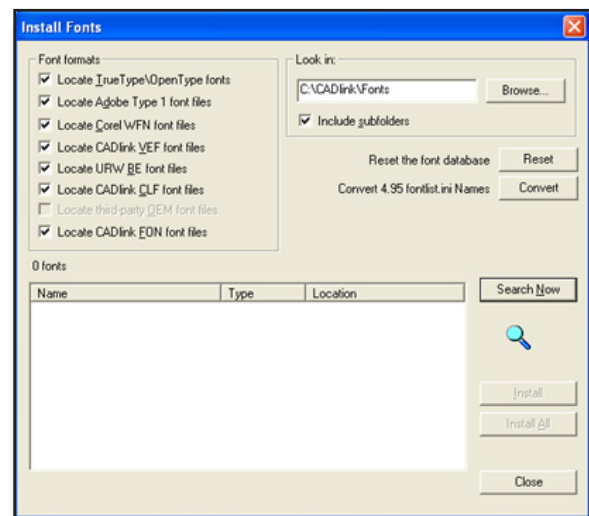
Display CADlink VEF fonts

Display CADlink VEF fonts and TrueType fonts

Installing New Fonts

FastARTIST supports a wide range of font technologies, such as TrueType and Adobe Type 1 fonts. To use a new font with FastARTIST or to use a VEF that was not installed with FastARTIST go to *File > Install > Fonts*.

You will be prompted for the location of the new font(s). Use the browse button to select the folder in from which the font(s) will be copied. If you are copying fonts from a CD, select the drive in which the CD is located.



Be cautious of registering fonts on a CD or other removable media, since this will require that the media containing the font be inserted prior to beginning FastARTIST sessions.

Specify the type of font formats that are desired and click on the *Search Now* button. A list of recognized fonts will populate the data field. These fonts may be installed individually, or you may select the *Install All* button. Once the fonts have been installed, they are registered for use within FastARTIST and they will be available from the *Typeface dropdown* menu when editing text.

Although not recommended for regular usage, the *Reset* button will remove all fonts from the database, except for CADlink VEF fonts. The *Reset* button is provided as a means of purging the database. This is a convenient means of reconciling many different font references. The fonts should be loaded again from a common folder.

Text and Special Effects

Slant

Slant is used to tilt the text either right or left. This is not a substitute for choosing an italic font, but it does create an effect that is similar to italics.



Slant is expressed in degrees with a range of +30 (right) to -30 (left) degrees. Clicking on the *Slant* button will reset the value to zero.

Slant of +15 degrees
Slant of -15 degrees

Text Orientation



Horizontal Text

Arrange text from left-to-right.

Vertical Text

Arrange text from top-to-bottom.

Justification



Left Justify

Center Justify

Right Justify

Line Spacing



Align text with top of frame

Center text within frame

Align text with bottom of frame

Case Control



Upper Case

Convert selected text to upper case.

Lower Case

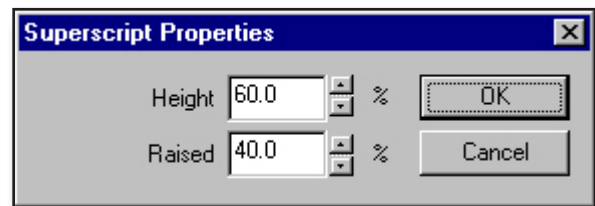
Convert all selected text to lower case.

Proper Name
Case

For each word selected, the first letter will be upper-case and the remaining letters will be lower-case.

Character Placement

You may *right-click* on both the *Superscript* and *Subscript* buttons to customize their settings.



Superscript

Create raised lettering.

Subscript

Create lowered lettering.

Unscript

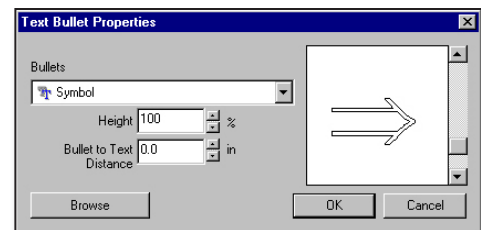
Remove superscripts and subscripts.

Bullets



Clicking on the *Bullets* button will place a bullet. To customize the shape of the bullet, *right-click* on the *Bullets* button.

The bullet design may be selected from any registered font. You may also use the *Font Detective* to assist in finding a desired font and bullet.



Spell Check

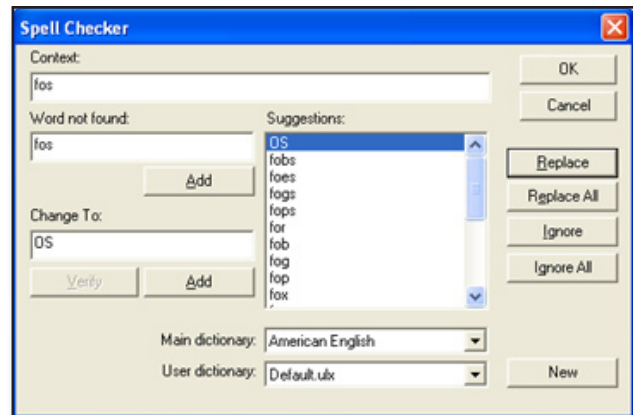


When editing text, click on the *Spell Check* button to verify the spelling of the currently selected text. If no text is selected, then the entire text object will be checked.

If spelling errors are found, the *Spell Checker* dialogue will open.

Default dictionaries for several languages are provided. The Main Dictionary selection represents the active dictionary. In addition, a User Dictionary may be created by clicking on the New button.

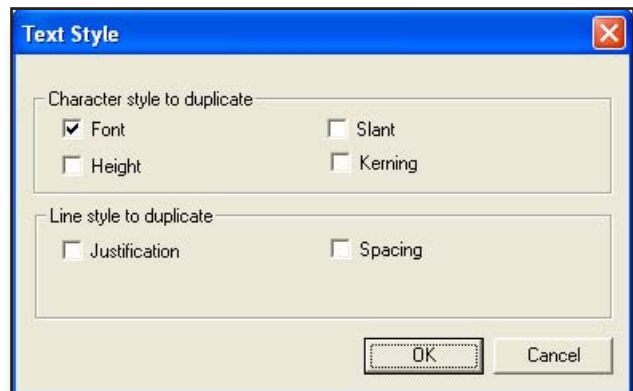
When checking for spelling errors, both the Main and User Dictionaries are referenced. If new words are added, the User Dictionary will be used to store the new word. The Main Dictionary always remains static.



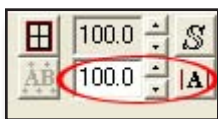
Style Painter



When editing a paragraph of text, the *Style Painter* tool is used to copy the font style from one sentence to another. By *right-clicking* on the *Style Painter* button, the *Text Style* dialogue is used to select what style elements will be copied.

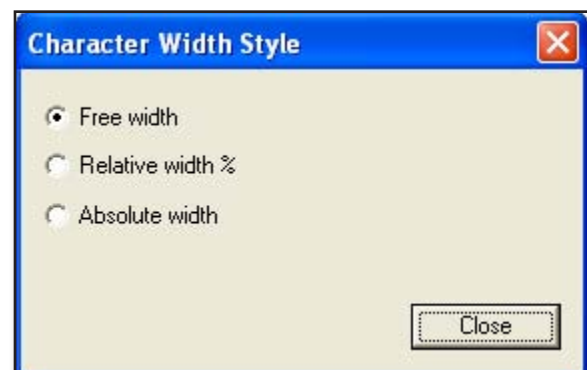


Character Width



The *Character Width* tool can apply compression to individual characters of a word. *Right-clicking* on the *Proper Character Width* button opens the *Character Width Style* dialogue.

The *Width Style* options are as follows:



Free width

Maintain the characters at their original widths. This setting does not allow the *Character Width* to be adjusted.

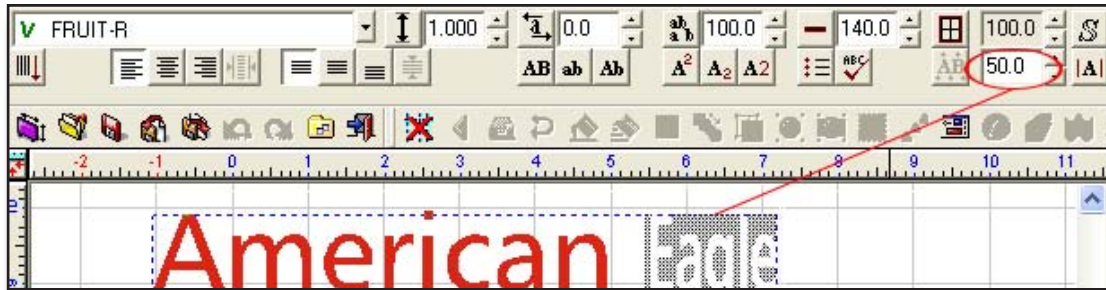
Relative width %

Adjust the character width as a percentage of the original width.

Absolute width

Adjust the character width to be a specific width.

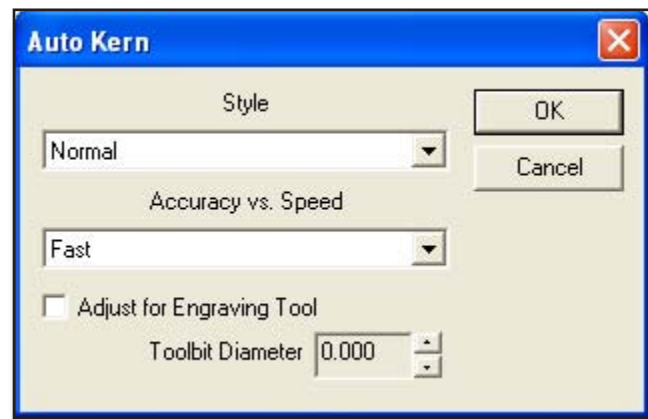
Once the type of *Width Style* has been selected, highlight the text and enter a value into the *Character Width* field. For example, the following screenshot indicates that some characters have been compressed to 50% of their normal widths.



Kerning



The *Auto Kern* command balances the white space between characters. The *Kern Percent* field is used to specify what percentage of standard kerning is to be applied. Reducing the percentage will decrease the space between characters. Increasing the percentage will move characters further apart.



Kerning of 115%
Kerning of 90%

Customize the *Auto Kern* feature by *right-clicking* on the *Auto Kern* button.

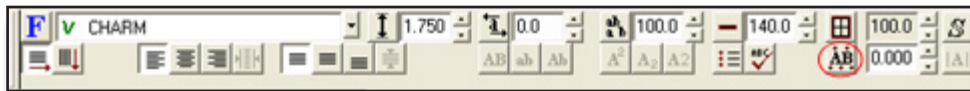
Normal	Balance the amount of white space, while maintaining normal character spacing.
Wide	Insert approximately 20% extra white space between characters.
Narrow	Remove approximately 20% of white space between characters.
Touching	Arrange the characters so that their finials touch, yet do not overlap.
Overlap	Force adjacent characters to overlap by approximately 5%.



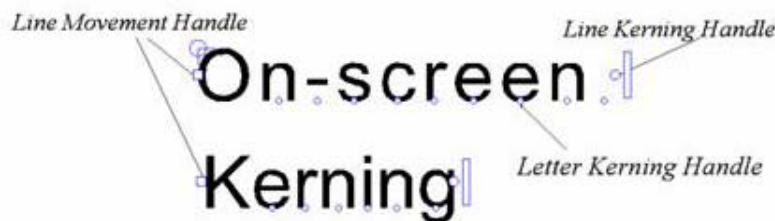
Accuracy versus Speed- Due to the number of calculations involved with finding the best kerning for a given pair of characters, it may be desirable to sacrifice some of the kerning accuracy in exchange for faster results. If so, then choose the Fast setting instead of Accuracy. The Fast setting will often produce acceptable results.

Manual Kerning

The *On-Screen Kerning* feature is used to make manual adjustments to text using a special set of kerning nubs. The kerning nubs may be used to adjust inter-line spacing, line kerning, individual letter pair kerning and the alignment skew of text.



Holding [Ctrl] and *double-clicking* on a text object will also allow you to access *On-Screen Kerning* mode.



Kerning handles may be dragged using the mouse. In addition, clicking on a handle will cause that handle to become selected and the cursor keys may be used to move that handle one pixel at a time. Holding the [Shift] key will move a handle by five pixels.

The types of kerning handles are:

- The *Line Movement Handle* - used to position the line of text. Holding the [Ctrl] key may be used to constrain the movement of the line. Holding the [Shift] key will align all the text lines along a path between the current handle and the handle of the first line.
- The *Line Kerning Handle*- used to adjust kerning for the current line. Holding the [Ctrl] key will adjust the word kerning, while keeping the space between adjacent characters constant.
- The *Letter Kerning Handle*- adjusts the kerning of characters that are opposite the Line Kerning handle.

Font Editing and Creation

FastARTIST can modify existing fonts or create new ones from scanned, digitized, or hand-drawn objects. Regardless of whether the font is new or edited, it will always be saved in .VEF format, even if the original font had been stored in another format, such as True Type (TTY) or Postscript (PFB).

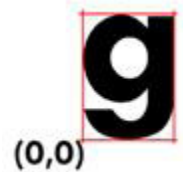
Any Workspace object can be converted into a font character. However, the object must be a single-path graphic. Imported or grouped objects must be welded and/or converted to a single path prior to creating a font version from those objects.

To import objects that have multiple paths, use the *Make Path* command to convert them into a single path. The *Text to Graphics* command must also be applied.

Editing an Existing Font

When editing fonts, it is important to understand how the placement of individual letters is accomplished. As a rule, each character's font metrics include two general types of information: (a) the shape and size of the character itself and (b) its placement in relation to the other characters in the font.

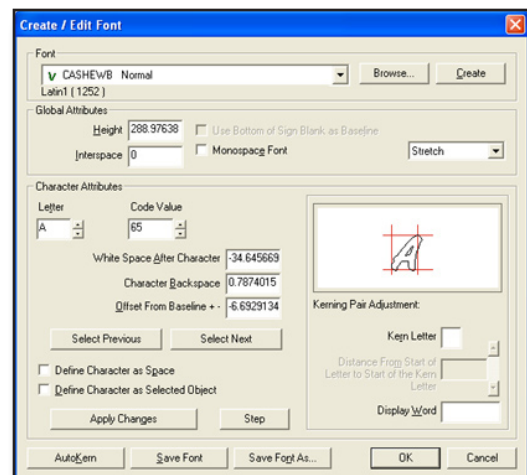
The area that a character occupies can be thought of as being an enclosed box. The box is considered to have an x-axis, a y-axis and an origin in the lower-left corner.



Such placement information is necessary to help arrange adjoining letters correctly, while also considering any possible descenders. The three primary adjustments are *White space after the character*, *Character backspace* and *Offset from the baseline*.

Choosing *Edit Font* from the *Edit* menu will open the *Create/Edit Font* dialogue. When editing a font, there are two broad classes of adjustment:

- **Global Attributes** are applied to all of the characters in a given font.
- **Character Attributes** are specific to a single character within the font.



Creating a New Font

To create a new font, click on the *Create* button. Enter the name of the new font in the *Create New Font* dialogue and click on OK. You will be prompted for a name under which to save the font.



You must use a Font Name that is different from an original font. Otherwise, the original font data will be overwritten.

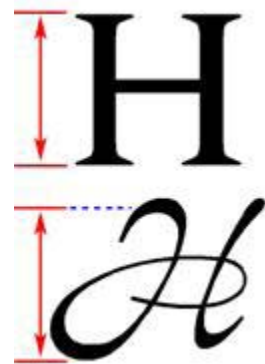
Global Attributes

Adjustments to the *Global Attributes* are used to define the general appearance of a font. These adjustments will be applied to all the characters within the font.

Font Height

Font Height defines the actual height of the font as it was created. When creating a new font, the height of a reference letter should be entered so that the remaining characters can be sized correctly.

For example, suppose that an uppercase 'H' were chosen as the reference letter (this is a typical choice). For the *Height* field, you would measure the height of the 'H'. It is very important to assign an appropriate height to a font being created. The height of a font is often based on the height of an uppercase M or H. The precise letter height will be used when creating a block-style font, whereas script fonts may require a more creative estimate of height. Notice how the script character is slightly taller than the non-script character.



Interspace

Interspace is the nominal amount of trailing white space that provides a gap between following letters. By modifying the *Interspace*, fonts can be given either a wide or a narrow kerning.

For example, using a negative value will create a condensed font.



Use Bottom of Sign Blank (Page) as Baseline

The baseline will determine the vertical position of a character. When creating a new font, the vertical position of each character is defined in relation to the baseline. Two options are available to assign the vertical position of characters:

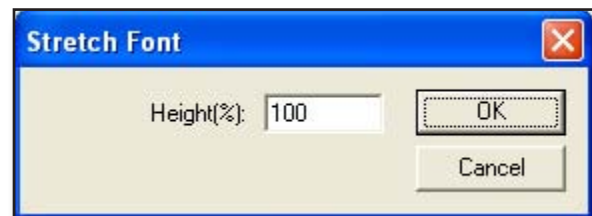
- *Offset from Baseline*- Used to manually adjust each of the characters
- *Use Bottom of Sign Blank as Baseline*- Automatically assigns the character baseline. To enable, check the *Define Character as Selected Object* option under the *Character Attributes* section of the dialogue and use the *Align* feature to arrange the characters along the bottom of the sign blank.

Monospace Font

The *Monospace Font* option converts the font to a fixed-width font in which each character occupies the same amount of horizontal space regardless of its width. For example, the character 'i' would have as much width as an 'm'.

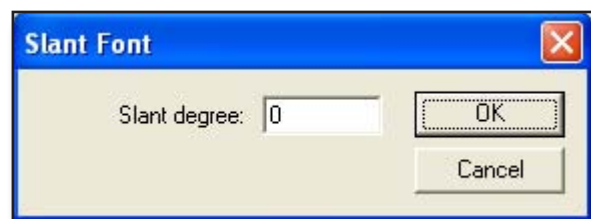
Stretch

The *Stretch Font* dialogue is used to adjust the ratio between the font height and width, expressed as a percentage. A value less than 100 produces a font that is short and wide, whereas a value greater than 100 produces a font that is narrow and tall.



Slant

The *Slant Font* dialogue is used to specify the slant degree for the font characters. A positive slant will create an Italic font, whereas a negative slant will create a "backhand" appearance.



Character Attributes

Letter

This box is used to specify the character currently being created or modified. The edit box displays the actual character.

Code Value

For computers to recognize text characters, a numeric value called the ANSI standard is used. This is a widely accepted standard that ensures text data will be understandable between different models of computers. For a given font, there are 255 characters in the ANSI character set, which encompasses upper-case letters, lower-case letters, numbers and (sometimes) special symbols.

Because some of these ANSI values are intended for communication protocols between devices, not all of the characters will be printable. For example, the first 31 characters are reserved for special command sequences that would be recognizable by a modem or printer, but which have no significance for our purposes of editing a font.

The following table indicates some sample values:

ANSI Code Value	Which we know as:	CASHEWB Font	EMBASSY Font
65	The letter 'A'	A	<i>A</i>
66	The letter 'B'	B	<i>B</i>
67	The letter 'C'	C	<i>C</i>
97	The letter 'a'	a	<i>a</i>
98	The letter 'b'	b	<i>b</i>
99	The letter 'c'	c	<i>c</i>
48	The number '0'	0	<i>0</i>

White Space After Character

This field is used to adjust the width of a character bounding box. In effect, this will increase the separation from the following character. Although this is similar to *Interspace*, keep in mind that this setting is applied on a per character basis. *Interspace* is used to adjust the overall kerning of the font characters.



Character Backspace

Character backspace is used to move the character with respect to its bounding box origin. In effect, this will place the character either further away, or closer to, the preceding character.



Offset from Baseline

The Offset from Baseline adjusts the vertical character placement with respect to the baseline.

For example, an uppercase H in a sans serif font will generally have an offset of 0 (no offset). This means that the bottom of the actual letter will be the same as the bottom of the letter's bounding box.



On the other hand, a lowercase 'g' will require a negative offset, so that its descender (the tail) will fall below the baseline.



Select Previous and Select Next Buttons

Font characters can be designed on the FastARTIST Workspace and then added to a new font. FastARTIST orders Workspace objects according to the sequence in which they were created. Using the *Select Previous* and *Select Next* buttons, you may browse Workspace objects without leaving the *Create/Edit Font* dialogue. When the correct object is selected, click on the *Apply Changes* button to create the character.

For example, if you have created a new alphabet, with objects for "A B C D E F..." etc. in the Workspace, you would go to the *Create/Edit Font* dialogue and set the *Code Value* to 65. You would then use the *Select Next* button to select the 'A' object within the Workspace.

Click on *Apply Changes* to create the new character and then increment the *Code Value* to 66. Click on the *Select Next* button to select the 'B' object, and click on *Apply Changes* again. This process would be repeated for each character that you created for the font.

Define Character as Space

There is also a non-printing character that is often forgotten, but which must be present in a font: the *Space* character. Without the *Space* character, which appears when the space bar is pressed, there would be no spaces between the words created when composing text. Therefore it is critical that a *Space* character be included when generating a font.

There are two ways to create the *Space* character:

- To use an existing character, select a character that best represents an appropriate space and enable the *Define character as space* option.
- To create the *Space* character using an object, exit the *Create/Edit Font* dialogue and create an object that has an area that is appropriate for the font. Once the object is selected, open the *Create/Edit Font* dialogue and enable the *Define character as space* option.

Define Character as Selected Object

When editing a font, select an object to be included in the font as a character. To designate a selected object as the current character, check this box.

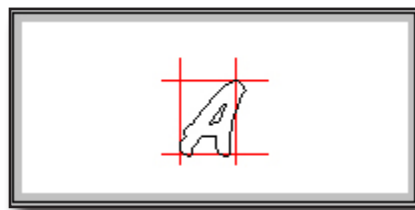
Note: If the *Not a Path* warning appears, then select *Arrange > Make Path*.

Apply Changes

Clicking on *Apply Changes* will save the character information and allow you to begin editing another character. Note that the changes are not saved to disk until the font is saved using the *Save Font* or *Save Font As* button.

Display Box

This box displays the current information for the character being edited. It also displays the bounding box for the selected character (including a top line representing the font height) and the character's current placement within the box. When changes are made to the character, those

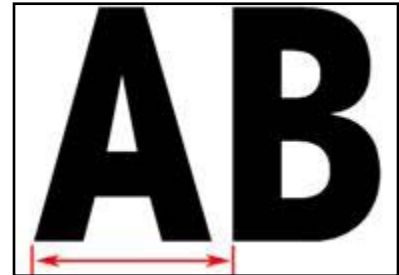


changes are immediately reflected in the display box.

The Display Box will display kerning pairs, as well as words where necessary.

Kern Letter

The *Kern letter* field indicates the character to be manually kerned in the trailing position, relative to the character currently being edited. The letter pair will then be displayed in the display box.



This setting identifies the exact distance between the start points of the two characters. A larger number increases the space while a smaller figure reduces the space. This setting is grayed out and unavailable unless a kern letter is selected to be paired with the current character.

Display Word

To examine the kerning set for a given letter in a realistic context, type a word containing the letter in the *Display Word* box. The word will be displayed in the Display Box.

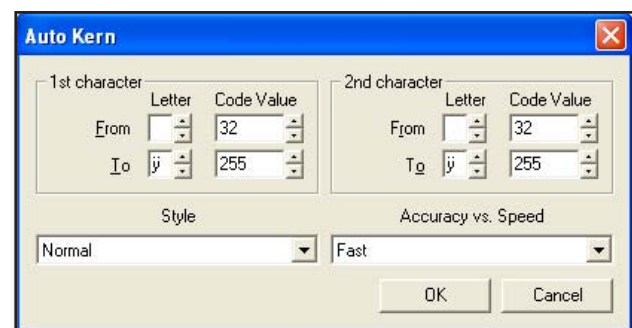


In order for the word to appear in the display box, it must contain the character currently being edited.

Auto Kern

This button opens the *Auto Kern* dialogue box.

Auto Kern is used to automatically generate a kerning table for a given font. Kerning tables contain information about the spacing between pairs of characters.



The *Auto Kern* feature is similar to the *Text On-Screen Kerning* feature that is available from the *Text Tools* menu. Once kerning information is created for a font, FastARTIST will simply duplicate the kerning table already defined.

Due to the time required to generate a kerning table on-the-fly, the main

advantage of using *Auto Kern* at the font generation stage is that FastARTIST generates paragraphs of text very quickly when entered in *Text Compose*, since *Auto Kern* will not be used at that stage.

There are four settings that can be adjusted in order to generate a custom kerning able for a font:

- *1st Character*- By definition, a kerning pair has a first (or leading) character and a second (or trailing) character. Use the two entry boxes to specify the range of characters (from first to last) to be set to *Auto Kern* in the first position. By default, FastARTIST will kern all 255 ANSI characters in the leading position.
- *2nd Character*- Use these two entry boxes to specify the range of characters to be set to *Auto Kern* in the second position. By default, FastARTIST will *Auto Kern* all 255 ANSI characters in the trailing position.
- *Accuracy vs. Speed*- *Auto Kern* works by checking and adjusting the distances between a number of points along the height of letter pairs. From the *Accurate versus Speed* dropdown menu, you may choose a value between *Accurate* and *Fast*, providing the ability to find a balance between speed and precision.
 - Using *Fast* will speed up the kerning process by examining only a limited number of points.
 - Using *Accurate* will result in kerning based on the examination of substantially more points.
- *Style*- *Auto Kern* can generate a font with one of five different kerning styles — *Normal*, *Wide*, *Narrow*, *Touching* and *Overlap*.
 - The *Normal* setting kerns the font by adding white space roughly in proportion to the width of the letter.
 - The *Wide* setting kerns fonts at a rate of *Normal* kerning plus 20% (i.e., there is 20% more white space added between each letter).
 - The *Narrow* option sets kerning at *Normal* kerning minus 20%.



- The *Touching* setting causes letters to touch but not overlap.
- The *Overlap* setting causes letters to overlap each other by 5% of their *Normal* kerning.

Saving a New Font

When editing a font, the new information is not written to your hard drive until you actually *Save* the font. Until then, the font is buffered. A buffered font is somewhat in limbo — it exists and is available to *Text Compose*, but it has not been committed to the hard drive. This means you still have the option to *Save* or *Discard* changes to the font before exiting FastARTIST.

Saving a font means moving the information out of the buffer and onto the hard drive, making it permanently available. Any font saved is placed in the directory where the existing .VEF fonts are currently located.

Clicking on the *Save Font* button will result in the font being written to disk immediately. The alternative is that FastARTIST provides the option to *Save* the font when issuing an exit command. If the font is not saved before exiting the *Create/Edit Font* dialogue box, you will be prompted to do so when either beginning a new session or exiting FastARTIST.

Save Font As

The function of this button is very similar to the *Save As* command in the *File* menu. Specifically, it provides the opportunity to give an edited font a new name and then save the font under that new name. This is particularly useful when creating a new font by editing an existing font, since it provides for saving the changes under a new name without losing the original font information.

Clicking on *OK* will accept the current font changes and close the *Create/Edit Font* dialogue.

Exiting FastARTIST

Should you choose to not *Save* any font changes before exiting FastARTIST, they will be discarded.

Chapter 4

Importing and Exporting Files

All graphic software applications have proprietary file formats for storing data and each of these formats is designed for a specific type of image. Generally speaking, formats are designed to store either line art (vectors and curves) or bitmaps (raster images). This creates many challenges when swapping data between different applications. Fortunately most graphics applications provide *Import* and *Export* filters to facilitate the exchange of files.

The FastARTIST Workspace supports both line art and bitmaps, so either type of data may be *Imported* or *Exported*. The native FastARTIST file format, CADlink Drawing File (*.CDL), is referred to as a “combination file” because it can contain both line art and bitmap data.

Working with CDL Files

The CADlink Drawing File (*.CDL) can be opened into its own Workspace, using *File > Open*. A CDL file may also be imported into an existing Workspace (*File > Import*) provided the *Merge* option is enabled.

When using the *File > Open* command for the first time, FastARTIST will query whether the intention had actually been to use the *Import* command.



Restoring Printer Info

When a CDL is saved (*File > Save*), the information from the *Print and Cut Setup* dialog is stored within the CDL file. When opening the file in the future, enable the *Restore Printer Information* checkbox to load the printer and cutter settings.

Zoom Open

When the *File > Open* command is used, the Workspace will zoom to the loaded Objects. The *File > Zoom Open* command is similar, except that the zoom level will alternate between 1) the current zoom level and 2) zooming to the loaded

Objects.

FastARTIST Import Filters

Import filters are designed to convert file data into Objects that can be edited within the FastARTIST Workspace. Often, a customer will provide an obscure file format for an ordered job. You may also need to reuse artwork from older CAD software that is no longer in use. In either case, FastARTIST supports a wide range of import filters which should allow you to load such files with few restrictions.

FastARTIST will *Import* a wide variety of common file formats including TIFF, PSD, JPEG and EPS.

The *Import* command is located in the *File* menu. When *Importing* with the *Merge* option checked, the imported file will be added to the existing Workspace. If the *Merge* option is unchecked, then the existing Workspace will be overwritten. For certain types of files, the *Customize* button will become active in order to specify certain parameters for the given file type.

The *Filter* button is used to customize file types that are listed within the *Files of type* menu.

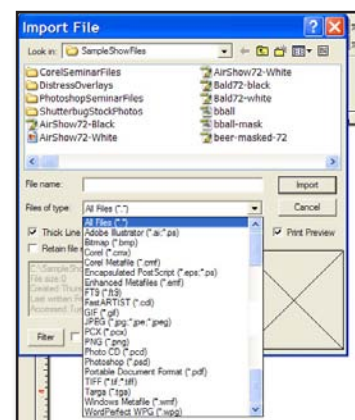
EPS Files

When importing Encapsulated PostScript (*.EPS), be aware that there is a fair amount of variety in how different graphics applications *Export* data to an EPS file. If you encounter problems when importing an EPS file into FastARTIST, then a useful alternative is to *Export* the data as an Adobe Illustrator (*.AI) file instead.

Importing from CorelDRAW

CorelDRAW uses its own proprietary file type called a CDR, however FastARTIST will not *Open* or *Import* a CDR file. If you wish to keep the vector properties of the file, you must *Export* or *Save* it in a generic format such as EPS, AI or CMX. If you examine the dropdown menu *Files of type* under the *Import* feature, it lists all the file formats that FastARTIST can import.

Note: EPS, AI and CMX will keep the files in vector format and won't convert them to bitmaps.



Importing PDF Files

Although there are any number of file formats that can be used (PDF, EPS, etc.), the most reliable format is PDF. If possible, request that the customer provide you with a high quality (high resolution) PDF file to avoid any compatibility issues.

Guidelines for Obtaining PDF Artwork

When working in other graphics applications, it is recommended you save your original design as a PDF file and then *Import* the PDF into FastARTIST. By saving your design as a PDF, this avoids compatibility issues with different versions of software. It has the added benefit of embedding fonts to ensure correct type matching. The method of saving your design as a PDF will vary, however, there are common commands for saving a PDF:

- *File > Publish to PDF* – Some design applications have a dedicated *Publish to PDF* command under the *File* menu. This will typically open a *Settings* dialog that allows you to specify parameters for saving the PDF file.
- *File > Save As* – Some design applications use the *Save As* dialog to create a file. In the *Save* dialog, designate the file type as “Portable Document Format (PDF).” In some cases, choosing the file type will reveal a *Customize* button that will allow you to specify the PDF parameters.
- *File > Export* – Older design applications will likely not have a specific PDF save tool, in which case you are expected to use the *Export* command under the *File* menu. In the *Export* dialog, designate the file type as “Portable Document Format (PDF).” In some cases, choosing the file type will reveal a *Customize* button that will allow you to specify the PDF parameters.
- When choosing your PDF save parameters, each application will present different controls, and there are usually more controls than are discussed here. However, this list highlights the most pertinent settings that you need to check. Take care to ensure that the following settings are in effect:
 1. *Font Folder* – Some design applications provide the ability to save the font files in a separate folder, which can be distributed along with the PDF file. When importing the PDF into FastARTIST, the *PDF Import Options* dialog will read the fonts from this folder.
 2. *Font Embedding* – If a *Font Folder* is not used, then *Font Embedding* should be ON to ensure that font information is available in FastARTIST.
 3. The entire font should be embedded, as opposed to a subset that consists only of characters used in the saved PDF. Otherwise, if your design

requires any text substitution or serialization, the subset may be missing required characters.

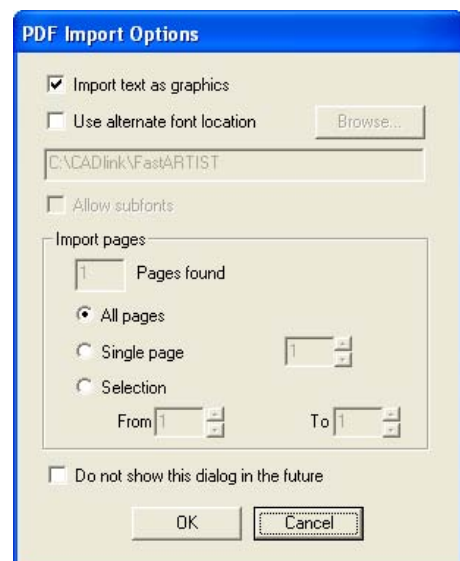
4. *Subset fonts when percent of characters is less than...* – This option should either be turned off, or its value set to 0% (zero) to indicate that the entire font should be embedded.
 5. *Override Distiller Font Options* – *Distiller options* should be overridden to avoid any unexpected compression, color management or partial font embedding. The *Distiller* refers to the application that Adobe provides for converting documents into PDF.
 6. *PDF Quality / Image Compression* – If possible, turn off all compression to ensure the highest image quality. In some cases, there will be slider that allows you to choose the quality.
 7. *PDF Compatibility* – Compatibility should be set to the most recent version available. Compatibility settings are used in consideration of distributing the PDF, where users may be using an older version of Adobe's PDF Reader.
 8. *Save the PDF Settings* – If possible, save the configuration settings that you are using to create your PDF. By having these settings available, less time will be required when a PDF is saved and there is less risk of accidentally forgetting a required setting.
- Importing a PDF

Choose *File > Import* to open the *Import File* dialog. Set the file type as "Portable Document Format (*.PDF)" and select the desired PDF file to *Import*. Click the *Import* button and the cursor will become an angled cursor. Click on the FastARTIST Workspace to position the top left corner of the imported file.

At this point, the *PDF Import Options* dialog will open, allowing you to select from the following *Import settings*:

- 1) *Import Text As Graphics* – It is recommended that this option be OFF to preserve the original font information.

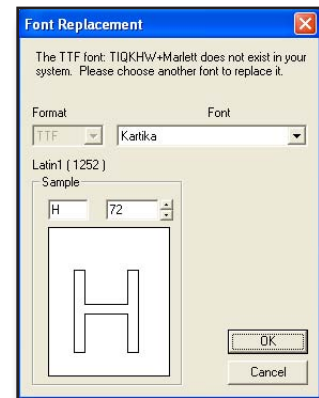
- 2) *Use Alternate Font Location* – This option is used when a Font Folder



was created containing the fonts used in the PDF file. By default, it is expected that this folder is named "Fonts" and is in the same directory as the PDF file being imported. If the *Font Folder* is in a different directory, click the *Browse* button to specify the location.

- 3) *Allow Subfonts* – A subfont is a subset of the original font info that is restricted to the characters used in the saved PDF file. If this option is enabled, then any embedded fonts will be used. Otherwise, an alternate font location will be searched, followed by a search of the locally installed fonts. If the font info is not found, then a substitute font will be required.
- 4) *Import Pages* – For a multiple-page PDF, indicate which pages to *Import*. After the pages are imported, the *Paging Tool* can be used to browse through each page.
- 5) *Do Not Show This Dialog* – Check this option if you wish to hide this dialog. Hidden dialogs can be restored within the *General Preferences* window.

Click on OK to close the *PDF Import Options* dialog. If any font information is not found, the *Font Replacement* dialog will open. The missing font will be listed and a substitute font must be selected from the *dropdown* list of locally installed fonts. The *Font Replacement* dialog will reappear for each font that requires a substitution.



A Final Note about Importing Files

The *Import* command is designed to load designs from other applications, while trying to remain true to the types of Objects that were in the original file. For example, a square with a gradient should come in as a square with a gradient, as opposed to a thousand individual Objects that each have a different hue to form the gradient.

Not all applications have the same Object types or attributes, which may cause the Object to be converted. For example, a mesh fill could be arbitrarily converted into a bitmap Object.

Retaining and matching fonts can be problematic also. If possible, save the original artwork as a PDF with embedded fonts. Otherwise, you will need to substitute for a font with the nearest match that you have on the FastARTIST-installed system. You do have the option of converting *Text to Curves* if you are certain no further text editing is required. This will convert the text to a graphic,

making spell checking and additional editing unavailable.

After importing, various Objects are often grouped and bitmaps are sometimes clipped. When an Object is selected, the far left of the SmartBar will indicate the Object type.

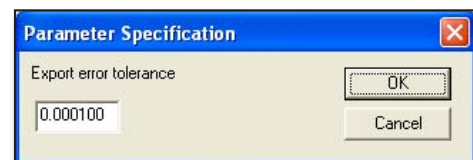
If the Object is a "Group," then use *Layout > Ungroup* or *[Alt + G]* to break up the grouping. If the Object is a "Clip Group," then use *Arrange > Clipping > Clipping Clear* or *[Alt + U]* to remove the clipping. After disassembling Object groupings, you will likely need to specify any underbase attributes on an Object-by-Object basis.

