

RICOH Ri 1000

Operator Training

Class Rules

- Be responsible for your own learning.
- Raise your hand to ask a question.
- Do not disturb the class. Please take all cell phone calls to the lobby.
- Please be respectful other participants time. (We need to address everyone's questions.)

RICOH

Ri 1000





Direct to Garment Basics

Substrate, Environment, Support and
others...

Technical Support Contact Information



Please don't feel "Stuck".
Contact tech support for help.
Hours: Mon-Fri 7am - 5pm PST



Via Telephone:
877-646-0999

Via e-mail:
RicohAnajet@Ricoh-usa.com

Technical Support

<http://anajet.com/downloads>

- **Latest Software (Drivers, RIP & Documents)**
- **Training Videos**
- **FAQ's (Frequently Asked Questions)**
- **Sample Graphics**
- **Link to Webinar Archive**



Ricoh Authorized Inks



AnaJet is proud of its commitment to the environment. We use only safe water-based inks and treatments. MSDS's are available on AnaJet's website.

White ink



- All white ink has titanium dioxide, over time if white ink is left sitting the titanium dioxide will separate from the water, causing the ink to settle or separate apart.
- It's required to remove your white ink cartridges daily and shake them around, this will mix any separation that might have happened over night. The printer will prompt you to gently agitate the white ink cartridges every 12hrs
- If white ink is kept in stock, rotate cartridges 2-3 times a week.
- White ink has a shelf life of 6 months. CMYK shelf life 1 year. Each cartridge is labeled with a manufacturer date.

What happens when you don't change an empty cartridge?



NOZZLES CLOG AND STOPS FIRING. THIS IN RETURN WILL GIVE YOU BANDING IN YOUR PRINT.



CONTAMINATION - IF A WHITE INK CARTRIDGE IS LEFT EMPTY, IT WILL CREATE BACK PRESSURE AND PULL INK FROM THE MAINTENANCE STATION THROUGH THE HEAD AND INTO THE WHITE TUBES. WHEN THIS HAPPENS YOU WILL START TO SEE YOUR WHITE TUBES GRAY OR YELLOW.



AIR CAN ENTER INTO THE TUBES - AIR IN THE TUBES WILL START TO DRY THE INK , RISKING CLOGGING THE HEAD.



PERMANENT DAMAGE TO PRINT HEAD - IF A CARTRIDGE IS LEFT EMPTY FOR TOO LONG IN THE PRINTER YOU RISK CLOGGING THE HEAD PERMANENTLY REQUIRING A REPLACEMENT.

What types of fabrics can I print on?

- **Substrate:** 100% cotton will yield the best results. Other similar natural fibers like hemp and bamboo can be used.
- **Light Polyester, rayon and spandex-** Light synthetic fibers can be printed on up to 50%. Printing on 100% polyester can result in bleeding, and dull / faded colors. To resolve this, use light shirt pretreatment to achieve best results.
- **Dark Polyester** - Polyester and white ink do not like each other, adding heat and pressure from the heat press will dull the white ink.
 - **50% polyester / 50% cotton mixture** – can be printed with acceptable results, in some cases it may be required to use more white ink and saturate the garment with more pretreatment.
 - 100% dark polyester can **NOT** be printed.

What types of fabrics can I print on?

Continued....



- **Not all cotton fabrics are the same** - quality of fabric will also impact the vividness of the image. Lower quality fabric will yield a lower saturated color or faded colors, while higher quality fabric will give you strong and vivid colors.
- **Its always recommend to test the fabric first** to see what kind of color result you get, in some cases different fabrics will require different ink settings.
- **AnaJet recommends using high quality ring spun cotton, or high quality comb cotton.**

VERY IMPORTANT!

- Temperature (printer) Operation between 50°F to 86°F (10°C to 32°C).
- If printer is to read a temperature below 50°F (10°C) or above 89°F (32°C), printer will display a **warning**
- If printer sensor detects temperature below 34°F (1 °C) or above 104 °F (40 °C) printer will require the printer to be powered off
- Temperature (inks) 50°F to 90°F (10°C to 32°C).
Humidity (printer) Operation: 45% (minimum) to 80% RH



Why do you need Humidity?