FastARTIST Export Filters

The *Export* command is used mainly for line art shapes. However, for file formats that are capable of storing both line art and bitmap shapes (i.e., combination files), the *Export* command can also be used to export bitmap shapes.

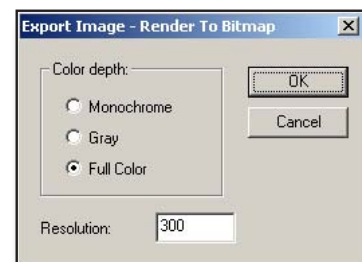
When exporting line art, caution is required to prevent creating file Objects that contain an excessive numbers of Nodes. This is especially true of artwork that was originally imported from other software. To overcome this problem, click the *Customize* button on the *Export File* dialog. The *Parameter Specification* dialog will open

The *Parameter Specification* dialog is used to substantially reduce the Nodes of exported Objects. If the default value is insufficient, then caution is urged against setting a high value for the *Export error tolerance*. As a rule, the default value (0.001 or 1/1,000 of an inch) will work very well with most files.



Exporting an Image

The *Export Image* command is used for bitmap (raster) images, such as BMP, JPEG and PNG files. If line art shapes are being exported, then FastARTIST will render the line art into raster data during the exporting process. During the *Save*, you will be prompted for the resolution and color depth of the raster data.



Publish to PDF

The *File > Publish to PDF* command will save the current Workspace as a

Portable Document Format (PDF) file. An advantage of PDF files is that they can be viewed using Acrobat Reader, available from the Adobe web site. This is a free program and a very common application. Most computer users have some version of it installed on their system.

Exporting Palettes to CorelDRAW and Illustrator

Spot and Duotone colors in FastARTIST palettes may be exported to either CorelDRAW or Adobe Illustrator, ensuring that the same color information will be used when designing an image in these applications. If the finished design is then saved as either an EPS or AI file, it can be imported it into FastARTIST (using the *Map Named Colors* feature) while preserving the one-to-one correspondence between the original colors and the FastARTIST palette.

A common technique is to create a custom *Shop Palette* that has all the *Foils*, *Spots* and *Duotone* colors available in your shop. By exporting these colors to a CorelDRAW or Adobe Illustrator palette, you ensure your designs are not using colors that will be difficult to find or substitute for.

Scanning to Acquire an Image

The *Acquire Image* option provides access to TWAIN support offered by FastARTIST. This support provides the ability to operate TWAIN-compliant scanners directly from within FastARTIST without any intermediary software. However, to function properly the scanner control software must be properly installed within Windows. The *Acquire Image* options are available from the *File* menu.

Acquire

This option calls the TWAIN-compliant software, initializes your scanner and prepares the system to receive a scanned image. Upon exit from the scanning software, the acquired image will be automatically imported into FastARTIST.

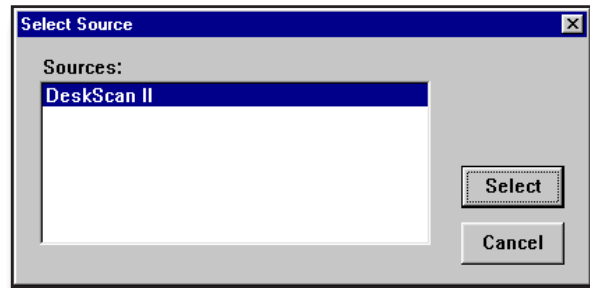
Acquire Vector

This is a variation on the *Acquire* command. Where the *Acquire* command will produce a bitmap image, the *Acquire Vector* will produce line art from the scanned image.

Select Source

The *Select Source* option provides the ability to choose the TWAIN input device that will acquire images. If there is only one source (i.e., only one scanner)

attached to the system, set this once. If there is more than one input source available on your system (i.e., a flat bed scanner or a hand-held device), this feature provides the ability to choose between the devices. *Select Source* opens the *Select Source* dialog box:



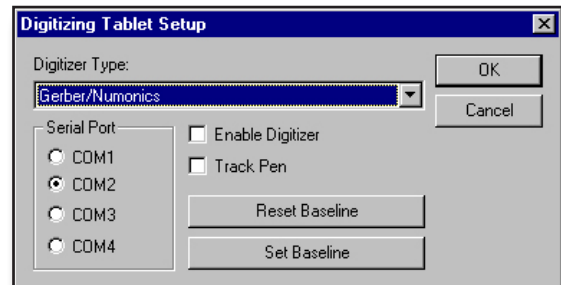
The Sources list will contain all available TWAIN-compliant devices attached to your computer. After choosing the desired device, click on the *Select* button.

Scan and Trace Wizard

The *Scan and Trace Wizard* includes all the steps to *Import* and trace an image. In addition to importing a scanner image, the Wizard can accept either an image data file or images that were copied to the Windows clipboard from another application.

Digitizing Setup

FastARTIST has the ability to interface with a digitizing tablet without the need for intermediary software drivers. Once the tablet is connected, configure it using the *Digitizing Tablet Setup* dialog available in the *Edit* menu.



Enable Digitizer

This check box is used to enable and disable the Digitizer. In order to reduce the load on your system, it is recommended the Digitizer be disabled when not in use. This will prevent FastARTIST from polling the tablet, freeing up system resources.

Track Pen

This check box is used to enable and disable the tracking of the Digitizing Pen. In order to reduce the load on the system, it is recommended that the digitizer be disabled when not in use. This will prevent FastARTIST from polling the tablet, freeing up system resources.

Reset Baseline

When starting a new drawing, or if the original angle and position of the tablet

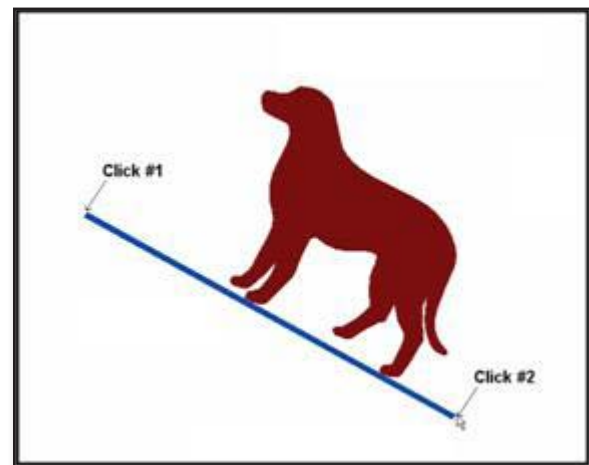
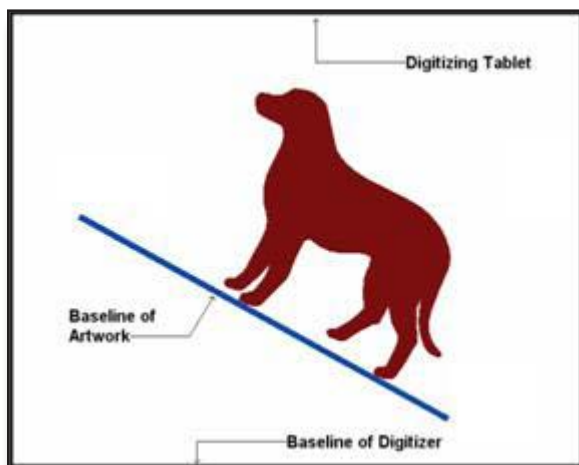
baseline needs to be restored, select the *Reset Baseline* option. The baseline of the tablet will be reset to match that of the material.

Set Baseline

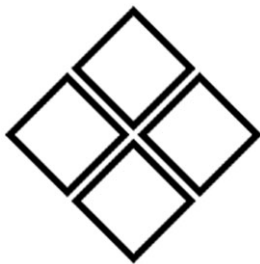
The baseline of a drawing defines both the bottom of the artwork, as well as the angle of the horizontal axis.

Typically, a Digitizer designates the bottom of the tablet as the baseline, which FastARTIST will use as a reference. Use the *Set Baseline* button to align the baseline with that of the artwork, rather than the tablet bottom. This avoids the requirement that the artwork be precisely aligned with the bottom of the tablet.

Using a Digitizer



Curve Nodes drawn by a Digitizer are different from those created by the mouse in standard *Draw Mode*. *Draw Mode* uses the Nodes as control handles that pull at the curve as it is formed. A curve drawn in Digitizing mode will pass directly



Button	Function	Description
Top	Corner node	Place corner node on Workspace
Left	Curve node	Place curve node on Workspace
Bottom	Tangent node	Place tangent node on Workspace
Right	Finish	End and close contour, or create custom shapes. Double-clicking will close the contour.

through the Nodes in a more “connect-the-dots” fashion.

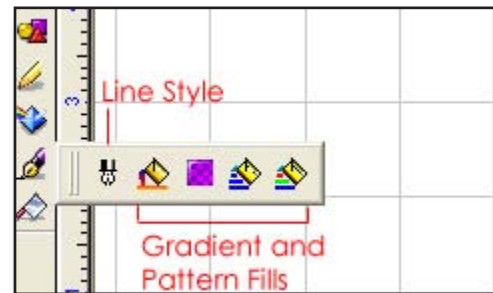
When using a Digitizer, certain button combinations may be used to form basic shapes. Place two *Corner Nodes* to form the opposite corners of a rectangle and then *double-click* the *Finish* button to complete the rectangle. You can place two *Curve Nodes* to form the diameter of a circle and then *double-click* the *Finish* button to complete the circle. Placing three *Curve Nodes* and then *double-clicking* the *Finish* button will fit a circle within the three Nodes. If four or more *Curve Nodes* are placed, then a circle will be created to best fit within those Nodes.

Chapter 5

Palettes, Strokes and Fills

Working with Color Palettes

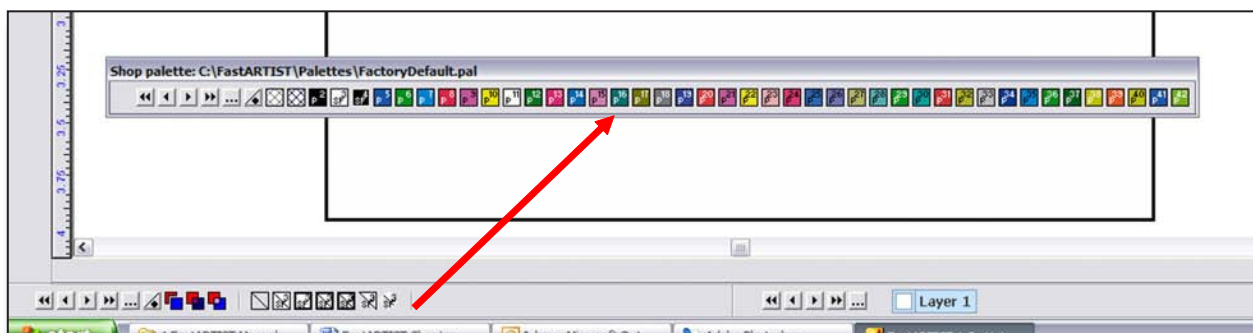
The *Line Style*, *Gradient* and *Pattern Fill* tools are available from the *Stroke and Fills Toolbar*.



The default color palette of FastARTIST is the *Shop palette*. This lists the color plates available for use in the Workspace. Other palettes are provided as an aid for working with *Spot* colors, particularly with respect to foils. By default, color palettes are docked at the edges of the FastARTIST Workspace.



A palette may be “undocked” by *clicking-and-dragging* the palette to its new position. *Double-clicking* a palette will toggle its position between *docked* and *undocked*.



FastARTIST also has the ability to open standalone Manufacturer's palettes. Specific color plates may be dragged from a palette and added to the *Shop palette*. This allows for quick customization of the *Shop palette* to include the

most frequently used color plates.

The Shop Palette



The default location of the *Shop palette* is along the bottom of the Workspace. It is commonly referred to as “the color palette” and it contains all of the color plates currently available for use within the Workspace.

Left-clicking a color plate will set the default *Fill* color for new shapes, as well as set the *Fill* color of any currently selected shapes. To change a shape's *Fill* color without changing the default *Fill*, *drag-and-drop* a color plate onto a shape.



Click-and-drag a color plate

Release mouse button when
cursor is over object

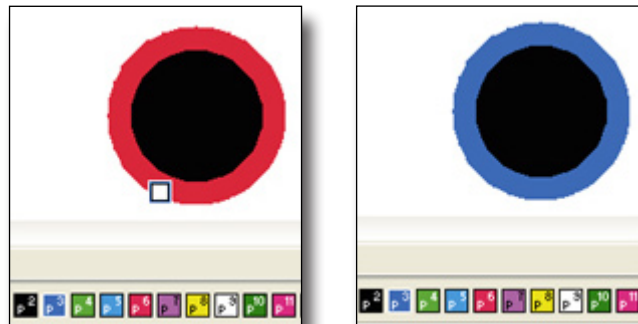
Shape changes to color of
color plate



When the mouse button is released, it is the location of the cursor tip that determines where the new color will appear. In the example above, if the tip of the cursor arrow was touching the outer line of the star, then the *Stroke* color would change to **Green** rather than the *Fill* color.

Changing the Stroke Color

Right-clicking a color plate will set the default *Stroke* color for new shapes, as well as set the *Stroke* color of any currently selected shapes. You may also *drag-and-drop* color plates onto the outline of a shape to change the color. When holding the color plate over a shape, the dragged color plate will appear to be hollow, indicating that



Drag a color plate. When
over the shape line style,
the plate appears hollow.

Release the mouse
button, and the line style
color changes.

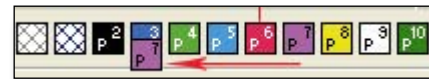
releasing the mouse button over that *Spot* will change the *Stroke* color of the shape.



By default, *Workspace* shapes have no *Line Style*. When the mouse is released, it is the location of the tip of the cursor that determines where the new color will appear. In the example on the previous page, if the tip of the cursor was touching the inner line of the star when the mouse was released, this would cause the *Fill* color rather than the *Stroke* color to change to **Blue**.

Changing the Fill Color of Grouped Shapes

If you *drag-and-drop* a color plate onto a collection of grouped shapes, that will set all of the shape *Fills* to that color. Hold down the **[Ctrl]** key to target a single shape within the group for that color.



Magenta plate is *dragged-and-dropped* into new location



Magenta plate is inserted in new location

Changing the Order of Color Plates

To change the order of the color plates within the *Shop palette*, any color may be dropped into a different location of the palette. The color will be inserted at the new location and colors to the right of that color will be shifted to the right.

Modifier Keys and Color Plates

Additional functionality is available by holding the **[Shift]**, **[Ctrl]** or **[Alt]** keys while clicking on a color plate. The following table summarizes these modifiers:

Action	Result
Left-click	Set <i>Fill</i> color of current Object
Right-click	Set line style color of current Object
[Shift] + Left-click	Include all Objects of that <i>Fill</i> color in current selection
[Ctrl] + Left-click	Disable the color plate. All Objects with that <i>Fill</i> color will appear as dashed outlines on the <i>Workspace</i> .
[Alt] + Left-click	Disable all color plates, except for the plate that was clicked

Holding the **[Ctrl]** key and clicking on a palette color will toggle the “active”

status of that color plate. Objects that have inactive colors will not be editable.

The Invisible Color Layer



The first two "colors" of the *Shop palette* are the *Invisible Colors*, which are used to indicate the absence of color for either an *Object Fill* or *Line Style*. *Invisible Colors* may be applied to Objects as a regular palette color. When applied as a *Fill color*, the Object will be reduced to the sum of its thick line attributes, which is useful for creating cutting paths. When applied as a *Stroke color*, the Object will effectively have no thick line attribute.

The Line/Fill Selector Button



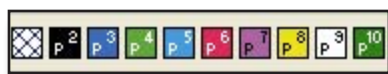
The button prior to the *Invisible Colors* is the *Line/Fill* button which is used to toggle between *Fill Mode* and *Line Mode*.

If *Fill Mode* is selected, then clicking on a color plate will set the *Fill color* of a selected shape. *Right-clicking* on a color plate will set the *Stroke color*.

If *Line Mode* is selected, then left-clicking a color plate will set the *Stroke color* of a selected shape. *Right-clicking* on a color plate will set the *Fill color*.

The Halftone palette also has a *Line/Fill* button, which operates in similar fashion for *Knock Out*, *Overprint*, *Overlap*, *Primers* and *Halftones*.

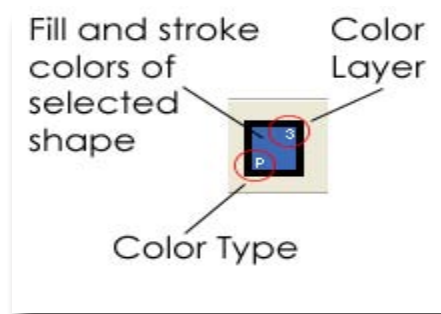
Color Plate Labels



Each plate on the *Shop palette* is indexed according to the order of colors in the palette.

To hide these labels, uncheck *Show Layer Numbers* from the *Context Menu* or select the *Options > Palette > Show Layer Numbers*.

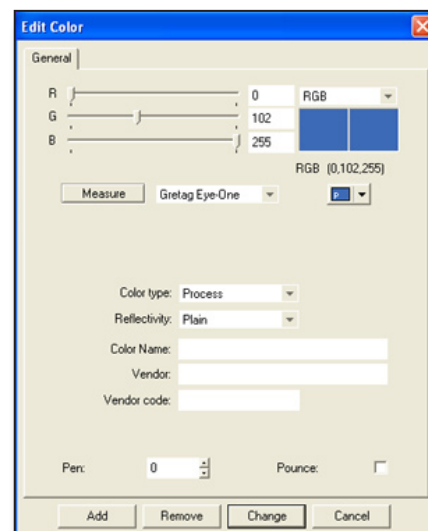
When an Object is selected, its color plate is shown on the SmartBar and the index number is visible within the plate.



In addition to its index number, each plate displays a letter that identifies its color type: *Process* (P), *Spot Foils* (SF), or *Spot Color* (SC). The letter designation is also visible from the SmartBar.

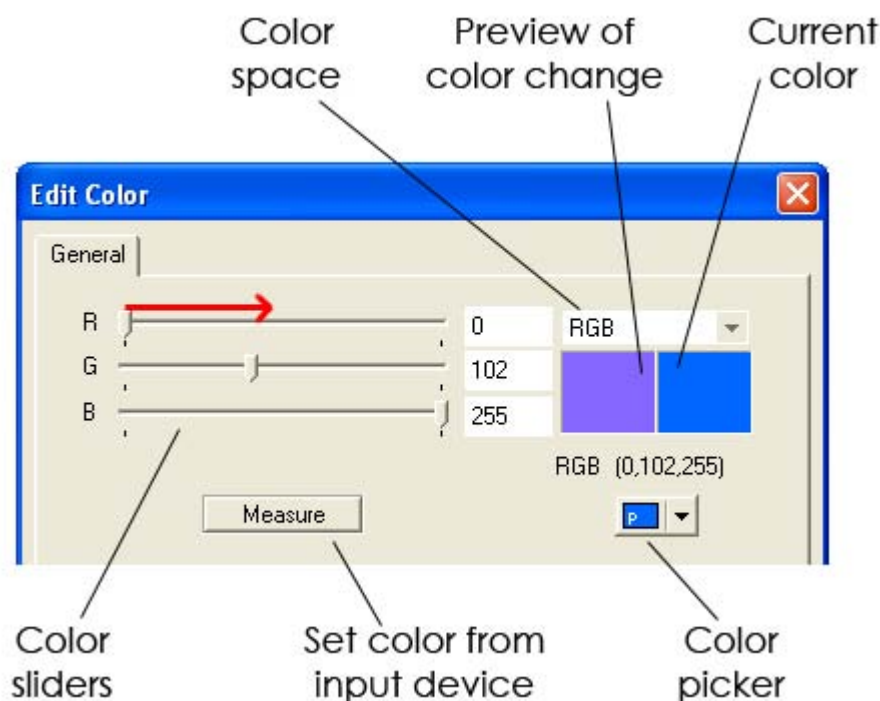
Edit Color Dialog

The *Edit Color* dialog is opened by double-clicking on a color plate in the *Shop palette*. The main controls of the *Edit Color* dialog are within the top third of the dialog. These controls are used to indicate the specific color value, its color space (RGB, CMYK, etc.) and how the color should appear on the Workspace. The lower two-thirds of the dialog has additional controls that are used to indicate the type of color (*Process* or *Spot*) and the manufacturer of this color.



Setting the Color Value

Sliders indicate a specific color value according to the *Color Space* setting (RGB, CMYK, etc.). You can change the *Color Value* by adjusting these sliders. You may also click on the *Measure* button to read a color from a color measurement device. Once a color value is adjusted, it will be previewed next to the current color. The RGB value of the new color will be shown below the preview.



Color Space

Color Space may be chosen from the *dropdown* list in the top right corner of the *Edit Color* dialog. The choice of *Color Space* will determine the method used to define the color.

RGB

RGB is the most common format used for additive color mixing. For example, a computer monitor is designed to emit **Red**, **Green** and **Blue** (RGB) light which combine to form the desired color.

CMY

Cyan, **Magenta**, and **Yellow** (CMY) is the format most commonly used when performing subtractive color mixing. This sort of mixing works on the principle that an external light source will be required to view the image.

CMYK

Cyan, **Magenta**, **Yellow** and **Black** (CMYK) is an extension of the CMY model, where equal portions of CMY colorants are replaced with a single portion of **Black** (K).

HLS

The *Hue*, *Lightness* and *Saturation* (HLS) model identifies colors according to the following parameters:

- *Hue* is the visual perception of a specific color, such as **Red**, **Orange**, **Violet** or **Green**.
- *Lightness* is the appearance of a color in terms of how White or **Black** it appears.
- *Saturation* is the perceived richness of a color in consideration of its intensity.

LAB

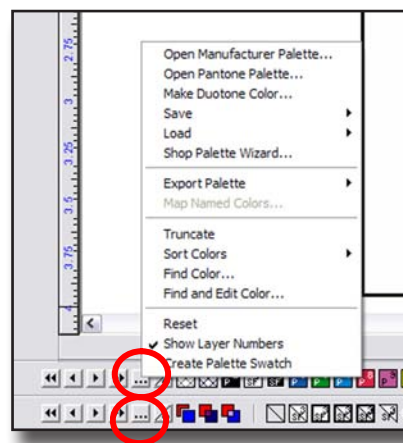
The $L^*a^*b^*$ *Color Space*, otherwise known as CIELAB, was promoted as a standard in 1976 by the International Commission on Illumination (CIE). The purpose of $L^*a^*b^*$ was to standardize the practice of predicting color differences, where previously there had been as least twenty alternative

formulas in use to account for color differences in production workflows. The L*a*b* color space is used to maintain color consistency between devices used in color reproduction workflows. As such, the L*a*b* color space is a superset of both RGB and CMYK color spaces.

The “L*” component refers to the Lightness. The “a*” component varies from **Green** to **Red** and the “b*” component varies from **Blue** to **Yellow**

Context Menus

With the exception of the *Manufacturer palettes*, all of the color palettes have context menus that are accessed by *right-clicking* within the bounds of the palette. Clicking on the “three dots” in the lower left quadrant of the Workspace will bring up the *Context Menu*.



Opening a Pantone Palette

Selecting *Open Pantone Palette* will open the *Pantone Library* folder where you can select from several Pantone palettes. These palettes are representative of the swatches available through the PANTONE MATCHING SYSTEM. Any of these palettes may be set as the default *Shop palette* or they may be opened as *Manufacturer palettes*. In FastARTIST, these colors are identified as *Spot Colors* (SC) and are defined in terms of their LAB color values for accurate color matching.



The first four colors in each palette are not Pantone colors. These are system colors that are kept in the FastARTIST palettes for your convenience. The system-specific colors are *Invisible*, *Clear Color*, **RGB Black** and **RGB Process White**. Pantone colors are to the right of these system colors.

Save

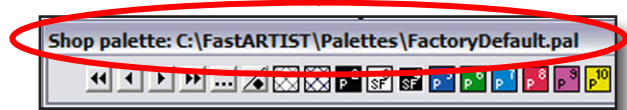
The Save command will save the current *Shop palette* settings. This will either be your current default palette or a palette that you have loaded using the *Context menu > Load > New* command or the *Options menu > Palette > Load >*

New.



When your software is initially installed, the Shop palette is set to *FactoryDefault.pal* located in the main directory. This default palette will be automatically used when a new Workspace is opened. To change this default, use the Context Menu Load > Set default or the Options > Palette > Load > Set default.

You can view the file path of the current Shop palette by double-clicking on an empty portion of the palette (between color plates). The palette will become a “floating” toolbar and the file path will be displayed in the toolbar name. Double-click again to dock the toolbar in its original position.



Save As

The Save As option is used to save the current Shop palette settings as a new PAL file. Saving the Shop palette is desirable after it has been customized with commonly used color plates. The saved palette may then be opened like a manufacturer palette or it may be set as the default palette that is loaded with each new FastARTIST Workspace.

Save Default on Exit

If the Save default on exit item is enabled (a checkmark should appear next to the item), then all changes to the Shop palette will be saved when FastARTIST is shut down.



Creating a new FastARTIST Workspace will not cause palette settings to be saved. You must use the Save As command to save such settings before creating a new Workspace.

Load

During installation, a Palettes directory was created within the FastARTIST directory. The Palettes folder contains color palettes for a variety of manufacturers and each palette can be identified by its *.PAL file extension.

To load a FastARTIST color palette, choose Load > New from the Context Menu and the new palette will replace the current Shop palette configuration.

Merge is used to select a palette (.PAL) file and append it to the current Shop

palette. Use this command to combine color plates of two-or-more commonly used palettes.

When FastARTIST is launched, a standard palette is loaded with a selection of commonly used process colors. Use *Set default* to specify an alternate palette to be loaded instead of the standard palette.

Shop Palette Wizard

The *Shop Palette Wizard* is a visual browsing tool used to create a custom palette by browsing and selecting from any of the palettes that were installed with FastARTIST. Colors from more than one palette may be combined with no restrictions on creating a palette containing colors from different manufacturers.

View Installed Palettes

During the FastARTIST installation, purchased modules will determine what color palettes are included. To confirm available palettes, choose *View Installed Palettes* from the *Context Menu*.

Export Palette

FastARTIST palettes (including *Spot* and *Duotone* colors) may be exported to either CorelDRAW or Adobe Illustrator.

Map Named Colors

The *Map Named Colors* feature is used to perform color substitutions when importing either AI or EPS files.

Truncate

Truncate will remove all color plates that are to the right of the currently selected color plate, with the exception of any colors that are currently being used on the Workspace.

Sort Colors

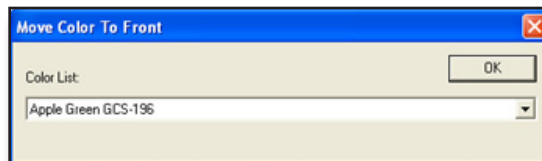
The *Sort Colors* menu can be used to rearrange the *Shop palette* color plates. Sorted colors will be moved to the front, which is the far-left of the *Shop palette*.

The table on the following page lists the various sort parameters available.

By Selected Objects	For the given selection of Objects, their color plates will be shifted to the left of the Shop palette.
By All Objects	Colors that are currently being used on the Workspace will be shifted to the left of the Shop palette.
By Active Colors	Active colors are shifted to the left, or front of the Shop palette, while inactive colors are shifted to the right or end of the Shop palette.
By Hue	All of the palette colors will be clustered according to color value.
Move Process Colors to Front	Shift all process colors to the front of the Shop palette.
Move Spot Foils to Front	Shift all <i>Spot</i> foils to the front of the Shop palette.
Move Duotone Colors to Front	Shift all <i>Duotone</i> colors to the front of the Shop palette.
Move Color to Front	Select from a list of colors, and move the selected color to the front of the Shop palette.

Find Color

Find Color is the same as *Move Color to Front*. The *Move Color to Front* dialog is used to select from an alphabetical list of *Spot Colors* within the *Shop palette*. click on OK to move the selected color to the front of the *Shop Palette*. Only *Spot Colors* are listed.



Find and Edit Color

The color selected from the alphabetical list of colors is located and opened for editing within the *Edit Color* dialog. Only *Spot Colors* are listed.

Reset

The *Reset* option will reload the *Shop palette*, discarding any changes that may have been made to the color plates. The default *Shop palette* will be loaded, unless it has been specified that a default palette should be loaded. Using the *Reset* option will allow you to return to the original palette colors without deleting Objects currently on the Workspace.

Show Layer Numbers

Layer Numbers refer to the *Shop palette* color plates, where each color plate is assigned both an index number, as well as a letter designation that indicates the correction mode for that color. If the *Layer Numbers* option is set to OFF, then the index numbers and letter designations are hidden.

Creating a Palette Swatch

The *Create Palette Swatch* is used to prepare a swatch for each color shown in the *Shop palette*. This tool places a palette swatch on the Workspace and the swatch can then be printed. This is a very useful tool to compare colors between printers, to compare color variances between monitor and printer or to match a customer's color request.

Job Palette

The *Job palette* shows colors currently being used on the Workspace. By default, the *Job palette* shows the *Color View*, which lists all the color plates, primer colors and halftones that are currently in use on the Workspace.



Selecting *Foil View* within the *Context Menu* will display only those *Spot Colors* or *Spot Foils* that are currently in use on the Workspace. This serves as a quick summary of the foils that will be used when rendering the job.

Performing a Global Color Substitution

The *Job palette* can be used to substitute one color for another and this substitution will take place throughout the entire Workspace.

For example, suppose that there are several Red shapes on the Workspace, which need to be changed to Orange. From the *Shop palette*, left-click and drag the orange color. (The cursor will appear to be dragging the color plate.) Move the cursor to the *Job palette* and position the tip of the cursor over the red color. Release the left mouse button, and all red shapes will now become orange.

Halftone Palette

The *Halftone Palette* is used to apply *Knock Out*, *Overprint*, *Overlap*, *Underbase*

and *Halftone properties* to Workspace shapes. Since a halftone dot is not needed when printing to an inkjet printer, the halftone feature has been disabled, BUT this palette is still called the Halftone Palette. The main purpose of this palette is to apply an underbase to an image.



The Line/Fill Selector Button



The *Line/Fill Selector* button is used to toggle between *Fill Mode* and *Line Mode*.

If the *Fill Mode* is selected, then left-clicking a halftone or primer will apply it to the *Fill* of a selected shape. If the *Line Mode* is selected, then left-clicking a halftone or primer will apply it to the line style of a selected shape.

Line Style Tool



The *Line Style Tool* is used to apply a “thick line” effect to Workspace shapes.



When a shape is selected, the color of its line style is visible in the SmartBar. For example, the following screenshot of the SmartBar shows that the current Fill color is blue (process color plate 2). The red outline around the blue square indicates that the line style color is red.

To change the line style color for a shape, right-click a color plate in the Shop palette. Alternatively, you can drag and drop a color plate onto the outline of a shape. The color will appear where the tip of the cursor is located when the mouse is released. If the mouse is released when the tip of the cursor is within the shape, then the *Fill Color* will change.

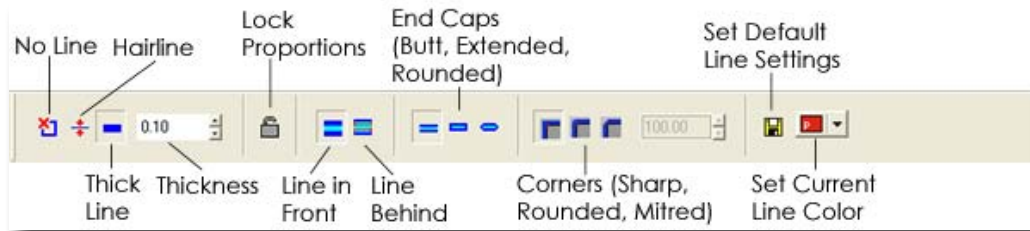


In cases where Workspace shapes should have thick Line Styles, but none are visible, verify that the Show Line Style option has been selected in the View menu.

To add a *Line Style* to a selected shape, choose *Line Style* from the *Stroke and Fill Tools* flyout.



The SmartBar controls will appear similar to the following:



At the far left of the SmartBar, the type of line style may then be selected. The available line styles are:



No line

Removes any previously applied line style.



Hair Line

Creates a 1 pixel wide line. This line cannot be cut, but it may be applied as a line stroke.



Thick Line

This is initially zero, so the line will not be visible until the Thickness field is incremented.



At the far right of the SmartBar, the color picker may be used to select the *Line Style* color. In addition, clicking on a Shop palette color will also change the *Line Style* color.

For the *Thick Line* attribute, parameters of the line may be set from the SmartBar.

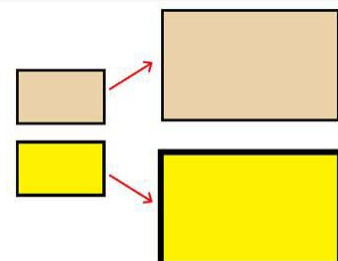
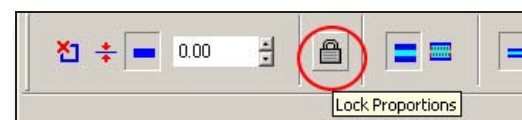


Click the *Set Default Line Style* button to store the current SmartBar settings for reuse. However, line color will **not** be stored as part of this default.

Lock Proportions

If the *Lock Proportions* option is enabled, scaling the shape will cause the stroke thickness to be scaled in proportion.

For example, the two rectangles have been scaled by 200%. However, the **Yellow** shape has a stroke with *Lock Proportions* enabled, therefore its stroke is also been



scaled by 200%.

Line Above

By default, a thick line will actually overlap the contour of the shape. If the *Line In Front* option is enabled, then the line style will partially obscure the shape. Alternatively, the *Line Behind* option will cause the line style to be partially obscured by the shape.



Line In Front

The line style will appear as if it were above the shape.

Line Behind

The line style will appear as if it were below the shape.



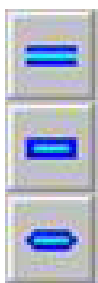
Star with line behind the shape.



Star with line in front. Note that the star shape is partially obscured by the line style.

End Styles

There are three different line styles, which are used to modify the termination of open paths:



Butt End Cap

The line style will extend only to the end of the open path.

Extended End Cap

Create square end caps as terminators for an open path.

Round End Cap

Perform rounding of open paths.

Corner Styles

There are three corner styles:

**Sharp Corner**

Corners retain sharp angles as per the base Object.

**Round Corner**

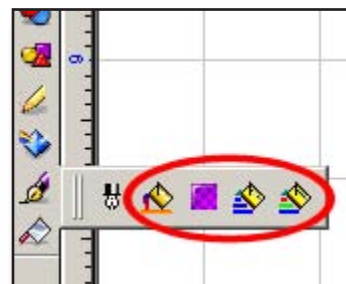
Corners are rounded.

**Mitre Corner**

For a sharp corner of the original Object, the corner formed by the line style may be quite steep. Use the *Mitre Amount* to clip the line style according to a percentage of the line thickness.

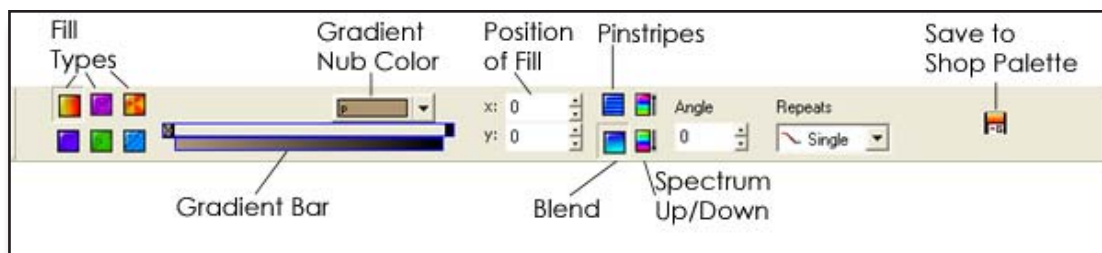
Gradient and Pattern Fills

Gradient and Pattern Fills are applied to *Object Fills* from the *Stroke and Fill Tools* flyout.

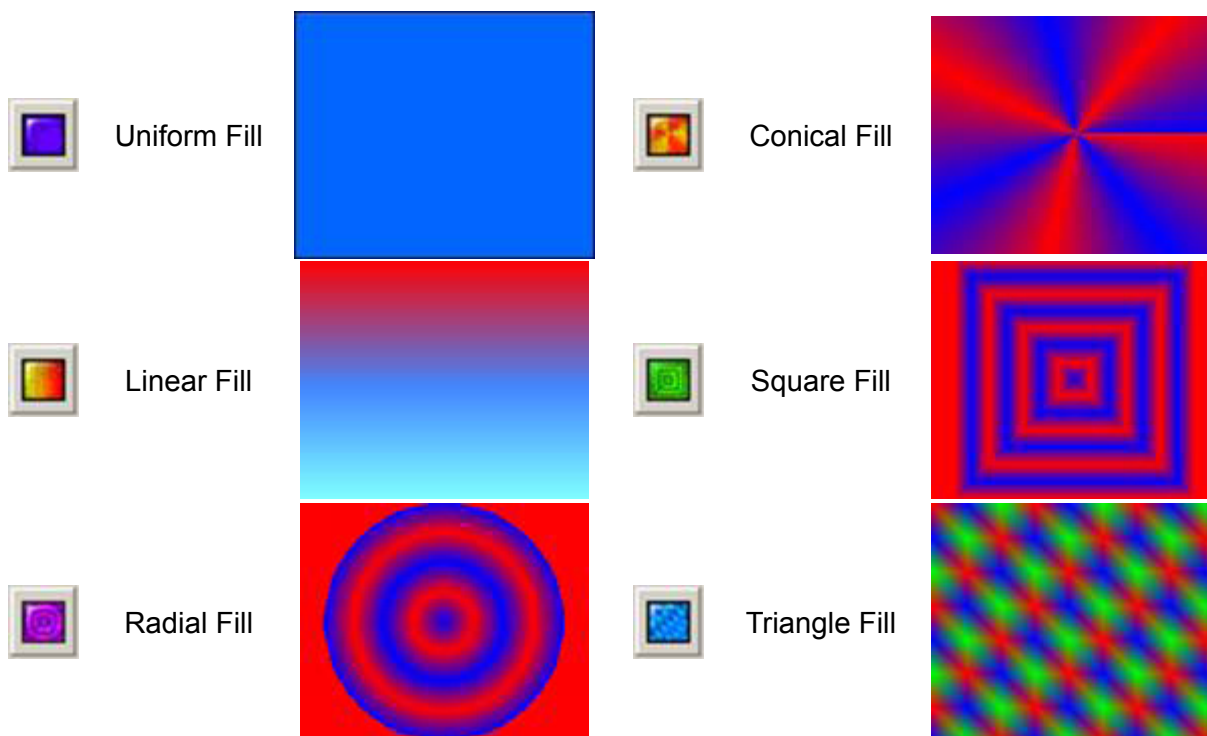
**Gradient Fills**Create a process color *Fill***Pattern Fills**Create a process color *Fill* effect by tiling a bitmap pattern**Spot Gradient Fills**Create *Fill* effects only using one or two Spot colors**Multi Spot Gradient Fill**Create *Fill* effects using one or more Spot colors

Gradient Fills

The *Gradient Fill* styles are selected at the far left of the SmartBar.



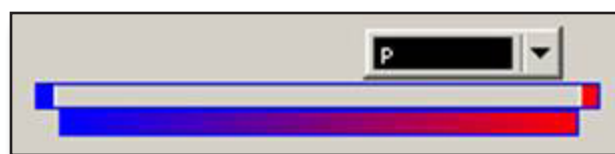
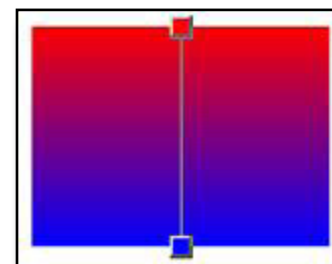
Examples of the *Fills* are as follows:



Choosing a Fill Style

When a *Fill* style is selected, color nubs will appear around the Object on the Workspace.

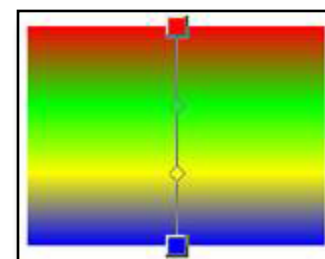
The placement of color nubs will depend on the given style. The initial color nubs will also be represented in the *Gradient Bar*.



The two end nubs of the *Gradient Bar* are fixed, but *double-clicking* within the bar will add a color nub.

The new nubs will also be shown on the Workspace.

A line joins the two initial color nubs, which will indicate valid regions for creating color nubs. *Double-clicking* within this valid region will create a color nub.

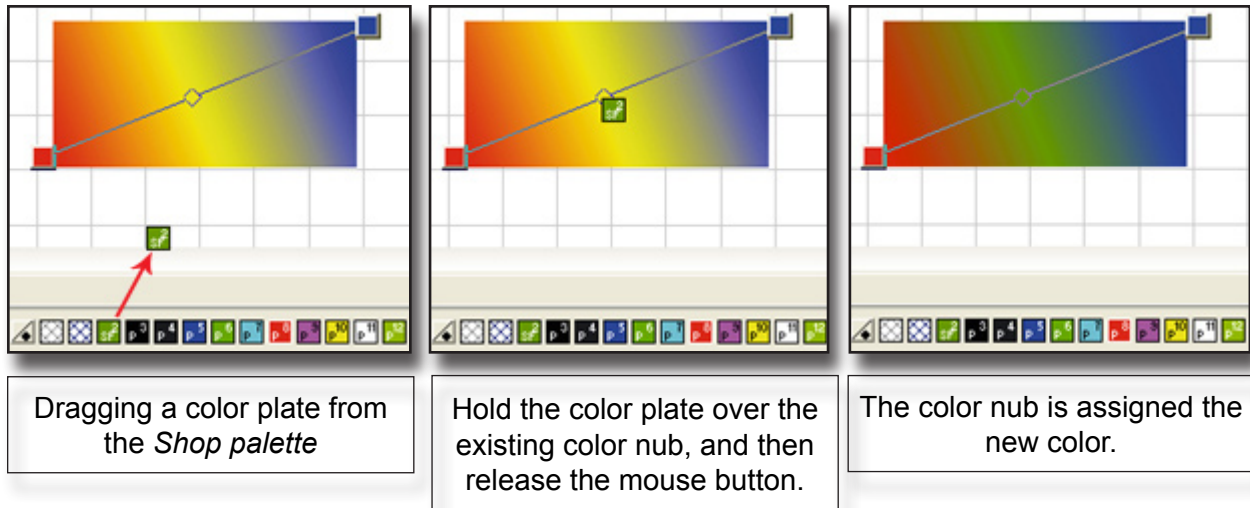


Changing Nub Colors

On either the *Gradient Bar* or the *Workspace*, a color nub may be clicked to set it as the focus. Once designated, the nub color may be changed by clicking on the color picker. The color picker is located above the *Gradient Bar*.

Dragging Color Plates

Color plates may be dragged from the *Shop palette* and dropped onto a color nub. The color nub will then be assigned the given color.

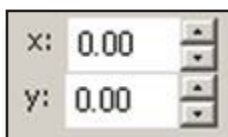


If a plate is dropped onto an area of the shape that does not already contain a color nub, then a new color nub will be created.

Deleting Color Nubs

On either the *Gradient Bar* or the *Workspace*, *control-clicking* a color nub will delete that nub. To clear all color nubs, click on the *Clear Nubs* button.

Horizontal and Vertical Position



By default, the *Gradient Fill* is placed at the center of the Object. The Horizontal and Vertical Position fields may be used to place the gradient *Fill*.

Gradient Angle



Dragging the color nubs may be used to adjust the angle of the *Fill*. The Angle field on the dialog bar may also be used.

Repeats

The *Fill* can be applied with either as a *Single* or repeating *Sawtooth* or *Wave* pattern.



Single

Render the *Fill* from the initial color through to the final color.



Sawtooth

Render the transition from the initial color through to the final color, which then repeat the specified number of times. For example, five colors with 4 repeats would display shades in the following order:
1-2-3-4-5, 1-2-3-4-5, 1-2-3-4-5 and 1-2-3-4-5.



Wave

Render the transition from the initial color through to the final color, and then from the final color through (in reverse order) to the initial color. For example, five colors with 2 repeats would display shades in the following order: 1-2-3-4-5, 5-4-3-2-1.

Pinstripe versus Blend

By default, *Fills* have a *Blend* style.

Spectrum Up and Down



The Pinstripe style will create an abrupt transition between each *Fill* color.



Using a Blend style will create a gradual transition between each *Fill* color.

By default, a gradient *Fill* between two colors will only have progressive shades between those two colors. By doing so, the intervening colors of the spectrum are ignored. By clicking on either the *Spectrum Up* or *Spectrum Down* buttons, the blend of colors will include these intervening spectrum colors.

For example, consider the memory aid ROYGBIV, which is short for **Red**, **Orange**, **Yellow**, **Green**, **Blue**, **Indigo** and **Violet**. If the gradient *Fill* is initially between **Orange** and **Blue**, then the following is true:



Spectrum Up

Orange, **Red**, **Violet**, **Blue**



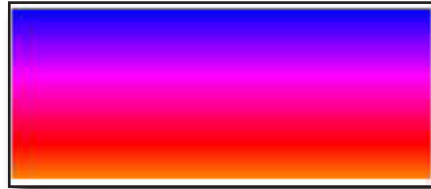
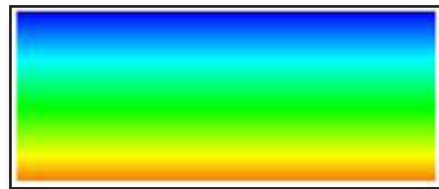
Spectrum Down

Orange, **Yellow**, **Green**, **Blue**

Linear gradient – **Orange** to **Blue**
Spectrum Down



Orange to **Blue**



Orange to **Blue** gradient – Spectrum Up

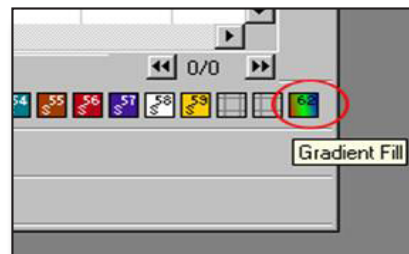
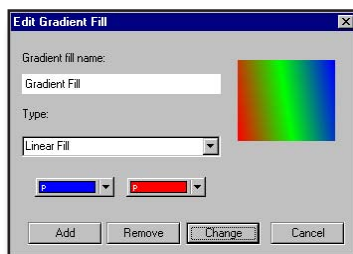
Save Fill

At the far right of the SmartBar is the Save Fill button. When this button is clicked, the *Gradient Fill* will be saved as a new color plate and appended to the end of the Shop palette.



The *Gradient Fill* plate may then be applied like a regular palette color.

By default, the name of the plate will be *Gradient Fill*. If the *Gradient Fill* plate is double-clicked, then the *Edit Gradient Fill* dialog will open.



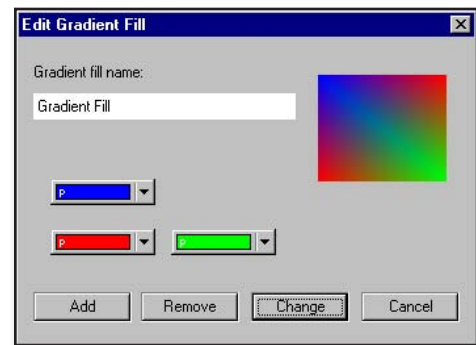
The *Edit Gradient Fill* dialog may then be used to rename the *Fill*, choose different colors for the *Fill*, or change the type of *Fill*.



The *Triangle Fill* type is not available from the dropdown list. The *Triangle Gradient Fill* has a different *Edit Gradient Fill* dialog that is incompatible with the other gradient *Fills*.

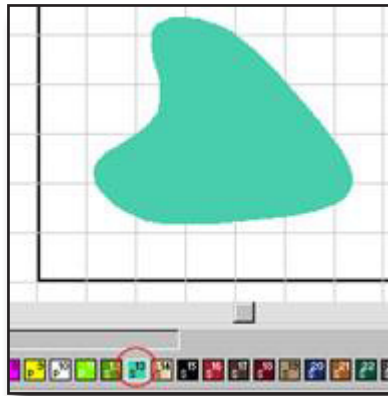
Editing a Triangle Gradient Fill

For a *Triangle Gradient Fill*, the *Edit Gradient Fill* dialog behaves slightly differently than for the other *Fills*. However, the only real difference is that there are three color pickers, which are used to select the *Fill* colors.

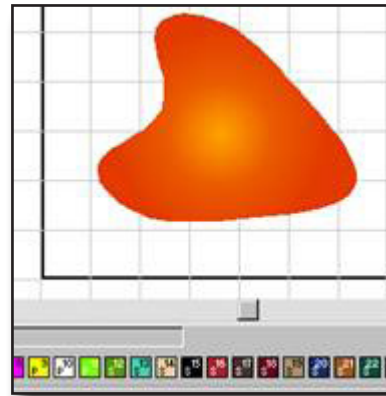


Gradient Fills and Color Layers

When a shape is applied with a *Gradient Fill*, that shape will be considered to remain on its original color plate layer, even though the shape will be rendered using the indicated *Fill*.



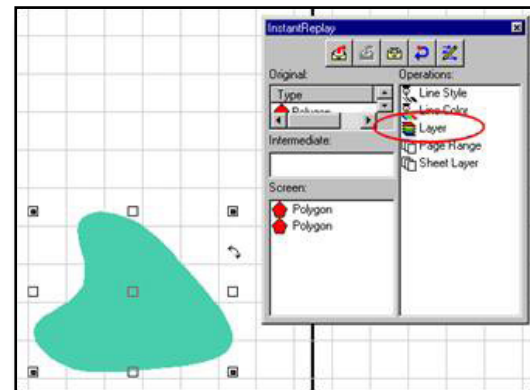
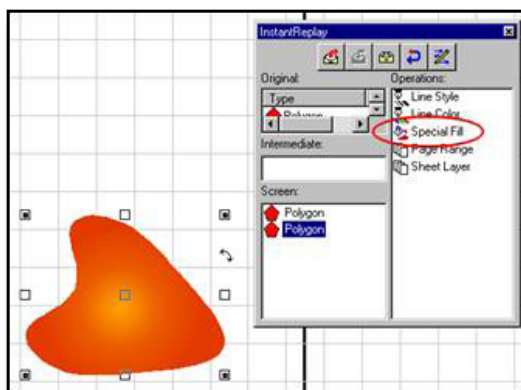
Original shape with an aqua *Fill* (plate layer 13)



The same shape with a *Spot* gradient *Fill*. This shape is considered to be on layer 13.

If the *Instant Replay* window is open, then the *Fill* of the selected shape will be a *Special Fill* to indicate that it has a *Spot Gradient Fill*.

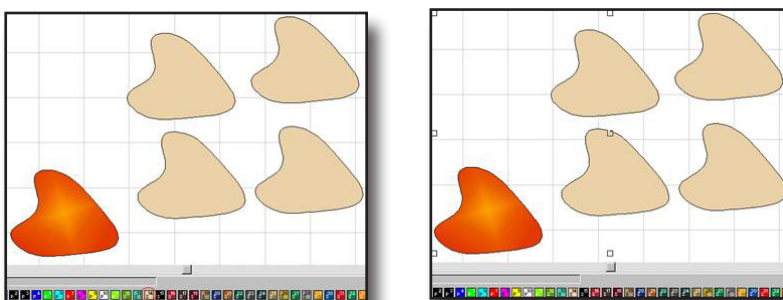
If the *Special Fill* is selected and then the *[Del]* key is pressed, the *Gradient Fill* will be deleted and the shape will have the *Fill* of its original layer color.



Selecting Shapes by Their Color

As previously mentioned, *Shift-clicking* on a color plate in the *Shop palette* will select all shapes that have that color *Fill*. However, this also includes *Gradient Fill* shapes that originally had that color *Fill*.

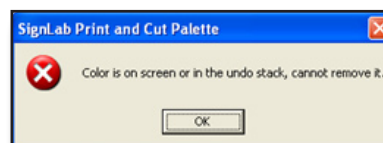
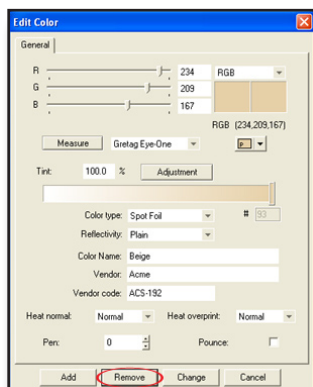
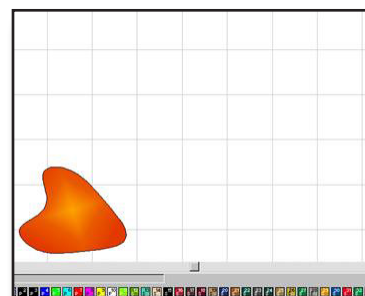
For example, consider five shapes that had a *Beige* color applied and where one shape was also had a *Spot Gradient Fill* applied.



Later, it was decided that the *Beige* shapes should be selected. From the *Shop palette*, the *Beige* color plate was *Shift-clicked*, resulting in all of the *Beige* shapes being selected. The *Gradient Fill* shape will also become part of the selection, since it is considered to be on the *Beige* color layer.

Deleting a Color Layer

If the *Beige* shapes from the previous example have been deleted, and the *Gradient Fill* shape is the only remaining shape on the *Workspace*, *double-clicking* the *Beige* color plate will cause the *Edit Color* dialog to open. If the *Remove* button is now clicked, then a warning dialog will prevent the color plate from being removed.



The *Beige* color plate cannot be removed because the gradient *Fill* shape uses

Beige as its original layer color. To delete the color plate, the gradient *Fill* shape must be assigned a different (non-gradient) *Fill* color from the *Shop palette*.

Gradient Fills and Welds

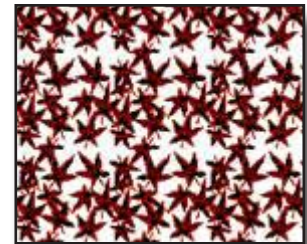
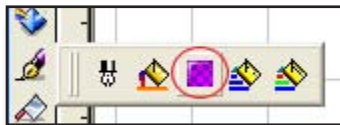
When creating a design that includes gradient *Fills*, it is recommended that detailed editing be postponed until after all welds have been completed. The problem is that when shapes are welded, their original color layers are reasserted, thereby losing any gradient *Fills*.

For each shape that will eventually be applied with a *Gradient Fill*, assign a unique layer color instead. This will allow such shapes to remain distinct from the other Workspace shapes. After all welds have been completed, the Gradient *Fills* may be applied to the unique color shapes. If necessary, the unique color shapes may be selected by *Shift-clicking* their color plate on the *Job palette*.

Pattern Fills

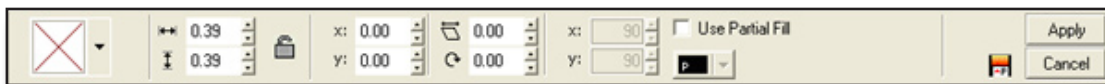
Pattern Fills use a bitmap pattern as a template, which is then tiled over the surface of a shape.

Pattern Fills are accessible from the *Stroke and Fill Tools* flyout.



Bitmap pattern of leaves tiled over a rectangle shape.

When editing Pattern Fills, the SmartBar is similar to the following:



At the far left of the SmartBar is the Select Pattern Bitmap button. click on this button to choose the bitmap that will be used as the Fill.



Cell Width and *Cell Height* indicate the dimension of one tile. The bitmap will be scaled to cover the entire tile. The *X* and *Y* coordinates indicate the

placement of the initial file.



The *Skew* field is useful for creating a slanted effect for the bitmap. The *Rotate* field indicates the rotation that is applied to the bitmap tiles.



If *Use Partial Fill* is checked, then a border will be formed about each tile. The border will be a percentage of the tile size, and the border color is selected from the color picker.

Color Swatches

Color swatches are used to reference the hues that a given printer can produce. The precise hue will depend upon the operating environment of the printer, such as humidity and ambient temperature. In addition, hues are affected by the type of inks and media that are loaded into the printer.

After color swatches are printed, store the printed sheets in a binder for quick reference. If there are any changes to the printer operating conditions (i.e. new type of media, different manufacturer of inks, etc.), it is worthwhile to create a new set of printed color swatches.

There are two tools for creating color swatches: Under the *File* menu, there are the *Color Swatches* and in the *Context Menu* there is the *Create Palette Swatch* tool.

The *Color Swatches* tool is used to create standard process color swatches for RGB, CMY or CMYK color values. The *Spot Swatches* tool is used to create *Duotone* swatches using *Spot Foils* that are in the *Shop palette*. The *Create Palette Swatch* tool is used to prepare a swatch for each color that is in the *Shop palette*.

Creating a Set of Process Color Swatches

From the *File* menu, choose the *Color Swatches* tool. In the *Color Swatches* dialog:

- Use the *Standard* option to create preset swatches
- Use *Customization* to create a custom set of swatches

Standard RGB Swatches

From the *File* menu, select *Color Swatches*. Select *Standard*, select *RGB* and

click on OK.

The standard *RGB* swatches are comprised of thirteen sets of swatches, where each set has thirteen rows and thirteen columns. The rows indicate the amount of **Red**, which varies top-down from 255 to 0. The columns indicate the amount of **Green**, which varies left-to-right from 255 to 0. Each set of swatches indicate the amount of **Blue**, where each set varies left-to-right from 255 to 0.

Standard CMY Swatches

From the *File* menu, select *Color Swatches*. Select *Standard*, *CMY* and click on OK.

The *Standard CMY* swatches vary from 0 to 100% of each colorant. The rows indicate the percentage of **Cyan**, which varies top-down from 0 to 100. The columns indicate the amount of **Magenta**, which varies left-to-right from 0 to 100. Each set of swatches indicate the amount of **Yellow**, where each set varies left-to-right from 0 to 100. Above each set of swatches is a swatch representing the given percentage of Yellow.

Standard CMYK Swatches

From the *File* menu, select *Color Swatches*. Select *Standard*, *CMYK* and click on OK.

The standard *CMYK* swatches are the same as the *CMY* swatches, except that **Black** is introduced as a fourth colorant. Each swatch is quartered, with 5% **Black** in the top-left, 10% **Black** in the top-right, 20% **Black** in the bottom-left and 30% **Black** in the bottom right of each swatch.

Customized Swatches

As an alternative to using the standard swatches, a custom set of swatches may be generated. From the *File* menu, select *Color Swatches*. Select *Customization*



and click on OK. The swatch parameters are set from the SmartBar.

At the far left of the SmartBar, the color model may be set as either *RGB* or *CMYK*. If *RGB* colors are used, then each primary will vary from 0 to 255. If *CMYK* colors are used, then each primary (as well as black) will vary from 0% to 100%.

Grid Size



The size of the grid can be Small, Medium or Large. The larger the grid, the more color swatches that will be created.

Axis Colors

The choice of axis colors will determine how the color swatches are arranged. For example, if the horizontal axis is yellow, then the yellow content of the patches will increase from left-to-right. The amount of the increase is determined by the Percent change between swatches.



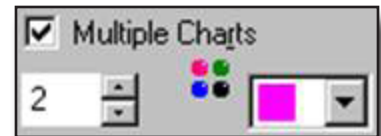
Percent Change between Swatches

This percentage indicates the hue shift that will occur between successive patches. This value must be positive with small values requiring more swatches to complete the grid.



Multiple Charts

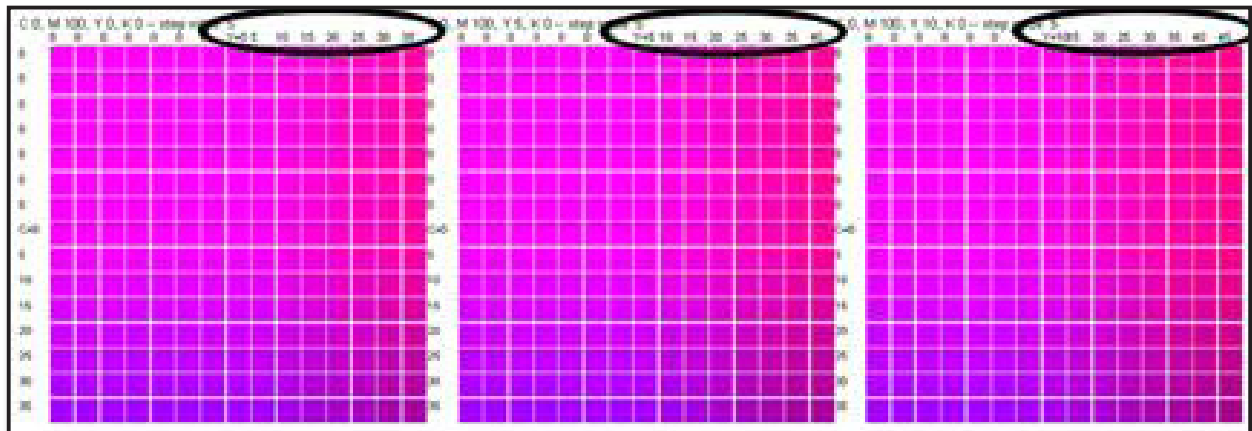
More than one chart may be created at once, where successive charts will vary according to the chart axis color. For example, if the horizontal axis is yellow and the chart axis is also yellow, then each successive chart will have its horizontal axis shifted by an additional percent change between swatches.



This is shown in the following SmartBar settings. Three charts will be created, where the percent change is 5%.



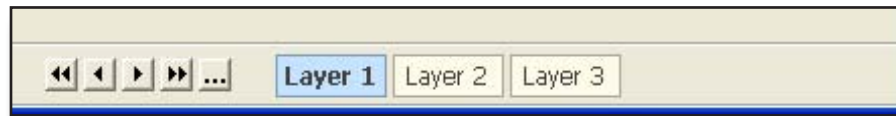
For the resulting charts, notice that the horizontal axis is shifted for each successive chart.



Placing Objects on Layers

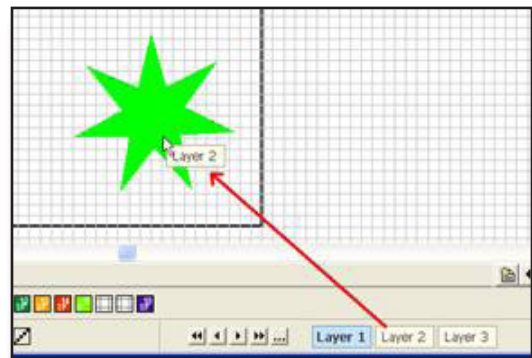
By default, shapes are placed on sheet layer 1. To add new layers, *double-click* Layer 1 to open the *Sheet Layer* dialog. Select *Add* to add a new layer.

The following screen shot shows a Workspace where there are three layers present.



For selected Objects, clicking on a layer plate will place those Objects on that layer. An Object may also be assigned to a layer by clicking on and dragging the layer plate from the *Sheet layer* palette.

A small square will appear to be dragged by the cursor. Hold the dragged square over a Workspace shape and then release the mouse button. That shape will now belong to the given layer.

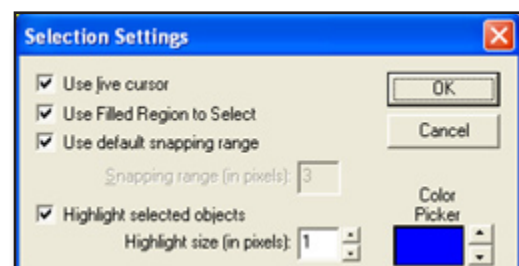


Selecting All Shapes on a Layer

All shapes on a given sheet layer may be selected by holding the *[Shift]* key and left-clicking the layer plate. The shapes will be added to the current selection.

Highlight Selected Objects

The *Highlight Selected Objects* option is used to draw a highlight border around selected Objects. Shapes that are on a *Cut Only* layer will be given a red highlight. For shapes that are on a *Print* and *Cut* layer, you can select the color for the highlight. These highlights are intended as a quick visual cue to confirm the nature of a given shape.



To enable or disable these highlights, select *Options > FastARTIST Setup > Selection Tool Settings* and check or uncheck the *Highlight Selected Objects* option. The *Highlight Size* field may be used to make the highlight more prominent. Select a color from the *Color Picker* for the *Print* and *Cut* Layer highlights.

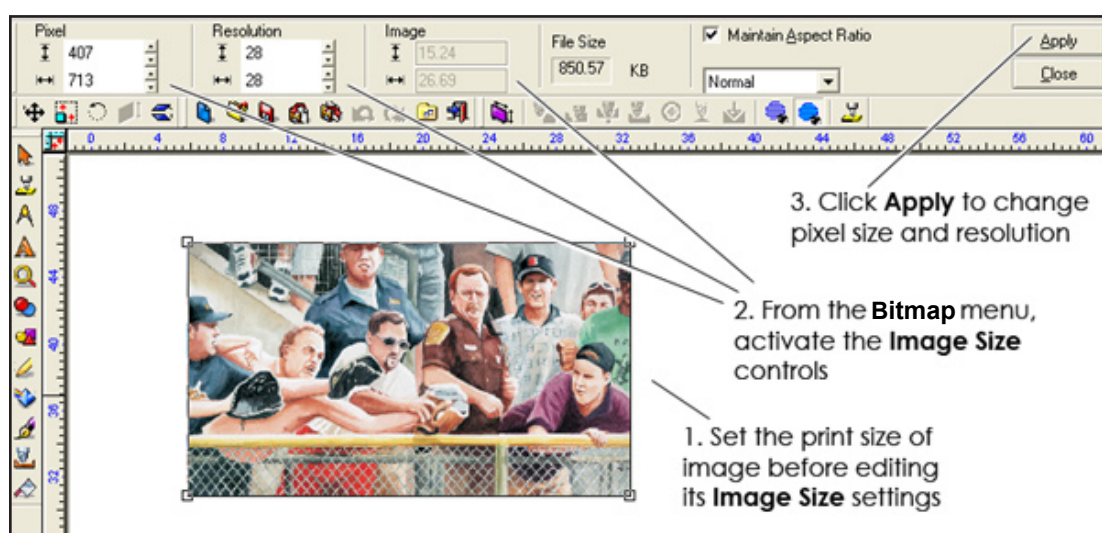
Chapter 6

Working with Bitmap Images

Image Properties

Image Size

To obtain professional looking prints, it is important to use high quality images with a resolution of 150 to 300 DPI (dots per inch). Under *Bitmap > Image Size* you can find the size and resolution information for a selected image. This information will be displayed within the SmartBar, as follows:



Pixel refers to the on-screen image size in pixels. *Resolution* is listed in pixels per inch (i.e., like DPI). *Image* reflects the actual size at which the image will be printed, expressed in the current ruler units. Image dimensions are not editable within the *Image Size* edit mode. You must use the *Select* state to change the size of the image. *File Size* indicates the total amount of hard drive space the image will require when saved. Please be careful when creating large, high resolution images, the file size can quickly become excessive.

The *Maintain Aspect Ratio* preference is applied when changing *Pixel Dimensions* or *Resolution*. Below the *Maintain Aspect Ratio* checkbox is the *Sampling Method* dropdown list. This indicates the resampling method that will be used when changing the *Pixel Dimension* or *Resolution*. Resampling involves

changing the pixel dimensions, and thus the display size, of an image. The available options are:

Normal	Resize the image normally, by adjusting the pixel dimensions and/or the resolution.
Resample	Uses interpolation and averaging to produce a higher quality image.
Bicubic	Uses Bicubic interpolation and averaging to produce a higher quality image, but is slower than resample.



Many of the options available within Bitmap menu can be applied to Vector images without converting them to bitmaps. Tools such as Hue and Saturation will transform a Vector image in the same manner as it would a bitmap. However, most of filters require you first convert a Vector image into a bitmap with a Clipping Path in order to perform the adjustment. In these instances you will be asked to enter a resolution for use when creating the bitmap.

Transforming an Image

Render to Bitmap

The *Render to bitmap* feature in the *Transform* menu converts any selected vector or bitmap Object. The possible color depths are as follows:

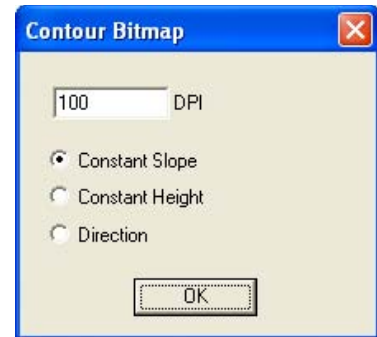
Color Depth	Description
Monochrome	Convert the selected Objects to Black and White bitmaps
16 Gray levels	Convert the selected Objects to grayscale bitmaps with 16 shades
256 Gray levels	Converts the selected Objects to grayscale bitmaps with 256 shades of gray
16 Colors	Convert the selected Objects to 4-bit color bitmaps with 16 colors
256 Colors	Convert the selected Objects to 8-bit color bitmaps with 256 colors
Full Color	Convert the selected Objects to 24-bit color bitmaps with millions of colors

The *Resolution* of the bitmap is specified in Dots per Inch (DPI). The default resolution is 72 DPI.

Render Contour Bitmap

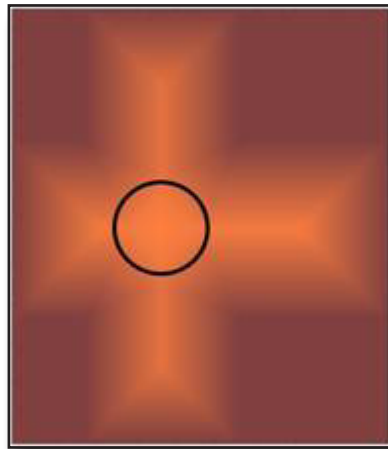
The *Render Contour bitmap* feature is used to create three-dimensional chiselled or bevelled patterns using process colors. When a shape varies in thickness, the effect will be adjusted to maintain consistent proportions throughout the shape.

When the *Render Contour bitmap* command is chosen, the *Set bitmap DPI* dialog will open. The DPI field indicates the “Dots per Inch” of the bitmap that will be produced. A high DPI setting will produce a higher resolution bitmap (i.e. less aliasing) but a larger file size.

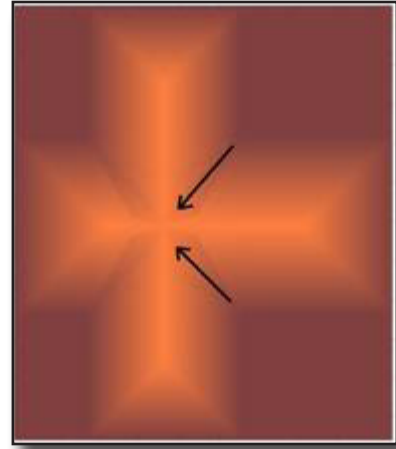


The *Constant Slope* option will cause the chisel/bevel effect to reach its maximum height/depth at the same rate. For areas of the bitmap that have a short distance between the edge and center, the bitmap will tend to plateau. The *Constant Height* option will cause the chisel/bevel effect to dip/peak along the centerline of the shape. The *Direction* option creates a chiselled appearance that is effective with lettering.

Clicking on OK will close the *Set bitmap DPI* dialog and a preview of the bitmap will be displayed. In the SmartBar, the gradient bar will indicate the range of shades used to construct the chisel/bevel effect. The left edge of the gradient bar indicates the color that will be present along the outer edges of the shape. The right edge of the *Gradient Bar* indicates the color that will be present at the center of the shape.

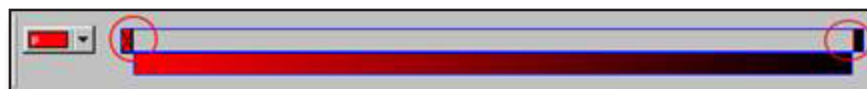


Using the *Constant Slope* setting, a plateau is produced at the intersection between two rectangles.



Using the *Constant Height* setting, the slopes are varied so that a peak is produced at the maximum height.

Clicking on either the left- or right-edge of the *Gradient Bar* will select that edge and the color picker may then be used to change the color.

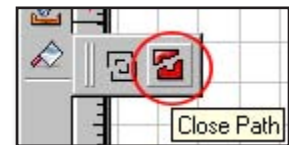


By *double-clicking* within the *Gradient Bar*, a color nub will be created. Initially, the color nub will be assigned the shade of color that was present where the *Gradient Bar* was clicked. This color may be changed by utilizing the *Color Picker*.

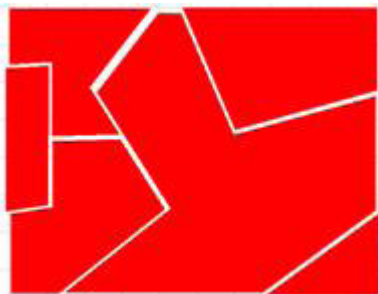
Note: To remove a color nub, hold the *[Ctrl]* key and then Left-click the nub.

Subdividing Shapes

Before converting a shape into a contour bitmap, the *Ginsu Knife* tool may be used to subdivide the shape.



For example, suppose that the *Ginsu Knife* tool has been used to subdivide a rectangle shape into several small pieces. Using the *Select* tool, resize and nudge the pieces to create a small gap between each piece. When ready, select all of the pieces and apply a *Render Contour bitmap* operation. A chisel/bevel effect will be created for each piece, which is then combined into the final bitmap.



Rectangle shape that has been subdivided using the *Ginsu Knife* tool.



Select the pieces and apply a *Render Contour* bitmap operation.

If a small gap is not created between the pieces, then the *Render Contour bitmap* feature will create a bitmap that shows no separation between the adjoining shapes.

Clipping the Edges of a Bitmap

Once a contour bitmap has been created, the original shape may be used to clip the bitmap. When editing the contour bitmap, enable the *Keep Original* option at the far-right of the *SmartBar*.



After clicking on the *Apply* button, return to the *Select* mode.



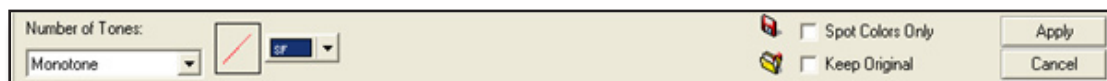
Click the bitmap to make it the “current selection.” From the *Arrange* menu, select *Order* and *To Back*. The bitmap will now be behind the original shape. Drag a selection marquee around both the bitmap and shape to select both. Under the *Arrange* menu, choose *Clipping*. The bitmap will now be clipped according to the contour of the original shape.