- All DTG machines don't like dry conditions. The ink in the head is more prone to clog if the air is dry. If you are in a dry area with low humidity, OR, if you plan to put the machine in a room with very dry heat in the winter, consider using a humidifier. The ideal conditions are: 45% to 80% relative humidity, dust free, with no airflow over printer.



Environment

- Keep air flow away from the printer – No fans should be circulating into the machine. Keep the printer away from A/C.
- Clean air – make sure there is not dust flying around and into the printer. Do not pretreat next to or around the printer, always pretreat in a different room or area.



Heat Press Equipment

- All garment inks are required to reach a certain temperature and time to be properly cured, if this temperature or time is not properly adjusted on your heat press you risk the possibility of the shirt washing out during the wash cycle. Keep Heat Press at least 10'ft from printer.
- **Heat Press Setting:** White or light shirts using only CMYK: 356°F (180°C) for 100 seconds
- Anything using white ink: 330°F (165°C) for 90 seconds.
- All prints can be run at this longer/colder setting if you are alternating from light to dark.
- **Pressure** – Pressure should be set to a Medium to medium –high settings. If not enough pressure is applied the ink will not cure and will wash out. 40-50 PSI (6 boxes on the GeoKnight)



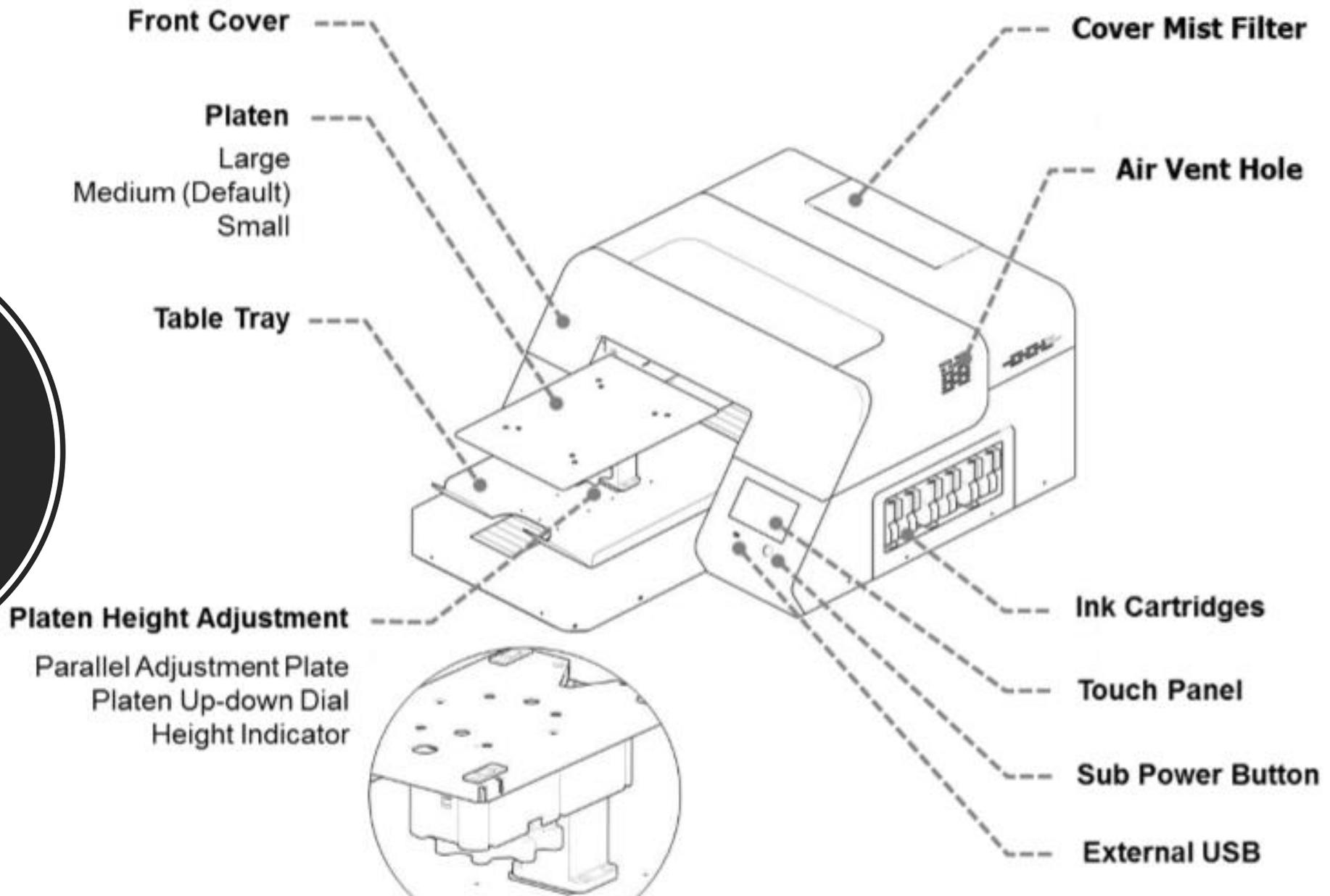
Heat Press Equipment

- **Location** – Heat press should be set at least 10 feet away from the printer. Having the heat press too close can heat up electrical components and damage them.
- **Heat press Protective sheets** – Always use a heat press sheet to protect both the shirt and the heat platen. Below are some acceptable heat press sheets
 - AnaJet Soft Touch paper / Parchment paper
 - Stahls Kraft Sheets
 - Teflon Sheets - creates a very shiny finish to the image.
- **Good heat ensures the ink cures into the shirt and good washability.**

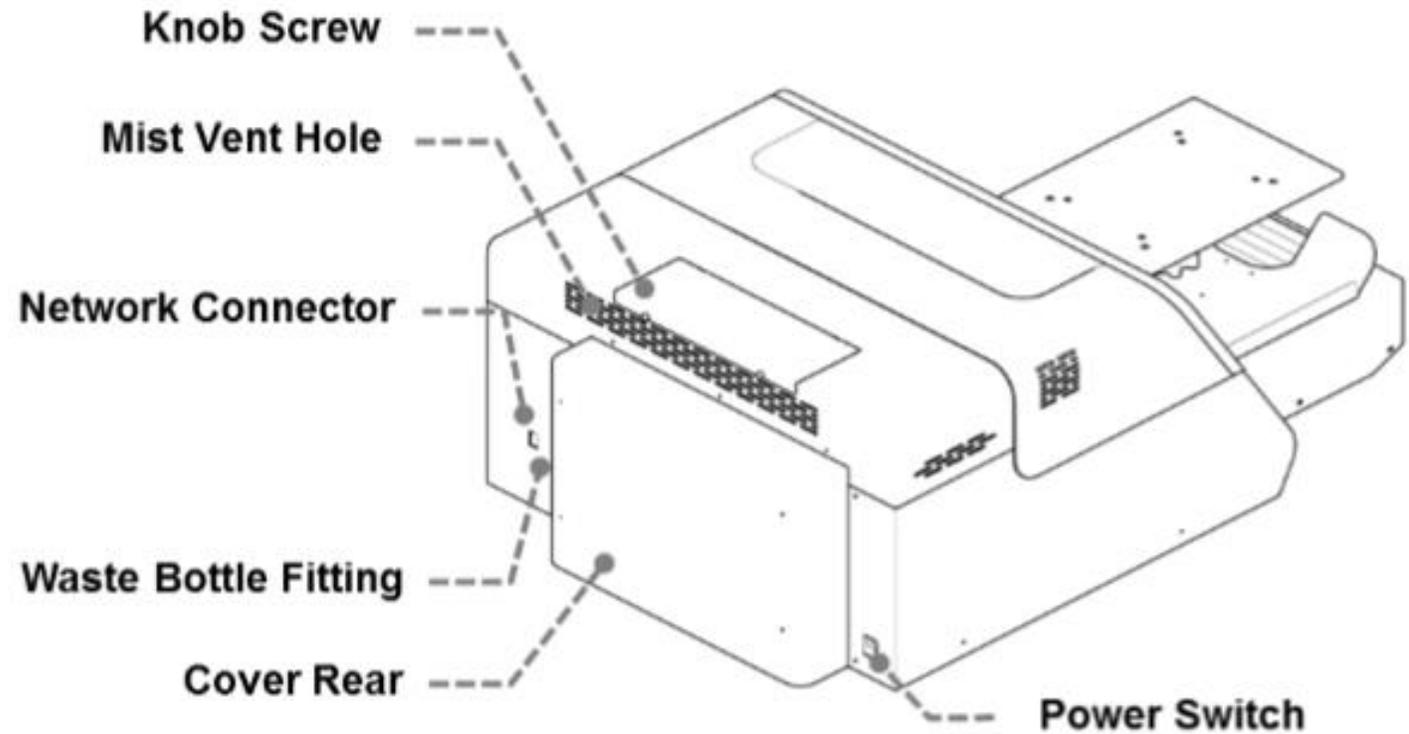


Getting to Know Your Printer

Get to Know Your Printer (Front)



Get to Know
Your Printer
(Rear)



Encoder Scale

Left Sump

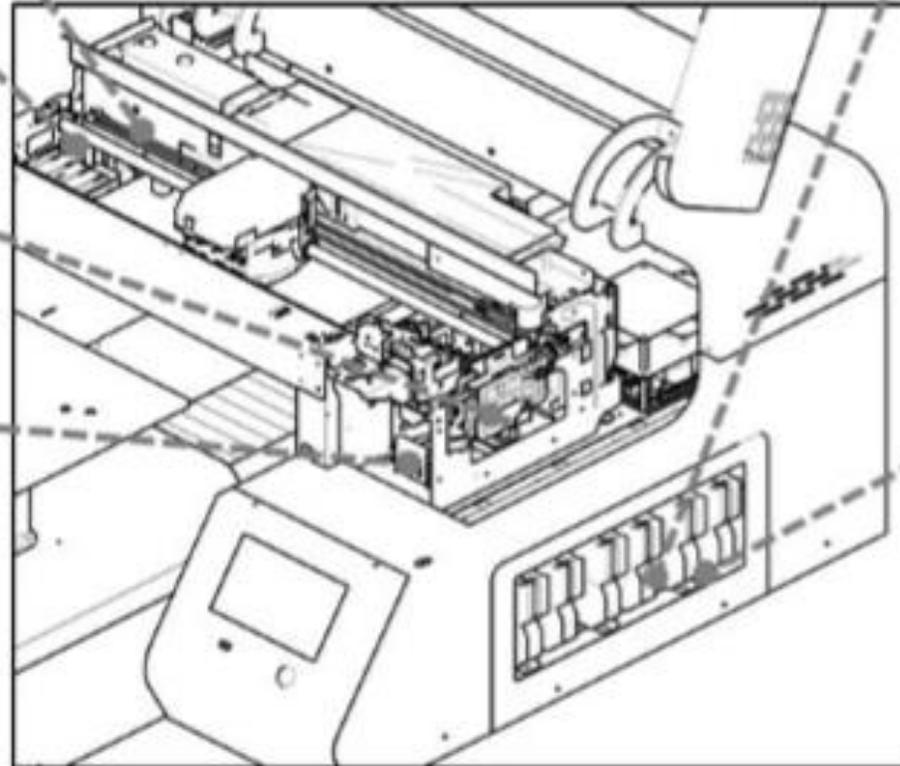
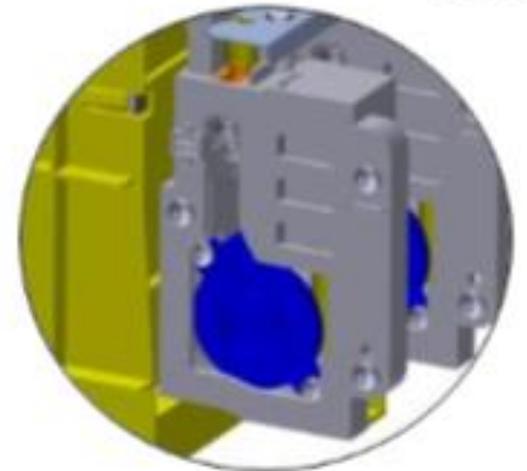
Maintenance Unit

Right Sump

Encrypted Chip



No Waste Ink Supply



Get to Know
Your Printer
(Inside)