Render Multitone Bitmap

The *Render Multitone bitmap* feature is used to create three-dimensional chiselled or bevelled patterns by varying the tints of up to four spot colors. Process colors may also be selected, but the *Render Contour* bitmap feature is better suited for working with spot colors.

At the far-left of the *SmartBar*, the *Number of Tones* dropdown list indicates the number of spot colors that will be used in the multitone bitmap. Up to four different spot colors may be selected.

For the *Monotone* option, only one color picker will be available in the *SmartBar*.



The *Quadtone* option will cause four color pickers to be available.



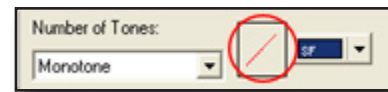
Beneath the color pickers is the *Gradient Bar*, which is used to indicate the range of tints that will be applied as the chisel/bevel effect. The left-hand end of the *Gradient Bar* represents tints that will be applied nearer the edges of the shape. The right-hand end of the *Gradient Bar* represents tints that will be applied nearer the center of the shape. If more than one color has been chosen, then the *Gradient Bar* will show their combined tints.

If dark tints are arranged at the left-hand end of the *Gradient Bar* and light tints

are arranged to the right, then a raised bevel effect will be created. If light tints are arranged at the left end of the *Gradient Bar* and dark tints are arranged to the right, then a chisel effect will be created.

Next to each color picker is a graph button that indicates the distribution of tints for the color.

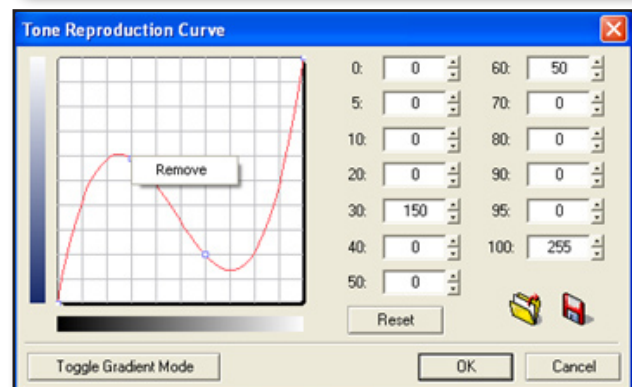
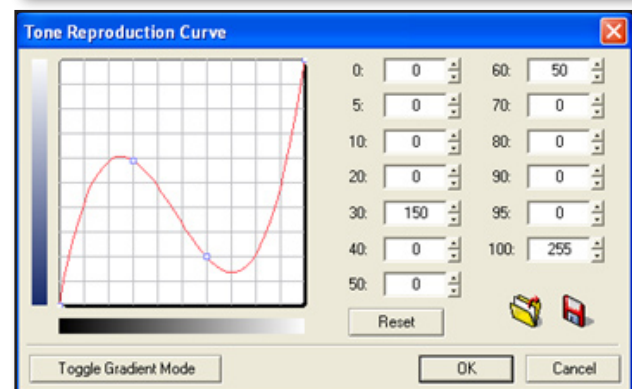
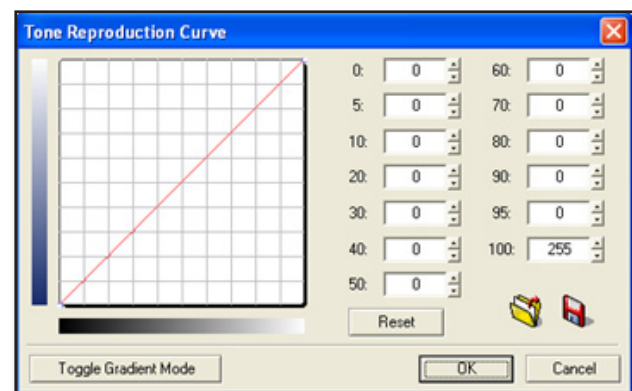
Click the graph button to open the Tone Reproduction Curve dialog, which is used to edit the distribution of tints (of that color) in the chisel/bevel effect. By default, the curve will be a straight line from the bottom-left (250) to the top-right (0) of the graph.



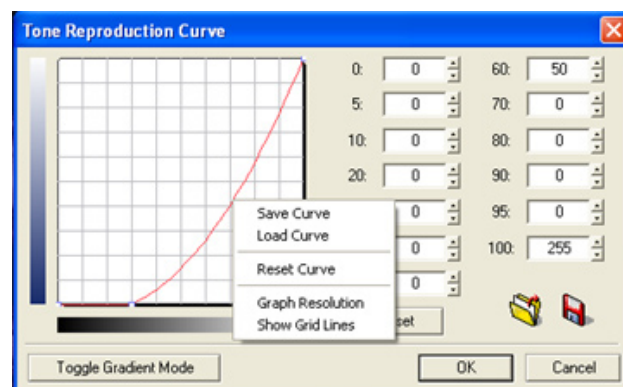
From left-to-right, the graph is arranged into ten intervals. Clicking within the graph will create a node at the given interval which may be dragged up or down to vary the tint. As a node is dragged, the curve values will be automatically adjusted to maintain a smooth gradation of tints. For example, the following screenshot shows two nodes that have been created at the 3rd and 6th intervals. The 3rd interval has been set to 150 and the 6th interval has been set to 50.

When varying the tint at a given interval, the remainder of the curve will be automatically adjusted to provide a smooth gradation.

To remove a node, hold the cursor over the node and *right-click*. Choose *Remove* from the context menu and the node will be deleted.



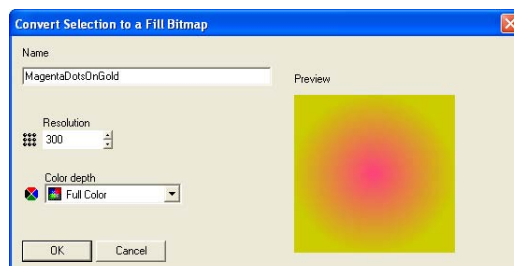
Right-clicking within any other part of the graph will access more *Context Menu* commands. The *Reset Curve* command from this menu will delete all of the intervening nodes and reset the curve to a straight line from the bottom-left (250) to the top-right (0) of the graph.



Render Pattern Fill Bitmap

The *Render Pattern Fill bitmap* feature, available in the *Transform* menu, is used to create a custom pattern bitmap that will be used with the *Pattern Fill* tool available from the *Stroke and Fill Tools* flyout. An example of how to create a bitmap pattern follows:

- Create the bitmap Pattern
1. Using the *Rectangle* tool, create 2" square shape.
 2. Apply a *Radial Gradient Fill* that is centered in the square
 3. Select the square and choose *Render Pattern Fill bitmap* from the *Transform* menu. The *Convert Selection to a Fill bitmap* dialog will preview the bitmap that will be created.
 4. Set the *Color Depth*. For a bitmap that has "millions of colors," choose the *Full Color* option.
 5. Set the *Resolution* high enough to maintain acceptable print quality. Simple patterns will not require a resolution higher than approximately 150 DPI; detailed bitmaps should be set for 200-300 DPI.
 6. Type a *Name* that will be used to identify this bitmap pattern and click on *OK* to continue.

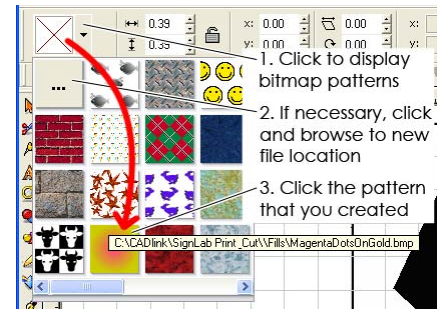


The resulting pattern bitmap will now be saved in the *Fills* directory of the FastARTIST installation folder. The pattern bitmap can be applied using the *Pattern Fill* tool.

- Apply the New Pattern bitmap
1. Create and select a large shape to be tiled with the new pattern bitmap.
 2. From the *Stroke and Fill Tools* flyout, choose *Pattern Fill*. The *Pattern Fill* controls

will appear in the SmartBar.

3. Locate the pattern bitmap you wish to use.
4. Set the SmartBar controls for the size, skew and rotation of the pattern bitmap.
5. Click on *Apply* to produce the finished pattern.
6. Click on an empty portion of the workspace to finish editing.



Easy Color Adjustments

Within the *bitmap* dropdown menu are several “one-click” tools designed to simplify editing bitmap images. You may use any option repeatedly on an image to get a stronger effect if you don’t achieve the desired results at first.

Clean Up White

The *Clean Up White* option will make pixels that are very close to White turn White. Using this tool creates a cascading effect within the colors, turning the lightest pixels White and averaging the color change with surrounding pixels. Each successive mouse click will increase the amount of pure White pixels within the image.

Clean Up Black

This command will make pixels that are very close to **Black** go to **Black**. Using this tool creates a cascading effect within the colors, turning the darkest pixels **Black** and averaging the color change with surrounding pixels. Each successive mouse click will increase the amount of pure **Black** pixels within the image.

Make Lighter

The *Make Lighter* option is very similar to a *Brightness* control. Using this feature will lighten the entire image from **Blacks** to Whites.

Make Darker

The *Make Darker* feature is just the opposite of *Make Lighter*. Using this option will darken the image across the entire tonal spectrum.

Increase Saturation

The *Increase Saturation* command will increase the intensity of the CMYK colors

with changing their hue.

Blur Image/ Sharpen Image

These two options are very similar to the *Blur* and *Sharpen Filters* discussed later in this chapter.

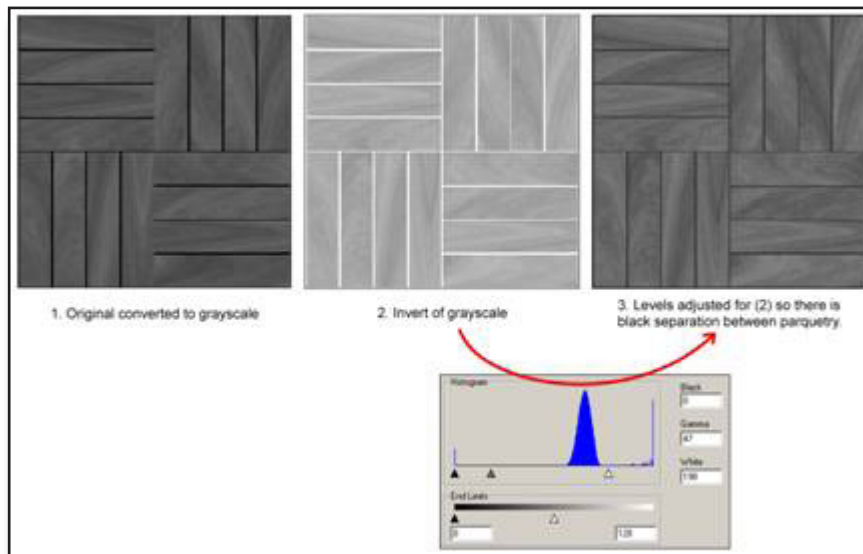
CMYK Color Adjustments

Levels

Levels adjusts the distribution of color intensities throughout the bitmap, either to correct a scanned image, or to create an artistic effect. Increasing the **Black** level will equate the darkest portions to **Black**. Decreasing the White level will equate the lightest portions to White. Increasing or decreasing the *Gamma* will modify the overall intensity of the bitmap. *End Limits* are used to adjust the and values, which is an effective means of removing absolute White or **Black** from the image.



A histogram is a chart consisting of horizontal or vertical bars, the widths or heights of which represent the values of certain data (in this case, the data represents pixel brightness across the bitmap).



Example of Using Levels – After a grayscale image has been inverted, the separations between the parquetry in (2) are White. Using the *Levels* feature, the White point is lowered to equate all the separations to White. The White *End Limit* is then reduced to remove the separations. Finally the *Gamma* is reduced to create a bitmap that is as dark as in the original grayscale (3).

Contrast/Brightness

The *Contrast* setting is used to modify the perceived difference between the light and dark areas of the bitmap.

The *Brightness* setting is used to modify the overall intensity of the bitmap.

Hue/Saturation

Hue/Saturation adjusts the *Hue*, *Saturation* and *Lightness* values of the bitmap.

Hue is the visual perception of a specific color, such as red, yellow, violet or orange-brown. The *Hue* setting is arranged like a color wheel (ROYGBIV), where adjusting this setting will rotate the bitmap colors through the color wheel.

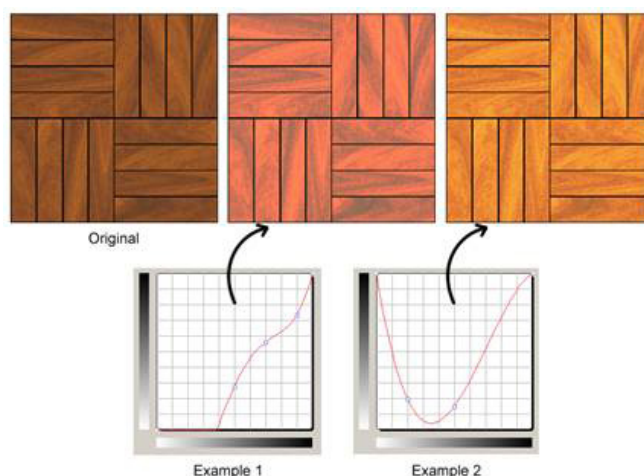


Saturation is the colorfulness of an area in consideration of its brightness level. For example, as a color falls under increasing levels of shadow, the color appears darker, even though its saturation remains constant.

Lightness is the appearance of a color in terms of how White or **Black** it appears.

Curves

The *Curves* menu adjusts the tonal range (*Shadows*, *Midtones* and *Highlights*) of the bitmap. The horizontal scale of the graph represents the range of intensity values (shadows progressing to light or vice-versa) and the vertical axis represents the current intensity values. The initial diagonal line represents the original distribution of intensities across the bitmap tonal range.

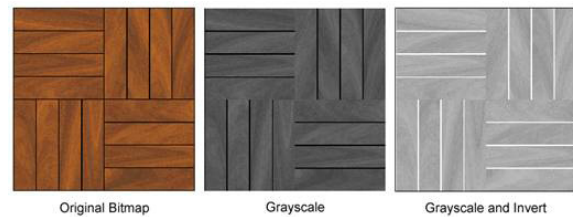


The *Toggle Gradient Mode* button is used to alternate how the intensity values

are displayed. The graph can either display shadows to highlights, with values increasing from 0 to 255, or display highlights to shadows, with values increasing from 0% to 100%. To set specific intensity values, either click within the graph or enter the value using the edit fields. A maximum of thirteen intensity values can be set.

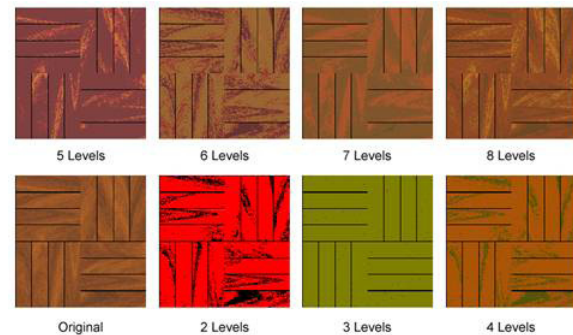
Invert

This selection inverts the colors in the bitmap, producing an effect similar to photographic negative. This feature can also be used to invert the color of a grayscale image, making the **Black**, White and the White, **Black**.



Posterize

Posterize limits the number of color levels per plane (red, green and blue). For example, two levels mean two of Red, two of Green and two of Blue. The valid range for the number of levels is from 2 to 64.



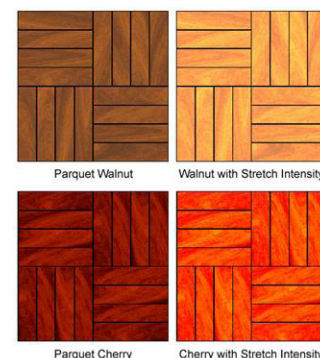
Histo Contrast

Histo Contrast increases or decreases the contrast of the bitmap image, using a histogram to determine the median brightness. Once the median brightness has been determined, pixel values above the median are brightened, and pixel values below the median are darkened.



Stretch Intensity

Stretch Intensity increases the color contrast in the bitmap without changing the number of discrete intensity values (ordinary contrast adjustments can lose high- and low-end values).



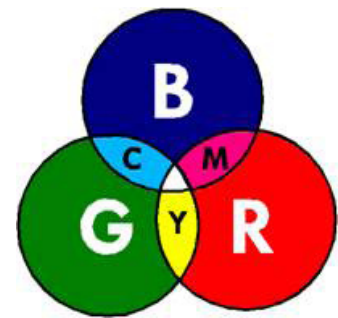
Histo Equalize

Histo Equalize linearizes the number of pixels in the bitmap, based on the specified color space (RGB, Grayscale etc.). This can be used to bring out detail in dark areas of an image.



Balance Colors

Balance Colors redistributes the RGB values of individual bitmap pixels. For each pixel, its **Red**, **Green** and **Blue** components are isolated, and the color sliders are then used to increase or decrease the percentage RGB values within each pixel. In this manner, a color cast can be removed from the bitmap or a color tinge can be created for an artistic effect.



Setting all color sliders to 100% will result in a bitmap that is entirely White. Setting all color sliders to 0% will produce a **Black** bitmap.

Swap Colors

Swap Colors swaps the color channels of the original bitmap. This feature is useful for obtaining artistic effects that would otherwise be difficult to achieve using the other Color Adjustment tools.

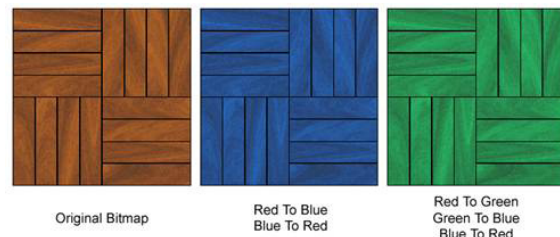


Image Filters

Unsharp Mask

The *Unsharp Mask* feature is actually considered to be a sharpening function because it increases the contrast between light and dark areas of the bitmap. Wherever there is a transition between light and dark, the light area is made lighter and the dark area is made darker, making the transition more distinct.

A blurred copy of the bitmap is created, where the amount of blurring depends upon the *Radius* setting. The blurred copy is then subtracted from the original

and the resulting difference bitmap is referred to as the “mask.”

Pixel-by-pixel, where the difference exceeds the *Threshold* setting, the difference is multiplied by *Amount* and then added to the original bitmap. Where the difference does not exceed the *Threshold* setting, the original pixel value remains unchanged.

Average Filter

This filter changes the color of each bitmap pixel to the average color of surrounding pixels. This results in a blur effect.

Gaussian Blur

Gaussian Blur smoothes or blurs pixels with respect to their surrounding pixels. The *Radius* determines the surrounding area that is considered when blurring a pixel.

Motion Blur

Motion Blur creates the illusion of movement within the image. The size of the blur is modified through the *Blur Effect* setting. *Angle* indicates the rotation of the blur, where a positive *Angle* indicates a clockwise blur, and a negative *Angle* indicates a counter-clockwise blur.

If the *Unidirectional* option is checked, then the blur effect will extend only in the direction specified by *Angle*. If the *Unidirectional* option is unchecked, then the blur effect extends in both directions.

Median Filter

This filter changes the color of each bitmap pixel to the average color of surrounding pixels. The *Median Filter* is similar to the *Average Filter*, except that *Median Filter* is primarily used for noise reduction, rather than a blur effect.

Add Noise

Add Noise adds random pixels to the bitmap. Adding noise can be an effective means of making an image appear older or dirtier, especially where the purpose is to distract the eye from imperfections in the original image.

Despeckle

This removes speckles from a bitmap, such as those present in scanned images.

Stylize / Artistic Filters

The following *Stylize/Artistic Filters* are available under the Image menu:

- **Emboss**

Emboss applies an emboss effect to the bitmap, letting you specify the depth and direction of the effect. The Depth indicates the apparent depth of the emboss effect.

- **Solarize**

Solarize creates an effect that mimics the accidental exposure of photographic film to light. This is done by inverting all color intensities that exceed the Threshold value.

- **Oilify**

Oilify creates an oil-painting effect. For each pixel, the Amount indicates the number of surrounding pixels that are considered when creating the effect. Increasing the Amount will result in less detail in the resulting image.

- **Mosaic**

Mosaic creates a mosaic effect by dividing the bitmap into tiles of the specified size, and then averaging the pixel colors within each tile.

- **Spatial Filter**

The *Spatial Filters* are an assortment of mathematical effects that can be applied to enhance the bitmap appearance. The usage of these filters requires a bit of trial-and-error to achieve the desired result. The assorted categories are:

▪ Emboss	▪ Gradient
▪ Laplacian	▪ Sobel
▪ Prewitt	▪ Shift and Difference
▪ Line segment	

- **Halftone**

Halftone converts a bitmap into a grayscale halftone bitmap. The *Angle* setting is used to rotate the pattern.

The available halftone patterns are:

Circular	Apply a circular halftone pattern
Elliptical	Apply an ellipse halftone pattern
Linear	Apply a linear halftone pattern
Print	Apply a halftone pattern for printing
Random	Apply a random halftone pattern
Rectangular	Apply a rectangular halftone pattern
View	Apply a halftone pattern for monitor display

- ***Intensity Detect***

Pixel intensities within the bitmap range from 0 to 255 for each color plane (red, green and blue). The *Intensity Detect* filter compares each pixel's intensity with the *Low* and *High* values and sets the pixel's intensity as follows:

Pixel Intensity	Result
Between Low and High	Increase intensity to 255
Less than Low	Clear intensity to zero
Above High Setting	Clear intensity to zero

Remove Red Eye

The *Remove Red Eye* feature is available under *Bitmap > Filters*. This filter removes the “red eye” effect that results from flash photography. For each pixel, only the red color component is evaluated. This feature has no effect on grayscale images, since there is no “red eye” effect in a grayscale image. If desired, a new color can be substituted that is closer to the original eye color.

Red Component of Pixel	Result
Greater than Threshold	Pixels are replaced (<i>Lightness</i> value is applied)
Less than Threshold	No change

The FastScan tool should be used to select a small region around the eye. Otherwise, all pixels within the bitmap will be affected.

Lightness is a Percentage value that indicates whether the pixels that are replaced are lightened or darkened. If this value is greater than 100, the replaced pixels will be lightened. If this value is less than 100, the replaced pixels will be darkened. This function preserves the lightness of the original pixels and substitutes the red color with the new color.

Plug-ins

Plug-ins are software modules used to create special effects for existing bitmaps or to create bitmaps from line art. Plug-in modules may be purchased through Adobe or other third-party developers. To use a plug-in, select a bitmap and then choose the given plug-in from the *bitmap dropdown* menu. Depending on the type of plug-in, a dialog may open allowing plug-in parameters to be edited.

FastARTIST includes five plug-ins from the *Alien Skin Eye Candy 4000* CD. The available plug-ins are: *Bevel Boss*, *Chrome*, *Corona*, *Gradient Glow* and *Shadowlab*.

Some plug-ins require that a foreground and background color be set. *Bitmap > Options > Set Foreground Color* or *Set Background Color* can be used to do this.



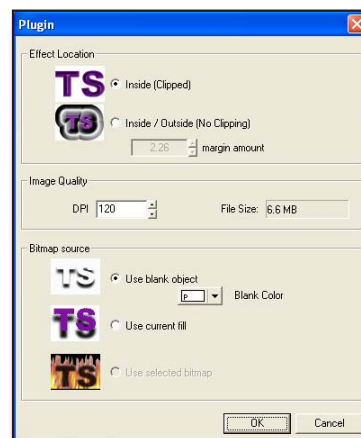
*For instructions on using specific plug-ins, please refer to the documentation that was provided with the plug-in installation package. A plug-in file is recognized by its *.8bf file extension.*

Plug-in Dialog

When a plug-in is applied to line art or line art that has been placed over a bitmap, the Plug-in dialog will open. For most plug-ins, the effect can be clipped by the line art contour to produce a good effect. However, some plug-ins will create an effect that extends past the line art contour.

- Effect Location

Plug-ins effects can create a bitmap from line art shapes. For the bitmap that is produced by the



plug-in effect, the *Effect Location* can be used to automatically apply your original line art as a clipping path on the bitmap. The benefits of using a clipping path are:

1. The “empty” portions of the plug-in bitmap are usually set to a White color, which are undesirable when arranging the bitmap with surrounding Objects. Clipping to the original line art will hide the empty portions of the bitmap.
2. The bitmap that is produced by the plug-in will often have a jagged edge, which will look poor when scaled up to a large poster size. Clipping will “trim” the jagged edge, such that scaling is acceptable.



It is a good idea to scale your original line art to the desired size before applying the plug-in effect. Line art shapes will scale without diminishing their details.

The Inside (Clipped) option will automatically clip the plug-in bitmap to your original line art shape. Use this option to hide empty portions of the bitmap, and to trim jagged edges that plug-ins can sometimes produce.

The Inside/Outside (No Clipping) option will not apply a clipping path. This option should be used when the plug-in effect extends beyond the bounds of the original line art shape, such as the *Corona* or *Gradient Glow* plug-ins.

Margin amount specifies the amount of empty margin around a resulting plug-in bitmap.

- Image Quality

Image Quality determines the resolution (DPI) of the bitmap produced by the plug-in. The result will vary according to the size and complexity of the original artwork. Keep in mind, a high quality image will require a large file size.

- Bitmap Source

Most plug-ins allow for an effect to be applied to more than one Object, with the Objects being either line art or images. In a case where there is more than one original Object, it won't be clear to FastARTIST which should be the “source” for use by the plug-in. To solve this problem, the following options are used to specify how these Objects will be used by the plug-in effect.

- If the *Use blank Object* option is selected, then only the contour of the line

art shape will be used. The plug-in effect will be applied as if the line art had a White fill color.

- If the *Use current fill* option is selected, then both the contour and fill pattern of the line art will be used. This option is typically used when a fancy pattern or gradient fill has been applied to the line art.
- The *Use selected bitmap* option should be used where line art has been arranged over an image. The plug-in will be applied to the line art and the original image will be modified by the plug-in effect.

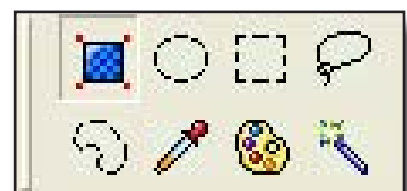
In the example below, both the text and image were selected before applying a *Gradient Glow* effect. The effect was created for the line art (text) with the *Use selected bitmap* option, so the original bitmap was modified to include the effect.



Applying Plug-ins to Sections of a Bitmap

In some cases, a plug-in may require that only part of the bitmap be selected. If a selection has not been made, then a warning dialog will indicate that a selection is needed.

To select part of a bitmap, *double-click* the bitmap to activate FastScan Mode. At the far-left of the SmartBar will be tools for selecting portions of the bitmap.



For example, if a bitmap containing several leaves is being edited and you wish to apply an effect to only one of the leaves, the *Draw Lasso* tool would be useful.





Select the Draw Lasso tool and sketch a selection area around a leaf.

From the *Bitmap* menu, choose your desired plug-in. The plug-in dialog will open, allowing parameters to be edited. Once the parameters have been set, the effect will be applied to the selected portion of the bitmap. In this case, the plug-in created a motion blur effect.



Applying Plug-ins to Text

Here are two examples of how a plug-in may be applied to text:

1. Create a text shape and scale it to the desired print size.
2. Go to *Bitmap > Eye Candy 4000 > Bevel Boss*.
3. Choose the Inside (clipped) option from the plug-in dialogue.
4. Click on the *Use current fill* option.
5. Click on OK to continue and the *Bevel Boss* dialog will open, which will be used to preview and adjust the bevel appearance.
6. Click on OK to close the *Bevel Boss* dialog, and the bevel effect will be applied.

Bevel Boss

1. Create a text shape and scale it to the desired print size.
2. Go to *Bitmap > Eye Candy 4000 > Shadowlab*. Click on the *Inside/Outside* (no clipping) option and *Margin Amount* will become active.
3. Set the *Margin Amount* to indicate how far the effect should extend from the text.
4. Click on OK to continue and the *Shadowlab* dialog will open, which will be used to preview and adjust the shadow appearance.
5. Click on OK to close the *Shadowlab* dialog and the shadow effect will be applied.

Shadowlab

FastScan

The FastScan toolbar contains helpful utilities and menus for manipulating bitmaps and combining them with other Objects.



To use FastScan, select an imported bitmap and click on the FastScan tool or *double-click* on the bitmap.



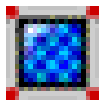
Even you have several Objects of the same type on your Workspace, it is important to remember only one bitmap at a time may be edited.

Applying Image Filters to Portions of a Bitmap

You may also use the FastScan tool to select a section of a bitmap and apply any filters or plug-ins to just that portion of the image

Selection Tools

The following selection tools are available when for use with bitmap images:

**Whole Bitmap**

Select the entire bitmap

**Ellipse Select**

Select an oval area

**Rectangle
Select**

Select a rectangular area

**Draw Lasso**

Select a freehand area

**Draw Select**

Define an area that has an irregular shape.

**Eyedropper**

Pinpoint a color in the bitmap.

**Palette**

Select regions based on specific colors. Colors may be either added or subtracted from the current selection.

**Magic Wand**

Select region based on similar colors. The Magic Wand setup may be used to customize what is considered to be "similar."

**Magic Wand
Setup**

Adjust the range of color intensities that the magic wand uses when determining a region. The Fill Holes option will include any gaps as part of the overall selection.

**Clip Region**

Create a clipping shape from the current selection. The Clipping Clear command can be used to remove this clipping.

**Invert
Selection**

Invert the current selection area

Modifier Keys

When creating a selection to modify, holding down the *[Shift]* key while clicking with the left mouse button will add additional items, groups or areas to the selection. Holding down *[Ctrl]* and a mouse button click subtracts from the previous selection.

Adjusting the Size

At the far right of the FastScan toolbar is the *Region Selection* field. Use these data fields to adjust the size of the current selection.

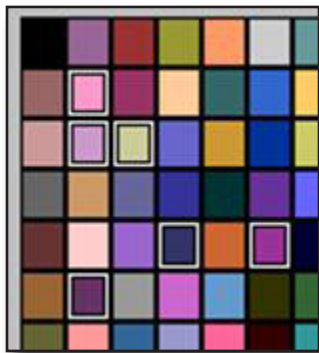
Bitmap Palette



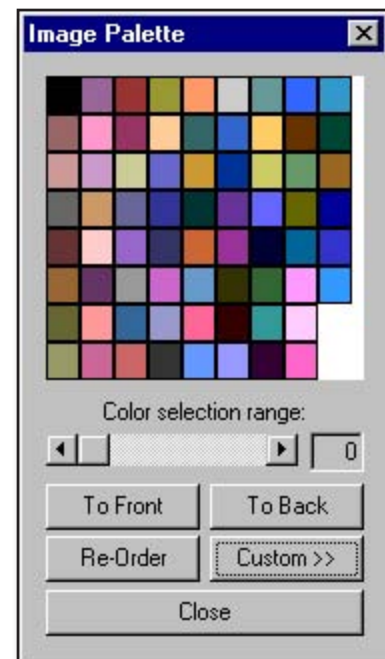
The *Target palette* color is displayed above the *Palette* button. Double-click on the *Target* color to add colors to the palette. The new color will not be added until used with either the *Brush* or *Fill* tools. New colors will be automatically appended to the end of the palette. clicking on the *Palette* button will display the current colors in the *Bitmap palette*.

The *Image palette* dialog may be used to select existing palette colors. Several of the colors may be selected, which will cause them to be highlighted.

Clicking on the *To Front* button will shift these colors to the start of the palette. Clicking on the *To Back* button will shift these colors to the end of the palette.



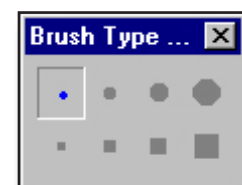
In addition, the *Re-Order* button will sort the palette from most- to least-prevalent colors in the bitmap. All palette colors will be sorted, and no selection is required. The *Custom* button may be used to add colors to the palette, though as mentioned previously, new colors will not be added until either the *Brush* or *Fill* tools are used with that color.



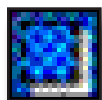
Brush Tool



The *Brush* tool uses the *Target* color to touch up the bitmap. There are several brush shapes available by clicking on the *Brush Selection* button.



Move Region



The *Copy* tool may be used to move a selected area to another position within the bitmap or used to copy a selected area to another position.

- Copy a Selection

To copy a selected area, click on the *Move Region* button. The mouse cursor may then be used to drag the selection.

- Move A Selection

To move a selected area, click on the *Move Region* button and then hold the *[Ctrl]* key when dragging the selection. The area vacated by the selection will be filled with the *Target* color.

Crop Tool



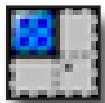
The *Crop* tool removes all of the bitmap except for selected areas.

Fill Region



The *Fill Region* tool will fill a selected area with the *Target* color. Select a *Target* color by *double-clicking* on one of the palette colors in the *Image palette* dialog. Select the area to be flooded using the selection tools and click on the *Fill Region* button

Quarter Bitmap



The *Quarter bitmap* button will reduce the resolution of the bitmap by 50% in terms of its width and height. The storage requirements for the bitmap will be reduced, however the visual quality of the image may suffer.

Extended Information



This tool will display information concerning the dimensions and resolution of the bitmap. Clicking on the *Resample* button will perform the same function as the *Quarter bitmap* command.

Merge Colors

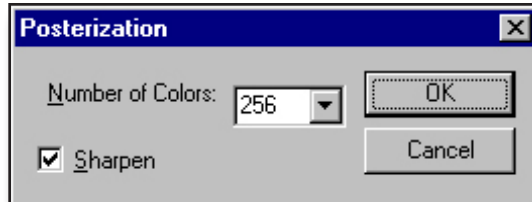


The *Merge Colors* button removes all unused colors from the *Bitmap palette*. It also merges colors that are selected in the *Image palette* dialog (opened by clicking on the *Palette* button) and replaces these colors with the current *Target* color.

Posterize Region



Posterization is the process of generating a color palette for a bitmap where none exists. It will also expand or reduce the size of the palette attached to a bitmap. Click on the *Posterize Region* button to open the dialog and choose the number of colors that will compose the resulting bitmap.



The *Sharpen* option affects the color boundary between Objects in the bitmap, narrowing it to create the impression of sharp edges.

Bitmap Vectorization

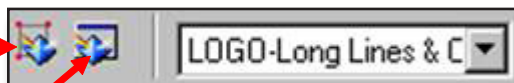
Bitmap Vectorization tools are used to trace components of a bitmap and generate a corresponding sequence of vectors. These vectors may be then be edited and cut like regular workspace Objects.



The Vectorization feature may only be applied to bitmaps of 8 bits or less (256 colors). However, FastScan filters (discussed later) will produce 24-bit bitmaps. Therefore, if a filter has been applied to a bitmap, then the Mode of the bitmap must be reduced (Bitmap menu) before tracing may occur.

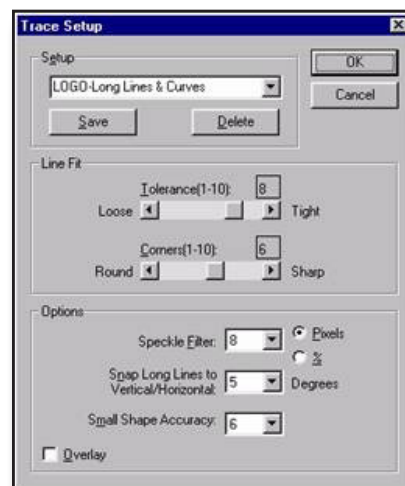
The level of *Vectorization* detail is determined by the *Trace Setup* controls, which are located at the far-right of the FastScan controls.

Vectorization



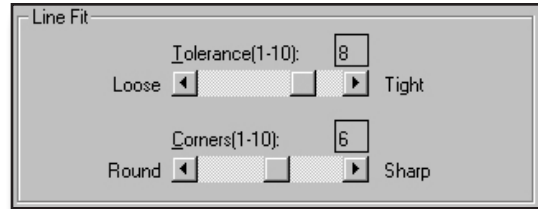
Trace Setup

The *Vectorization* button will begin the process of generating the vectors, and the drop-list is available for selecting previous saved settings. Click on the *Trace Setup* button to edit these settings in the *Trace Setup* dialog.



Line Fit

The *Line Fit* controls will determine how close the tracing will occur along the edges of scanned artwork. In this way it is sometimes possible to produce a high-quality trace from poor quality bitmaps.



- **Tolerance**

Tolerance determines the precision with which edges are traced. A tight *Tolerance* (7 or greater) will indicate that a high precision must be used. This is the recommended choice for a detailed bitmaps. If the bitmap is of poor quality or has long, smooth edges, then a loose *Tolerance* should be used (3 or less). A loose *Tolerance* will minimize imperfections in a bitmap, although fine details may be lost.

- **Corners**

The *Corners* slider modifies corner recognition. This setting 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 *Corners* setting of 7 or greater. For bitmaps that are composed mostly of curves, then use a round *Corners* setting of 3 or less.

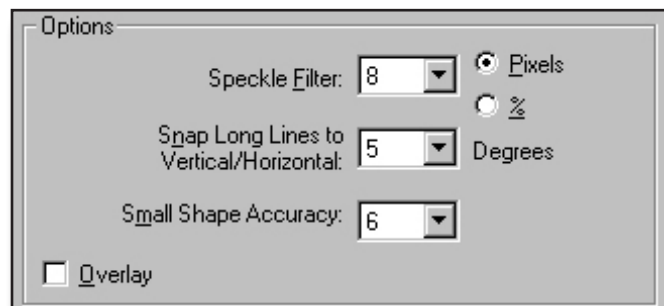
Tracing Options

Tracing Options define the general rules to be applied to the trace.