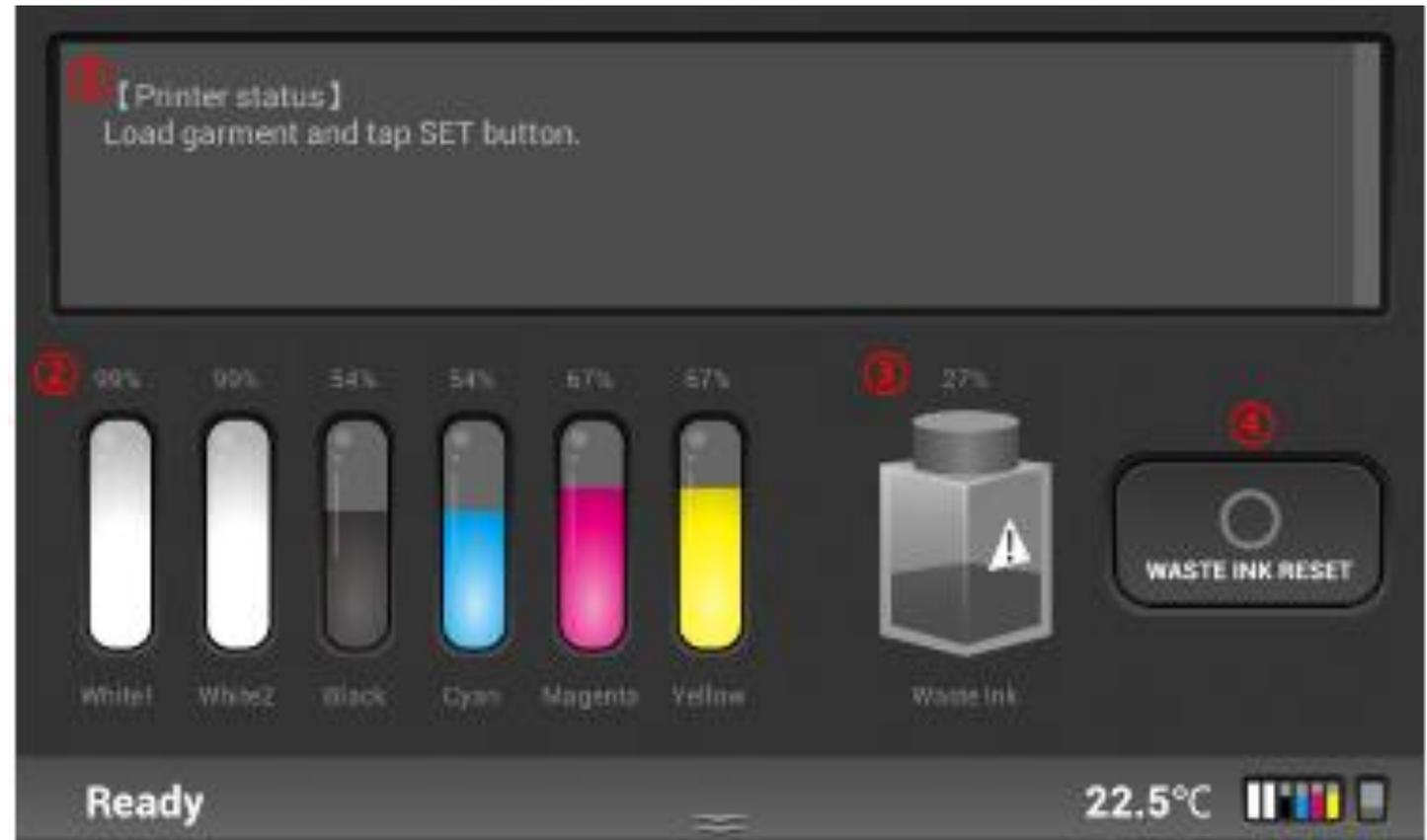
Operation Panel – Print Tab

- 1 Displays the printer status.
- 2 Status Bar- TAP/Drag down to open status screen menu (shown below)
- 3 Displays printer temperature, amount of ink in ink cartridges and waste bottle capacity level.
- 4 Stored Job folder- Check the recent images used for printing. Print directly from the stored folder or from jobs sent via network cable
- 5 Choose print job from USB device
- 6 SET/EJECT- will move the table into the print ready position (table to the rear of the printer) or EJECT the table to allow the media to be placed onto the table.
- 7 STOP- will stop any current movement of the table and allows to cancel print job
- 8 Function Tabs