- **Speckle Filter**

Bitmaps that are generated using a scanner can often contain undesirable speckles, which are typically 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 may be potentially mistaken for speckles.

Set the *Speckle Filter* to the number of pixels that will be recognized as being a speckle. During the trace, only Objects that are larger than the set value will be considered.



Speckles may also be recognized in terms of a percentage of the overall bitmap size. Setting the *Speckle Filter* to a percentage is useful when the bitmap is particularly dirty.



While higher Speckle filter settings result in fewer extraneous Objects being traced, it may also result in the loss of smaller Objects. Exercise caution when choosing an appropriate filter setting.

- **Snap Long Lines to Vertical/Horizontal**

When using a scanner to create a bitmap, the original document may not be perfectly aligned on the scanner bed. As a result, lines that were intended to be precisely horizontal or vertical will be slightly incorrect. The *Snap long lines to vertical/horizontal* setting can compensate for misalignment of the original document.

For example, a setting of 5 degrees will correct lines that are “off” by that amount. If the *Degrees* can not be set high enough, then the document should be scanned again or the bitmap can be rotated on the workspace.

- **Small Shape Accuracy**

The effectiveness of the *Line Fit* settings may depend upon the relative size of the bitmap versus the component Objects that make up the bitmap. For example, a small Object may be considered as dirt when the bitmap is small. However, the same Object will be more significant when the bitmap is large.

To determine *Small Shape Accuracy*, assess the size ratio between the largest bitmaps Objects versus the smallest. When the ratio is large, set the accuracy to high (7-10). Where Objects are similar in size, set the accuracy to low (Off-3).

- **Overlay**

As part of the tracing, the bitmap is scanned in order to identify the component Objects of the bitmap. The *Overlay* option is used to choose the style of scanning that is used.

- **Traditional Scanning Style**

If the *Overlay* button is disabled, then the *Traditional* scanning style will be used, and each Object will be identified as an independent part of the bitmap.

- Overlay Scanning Style

Overlay scanning will create a mask for each palette color and each mask will then be evaluated to help identify distinct Objects.



Given this bitmap... the Traditional style would yield these Objects.



Given this bitmap... the Overlay style would also yield these Objects.

Since masks are evaluated according to the order of their colors in the bitmap palette, it is recommended that the *Re-Order* button be used *first* (*Image palette* dialog) to signify the importance of more frequently used bitmap colors.

Overlay tracing would be the preferred choice if you wished for simpler Objects to be produced or for no overlap to occur between Objects.

Centerline Tracing



The *Centerline* feature is available in the FastScan tools. This tool uses the bitmap qualities to produce a centerline traced drawing that can be cut, routed or engraved by FastARTIST. This feature works best with larger size Objects where v-bits and/or conical bits have an obvious effect. As a result, this feature does not work as well with photographic images.

Applying Centerline Tracing

Pressing the *Vectorization* button applies a *Centerline Trace* to the selected Object based on the settings provided.

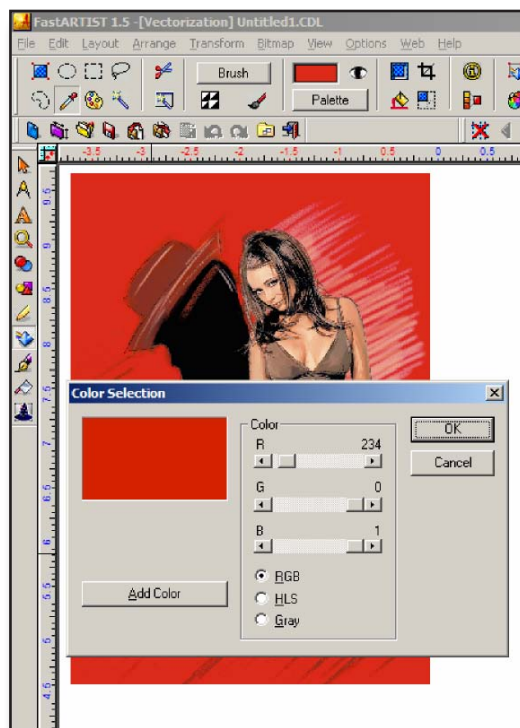
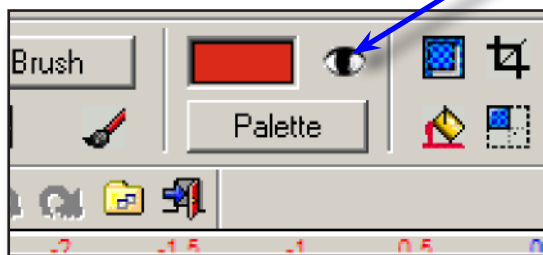
Setting Up Transparent Backgrounds in FastARTIST

To set transparent backgrounds in FastARTIST, *double-click* on the image to enter *Bitmap Editing Mode*.

Using the *Eyedropper* tool, click on the background color (**Red** in this example)

and click on the *Add Color* button in the *Color Selection* dialog box. This will make the selected **Red** the current color.

To finish making **Red** transparent, click on the Eye icon next to the selected color. This acts as a toggle switch- selecting it again will deactivate any transparent color.



*The background color can be any solid color, not just **Red**. For example it can be White, **Black**, **Blue** etc. However, FastARTIST will remove one color only. If your image has a multi-color or gradient background, it may be necessary to use an application like Photoshop to make the image print ready.*

FastRIP Setup and Configuration

The *Print* button may tell your printer to start producing an image, however it must know what to do with the image data it is being given. That is the job of a Raster Image Processor, or RIP. The RIP translates the image data into a language called Postscript and Postscript conveys the image as a series of lines, or rasters, with information about what colors go where and how much ink to lay down. Given this data, your printer can then begin to produce an image.



FastRIP is a specially designed Raster Image Processor that makes Inkjet-to-Garment printing possible. This very powerful software tool is included as part of the FastARTIST software package, however **it must be configured separately and prior to sending any Print commands to your Fast T-Jet.**

Once installation has been completed, the first time you load FastRIP it will automatically present the configuration screens. Should you wish to reconfigure FastRIP at a later time, you must access *FastRIP Setup* through FastARTIST to recall the configuration menus.

Printer Tab

The *Printer* tab in *FastRIP Setup* lists all the available printers connected to your computer. If your Fast T-Jet is not currently listed as an available printer, click on the *New Printer* button.



For best performance, we recommend that your Fast T-Jet be the only printer connected to your computer when outputting to garments.



Hold Job

If this option is enabled, any jobs received by FastRIP will be automatically held. They will appear in the Queue but they will not print until manually *Released*.

Spot Color Matching Option

This option determines how *Named Colors* are printed. If this option is ON, then *Named Colors* are printed using their LAB lookup value. This creates a *Process Color* equivalent to the *Named Colors*. If this option is OFF, then *Named Colors* will be printed using their CMYK values from the *Shop palette*.

Print Modes

A *Print Mode* is a pre-set calibration file that is used to tell the Fast T-Jet how to print specific image types or materials.

There are three basic modes for printing – Cartoon, Photo, and Underbase. The Cartoon and Photo Print Modes will print the image in color when printing from FastARTIST or any other graphics program. These two modes were created to adjust print characteristics based on the image to be printed. If you are printing vector graphics with Spot Colors, use the Cartoon Print Modes. If you are printing photo-type bitmap images, use the Photo Print Modes. Underbase Print Modes pertain exclusively to White ink and how it is printed onto your garments.

Cartoon Print Modes are designed to:

- Lay down more ink with good color saturation
- be used for non-critical images
- allow a lower DPI to be selected

Photo Print Modes are designed to:

- Lay down less ink with highly accurate colors
- reproduce an extremely detailed image
- utilize a higher DPI to ensure good print quality

Resolutions, Speed and Quality

You will notice that each *Print Mode* has several resolutions. This is because the resolution you choose will not only determine print quality, but print speed as well. If you use a lower resolution *Print Mode*, you will achieve a much faster print speed, but may not get the quality needed for photo images. Lower resolutions apply fewer ink dots per inch (DPI), which allows the Print Head to move much faster.

If you use higher resolution *Print Modes*, you will notice a decrease in print speed but an improvement in image quality. A higher DPI increases print quality by increasing the density of the dots per inch. Therefore, we recommend a lower resolution for cartoon images, but a higher resolution for photo type images.

Print Modes with the “HS” designation are bi-directional Print Modes. This means the Print Head will print during BOTH the out and back movements of the Print Head, compared to a unidirectional Print Mode that just prints on the outbound move. Bi-directional Print Modes are twice as fast as unidirectional Print Modes and will increase your print speed accordingly, especially if using a higher resolution. However, you must be aware of the increased potential for banding or shadowing. When using these modes, it is crucial the Nozzles are perfectly aligned.

The number of *Print Modes* may seem like a lot of choices, however, once you start to print jobs you will find that they are not that hard to use. You should quickly discover the *Print Modes* that work best for you. (*The name of your printer, such as T-Jet 3 or Blazer will be listed before each CMYK Print Mode.)



When first starting out, the most versatile *Print Mode* combination for BOTH photos and cartoons is 720 DPI for CMYK and 1440 DPI for the Underbase. For images on light garments in which no Underbase is used, a 2 Pass Print Mode will result in better color saturation.

CMYK Print Modes

Cartoon

- CMYK Cartoon 720 x 720
- CMYK Cartoon 720 x 720 HS
- CMYK Cartoon 720 Standard 2 Pass
- CMYK Cartoon 720 HS 2 Pass
- CMYK Cartoon 1440 x 720
- CMYK Cartoon 1440 x 720 HS
- CMYK Cartoon 1440 x 720 Standard 2 Pass
- CMYK Cartoon 1440 x 720 HS 2 Pass

Photo

- CMYK Photo 720 x 720
- CMYK Photo 720 x 720 HS
- CMYK Photo 720 Standard 2 Pass
- CMYK Photo 720 HS 2 Pass
- CMYK Photo 1440 x 720
- CMYK Photo 1440 x 720
- CMYK Photo 1440 x 720 Standard 2 Pass
- CMYK Photo 1440 x 720 HS 2 Pass

Eight Color Print Modes

FastARTIST and FastRIP support *Eight Color Print Modes* that replace White ink with the additional colors of **Red**, **Green**, **Blue** and **Orange**. This configuration of inks cannot be used to create an image on dark garments, however when printed on light garments, the additional colors create vibrant hues with better flesh tones and gradients.



*If you did not originally order an eight color system, you may **purchase** inks and supplies as an **additional** option. If you switch between an eight color configuration and CMYK with four White, or vice versa, you **MUST THOROUGHLY FLUSH ALL** of your Ink Lines with cleaning solution (until all liquid runs **Clear**) before switching to the 8 color system. You must then re-initialize your Bulk System to get the ink flowing properly. (Refer to your User's Manual for initialization procedures.)*

The ink cartridge configuration for a **Fast T-Jet Blazer** utilizing an 8 color system:

Slot #1- Black	Slot# 2- Cyan	Slot# 3- Magenta
Slot# 4- Yellow	Slot# 5- Red	Slot# 6- Green
Slot# 7- Orange	Slot# 8- Blue	

The ink cartridge configuration for a **Jumbo 2** utilizing an 8 color system:

Slot #1- Blue	Slot# 2- Orange	Slot# 3- Green
Slot# 4- Red	Slot# 5- Black	Slot# 6- Cyan
Slot# 7- Magenta	Slot# 8- Yellow	

The ink line configuration for a **Fast T-Jet 3** utilizing an 8 color system:

Line #1- Black	Line# 2- Cyan	Line# 3- Magenta
Line# 4- Yellow	Line# 5- Red	Line# 6- Green
Line# 7- Orange	Line# 8- Blue	

Eight Color Print Modes

(*The name of your printer will be listed before each 8 color Print Mode.)

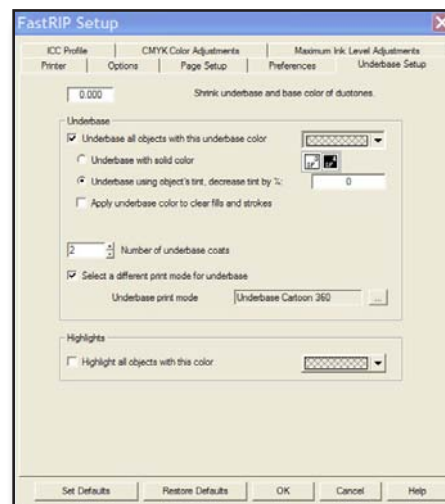
8C Photo 360/360 HS	8C Photo 360- 2 Pass/360- 2 Pass HS
8C Photo 720/720 HS	8C Photo 720- 2 Pass/720- 2 Pass HS
8C Photo 1440 x 720	8C Photo 1440 x 720 HS



We recommend starting with the 720 DPI HS Print Mode. Eight color Print Modes lay down a little more ink than do CMYK+4 White Print Modes so one pass is generally sufficient. Pretreat shirts with FastCOLOR and you should have a very strong print that will withstand many washings.

Underbase Print Modes

These Underbase Print Modes may only be selected from within FastARTIST. With Cartoon and Photo Print Modes available in three different resolutions, you have the ability to select the proper Underbase Print Mode to match your graphic image and Top Color Print Mode. For dark shirts try using the 1440 DPI Print Mode to achieve a stronger, more consistent Underbase. This is due to the fact that the higher resolution will dispense more ink at a slower speed, creating an extremely even coverage. If you are printing lighter colored shirts, it may not be necessary to print such a strong Underbase- 720 DPI or 360 DPI may work better.



DO NOT check anything in this dialogue if you wish to produce ONLY a 4 color (CMYK) or 8 color (CMYKRGGB) output on White or light colored garments. If you alter anything within this window, FastRIP will think you wish to print White ink.

FastARTIST Underbase

- Underbase Cartoon 720
- Underbase Cartoon 720 HS (Bi-directional)
- Underbase Cartoon 1440 x 720
- Underbase Cartoon 1440 x 720 HS (Bi-directional)
- Underbase Cartoon 1440
- Underbase Cartoon 1440 HS (Bi-directional)
- Underbase Photo 720
- Underbase Photo 720 HS (Bi-directional)
- Underbase Photo 1440 x 720
- Underbase Photo 1440 x 720 HS (Bi-directional)
- Underbase Photo 1440
- Underbase Photo 1440 HS (Bi-directional)

Windows Underbase

The following Windows Underbase Print Modes can be selected when printing from graphics programs such as Adobe Photoshop, CorelDRAW, or Adobe Illustrator. There are four Print Mode options and each is available in different resolutions. Bi-directional is also offered for each Print Mode as well.

Select Image modes when printing a bitmap, raster or gradient image. This also applies when printing a gradient image in a Vector program. Anytime you have a gradient in any image, Image modes must be used. Vector modes should be selected when printing solid vector images. You will also be able to print White areas as a "Highlight White" on the color pass only if you use *Named Spot Colors* and apply the *Named Color White*.

Heavy/Normal Underbase changes the intensity of the *Underbase*. The *Heavy Underbase* modes use a preset that applies more ink in dark and light areas than the *Normal Underbase* modes. Because Underbasing is such a crucial part of image quality, we recommend you familiarize yourself with the different Print Modes to get better understanding of the uses for each one.

720DPI Image Normal Underbase 720DPI Image Normal Underbase HS (Bi-directional)	720DPI Vector Normal Underbase 720DPI Vector Normal Underbase HS (Bi-directional)
720DPI Image Heavy Underbase 720DPI Image Heavy Underbase HS (Bi-directional)	720DPI Vector Heavy Underbase 720DPI Vector Heavy Underbase HS (Bi-directional)
1440x720DPI Image Normal Underbase 1440x720DPI Image Normal Underbase HS (Bi-directional)	1440x720DPI Vector Normal Underbase 1440x720DPI Vector Normal Underbase HS (Bi-directional)
1440x720DPI Image Heavy Underbase 1440x720DPI Image Heavy Underbase HS (Bi-directional)	1440x720DPI Vector Heavy Underbase 1440x720DPI Vector Heavy Underbase HS (Bi-directional)
1440DPI Image Normal Underbase 1440DPI Image Normal Underbase HS (Bi-directional)	1440DPI Vector Normal Underbase 1440DPI Vector Normal Underbase HS (Bi-directional)
1440DPI Image Heavy Underbase 1440DPI Image Heavy Underbase HS (Bi-directional)	1440DPI Vector Heavy Underbase 1440DPI Vector Heavy Underbase HS (Bi-directional)

Non-Textile Print Modes

Non-textile Print Modes will be used when printing on golf balls and similar items that are not of a fabric composition. These Print Modes can be obtained by downloading the most recent Printer Package Update for your Fast T-Jet printer. The following is a list of available Print Modes (including (2) eight color options):

• Non-Textile Photo 1440 Standard	• Non-Textile Photo 1440 HS
• Non-Textile Cartoon 1440 Standard	• Non-Textile Cartoon 1440 HS
• Non-Textile Photo 2880 Standard	• Non-Textile Photo 2880 HS
• Non-Textile Cartoon 2880 Standard	• Non-Textile Cartoon 2880 HS
• Non-Textile 8 Color 1440 Standard	• Non-Textile 8 Color 1440 HS

Options Tab

Within this tab are controls to verify print settings within the *Print Mode*. **There is no need to make changes here** because any *Print Mode* you select will override User changes.

Preferences Tab

The *Preferences* tab is used to customize workspace elements that will be sent as output to the printer.

Copies

The *Copies* field indicates the number of times that the job will be sent to the printer.

Printing Mode

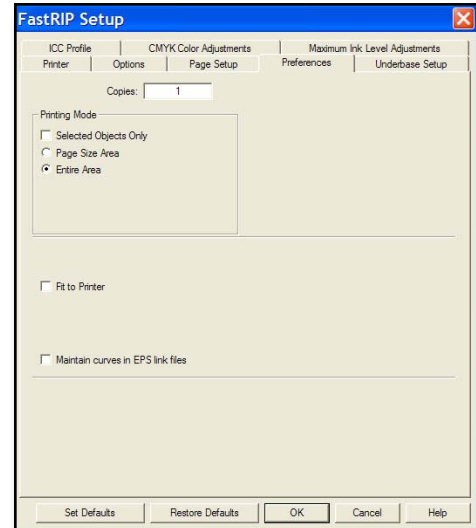
The *Printing Mode* determines what workspace shapes that are valid for printing. The available options are:

- *Selected Objects Only*

Print only those shapes that are currently selected.

- *Sign Blank*

Print everything that is within the confines of the workspace. Any shapes



outside the workspace are not printed. Objects that are partially within the workspace will be printed accordingly (i.e. they will be partially printed).

- *Entire Area*

All objects on workspace are valid for printing, including objects that are both within and outside the bounds of the page borders.

- *Fit to Printer*

For the currently loaded printer sheet, this option will adjust the image to fill the sheet

- *Maintain Curves in EPS Link Files*

If a linked EPS file contains color curve information, then these curves can be retained by checking the Maintain curves in EPS link files option on the Print and Cut Setup dialog, Preferences tab.

Page Setup Tab

The *Page Setup* tab is used to specify page margins and the amount of overlap between adjoining tiles.

Page Size

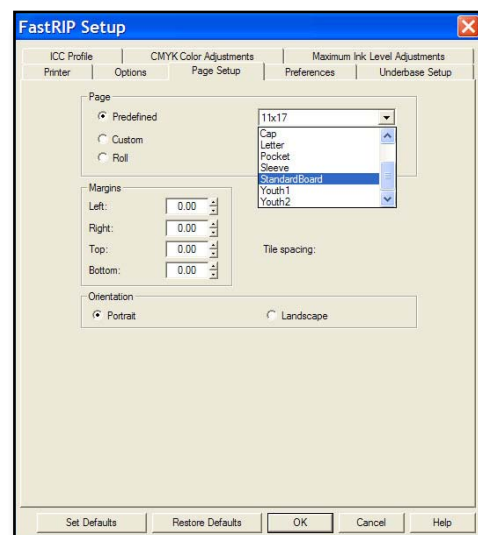
Match the Shirtboard that is loaded into the printer by either choosing from the list of predefined page sizes (a template) or specify a *Custom Page Height and Width*.

Margins

If you wish to apply margins to the printable area of a garment, you would set these in the *Page Setup* tab. These margins will then be shown in *Print with Preview*.

Orientation

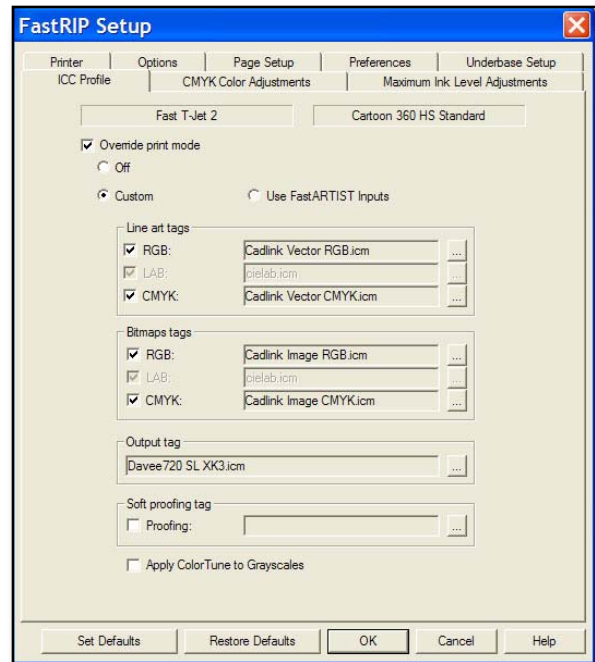
Orientation indicates the rotation of the Page Size. *Landscape* indicates that the Page Size will be rotated 90 degrees clockwise. In *Print with Preview*, the orientation is controlled by the *Landscape* option.



ICC Profile Tab

The International Color Consortium (ICC) has specified a broad variety of input and output device profiles that are suitable for storing color space information. By using the ICC Profile format, a color management system is ensured of being able to use color space information, regardless of the manufacturer that was responsible for generating the profile. Because of its non-proprietary format, the Desktop Publishing (DTP) industry has widely adopted the ICC profile format for use with color management systems.

When your software was installed, ICC profiles were loaded into a directory labeled “icc” within the FastARTIST root directory.



The *ICC Profile* tab specifies which ICC profile should be used when mapping colors. All FastRIP Print Modes use generic monitor profiles for input of RGB data and a specific output ICC profile for the media and ink combination used by the printer.

Checking *Override print mode* and selecting *Custom* will enable the *ICC Profiles* options. For RGB, LAB, and CMYK options that are enabled, their colors will be mapped using the best color matching that ICC rendering can produce.

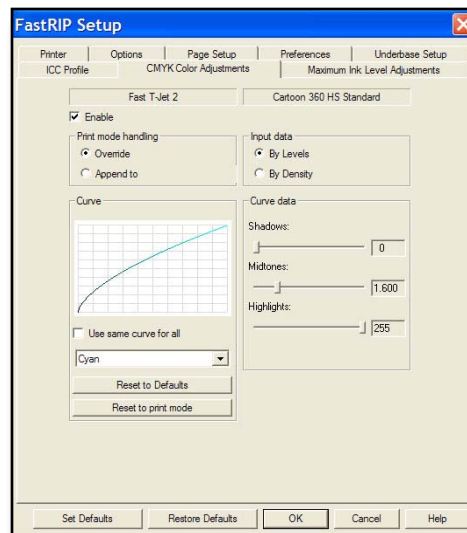
By default, ICC Profiles are enabled for RGB and CMYK. ICC profiles are not enabled by default for LAB (LAB is only used in linked EPS files).

ICC profiles are generic for mapping colors to an output device. Although these generic profiles will be minimally adequate for most printers, the profiles are not specific to the printer operating conditions, nor the loaded media and inks. To provide no mapping at all, simply disable the *Line Art* and *Bitmaps* options.

If the RGB options are disabled, then RGB values will be converted into CMY values and mapping colors will include **Black** generation.

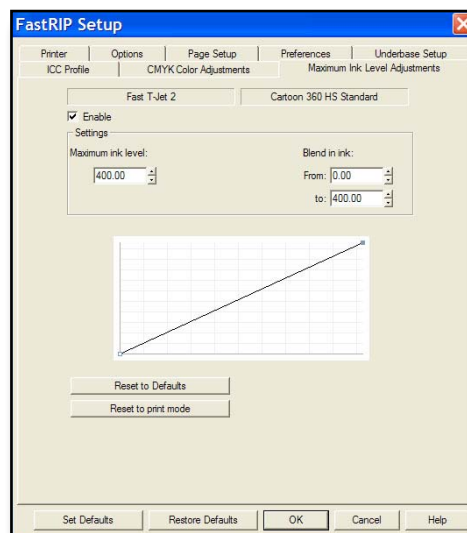
CMYK Color Adjustments Tab

The *Color Adjustments* tab provides curve controls to adjust the tonal range (Shadows, Midtones and Highlights) of each separation. The horizontal scale of the graph represents the range of intensity values (shadows progressing to light, or vice-versa), and the vertical axis represents the current intensity values. The initial diagonal line represents the original distribution of intensities across the bitmap tonal range.



Maximum Ink Level Adjustments Tab

The *Maximum Ink Level* refers to the total volume of ink allowed when printing a job. *Maximum Ink* information is contained within the *Print Mode*. *Maximum Ink Level Adjustments* may be used to override *Print Mode* settings.



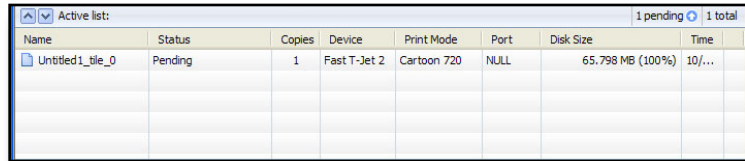
FastRIP Queue Functions

FastRIP is the software that manages print output. It applies the proper *Print Mode* and allows you to stack jobs, reprint jobs and save jobs. Changes you make within FastRIP will often override settings coming from a *Print Mode*.

FastRIP also allows you to sort print jobs, control the sending job batches, collect jobs that are similar in nature (such as the same type of media) and spool print jobs (rasterizing or RIP'ing) in advance of sending them to your printer.



When you press *Print*, the *FastRIP Queue* will appear. Here is where the job is processed.



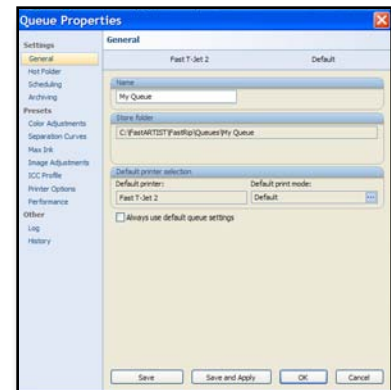
Name	Status	Copies	Device	Print Mode	Port	Disk Size	Time
Untitled1_tle_0	Pending	1	Fast T-Jet 2	Cartoon 720	NULL	65.798 MB (100%)	10/...

Sending Jobs to the Queue

When printing jobs, the *Queue* will automatically open. You may also access the *Queue* by choosing *Launch FastRIP* from the *File* menu.

Naming the Queue

When a workstation has been installed with the FastRIP, that workstation becomes a *Queue*. Other workstations may then send print jobs through that computer. If you have several networked workstations, then it is useful to give each *Queue* a meaningful name that distinguishes it from the others. When a computer is initially configured, it is assigned a default "My Queue" name, but this can be changed in *Queue Properties*.



To change the *Queue Name*, select *Queue > Properties* and enter a new name in the *Queue Name* field.

Sorting Print Jobs

The *Queue* window provides real-time control over print jobs as they are sent from FastARTIST to local or networked printers. The *Queue* can collect similar print jobs until there are a sufficient number to proceed with a series of print runs.

Multiple Queues- Optional Upgrade

FastRIP is able to support *Multiple Queues* for users of more than one Fast T-Jet printer. *Multiple Queues* can be configured and used for a variety of different uses and you are not limited to the number of *Queues* that can be configured. However, there are restrictions on the number of printers that can be driven at one time.

Once you have setup *Multiple Queues*, they can easily be accessed by clicking on their individual tabs. Each *Queue* acts as a separate RIP, allowing you to individually start or stop a job, print different images on different color shirts simultaneously or even output different images with different resolutions on separate printers.

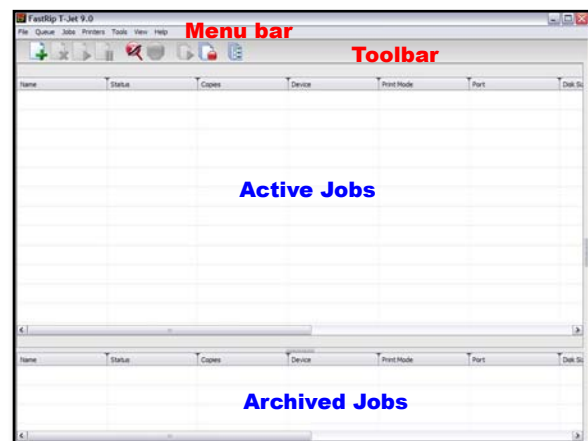
Printer Pooling and *Printer Echoing* utilize a single Queue to control multiple printers of the same type (i.e. two Fast T-Jet Blazers). In *Printer Pooling*, as each new job comes in, it would be allocated to the next available printer. For example: Job "A" arrives, is processed and starts printing to your first T-Jet. Job "B" arrives and gets processed, but Job "A" is still printing on the first T-Jet. As a result, Job "B" starts printing on a second T-Jet.

Printer Echoing would output the job to both devices simultaneously. If you wanted to get 10 shirts with the same image done in a hurry, use *Printer Echoing* to output 5 copies on each T-Jet.

The Print Manager Window

The Queue window is the main console for monitoring print job activity. The main elements of this console are:

- A *dropdown Menu Bar* that provides the main controls for the Queue and selected print jobs
- A *Toolbar* that provides basic (Start/ Stop) controls for the queue and selected print jobs
- An *Active Jobs* list that displays all of the active or pending print jobs for the Queue
- An *Archived Jobs* list that displays previous print jobs that are now available for reprocessing



Each list of print jobs provides real-time information about:

1. Status of the print and/or cut jobs
2. Print Modes being used for each print job
3. File sizes of the spooled print data
4. Date and time stamps of the print and/or cut jobs
5. Port destination of the print and/or cut jobs

Tool Bar Controls

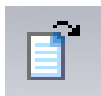
Below the FastRIP menus are the *Toolbar* controls which are used to start and stop the *Queue*, as well as edit print jobs within the *Queue*.



Add Job	Add previously saved PostScript files to the Active Jobs list. (See the following Add Job section)
Remove Job	Remove the selected job from the list.
Release Job	Release print job that had been previously held.
Hold Job	Place the selected job on hold. This job will remain on hold until it has been released.
Clear Errors	If a problem occurs when printing (such as paper out), the print job will be put on hold. After the printing problem is resolved, use the Clear Errors item to remove the error flag.
Abort Jobs	Delete the selected job.
Start Queue	Start the queue and process each print and/or cut job according to its status.
Stop Queue	Stop all print jobs from being processed. The queue will not proceed until the <i>Start Queue</i> button has been pressed.

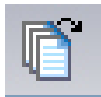
Add Job

The *Add Job* button is used to add previously saved PostScript files to the list of *Active Jobs*. The *Add Multiple Files* dialog will open, which is used to select the jobs. At the right-hand side of the list, the order of the batch jobs can be adjusted.



Open File

The main controls are:



Open File List



Save File List

Use the *Open File* button to select jobs to be added. Once the job has been selected, click on the *Add to Queue* button.

If there are several jobs that should always be loaded as a group, then click on

the *Save File List* button. For future sessions, this batch list can be loaded by clicking the *Open File List* button.

Queue Menu

The Queue menu contains the basic queue controls.

Start	Same as the Start Queue Tool Bar button. Start the queue and process each print job according to its status.
Stop	Same as Stop Queue Tool Bar button. Stop all print jobs from being processed. The queue will not proceed until the Start Queue button has been pressed.
Clear Job Errors	If a problem occurs when printing (such as paper out), the print job will be put on hold. After the printing problem is resolved, use the Clear Errors item to remove the error flag.
Properties	Edit the queue properties. For more information please refer to Queue and Print Job Properties within the Index.

Jobs Menu

The Jobs menu contains the basic controls for adding, deleting and editing print jobs.

Add	Opens the <i>Add Multiple Files</i> dialog, enabling you to add PostScript files to the <i>Active Jobs</i> list.
Remove	Deletes the selected print job.
Restore jobs	Used for managing archived print and/or cut jobs.
Select all	Selects all print jobs in the <i>Active List</i> . If a job is selected in the <i>Archive List</i> , then all archived jobs will be selected.
Select none	Clears the current selection of print jobs.
Release	Activates a print job that has been put on hold.
Hold	Pauses the selected print job.

Abort	Cancels a job that is currently being spooled to the printer.
Clear error	If a problem occurs when printing, the print job will be put on hold. After the printing problem is resolved, use <i>Clear Errors</i> to remove the error flag.
Print	When the <i>Queue</i> is paused, print the selected print job and keep the remaining print jobs in a pending state.
Spool only (Preview)	Used to preview printer output. The print job must first be spooled and then the spool file can be previewed. This preview is useful to confirm layout, but it is not intended to show exact colors.
Reprocess	Applied to an archived print job, it moves the selected archived job to the <i>Active Jobs</i> list.
Close nesting	Manually shuts off the nesting process. New print jobs will not be added to the current nest.
Properties	View the properties of the selected print job.
Show log console	Will display a window showing the status of the job. This option may be used when contacting Technical Support in order to identify any errors that might be occurring.

Job Properties

The *Job Properties* item will open the *Job Ticket Properties* dialog. These settings are inherited from the *Queue*, so the dialog controls are generally the same as when editing the *Queue properties* with the exceptions being the *Job Name* and *Job ID*.

The *Job Name* is the name that is listed within the *Active Jobs* list and the *Job ID* is the name of the PostScript (*.PS) file that is generated for this job. This file name can be found within the *Queue* directory. The PostScript file name is generated by the *Queue* to avoid conflicts with other print jobs.

Job Errors and Logs

If a problem occurs when printing (such as paper out), the print job will be put on Hold. After the problem is resolved, use the *Clear Errors* item to remove the error flag.

If a job has encountered an error condition, *Job Properties* will summarize the errors. *Job Properties* also include a detailed Log of the tasks completed before the error was encountered.

Job Notes

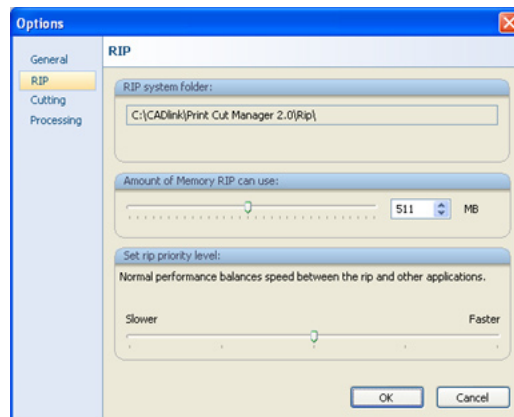
Job Notes are taken from the *Job/Cost Notes* accessible under the *File* menu. Use this information to retain a record of job particulars, such as delivery date and customer contact info.

RIP Settings

RIP Settings are found under *Tools > Options > RIP*. The sliders are used to specify the resources available for spooling print jobs. These controls will directly influence the workstation that is performing the RIP calculations.

Amount of Memory to Use

Memory refers to the maximum amount of computer memory (RAM) that may be used by the RIP. It is recommended you set this number to approximately 50% of the amount of RAM you have available. Should the RIP require more RAM than you have allocated, it will turn to Virtual Memory (VM) to meet its needs. VM refers to a process where space on your hard drive is allocated for use by applications to process data. Processing images and graphics uses a lot of memory so you should make sure no other applications are running when you are preparing your images for print. It is also recommended you have 1-2 GB of RAM installed in your computer. Exchanging data between the hard drive and your CPU is a *much* slower process than just using RAM.



RIP Priority Level

All software processes have a *Priority Level* that determines how the computer's memory will be "multi-tasked." Normally, processes are assigned equal priority levels by default. However, modifying the priority of individual processes is acceptable when this improves overall computer performance.

If the *RIP Priority Level* is increased, print jobs will be processed faster, although this will slow down all other software processes that are running on the computer. Conversely, if the *RIP Priority Level* is decreased, then print jobs will require more time to complete.

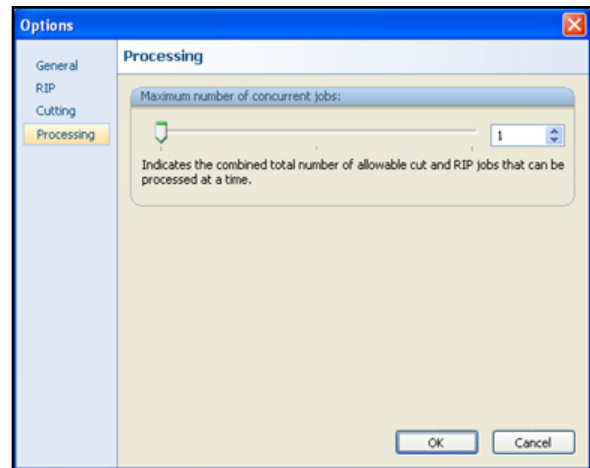


If possible, avoid using the RIP computer for any other applications other than print output. If other applications are running, close them to prevent long delays and/or a potential computer "crash."

Concurrent RIP Operations

To access the *Process* options, select *Tools > Options > Processing*.

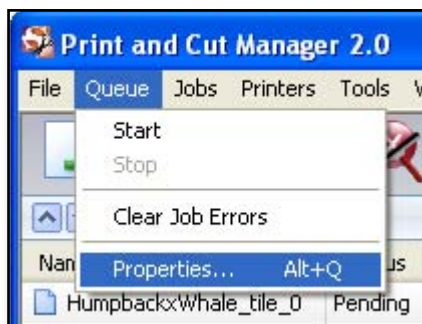
Although the *Queue* can spool a print job quickly, there is still time required to send the spool data to the printer, especially over a network. Additionally, the printer has a physical limit with respect to how quickly ink can be laid upon the media. Instead of waiting idle for a spool file to be completely received by the printer, the *Queue* can begin creating spool files for subsequent print jobs concurrently.



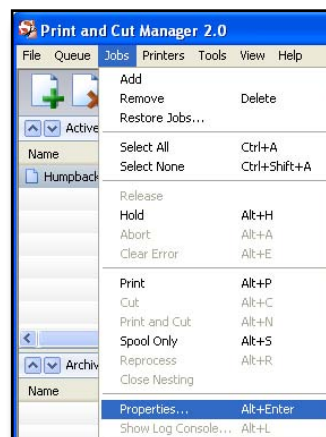
Only one spool file will be compiled at any given time and the *Maximum number of concurrent jobs* setting limits the number of spool files that can be compiled while the current job is printing.

Queue and Print Job Properties

The *Queue* has default properties (archiving, scaling, levels, etc.) that are automatically applied to jobs received by the *Queue*. In effect, each print job inherits the properties of the *Queue*.



Under the *Queue* menu, the *Properties* are applied to all print jobs when they are received by the *Queue*.



Under the *Jobs* menu, the *Properties* for a selected print job can be edited.

If there is a specific job property that is being frequently modified, then it may be more efficient to change the *Queue Properties* so that all subsequent jobs will “inherit” that property by default.

Note: Changing *Queue Properties* will not affect the properties of jobs that are already in the *Queue*.

Default Printer

FastRIP can accept print jobs from graphic software applications other than FastARTIST and PostScript files can be *drag-and-dropped* into the *Queue* window. In these cases, the *Default* printer and *Default Print Mode* would be used.



If you wish to print an image requiring white ink for Underbasing or Highlights, we strongly recommend you Import the image into FastARTIST and print from within that application. If you are printing on a Fast T-Jet Blazer, you MUST print images requiring white ink from within FastARTIST.

Default Print Mode

If no Print Mode is selected prior to spooling, FastRIP defaults to the *Print Mode* that you set in *Setup* window.

Hot Folder

A *Hot Folder* is a directory on the workstation hard drive. The *Queue* will monitor this directory and if any print files are placed in the directory, these files will be added to the *Queue* as new jobs.

Typically, a *Hot Folder* setup is used when several computers are linked within a network. The *Hot Folder* would be used by other designers on your network. They would copy their jobs into the *Hot Folder* and your workstation *Queue* would process those jobs.

Job Scheduling

Job Scheduling is used to automatically place jobs on *Hold*. These jobs would not be processed until you verify the printer is ready. Jobs may be spooled before being put on hold. To access the Scheduling tab, select *Queue > Properties > Scheduling*.



If the Queue is stopped, ALL jobs are automatically placed on Hold, regardless of Job Scheduling settings.

Archiving

After a print job has been completed, *Archiving* will store the job files for reuse. This is an especially important feature where a spool file of a print job has been archived. When a spool file has been archived, resending the job does not require the time that was spent compiling the spool file. However, keep in mind that spool files can require large amounts of hard drive space. To access *Archiving* from the *Print and Cut Manager* select *Queue > Properties > Archiving*.

Adjusting the Properties of an Archived Job

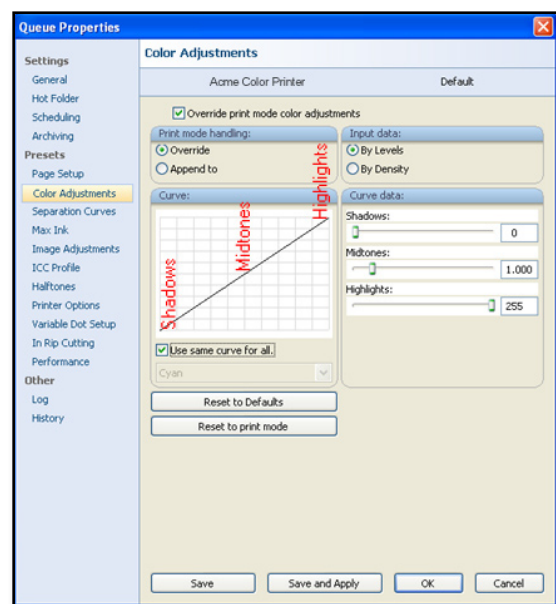
If a *Spool Folder* has been archived, then the properties of the print job will not be editable from the *Archived Jobs* list. The reason for this is that the *Spool Folder* has already incorporated the properties for this job (Levels, ICC Profiles, Scaling, etc.). The only way to change these settings is to rasterize the original PostScript file. If only the PostScript file has been archived, then the properties of the print job can be edited.

Color Adjustments

The *Color Adjustments* tab (*Queue > Properties > Color Adjustments*) adjusts the color levels of the print job. These adjustments are not typically required because an ICC profile is created for use with a specific calibration. Performing *Color Adjustments* will actually distort the color accuracy of the ICC profile.

One reason for color adjustments would be to create an artistic effect. However, the main reason for color adjustments is to compensate for non-standard media and inks, where the cost of producing a new ICC profile is prohibitive.

Making color adjustments by eye is neither quick nor easy, especially when adjusting the curve of individual color planes. Unless very experienced in color theory, the wisest advice is to keep any



changes simple. For example, if adjustments were made to *Shadows* for Cyan, *Highlights* for Magenta and *Midtones* for Yellow without checking the results of each step, then there would be confusion over which adjustment caused a given effect.

Tonal Correction

Use *Shadows*, *Midtones* and *Highlights* sliders to lighten or darken the image. The easiest way to adjust the tonal range is to adjust the highlights first, then the shadows and finally the *Midtones*. Once the *Midtones* are correct, the *Highlights* and *Shadows* can be further tuned.

All adjustments should be checked by using a *Test Page*, which is automatically created by choosing *Print test page* from the *Printers* menu. This *Test Page* is specifically designed to help recognize changes due to tonal adjustments. The individual tints can be checked by referring to the tint percentage boxes. The overall balance is checked by looking at the color graduation.



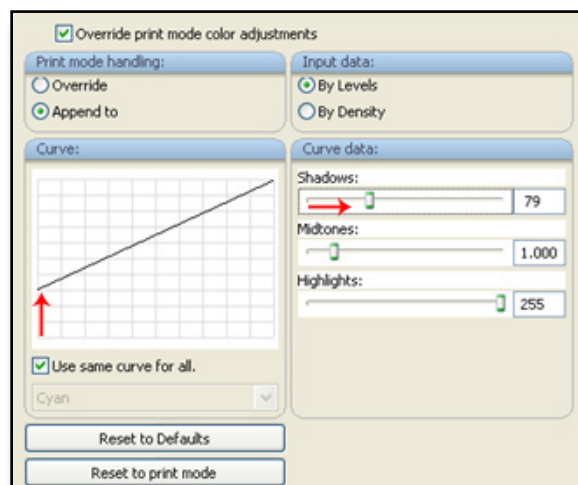
When the test page looks correct, perform an additional test using a photographic image.

If the 5% tint box appears to be empty and the 10% tint box appears too light, then reduce the white point (*Highlights* slider) by ten. Should these tint boxes appear too dark after another test, incrementally raise the white point and continue printing test pages.

If the 90% to 100% tints are too dark, then increase the dark point (*Shadows* slider) by ten. Should these tint boxes appear too light after another test, incrementally reduce the black point.

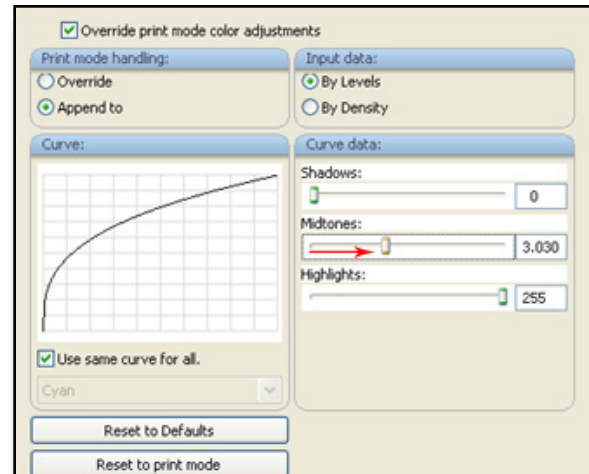
The Shadows Slider

The *Shadows* slider adjusts the black point, which is the lower end of the curve. Increasing the *Shadows* value causes the darkest parts of the print to be recognized as pure black, which also causes the darkest details to be lost in the shadows. Generally, the purity of printed black depends on many factors, such as how many colors are being used. Use the mouse to adjust the *Shadows* slider.



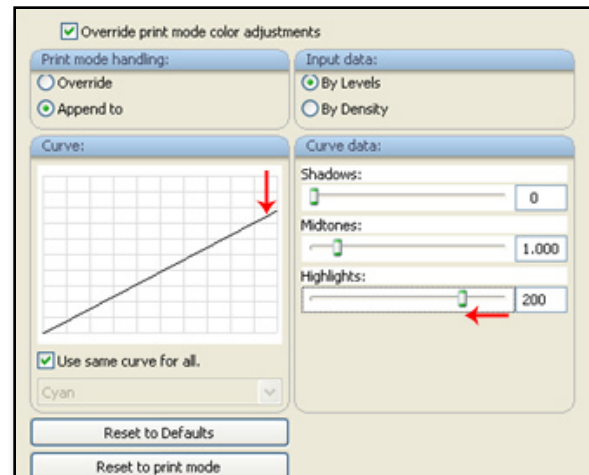
The Midtones Slider

The *Midtones* slider adjusts the gamma curve. This curve affects the *Midtones* of an image without changing the black and white points (the lower and upper ends of the curve, respectively). Raising the *Midtones* of a color plane, results in laying down less ink on the media for that color.



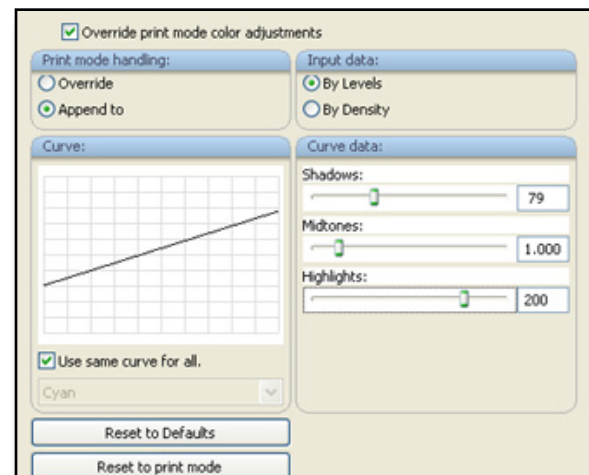
The Highlights Slider

The *Highlights* slider adjusts the white point of an image. Lowering the *Highlights* value causes the lightest parts of the print to be recognized as pure white. The more you lower the white point, the more shades of lighter colors are turned to white. This causes the lightest details to be lost. Use the mouse to adjust the *Highlights* slider.



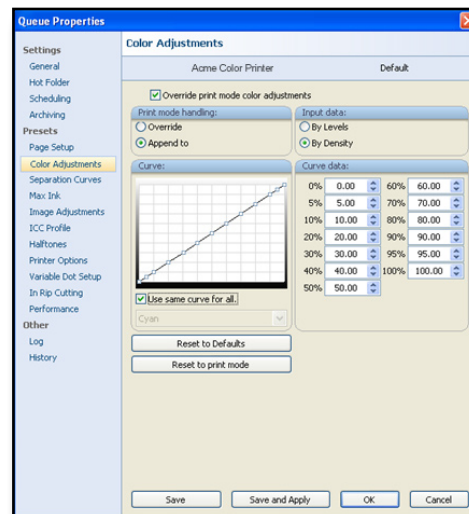
When both *Highlights* and *Shadows* are adjusted, the contrast between light and dark areas will be more pronounced. However, light and dark details will be lost as those tones were forced to either 0% or 100%.

The *Highlights* and *Shadows* controls are useful for preserving details on printers that are incapable of differentiating the darkest and lightest pixels accurately. By adjusting the white and black point values, more of the image details will fall within the range that the printer is capable of rendering.



Density Curve

The *Density Curve* is used to set densitometer values for each color plane. This curve is similar to using the X-Rite colorimeter, although lower-cost hand held devices may instead be used and the data must be entered manually.



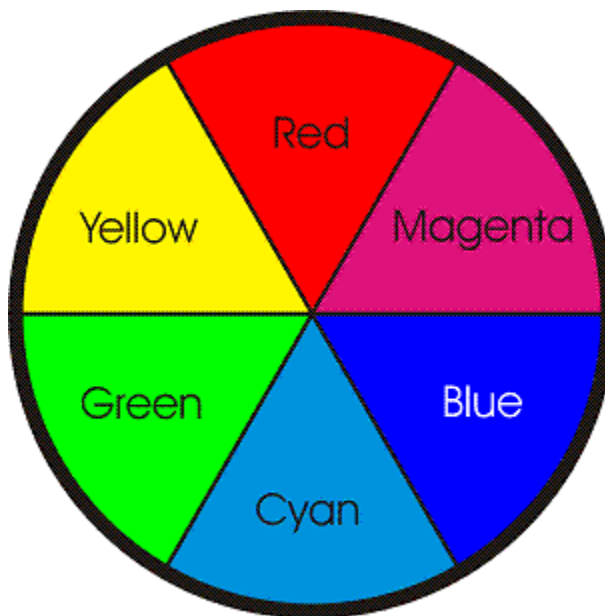
Removing a Color Cast

A color cast is a visual imperfection that is usually caused by a dominant ink (or set of inks). In a simple case, removing a color cast is possible by adjusting the tonal settings of the individual colors that are causing the cast. Begin by adjusting the overall tonal balance. The color balance may then be adjusted using the *Midtones* slider for each offending color individually.



Print a test page after each adjustment. When all adjustments appear complete, perform a final test by printing a photographic image.

Where a complex color cast must be removed, the primary consideration is that each adjustment will affect the overall color balance of the image. Decreasing one color (for example **Magenta**) will increase its opposite color on the color wheel (**Green**).



The effect occurs because Green is composed of both **Yellow** and **Cyan**. Reducing Magenta effectively increases the proportions of **Yellow** and **Cyan** (relative to the previous CMY proportions), making the image appear more **Green**.

The first step is to identify the color(s) that are causing the problems. This is a personal talent that develops with experience, so continue to practice. A *Test Page* is a useful starting tool when identifying problems with color. All the necessary ingredients for judging color reproduction are contained in this file.

Analyzing the hue wheel (printed as a 1" border), will reveal any bias toward a particular color.

Once the problem colors are identified, the alternatives are:

- Raise the *Midtones* value of the problem color, which will result in a less saturated print.
- Lower the *Midtones* values of the non-problem colors, which will result in a more saturated print.
- Combine alternatives (1) and (2) by raising the *Midtones* value of the offending color, while also lowering the *Midtones* values of the other colors.

Other options:

- Although the chosen model may be CMYK, **Green** can still be adjusted by modifying **Magenta** (which is the complement of **Green** in the color wheel). For example, increasing the amount of Magenta will reduce the green in the final print.
- Where one color is dominant, such as an overall **Yellow** tinge to the whole page, the solution may be to reduce the *Shadows* slider for **Yellow**. This will reduce all areas of the page that have a large percentage of **Yellow** (90% - 100%).

Max Ink

Max Ink is used to control the maximum ink capacity that is available across the whole page of output. The valid range is from 50% to 400%. By summing the total percent of each ink used on the page, the sum will not exceed the Max Ink setting. This control overwrites the *Print Mode* setting. To access the *Max Ink* settings, select *Queue > Properties > Max Ink*.

Case	% MaxInk	% Cyan	% Magenta	% Yellow	% Black
1	400	100	100	100	100
2	200	100	0	100	0
3	200	50	50	50	50

Image Adjustments

The *Image Adjustment* controls are used in addition to the *Color Adjustment* controls. Select the *Queue > Properties > Image Adjustments*.

Image Sampling

Image Sampling controls are used to reduce the output quality of the RIP in the interest of speed. Reducing the quality in this fashion is useful when creating a proof of the finished job.

Sharpen / Blur

The job may be set to either *Sharpen* or *Blur* the printed images. The *Blur* setting is useful as a means of creating the effect of a painted image.

Image Saturation

The *Image Saturation* slider is used to create an artistic touch. As with the tonal settings, saturation may be separately adjusted for each color plane. In general: Increasing the *Saturation* produces a more colorful print. Decreasing the *Saturation* produces a more grayscale print.

ICC Profiles

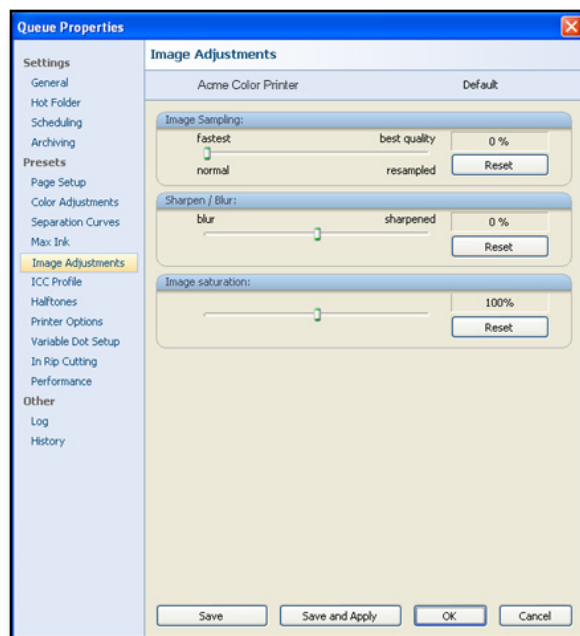
A *Print Mode* contains color space info that determines how colors are mapped from the original artwork to the printer. However, this color space info can be overridden with the use of *ICC Profiles*.

Printer Options

Printer-specific options are defined within the *Print Mode*. Please note that these options vary according to your printer model so please refer to the User's Manual that was provided with your printer.

Log View

The *Log* is used to review statistics about print jobs as they are processed through the *Queue*. In the event of problems, Technical Support can use this information to help provide a solution.

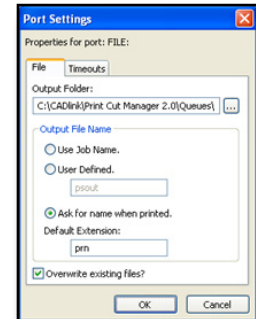


Managing Printers

The *Manage Printers* dialog (*Printers > Manage Printers*) lists all of the devices that are currently configured for printing through the Queue. From this menu you can check connectivity or set printer protocols for network use. Although several different means of connecting your printer to your computer are listed, not all may be applicable for your machine. Please consult the User's Manual that came with your Fast T-Jet for the recommended method of connection.

File Port

Selecting *File* as the *Port* spools the print job and then store the spool file in the indicated directory. The spool file can be transferred to another workstation for printing. Click on on the ellipsis button next to the Port, to open the Port Settings dialog.

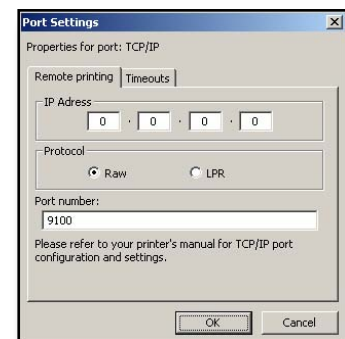


FireWire Port

FireWire is the term used by Apple Computers for their implementation of the IEEE 1394 standard, which calls for a high performance serial bus that connects peripherals to your workstation. This standard has been implemented under other commercial names, such as iLink from Sony Corporation. It is also sometimes referred to generically as IEEE 1394.

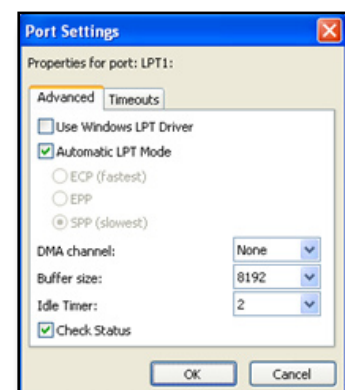
TCP/IP

The TCP/IP port is used with printers that are accessed across a TCP/IP network. In order to use a TCP/IP network printer, your network system administrator should be consulted to determine the IP Address, Port number, and Protocol of the printer. To access the *Port Settings* dialog, click on the ellipsis button next to the *Port*.



LPT Port

The LPT Port, also known as a parallel port, is commonly-used as a printer port. *LPT Mode*, also known as *Printer Port Mode*, determines the transmission rate when sending data to the printer. Although fast rates of transmission are preferable, the printer must be capable of sustaining the selected mode. Faster data rates also increase the chances of transmission errors, so using a good quality IEEE 1284 cable is important.



If “gaps and lines” are appearing in the output, then this can indicate that the LPT mode has been set too high, which prevents the printer from receiving data consistently.

For reference, the following table summarizes commonly available Printer Port Modes:

ECP	Fastest	In this mode, data is sent to the printer at the fastest possible rate. Generally most printers can support this speed, but if your prints show errors, your printer may not be capable of this mode.
EPP	Mid-range	This is the mid-range speed setting. It is not often used, but may be a good compromise between ECP and SPP modes.
SPP, Normal or Compatible	Slowest	These modes are synonymous and refer to the same setting. In this mode, data from the computer to the printer is transmitted at the slowest rate possible. In this mode there are very few errors however, printing time will also be at its longest. If your printer can not operate without errors in any of the faster modes, you will have to use this mode.

Automatic

If the *Automatic* option is enabled, FastRIP will attempt to determine the fastest possible mode for sending data to the printer. FastRIP will test for ECP (fastest rate) capability first, followed by EPP (mid-range rate), and then SPP (slowest rate).

DMA Channel

If the computer hardware supports Direct Memory Access (DMA), then enabling the DMA channel option on the *Port Settings* dialog will allow the printer to access memory on the computer motherboard. This allows data transfer to occur without involvement of the microprocessor (CPU), which improves overall system performance. If DMA is not supported, then the DMA channel setting will be ignored.

Use Windows LPT Driver

Leave this option disabled.

Null Port

The Null port option simply discards the RIP data, which is useful as a means of troubleshooting a print job.

USB Port

A Universal Serial Bus (USB) port has the benefits of allowing new hardware to be added without configuration concerns or hardware conflicts. In addition, a USB device may be added without requiring the workstation to be restarted.

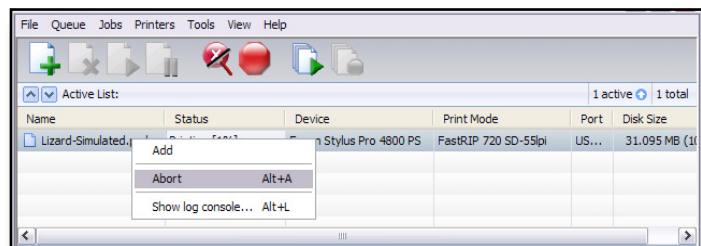
Aborting a Print Job

This can be a BIG issue. If for some reason you have to cancel a print job in the middle of printing, you may find that no matter what you do, the printer wants to keep printing.

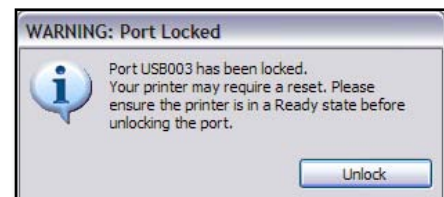
Here are the steps to take to completely stop or “abort” a printing job:

1. Turn the printer OFF. (Make sure you follow your printer’s recommended procedure for a system shutdown.)

2. Open the FastRIP program. Select and highlight the job in the *Active List*. Go to the *Jobs* menu and select *Abort*.

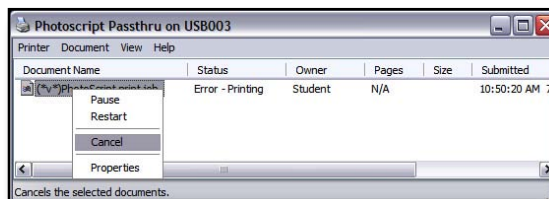
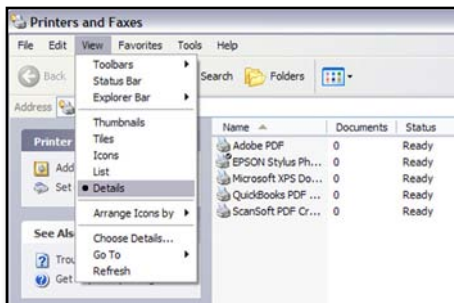


3. You may get the *Port Locked* warning pop-up. Click on *Unlock*.

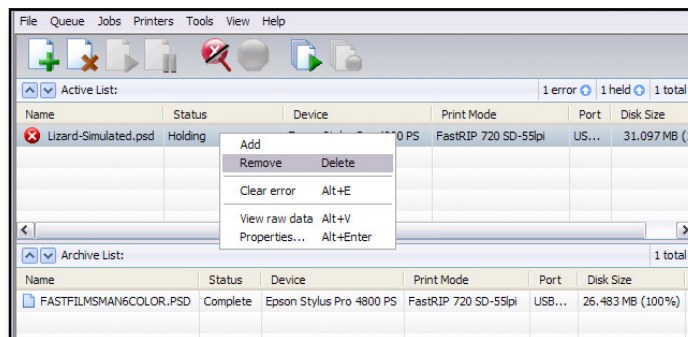


4. You may also need to clear the job from the Windows *Printer Queue*. Go to *Start > Control Panel > Printers and Faxes*. Go to *View* and select *Details*. Double-click on your printer and cancel any jobs listed.

If you are using a USB or FireWire port, look for a printer called “PhotoScript Passthru” and cancel any jobs listed.



- Remove the job from the FastRIP Queue. *Right-click* on the job and select *Remove*.



Extreme cases may require unplugging your printer from the wall outlet. This flushes the entire contents of the printer's memory. Unplug the power cord and wait about 10 seconds. Plug the power cord back into the wall and turn the printer ON.

This should stop all running print routines and clear out the queue. However, if you are printing a large job, or if there are multiple pages stacked up waiting to print, the print job may still not be dead. If you turn the printer back ON and it starts to print out page after page of "Postscript computer code" then you haven't totally flushed the **system**.

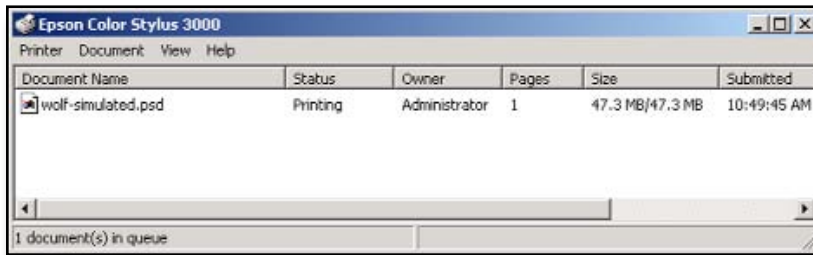
[illegible]

A screen of computer code

You need to stop this immediately. Code prints very fast and can be literally hundreds of pages in volume. If you are printing on multiple garments, it can ruin all of them in very short order. You should ALWAYS make sure your printer starts to print an image before you walk away to another room.

This code is a result of the Windows Print Manager retaining objects that have already been ripped (using FastRIP) even after a PC or printer shutdown. Check

the *System Tray* window to see if there is a small **Printer Icon** showing. If so, double-click on this to open the *Print Manager*. Select the printing job(s) and go to *File > Purge Print Jobs*.



Printer Icon

If FastRIP Doesn't Print

If for some reason FastRIP doesn't print, or if you continue to get PostScript code output even after you cancel a print routine, you may need to re-install the program or the printer driver. It is possible for the program or printer driver to become corrupted.

Auto Head Cleaning



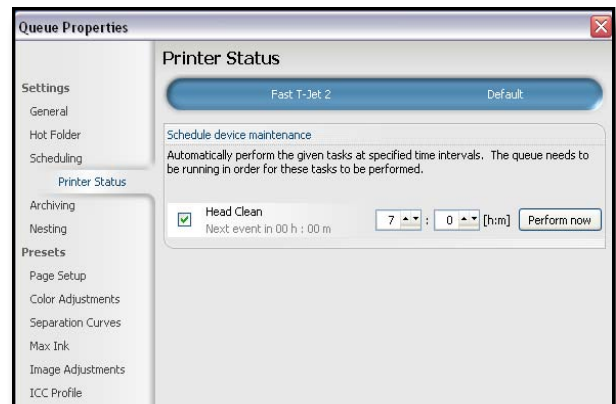
We recommend you schedule Automatic Head Cleanings every 12 hours using FastRIP. This will help prevent Print Head and Capping Station issues caused by dried ink. This is especially important if the printer will be idle longer than **ONE** day (24 hrs).

FastRIP offers an *Auto Head Cleaning* function. One of the most common problems with printing white ink is that it has a tendency to clog the Print Head. The *Auto Head Cleaning* function allows your printer to perform *Head Cleanings* throughout the night which keeps the white ink from settling and/or clogging the Print Heads. Your Fast T-Jet will be ready to print first thing in the morning, in addition to requiring less maintenance.

To setup the *Auto Head Cleaning* function, open FastRIP and go to the *Queue* menu. Select *Properties > Printer Status*.

Check the box to the left of *Head Cleaning* and select the amount of time until the first procedure (hours and minutes).

For example, if you activate the *Head Cleaning* option at 5pm with a time frame of 7 hours, FastRIP will perform a head cleaning at 12am (midnight). Unless the box is unchecked to deactivate the



Auto Head Cleaning, FastRIP will perform another Cleaning at 7am. Head Cleanings will then continue every 7 hours until deactivated.

Once you have selected the time frame, you have the option of performing a Head Cleaning immediately or clicking on OK to confirm your settings.

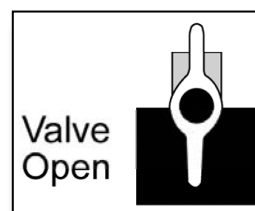


The printer and computer must REMAIN ON (DO NOT SHUT OFF) for FastRIP to perform the Auto Head Cleaning. The computer monitor may be turned OFF.

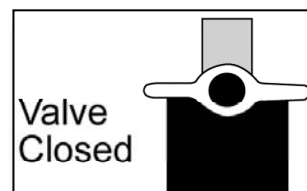
An Important Note for Fast T-Jet 2 Users

Waste Bottle Valve

Your printer is equipped with an external Waste Bottle and valve to protect against the possibility of siphoning. This valve must remain in an OPEN position whenever the machine is powered ON. This also includes any time when the Fast T-Jet 2 is in *Standby Mode*, awaiting a new print job, or if you have activated the *Auto Head Cleaning* function.



In all other instances, when your printer is POWERED OFF (using the POWER button located on the control panel), the Waste Bottle valve must be CLOSED. As the Fast T-Jet 2 is powering OFF, the Print Head will dock with the Capping Station and run a Head Cleaning to remove excess ink. Wait until the printer has turned itself OFF completely before closing the valve.

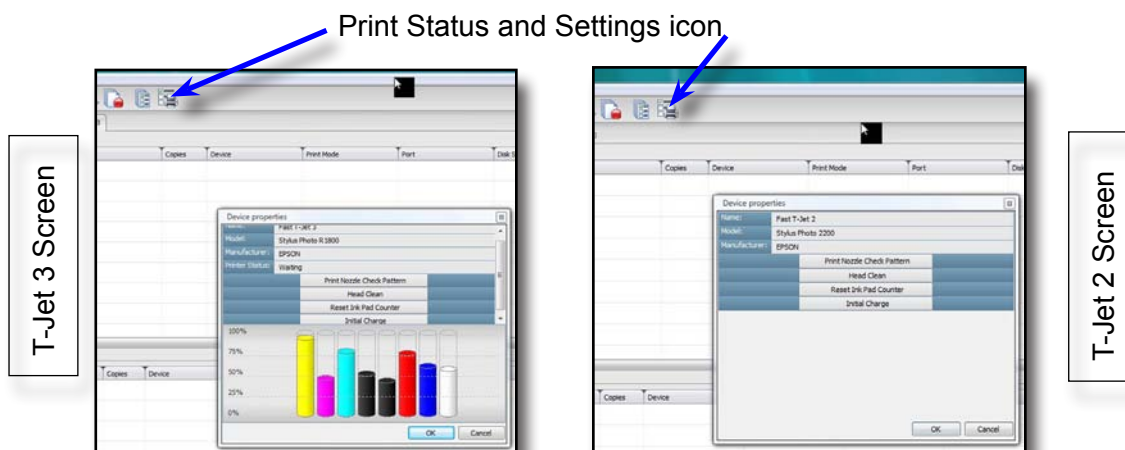


The Waste Bottle Valve must remain in the OPEN position when utilizing the Auto Head Cleaning function. Failure to OPEN the Waste Bottle Valve during printer operation may cause serious damage to your Fast T-Jet 2. If the Waste Bottle Valve remains CLOSED during a Head Cleaning, pressure in the Capping Station will force the Waste Ink Line to disconnect, resulting in a large ink spill inside of your machine.

We are is not liable for any property damage caused by ink and/or ink siphoning. Please be sure to read and understand all operating/maintenance procedures before using your Fast T-Jet 2.

Fast T-Jet 2 and Fast T-Jet 3 Additional Functions

Within the *Device Options* window of FastRIP, users of the Fast T-Jet 2 and Fast T-Jet 3 have the ability to reset the *Waste Tank (Ink Pad) Counter* as well as execute a strong head cleaning cycle (*Initial Charge*).



To use these additional functions, make sure your printer is ON, connected to your computer and in *Ready Status*. To access these options, open FastRIP and go to *Printers > Printer Properties* or click on the last icon in the FastRIP Toolbar that says *Print status and settings*.

Reset Ink Pad Counter

Your T-Jet printer counts the number of ink drops used during printing and in any maintenance, such as Head Cleanings and Nozzle Checks. The printer has a preset threshold of ink usage, that once exceeded, would indicate the Waste Tank Pad is full. This will cause the printer to error and you can no longer print. The *Reset Ink Pad Counter* option will clear this error.

Upon receiving this error, it is very important that you visually inspect the status of your Waste Ink Pad prior to resetting the counter. It may need to be replaced. Just resetting the counter without checking the pad could cause an overflow of waste ink, seriously damaging components of your printer and perhaps other personal property and equipment.

After pressing the *Reset Ink Pad Counter* button, the error should clear in about 10 seconds.

Initial Charge

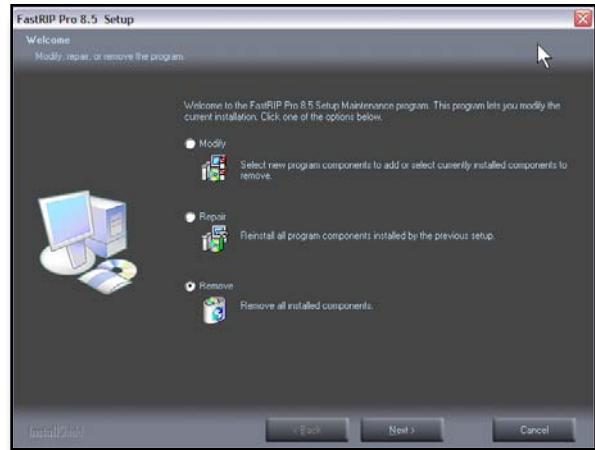
This feature can be used when a bulk system is first installed or when you

encounter a serious head clog. Keep in mind this utility uses a significant amount of ink.

Removing FastRIP

Should you need to reinstall **ANY** version of FastRIP or if you are upgrading to a newer version and you are instructed to uninstall your current application, you must do a **COMPLETE** uninstall or you may create registry issues that could affect the operation of your computer.

To uninstall FastRIP from your computer, click on *Start > Control Panel* and find the icon labelled *Add or Remove Programs*. Double-click on this icon and another window will open. Scroll through the listings until you see FastRIP. Click on the program to highlight and then click on the *Remove* button. From the FastRIP Setup window, select *Remove* and click on *Next*.



The uninstall process will remove most of the program components, however a folder **MUST** still be deleted from you hard drive. *Right-click* and *Explore* your *My Computer* icon on your desktop. Double-click on your *C:* drive and double-click on *Program Files*. *Right-click* on the FastRIP folder and select *Delete*. Delete the RIP driver by going into *Start > Settings > Printers and Faxes*. *Right-click* on your printer and select *Delete*.

Other FastRIP Errors or Concerns

Dongle or RIP Conflicts

If you are printing to other devices that use a Dongle, or if you have another RIP installed for other applications, there may be conflicts. Remove the other Dongle(s) or disable the other RIPs before printing to resolve any conflicts.

Make Sure You Have Enough RAM

RAM is the temporary memory that your computer uses when processing complex data. RAM is NOT expensive. Most computers ship with 512 MB (Megabytes) of RAM. This is not enough, especially when using FastARTIST and FastRIP. Your computer should have 1 to 2 GB (Gigabytes) of RAM.



If you are currently using or planning on upgrading to Windows Vista, you will need a minimum of 2GB of RAM for proper operation of your printer and software.

Start FastRIP BEFORE Sending a Print Job

If you encounter errors when a job is sent to print, try opening FastRIP **before** you send the *Print* command.

When in Doubt – Unplug Everything

Sometimes inkjet printers just get “confused,” especially if you stop them in the middle of a run. If the printer is suddenly acting abnormally, turn everything OFF and unplug the power. Make sure to disconnect your Fast T-Jet from the computer to end any data transmission that still may be occurring. Leave everything unplugged for a few minutes and then plug it all back in and start over.



You MUST cancel all print jobs for this to be effective or they may start back up when you turn the computer and printer back ON.

Chapter 8

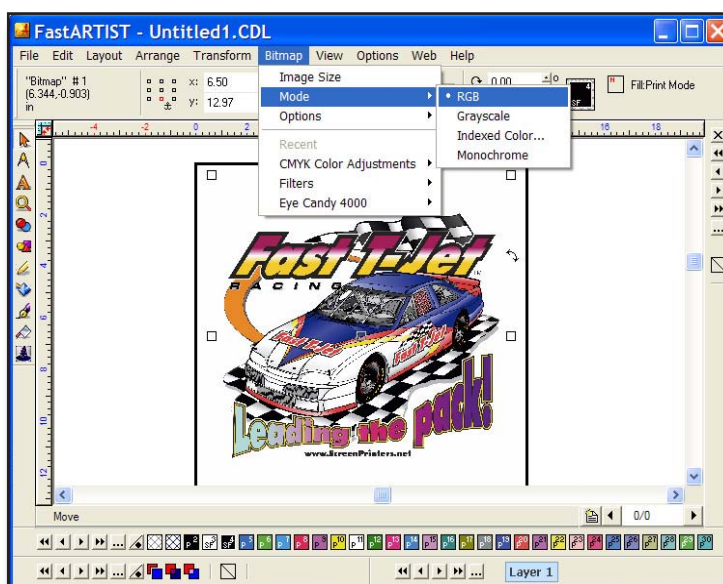
Printing with FastARTIST and a Fast T-Jet

Your Fast T-Jet is designed to produce an image using the four colors of CMYK (**Cyan**, **Magenta**, **Yellow** and **Black**), along with White, if it has been specified as a print color for Highlights or as an Underbase.

To print an image, *Open* or *Import* a file using the *File* menu. If you *Open* or *Import* a bitmap file from Photoshop or another program, ensure the file is in RGB format. The file may open on the page the wrong size if it is in CMYK format.

Because this software is a very powerful tool, you also have the option of creating the entire image in FastARTIST.

Once the image is placed in the Workspace, select *Print to FastRIP* from the *File* menu. This command will send the image to your printer through a printer driver called FastRIP. FastRIP is a *Raster Image Processor* that tells the printer how many passes to make, how much ink to lay down, whether to print in unidirectional or bi-directional mode and how to print White ink if applicable.



If you have not configured FastRIP, you cannot output an image to your Fast T-Jet Inkjet-to-Garment printer. Before continuing with this Chapter, please ensure you are familiar with all the information contained in Chapter 7, especially Print Mode selection.

Printing to a Fast T-Jet using Templates

The easiest way to print with Fast T-Jet is to use preconfigured Templates. These have been precisely laid out to correspond to the Shirtboard size(s) on which you'll be printing.

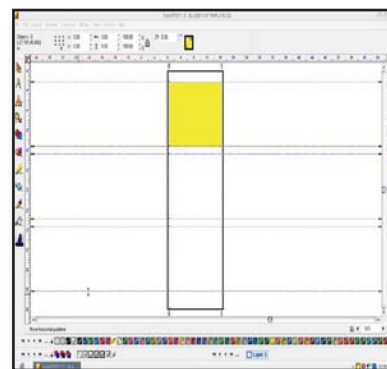
Go to *File > Open* and locate the *Template* folder in the FastARTIST directory.

Double-click to open this folder and you'll notice files for each Shirtboard size. (Consult your printer's User's Manual for the exact specifications and dimensions of any available Shirtboards.) Each template may be loaded in either *Portrait* or *Landscape Mode* and there are three template types:

1. Custom Image Placement,
2. Automatic Image Placement – Template
3. Automatic Image Sizing – Proportional

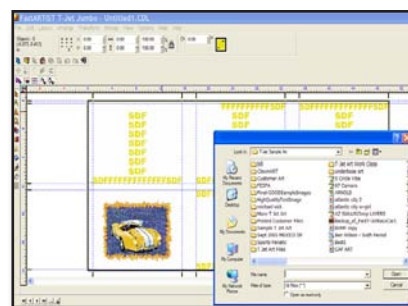
- **Custom Image Placement File**

Custom Image Placement brings up a representation of the full bed with guidelines showing where the individual Shirtboards are located. You may import or create file(s) that fit within the guidelines and place them on the template. (This file opens with a square in the first location, but you may delete this square.)



- **Template Placement File**

When a file is opened, you are prompted for a *Template* and then asked for the image name(s) to be placed within the *Template*. FastARTIST will automatically place your image(s) on the *Template*. This template uses text placeholders that are replaced when images are loaded, therefore you may get a "Missing font error" when loading this template if you do not have *Arial Black Italic* on your computer. You may *Ignore* any missing font errors.



- **Proportional Placement File**

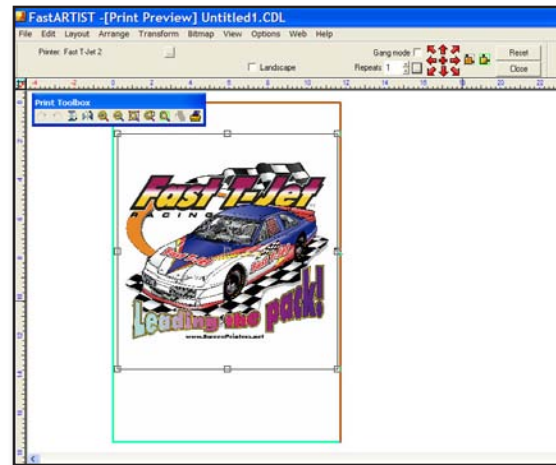
The *Proportional Placement* option file is similar to the *Template* file but it automatically resizes any file to fit proportionally within the guidelines.

Print Preview

To print a job, choose *Print to FastRIP* from the *File* menu. FastARTIST will preview the job as it would appear upon the media.

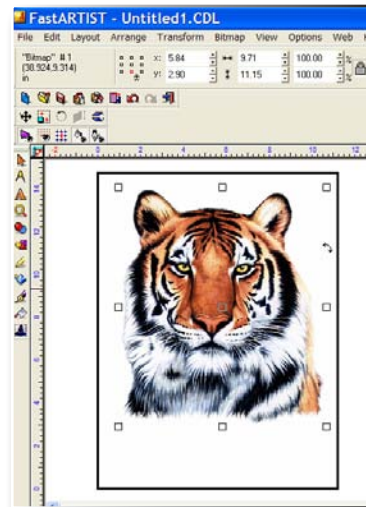
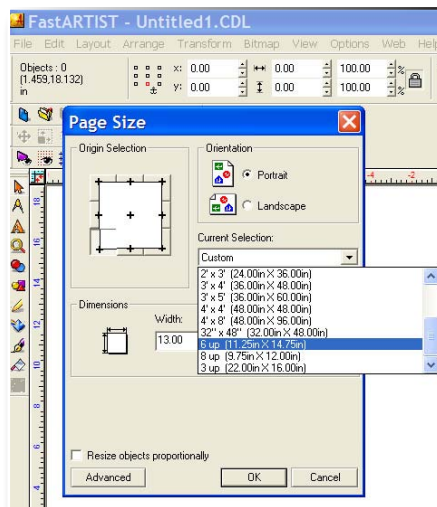
At the top of the Workspace, the current print settings are displayed in the *SmartBar*. In addition, the *Print Toolbox* provides additional commands that may be applied to the job.

If the image is too large for the preset page size the image will be tiled across multiple pages. Since the T-Jet cannot tile, you must size the image so it falls on one page only. Once you have it sized to fit on a page, the commands for moving it and centering it are available in the *SmartBar*.

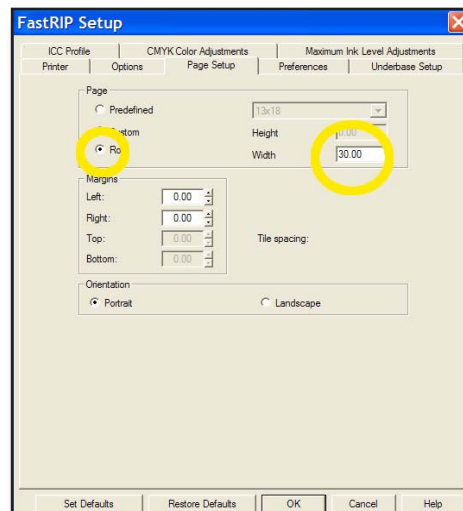
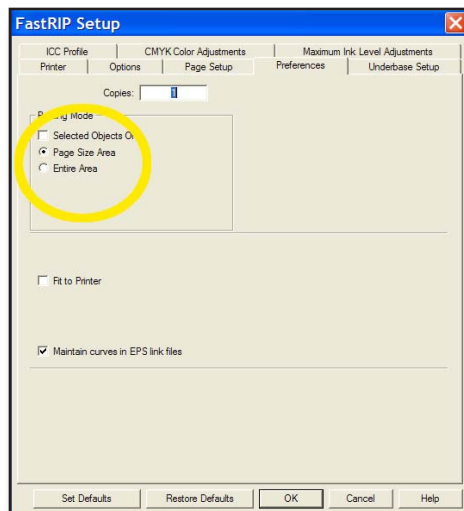


Printing the Same Image Multiple Times with Gang Mode

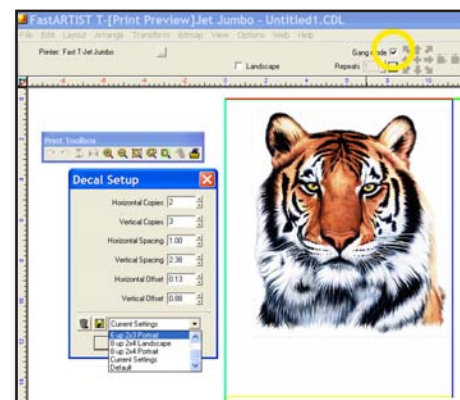
When printing with the standard templates, FastARTIST needs to build a very large file. Imagine how large a file would be if it was 17" x 47" rather than a standard 13" x 18" image? When printing the same image multiple times, you can actually conserve computer memory by using *Gang Mode*. In *Gang Mode*, only one file is loaded and the computer places it in the proper location on a template without duplicating the file multiple times in memory.



1. To use *Gang Mode*, you must place the image to be printed on one of the preset *Page Sizes* that correspond with the *Shirtboard(s)* you are using (*Layout > Page Size*). Click on *File > FastRIP Setup* and set the final *Page Size*. Click on the *Page Setup* tab and select *Roll*. When you are finished with these settings, click *Ok*.



2. Send the file to FastRIP by selecting *File > Print to FastRIP*. Check the small box that says *Gang Mode*. This will bring up the *Decal Setup* screen. Remember, FastARTIST at its core was a sign printing program and this routine was designed to print multiple images that are all the same on a sheet of decals.
3. In the *Decal Setup* window, choose the appropriate Shirtboard configuration from the *dropdown* selection window. Choose the orientation– *Landscape* or *Portrait*.
4. Once you have chosen the orientation, FastARTIST will display the image the way it will look on the Shirtboard. You will be unable to move the images around at this point.
5. Press the *Print* icon in the *Print Toolbox*.



Print Preview Controls

Landscape versus Portrait Orientation

The *Landscape* option is used to toggle the media orientation between portrait and landscape.



toggling the Landscape option will reset any scaling or positioning previously performed.

Tile Overlap (horizontal and vertical) settings are applied with respect to the media that is loaded into the printer, not the orientation of the image upon the media. For example, if the *Landscape* option is toggled, the image will be rotated, however, the *Tile Overlap* settings will not be rotated with the image.

Orientation	Leading edge of media
Portrait	Top edge of preview
Landscape	Left edge of preview

Repeats and Gang Mode

These modes are designed for multiple images on the same page.

Alignment



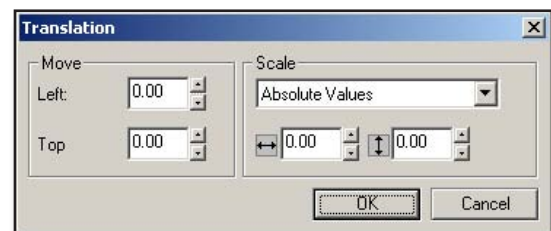
The *Alignment* buttons are used to adjust the placement of the shapes upon the media. These buttons are only available when the image(s) are smaller in area than the media size.

Size and Move



Clicking the *Size and Move* button will open the *Translation* dialog.

In addition to moving the shapes to a specific location on the media, the shapes may be scaled as follows:



Absolute Values

Set a specific width and height for the shapes. The original proportions of the shapes will not be preserved.

Percentage Values

Scale the shapes by a percentage of their original sizes. The proportions of the shapes will be preserved.

Ratio

As an alternative to expressing a percentage, the shapes may be scaled according to a ratio value of their original sizes. The proportions of the shapes will be preserved.

Fit to Page



At the far-right of the *SmartBar* is the *Fit to Page* button. Clicking this button will maximize the shape(s) upon the media, while preserving their aspect ratios.

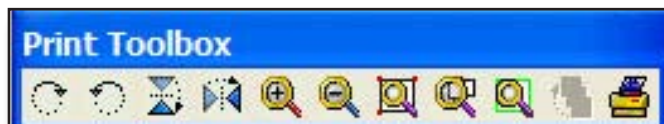
Page Size

Page Size indicates the area that is available for printing. This is represented by a green rectangle around the shapes being output. The dimensions of the green rectangle are determined by in the *Page Setup* tab from the *File > FastRIP Setup* menu.



FastARTIST refers to its page dimensions in terms of width and "height." For purposes of printing a two-dimensional image on a garment or non-textile item, it is important to be aware of the fact that "height" means the same thing as "length."

Print Toolbox



The Print Toolbox is the floating toolbar that becomes active in the Print Preview mode.

- *Rotation*

Rotates the shapes by +/- 90 degrees. Perform a rotation to help minimize wasted material.



- *Mirror*

Mirror the shapes either vertically or horizontally. Typically, *Mirror* is used where the media is to be reverse-applied, such as the inside of a window pane.



- *Zoom*

The *Zoom* tools are used to change the perspective of the shapes being previewed. In addition to these buttons, keyboard shortcuts may be used.

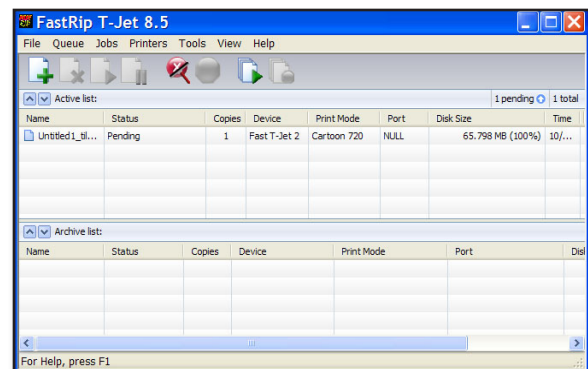


- *Print Button*

Clicking the *Print* button will send a print job to FastRIP.



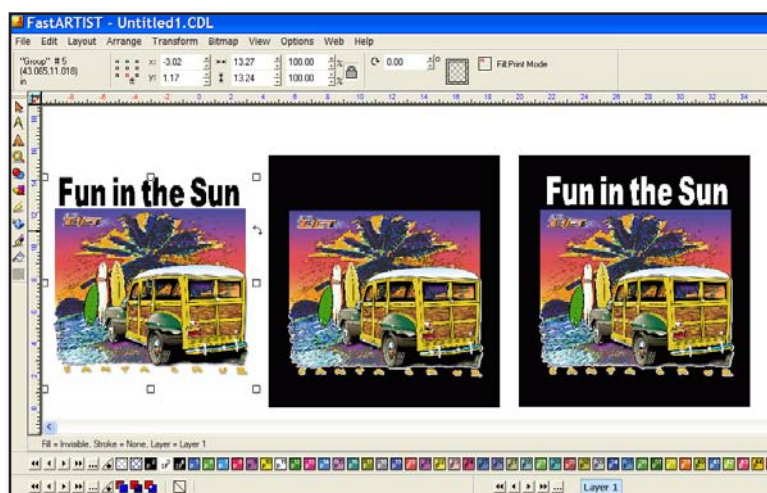
The *FastRIP Queue* will open and the job will start to process.



Chapter 9

Printing with White Ink

Modern Inkjet printers are designed to print either four color CMYK or some combination of seven or eight colors with the addition **Light Cyan**, **Light Magenta**, **Light Black** and even **Light Light Black**. In order to print White ink, however, it is necessary to replace the four light colors with White. This allows the White ink to be applied through four sets of nozzles because its pigment on a garment is very weak.



This is why FastRIP and FastARTIST were created. These programs were specifically designed to handle the requirements of printing White ink. When you combine the power of FastRIP to “open the valves” and the unique ability to control White ink output, printing on dark shirts becomes a reality.

So, with all of this great software and hardware, printing White ink should be simple, right? Well, it's not. For example, what happens if customer brings in a piece of artwork with **Black** type and requests some prints on light shirts and some on **Black** shirts? It would be nice, but your software won't automatically “know” that the **Black** type needs to be outlined in White or converted to White type.

This is where the human factor comes into play- you will still have to make some decisions. If you are new to computer graphics and to printing on dark shirts, this can result in a slight learning curve. However, with a little patience and a little practice, you'll soon be printing shirts like a pro.



If you have not configured FastRIP, you cannot output an image to your Fast T-Jet Inkjet-to-Garment printer. Before continuing with this Chapter, please ensure you are familiar with all the information contained in Chapter 7, especially Print Mode selection.

Understanding Underbasing and Highlight White for Garments

When printing on light shirt colors, a little White below the colors will help the image stand out. If the image has any White in the actual design, it will help the image look complete. When printing on dark or **Black** shirts, you need more White under an image. In order to help the lightest parts of the design really stand out, you may need an additional White pass called a *Highlight*.

FastARTIST and FastRIP can control all of this. In fact, many images need multiple passes of White to lay down enough ink. For very bright White on a **Black** shirt, it is common practice to do two or three or passes of the base color (*Underbase*), followed by a pass that prints the CMYK colors AND the Highlight White.



Types of Underbase

Cartoon prints, with solid *Spot colors*, often require a solid White Underbase. Photographic images, or images with lots of gradations, do not always need a solid Underbase. The secret to great looking **Black** garments is to let the shirt be part of the image. A grayscale Underbase that only puts White where it is needed will create a soft and professional looking print.



Therefore, you will have to choose the type of Underbase you want to use for a given piece of artwork. Yes, decisions, decisions, decisions! Printing White ink on dark shirts will require a few "sample prints" as you experiment with the proper number of White passes, solid or grayscale Underbases and more.

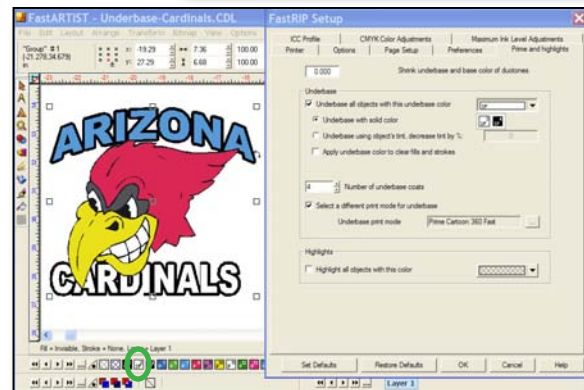
Underbasing Simple Line Art

Vector based images created in FastARTIST, or images imported from applications such as CorelDRAW or Illustrator, are easy to *Underbase*.

1. If you were to create a solid White Underbase for this image, you would access the *FastRIP Setup* dialogue from the *File* menu.



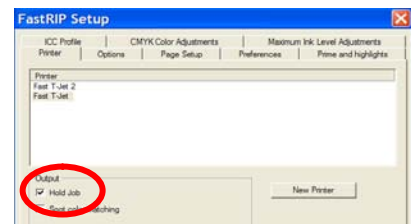
2. Click on the *Underbase Setup* tab. Check *Underbase all objects with this Underbase color* and choose the *White SF* color swatch from the dropdown color field.



3. Check *Underbase with Solid Color* and set the number of passes in the *Number of Underbase Colors* window. Select your *Print Mode* and click on OK.

Configuring FastRIP to Hold a Job

When printing an Underbase, it is often desirable to view the final print image prior to outputting onto a garment. To do this you must tell FastRIP to "HOLD" a print job before it spools it. Check *Hold Job* in the *Printer* tab. This will force FastRIP to let you decide when you want to print.



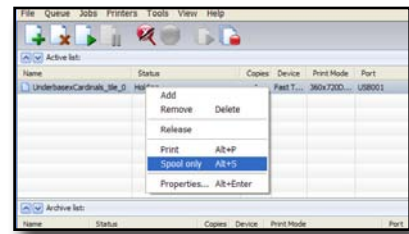
When you are ready to print the job, click on the *Printer Button*. This will start FastRIP.



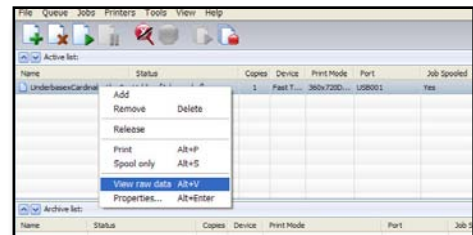
If you have the *Print with Preview* option enabled you will be taken to that screen. Once you are done analyzing the preview, you would select the printer icon from the *Print Toolbox*.



FastRIP will open and the job will say *Pending*. Right click on the job title and select *Spool Only*.

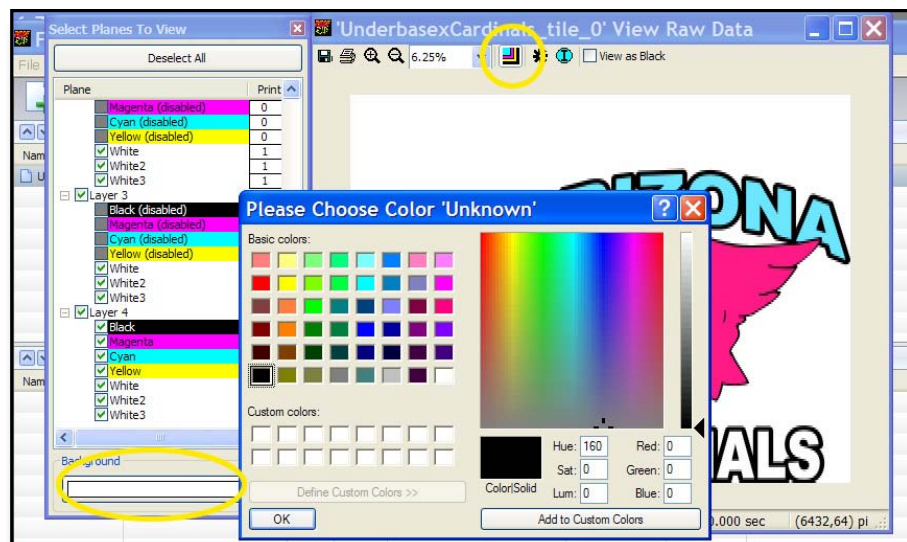


The job will start to process and you will see it *Interpreting*, *Processing*, etc. Eventually it will say *Holding*. Right click on the job title again and select *View Raw Data*.

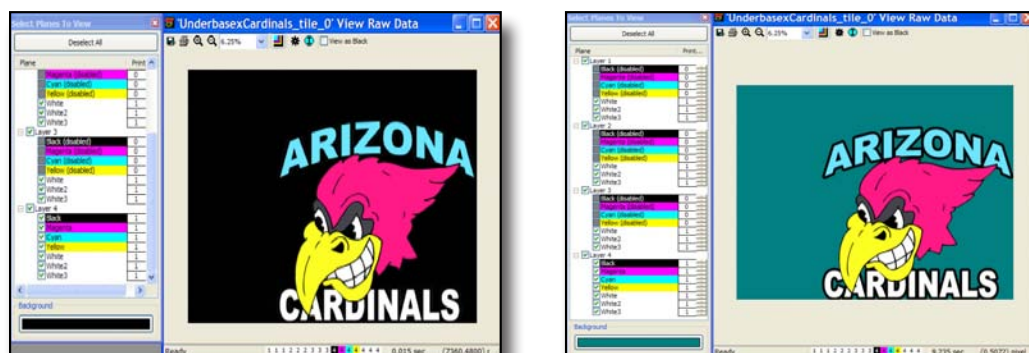


View Raw Data Window

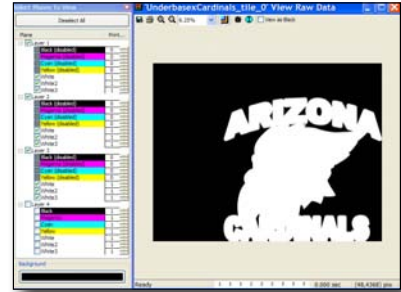
The View Raw Data window is VERY informative. Here you can select to see *All Planes* (all the actual printing functions including each actual pass or Layer) or change the background color to simulate the color of the garment.



You may also turn off a Layer (uncheck it) to see what it looks like. Layer 1 is the FIRST print pass your T-Jet will make. We indicated in the *FastRIP Setup* window we wanted THREE passes of White, so you will notice that there are three layers that show ONLY White being printed. In this example, Layer 4 shows the CMYK colors being printed. We did NOT tell this image we wanted a highlight White.



You may also choose to view only the Underbase to see how it looks.



The *View Raw Data* screen can be made larger along with the *Select Planes* window. This routine actually scans the image to be printed and displays it pixel by pixel, if you choose. However, this can be a VERY slow process. It is often easier to just *Zoom* in to view a portion of the image. This is where a fast computer with a lot of RAM really helps!



For any part of an image that requires White as a printed color, you MUST fill that section with Spot White and not Process White.

Underbase Strength

For even more control of your Underbase output, an *Underbase Strength* option containing four Underbase level modifiers and a *Gamma Adjustment* control are available. Upon importing a PSD, TIFF, EPS or PNG bitmap file with a transparent background, this window will automatically query whether you wish to apply an Underbase to the image. The options available are:



- **None**
- **Weak-** This is identical to the *Normal* setting within the *Underbasing Wizard*. The *Underbase Strength* will be 100% for White Areas, 80% Underbase in Light Areas and 0% in Dark Areas.
- **Medium-** This is identical to the *Heavy* setting within the *Underbasing Wizard*. The *Underbase Strength* will be 100% for White Areas, 80% Underbase in Light Areas and 8% in Dark Areas.
- **Strong-** This new setting adds *Underbase* under **Black** image areas in to the *Medium* setting distribution.

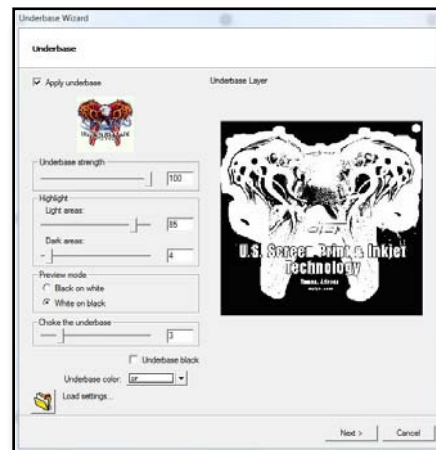
The *Gamma Adjustment* feature will affect the *Midtones* of the Underbase in the event it is too strong or too weak.

The options available for *Highlight White* areas are:

- **None**
- **Weak**- Regions 100% White 80
- **Medium**- Regions 100% White 90
- **Strong**- Regions 100% White 100

Choking the Underbase

FastRIP allows you to *Choke* the Underbase to prevent “peeking.” Peeking occurs when the White Underbase appears as a small fringe beyond the borders of an image. This is most likely to occur when different resolutions are used for the Underbase and CMYK colors, however peeking can occur even if both print modes are the same DPI. This is because the ink will bleed slightly as it becomes thicker.



The *Choke* feature will reduce the size of the Underbase image to prevent peeking. The amount of *Choke* applied to an image depends on the resolution the image. The ideal resolution for an image to be choked is 300 DPI. If the image you are working with is less than 300 DPI in resolution, the *Choke* feature will actually result in more pixels being affected. The four settings are:

- **None**
- **Minimum**- Chokes the Underbase approximately 2 pixels on a 300DPI image
- **Medium**- Chokes the Underbase approximately 3 pixels on a 300DPI image
- **Maximum**- Chokes the Underbase approximately 5 pixels on a 300DPI image



Do not choke back too many pixels on light shirts. If you choke back too many pixels, the edge of your image may shift color because of a lack of Underbase under the color pixels. Use the Minimum or Medium settings. If you are printing to dark shirts, you may apply a slightly larger Choke. The edge of your image may shift color but it will not be noticeable on a dark shirt.



If you use the Choke Underbase option, choose the Strong Underbase setting. This will apply Underbase under **Black**. If you do not, you may have areas in your image where there's a gap between **Black** output and White output.



It is **VERY** important to choose a **WHITE SF (spot color White)** from the color palette. Process White looks White but will **NOT** print as an Underbase or highlight.

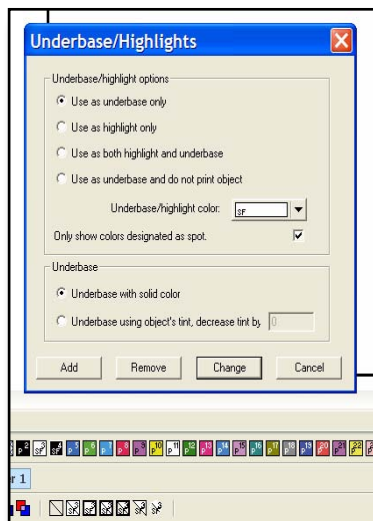
Printing an Underbase with a Highlight Pass

Our "Fighting Cardinal" sample image looks good, but it can look even better with the addition of *Highlights*. The teeth, eyes and the word *Cardinal* would all be brighter if another layer of White is printed at the same time as the colors. This layer is called *Highlight White*.



Highlights work **BEST** with vector images, but they can also be applied to Bitmap images. The drawback to using Bitmap images is that FastARTIST views the entire image and does **NOT** take into account any canvas areas around the image. If the Bitmap has non-printing canvas (White) around the image, this will end up be printing as White.

FastARTIST gives you seven pre-configured Underbase settings covering the various combinations of Underbase and Highlights. *Double-clicking* on any of these icons will allow you to see the settings for each.



0 1 2 3 4 5 6

0- No Underbase or Highlight

1- Underbase Only with a Solid Color

2- Highlight Only

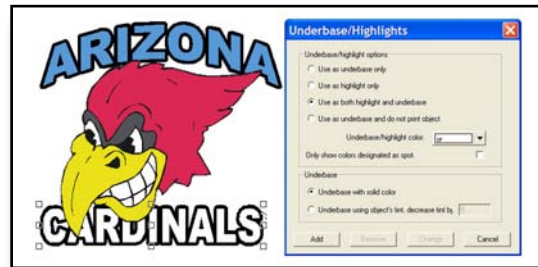
3- Underbase and Highlight with a Solid Color

4- Underbase and Highlight with a gradient tint from design

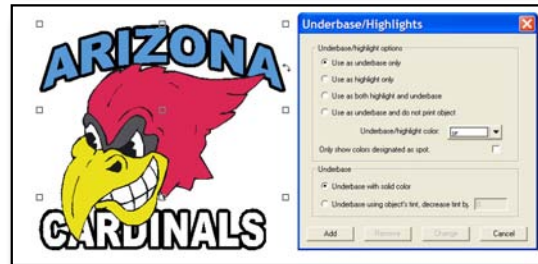
5- Underbase Only with the object's tint

6- Underbase Only and Do NOT print the Object. Use the object's tint. This is good for images that will be printed as **Black** and White on a **Black** shirt

To create a *Highlight* for the White in the word *Cardinals*, ungroup the design (if grouped) and select ONLY the word *Cardinals*. Double-click on the *Underbase* icon of choice.



This will open up the *Underbase Highlight Menu*. From here, you can decide what to do with the word *Cardinals*. In this case, we want all of the White in the word to be part of the Underbase and Highlight passes.



After clicking on *Add*, you can now select other parts of the image. If you want a solid Underbase under the entire design, group the image and double-click on the appropriate *Underbase icon*. You have now told FastRIP to create a solid Underbase for everything you have selected. You may also drag-and-drop the *Underbase icon* on a grouped image

Adding Highlights to Other Elements

We really should include the teeth and eyes in the *Highlight* layer, too. If you *ungroup* the entire design, you can drag the *Underbase and Highlight icon* onto the White of the eyes and teeth. This will now apply your previously set attributes to these objects as well.

Underbase or Highlight attributes can automatically be applied to a selected object by selecting an object and clicking once on the desired *Underbase icons*. For an object that has a thick stroke, *right-click* on the icon to apply the attribute to the stroke.



Viewing Raw Data of the Highlight

You can see how we have changed the final image by sending the file to FastRIP and choosing *View Raw Data*. You will see that when you view ONLY Layer 4 (Highlight and CMYK) White has been added to boost parts of the design.



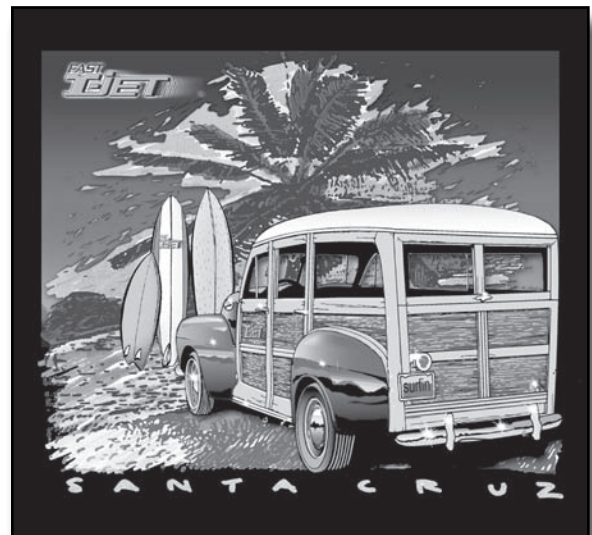
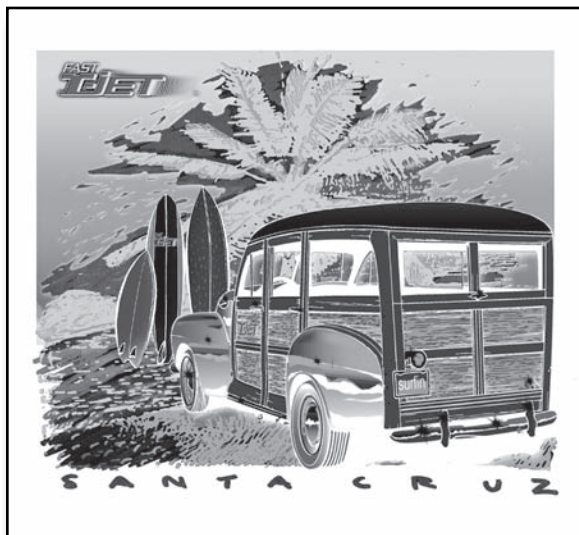
Underbasing Full Color Images

If you are working from a Bitmap image (scanned, a photo or a design from Photoshop, for example), you can't select a specific object to *Underbase*. The image is considered one large square graphic to the computer. In most cases you will want a *Grayscale Underbase* (not solid) for an image like this so, it will not be heavy and rubbery on the shirt.



In order to create a "template" for the White ink on a dark shirt, the image must be a negative of the file. When you print a negative of the file with White ink, it becomes a positive. Potentially confusing, yes, but it's the facts of life when making an *Underbase*.

When you convert a full color image to *Grayscale* and make a negative of it, you have a file ready to print with White ink. The image on the left shows what the final file would look like as a negative. The image on the right is the image printed with White ink.



The Underbase Wizard

The *Underbase Wizard* was designed specifically to assist with the challenges of Underbasing Bitmap images. You can access it from the left *Toolbar*.



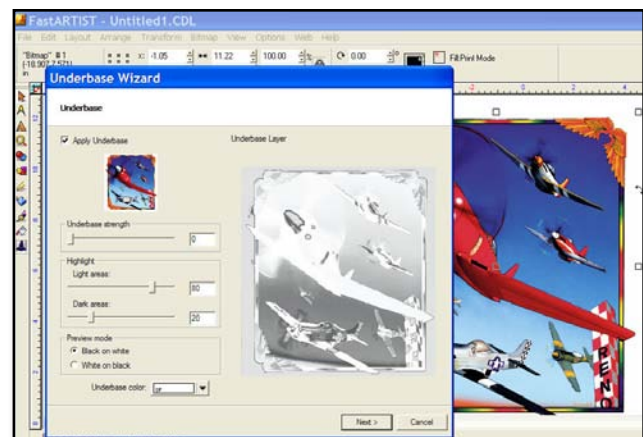
However, it can't perform magic. The easiest artwork to use is art that has a hard edge like the Air Show image. Artwork that is harder to Underbase has soft or vignette edges like the Cowboy image.



When opening the Underbase Wizard, you are given the option of Saving/Loading previous Wizard settings in order to recall previous Underbase or Highlight settings. This comes in handy if you are working with similar images or if you need to use the Underbase Wizard for the same image more than once.

Since this is the first time we have are Underbasing an image, we have no configurations to recall, so have to do it manually.

To work with hard edge images that have White in the canvas - like the Air Show, first make sure you know the image resolution. Prior to using the Underbase Wizard, your image must be resampled to the final actual print size at 150 to 300 DPI. A good rule of thumb- the more text the higher a resolution should be used. If it is mainly an illustration (like the Cowboy) then 150 DPI is acceptable.



If the image is 72 DPI and a low quality JPG file (for example, from your customer's website), it may be soft and jagged and no amount of upsampling will save the image.

Select the image with the Selection tool and click on the Underbase Wizard icon. The first screen you see will give a sampling of what the Underbase will look like. The default Preview Mode is **Black** on White. You really want to see how it will look with White ink on a **Black** shirt, so change this to White on **Black**. Make sure to pick the Underbase color of White.

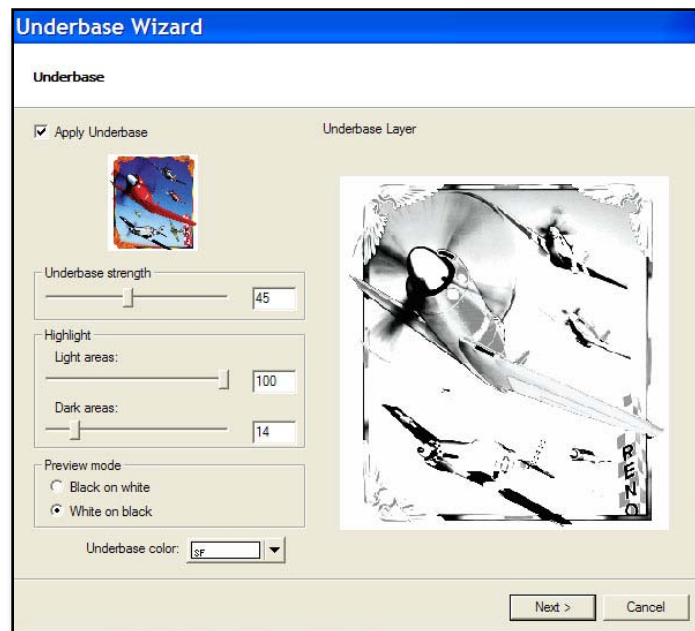
You have a lot of control over the Underbase. You can control the Strength and make the entire layer solid White. You can also make the Underbase a

greyscale image that lets the shirt breathe. Keep in mind, you are looking at how the *Underbase* will print on a dark shirt so, this may take a little practice. When in doubt, apply more *Underbase*, but try to avoid Underbasing areas of the image that will be dark or **Black**.

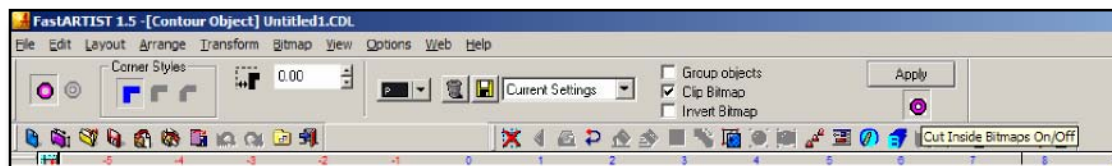
Using a Clipping Path

The White canvas of the original artwork is now the problem. If you are viewing the image with *White on Black*, you will note that there is White ink AROUND the image. FastARTIST is just doing what it is told. Any area of "White" is being printed with White. You must REMOVE THE OUTSIDE EDGE OF THIS IMAGE.

This is called *Clipping* and in computer graphics is commonly called a *Clipping Path*. A *Clipping Path* finds the outside edge of something and removes it. It is obviously easier to clip a hard edge than a soft edge. The Air Show image is perfect for removing the outside edge using the *Clipping Path* method.



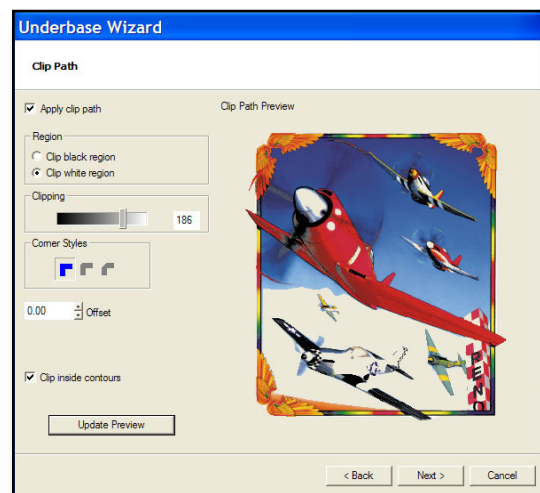
1. Go to the *Transform > Contour Object* to create a Clipping Path for an image.



2. Select *Clip Bitmap*. Select *Invert Bitmap* for **Black**. Leave unchecked the option for White.
3. Click on *Cut inside bitmaps*
4. The two buttons on the *SmartBar* just left of the *Corner Styles* selections provide the clipping options. Either the *Outside* or both *Inside* and *Outside* can be selected by engaging or disengaging the buttons.



5. Select Apply



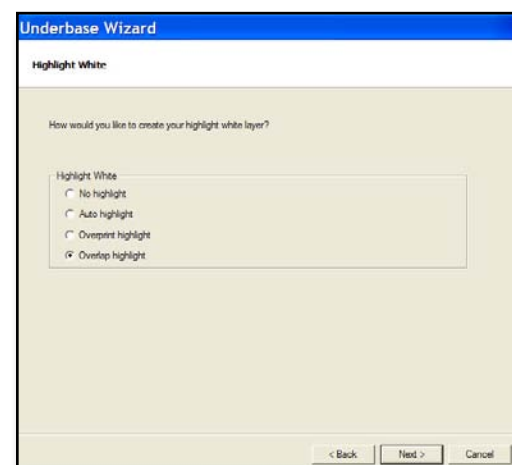
You can see that *Clipping* would be harder if we were using the Cowboy image because it might give us a harder edge on what should be a soft edged image. When dealing with soft edged images, you'll just have to experiment.



Creating a Highlight

The *Underbase Wizard* will also create a *Highlight White*. A *Highlight* will print on top of an Underbase White in areas that are very light in color or are White. The *Highlight White* prints at the SAME TIME as you print the CMYK colors.

The next window you get will ask you if you want a *Highlight*. If not, check *No Highlight*. If you want it to print with the CMYK colors this

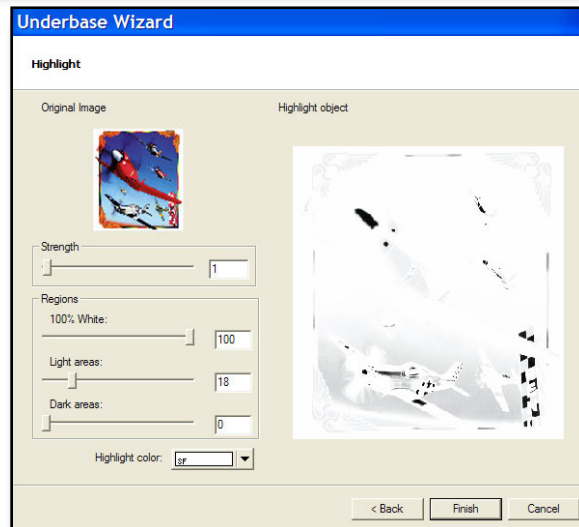


is called *Overlap Highlight*. You can let FastARTIST do an *Auto Highlight* but you might feel more comfortable if you have more control.

Remember that you do NOT want too much *Highlight White* printing on other colors. However, you do want a *Highlight* to print where there is White in the design.

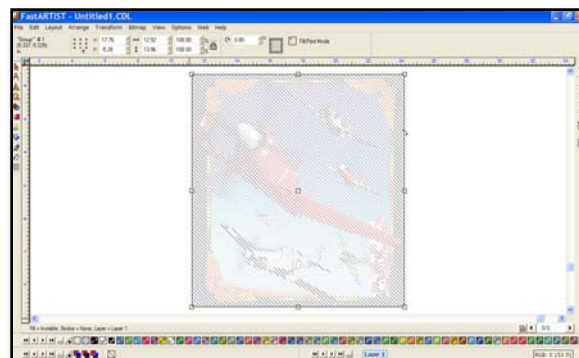


Due to the nature of displaying images, the Highlight will display in negative of how it will print. Any areas that are Black are actually where the White ink will print! Also, the Highlight display will NOT take into account the Clipping Path. This is just for the display on the monitor. The outside edge of the image will be clipped if you choose Clipping Path.

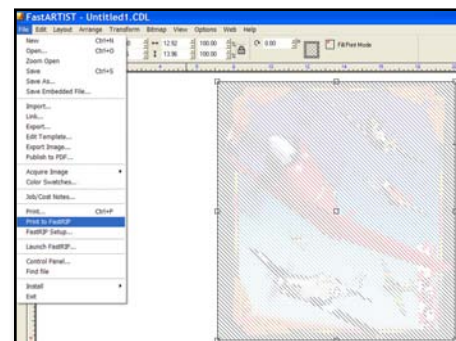


Preparing to Print

FastARTIST now places the image on the main page with a sampling of the final printed image. To represent the Underbasing and Highlights, it uses diagonal lines across the image. Yes, the image is there, you just can't see all of it. You are now ready to print!

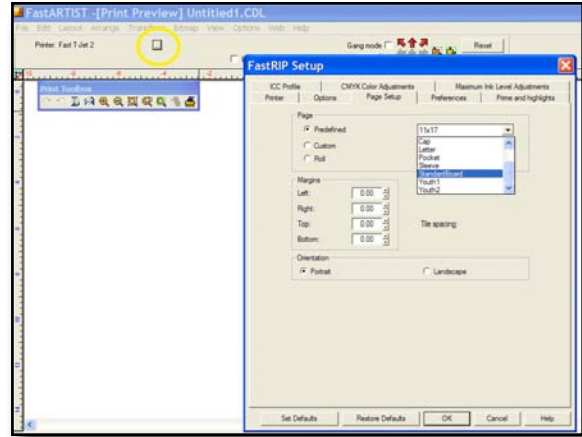


From the *File* menu, select *Print to FastRIP*. This will bring up the *Print Manager*.



Checking Preferences in FastRIP Setup

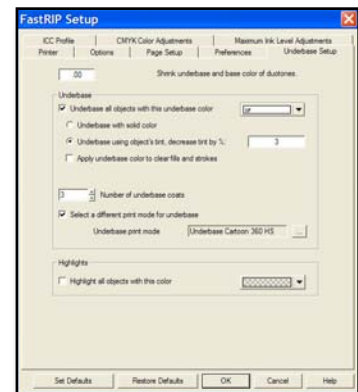
You now need to check the *Preferences* in *FastRIP Setup*. You can go to the *File* menu and select *FastRIP Setup* or click on the three little dots in the icon on the *SmartBar*. Make sure the *Page Size* is set for the correct shirtboard in your Fast T-Jet under the *Page Setup* tab.



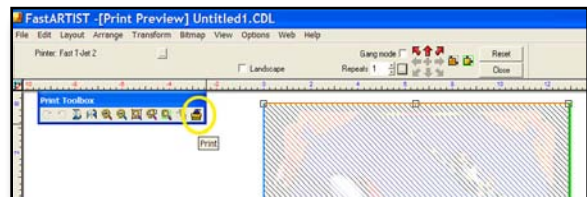
Make sure to tell FastRIP how many passes to make when it prints the Underbase in the *Underbase Setup* tab. You should also choose the correct print mode. If you want to make the Underbase a little skinnier, so it won't bleed around images, you could also tell it to reduce the object's tint by 3%.



You DO NOT have to check Underbase all objects with this Underbase color unless you want to overwrite what the Underbase Wizard has done. All you need to tell the Underbase Setup tab is how many passes to make.

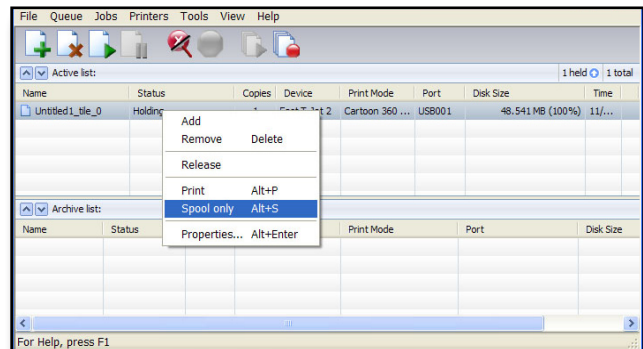


Choose the correct printer. Make sure to check *Hold Job* so the job will NOT print before you get a chance to *View Raw Data*. Choose the *Print Mode* and click on *OK*. Make sure the image is in the correct location on the page and press the *Print* icon.

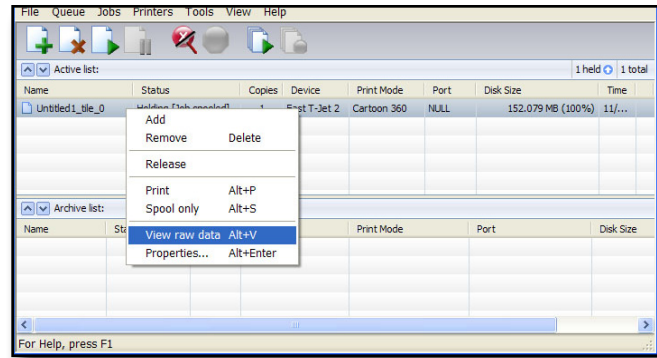


Viewing the Image in FastRIP

FastRIP will open and the image will say *Holding*. By *right clicking*, you can select the *Spool Only* option.



When the job is done spooling (ripping and getting ready to print), *right-click* and choose *View Raw Data*.



Here you can change the background color to **Black** and see how each *Layer* (printer head pass) will look. Check to see if the *Underbase* looks correct. You might see errors here or an improper setting derived from *FastRIP Setup*.

If everything is correct, you are ready for output. With a shirt that should be pretreated, dried and loaded- press *Print!*

Two Versions of Your Artwork May Be Needed

It is important you have two versions of the artwork for more complex images (with lots of interior areas) or artwork with soft edges. If you are going on any other color but **Black**, you need to have a version of the artwork with a *White* canvas and a version with a **Black** canvas. The "*White*" version is used for the colors and the "**Black**" version is used for the *Underbase* and highlight.



You only need two versions if you want to avoid the problems associated with using a Clipping Path because of interior areas that need shirt color or DO NOT need White.

These files must be identical in size and resolution. Using the *FastARTIST Underbase Wizard*, you can automatically create the *Underbase* file and the *Highlight* file without using a *Clipping Path* routine. Then, all you have to do is tell *FastRIP* how many passes you want of the *Underbase* and if you want a *Highlight*.

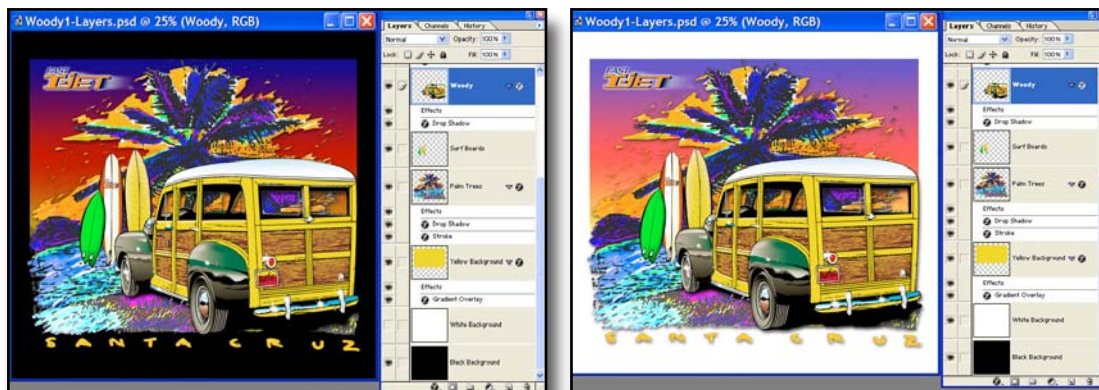


- **Using Photoshop Files**

If the image came to you as a PSD file with a transparent background, it is a simple matter of duplicating the file and creating one image with a White background and one image with a **Black** background.

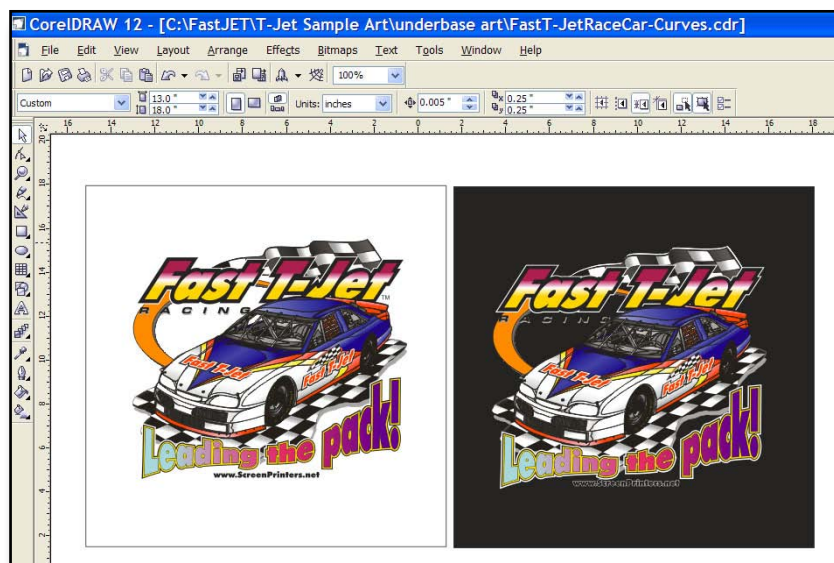


For an image to Import correctly into FastARTIST from Photoshop, it must be saved as a single layer PSD file without a background layer. Upon removing the background layer, your image will have a grey and White checkerboard background signifying transparency.



- **Using Vector Files**

If the image was made in a vector program like CorelDRAW or FastARTIST, you can duplicate the image and place a **Black** background around one version and a White background around the other. Export each file as a JPEG, TIFF or other format that can be Imported into FastARTIST.



Using FastARTIST to Create the Proper Files

In many cases, the customer will NOT know what you need. They will give you artwork with the actual shirt color in the image. However, in most cases you will get artwork with White in the canvas area. You need to learn how to quickly replace the White in the canvas with **Black**. Remember, you don't want to replace all the White. The design may have White in the image. You just want to get the image looking the way it would look if printed on a **Black** shirt.

FastARTIST has bitmap editing tools that will help. If the image has a soft edge, it is difficult to put White around it. The only real way to make the edges soften going out to **Black** is to use the *Airbrush* tool and actually paint around the image. Doing this will help you encourage customers to give you the correct art.

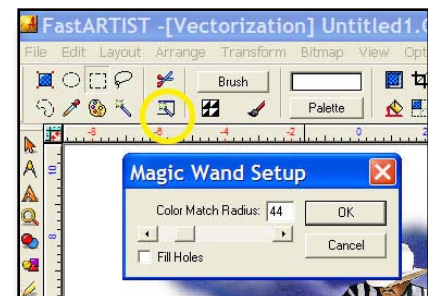
Using the Magic Wand

FastARTIST has a feature also found in Photoshop called a *Magic Wand*. To get to the *Bitmap Editing* tools, double-click on the image. If this does not change your *SmartBar* to the *Bitmap* tools, you need to convert the image to a Bitmap. From the *Transform* menu, click on *Render to Bitmap*.



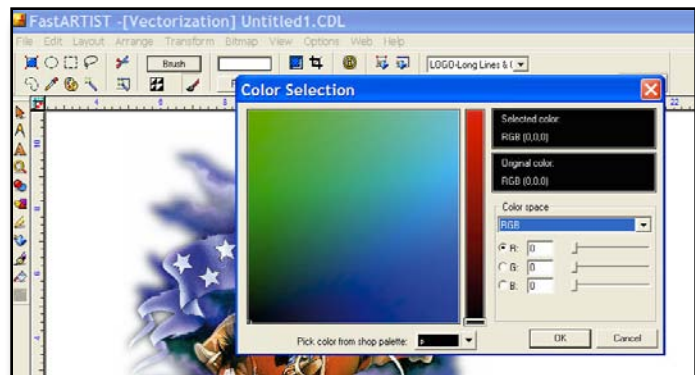
With the *SmartBar* in *Bitmap Editing Mode*, you can see there are many more tools normally associated with Bitmap images.

The *Magic Wand* tool is designed to select areas of an image that have a similar color. You can adjust the strength of the *Magic Wand* in the *Magic Wand Setup* window. This is called the *Color Match Radius*. For now, set the number low.

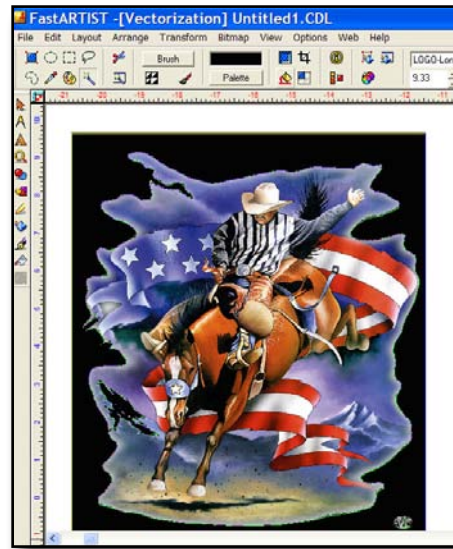
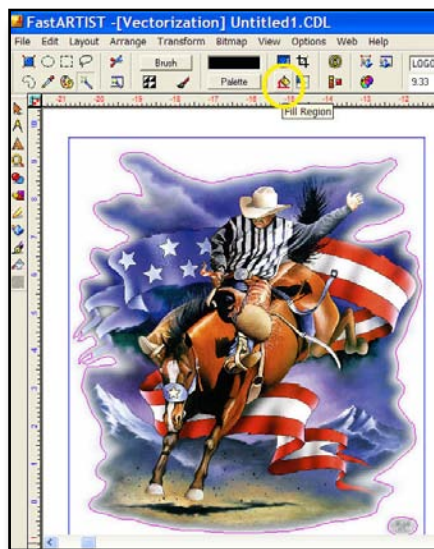


Before you select an area to fill with **Black**, you need to change the *Color Palette* to **Black**. Double-click on the Palette swatch (White rectangle) and choose **Black**. Click on OK.

Move the *Magic Wand* near the edge of the image and left click. Depending on the *Color Match Radius strength*, the *Magic Wand* will search around the image (it will not do interior areas) and select the edge. If the *strength* is too low, it will find only a White edge.



You will now see a line around the image. This is called a *selection*, which can be filled with color. By clicking on the *Paint Bucket* icon, the selected area will be filled with **Black**.



If the image has interior areas that need to be changed to **Black**, use the *Magic Wand* the same exact manner and work your way through all the interior sections.

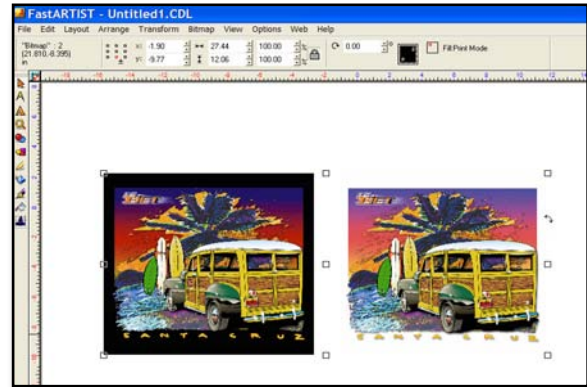


You should always be using a working copy of any image so you don't ruin the original. When you have completed any changes or modifications, save the new image under a name that is different that of the original artwork.

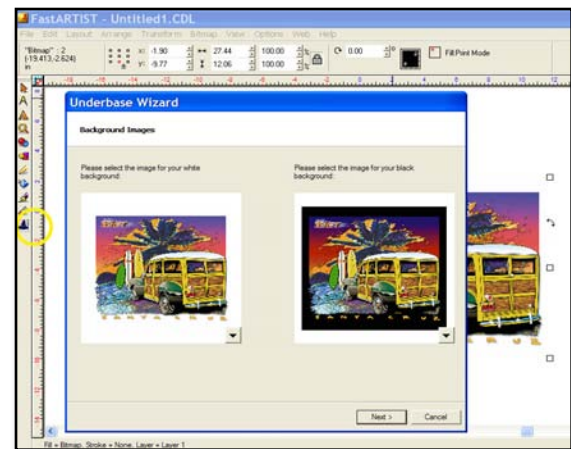
Using the Underbase Wizard on White and Black Files

Once you have both versions of an image prepared, import them into FastARTIST and let the *Underbase Wizard* work both at the same time. With two files open on the screen, drag the cursor to encompass both to select them. Or, click on one image, hold down the [Shift] key and click on the other.

1. Select the *Underbase Wizard* icon from the toolbar and you will be prompted to designate which file is for a White shirt and which file is for a **Black** shirt.

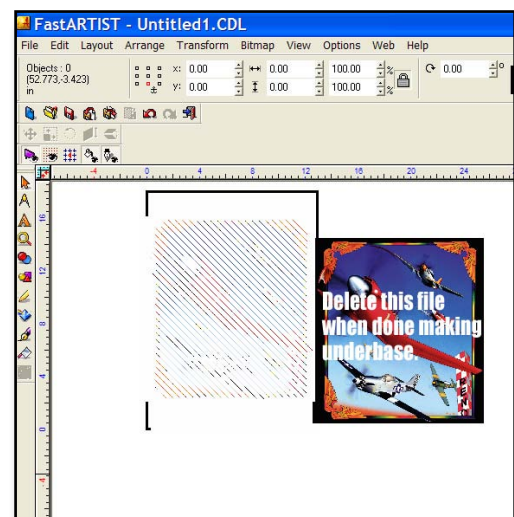


2. When you get to the *Clipping Path* page, do not check it. Having two images makes things very simple.



3. When you are finished with the *Underbase Wizard*, this file is ready to print, except that FastARTIST will still be showing the "**Black**" version of the artwork. It is done using this file for the Underbase calculations so you can delete it.

4. **Press Print!**

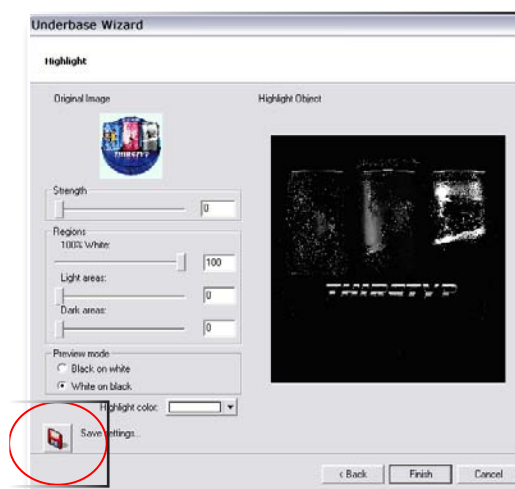
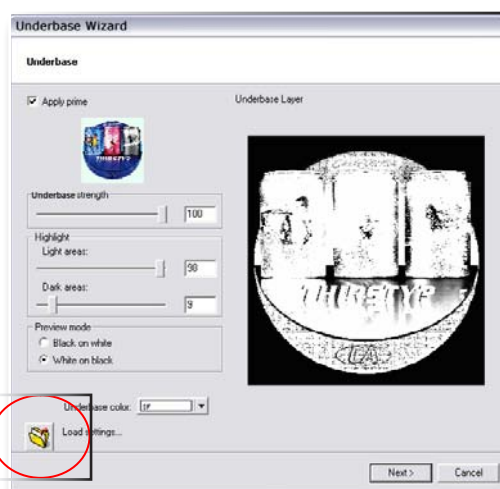


Additional Underbase Wizard Options

Creating the ideal *Underbase* is a key component to the quality of the print. Due to FastARTIST's ability to import images with transparency, there are three additional options for the *Underbase Wizard*.



When selected, the Underbase/Highlight Wizard will take you through a series of dialog boxes with an additional Save/Load Settings option located in the lower left corner of the dialogue box. This Save/Load option would be utilized if you wish to recall previously configured Underbasing settings or if you wish to save a new configuration for future use.



The three icons that represent Underbase and Highlight presets will run automatically with one click of the mouse. The order from left to right is as follows:

- **Heavy Underbase Wizard**

This option produces a heavy Underbase with a Highlight pass.

- **Normal Underbase Wizard**

The option creates a Normal Underbase with a Highlight pass.

- **Last Setting Underbase Wizard**

The fourth icon will automatically run the last configuration you created when you ran the full Wizard (first icon).



The three Wizard options listed above will not display any dialog boxes unless two bitmaps are selected (**Black** and White mask versions of an image). In this case, you will be prompted to identify which is the image with the **Black** background and which is the image with the White background.



Printing From Various Graphics Programs

Underbase and Color Print Modes



At this time, the Fast T-Jet Blazer will not support printing directly from third party applications. Fast T-Jet Blazer users *MUST* use FastARTIST when printing ANY image requiring White ink output.

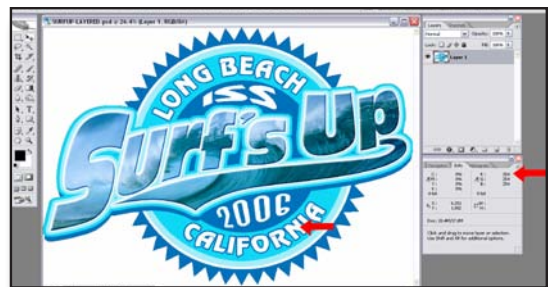


The various Underbase and Print Modes available for use are listed and discussed in Chapter 7 of this Manual. Please consult that Chapter for specific resolutions and image compatibility.

Adobe Photoshop- Design Setup

When printing a design from Photoshop, FastRIP will determine which components of the image are pure White and configure the output so that those areas do not receive an Underbase (RGB 255,255,255 or CMYK 0,0,0,0). If you wish to override these settings, set these areas to a slight tint of off-White (RGB 254,254,254 or CMYK 1,1,1,1).

In this first example, arrows identify that the "N" in California has been set to RGB 254,254,254, meaning that it will print White.

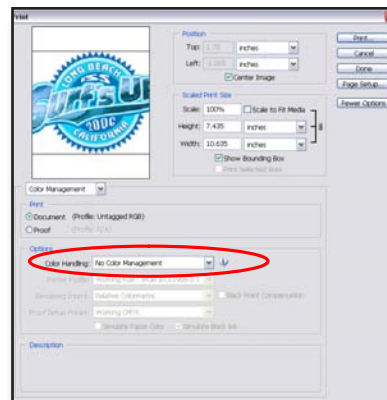


The arrows in this second example show that the background is set to RGB 255,255,255, making the background transparent when printing with FastRIP.



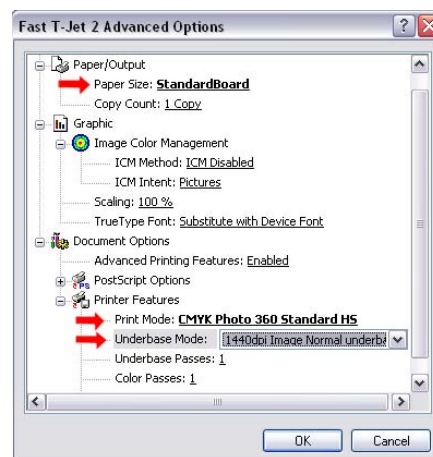


Color Management must be turned OFF before sending the image to print. Color Management is found in the Print with Preview window. Go to File > Print with Preview. For more information and instructions on how to Print from Photoshop, refer to Chapter 9 of your FastARTIST User's Manual.



Printing from Adobe Photoshop

Go to the *File* menu - *Print with Preview*. Click *Page Setup*. Click on *Printer*. In the *Page Setup* menu, select your printer. Click on *Properties*. Click on *Advanced*. Set the *Page Size*. Go the *Printer Features* section. Bring the *Print Mode* menu down to select the **Color Print Mode**. Bring the *Underbase Mode* menu down to select the **Underbase Print Mode**. Set the number of ink passes for *Underbase* and *color*. Click on *OK* in *Advanced Options*. In *Document Properties* set to *Landscape* or *Portrait* for orientation. Click on *OK*. Click on *Print*.



Select either *Image Heavy* or *Normal* as your *Underbase Print Mode*.

CorelDRAW – Design Setup

When designing in CorelDRAW, set areas where no Underbase is desired as pure White (RGB 255,255,255 or CMYK 0,0,0,0). To print an area as White, set the area to a slight tint of off-White (RGB 254,254,254 or CMYK 1,1,1,1).

In this first example, the selected area is set to CMYK 1,1,1,1, which is recognized as White and will receive an Underbase when printed through FastRIP.



When working with vector images, if you use *Named Spot Colors*, use the *Spot Color White* and FastRIP will create a Highlight White when it prints the Top Color pass. This means an Underbase will be applied and then Highlight White will be printed in conjunction with the Top Colors. In this example, the arrow is identifying the use of Spot White.



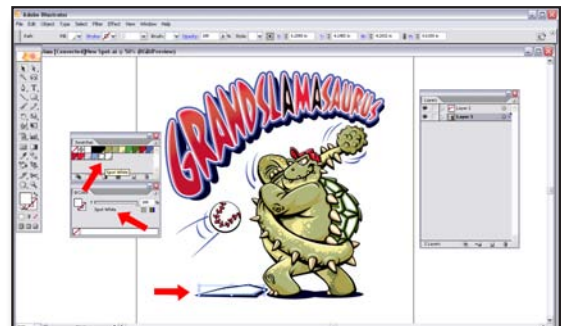
Adobe Illustrator – Design Setup

When designing in Adobe Illustrator, set areas where no Underbase is desired as pure White (RGB 255,255,255 or CMYK 0,0,0,0). To print an area as White, set the area to a slight tint of off-White (RGB 254,254,254 or CMYK 1,1,1,1).

In this example, the selected area is not a pure White (RGB 254,254,254), meaning that the image will print White.



When working with vector images, if you use *Named Spot Colors*, use the *Spot Color White* and FastRIP will create a Highlight White when it prints the Top Color pass. This means an Underbase will be applied and then Highlight White will be printed in conjunction with the Top Colors. In this example, the arrow is identifying the use of Spot White.

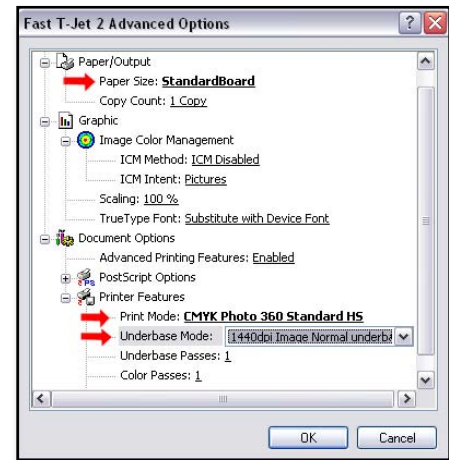


Solid Spot Colors - No Gradients

Go to *File > Print* and select your printer from the *General* tab. Click on *Properties*. Click on *Advanced*. Set the *Page Size* and go to the *Printer Features* section to access the *Print Mode* menu. Select your desired **Color Print Mode** and use the *Underbase Mode* menu to select your preferred **Underbase Print Mode**. Set the number of ink passes for both the *Underbase* and *Top Colors*. Click on *OK* in *Advanced Options*. In *Document Properties* select *Landscape* or *Portrait* for orientation and click on *OK*. Click on *Print*.

Gradients, Gradients with Solid Spot Colors, Bitmap with Vector Objects

Go to *File > Print*. From the *General* tab, select your printer and click on *Properties*. Click on *Advanced* and set the *Page Size*. Go to the *Printer Features* section and access the *Print Mode* menu. Select the **Color Print Mode**. Use the *Underbase Mode* menu to select the **Underbase Print Mode**. Set the number of ink passes for both *Underbase* and *color* and then click on *OK* in *Advanced Options*. In *Document Properties*, select *Landscape* or *Portrait* for orientation and click *OK*. Click on *Print*.



For more information on designing and printing vector or bitmap images, Spot Colors and gradients, consult your Chapters 4-6 of this Manual and the Help sections of your graphics application.

A Final Note

By using a third party graphics application to print your images, you sacrifice several features offered by FastARTIST. FastARTIST was DESIGNED to print images on garments; applications like Photoshop and CorelDRAW were not. If you do not *Import* your images into FastARTIST first, you cannot utilize the *Highlight White* option. Additionally, you will not be able to access the *Highlight/Underbase Wizard* and its *one-click* options. These can complete the entire *Highlight* and *Underbase* functions with one click of your mouse button, saving you a lot of time compared to configuring your Underbase manually.