Operation Panel- Status Bar

- 1 Displays the printer status in detail, providing print readiness.
- 2 Displays current ink levels in each installed cartridge
- 3 Displays the status of waste ink bottle.
- 4 Reset counts of waste ink bottle. Press the icon to initialize the waste ink bottle once waste ink tank is manually drained/emptied



Operation Panel – Maintenance Menu

- 1 Prints a nozzle check pattern results
- 2 Performs head cleaning automatically using systems components
- 3 Allows carriage to be released, cover can be opened to manually clean the printheads (during maintenance or troubleshooting) and the maintenance station



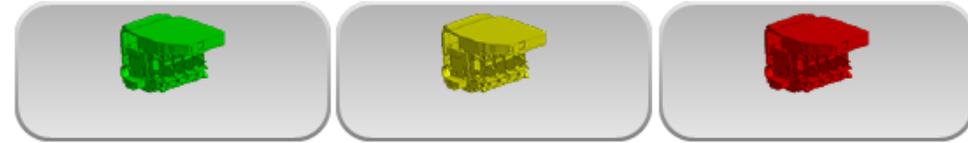
Operation Panel – Alignment Tab

- 1 Prints an adjustment pattern for the print head alignment of bi-directional printing
- 2 Prints an adjustment pattern to table to carriage alignment
- 3 Prints an adjustment pattern to determine print start position or image alignment during print





- When a component is selected, the replacement dialogue box is displayed. It shows the count and the date last replaced.
- The color of each component will be displayed in Green or Yellow and Red.



Green is normal

Yellow replace soon.

Red requires replacement.

Operation Panel – Service Part Status

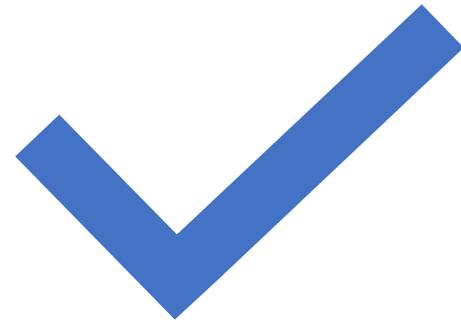
Operation Panel – Settings Tab

- 1 Perform controls of ink path.
- 2 Network setting, factory reset, on/off media sensor.
- 3 Display printer general information.



Knowledge Check

- Where are the two buttons used to power on the printer?
- What order are the cartridges in?
- Can I switch white 1 with white 2?
- How can I connect to my printer?
- Where are the air filters?



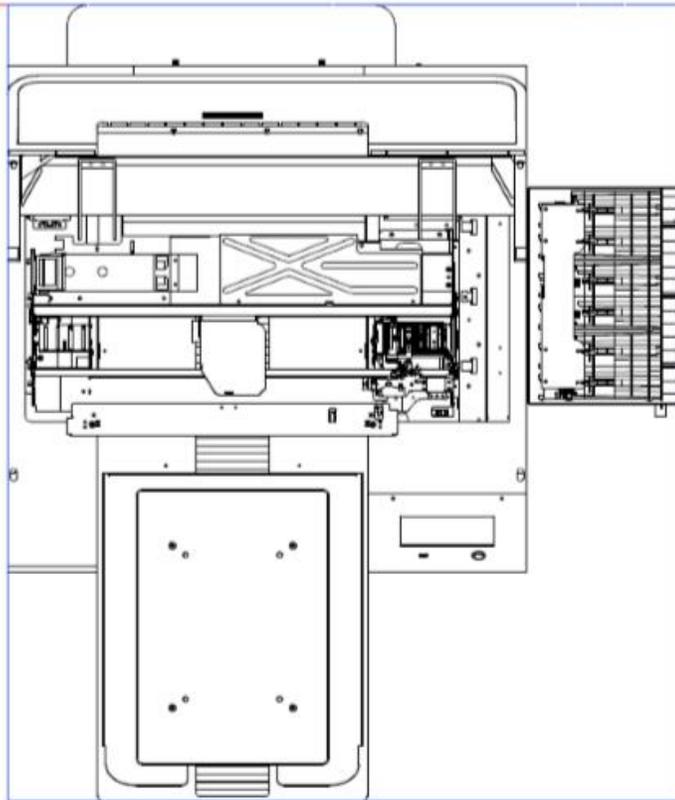


Setting Up Your Printer

Installation
Space:
Top View

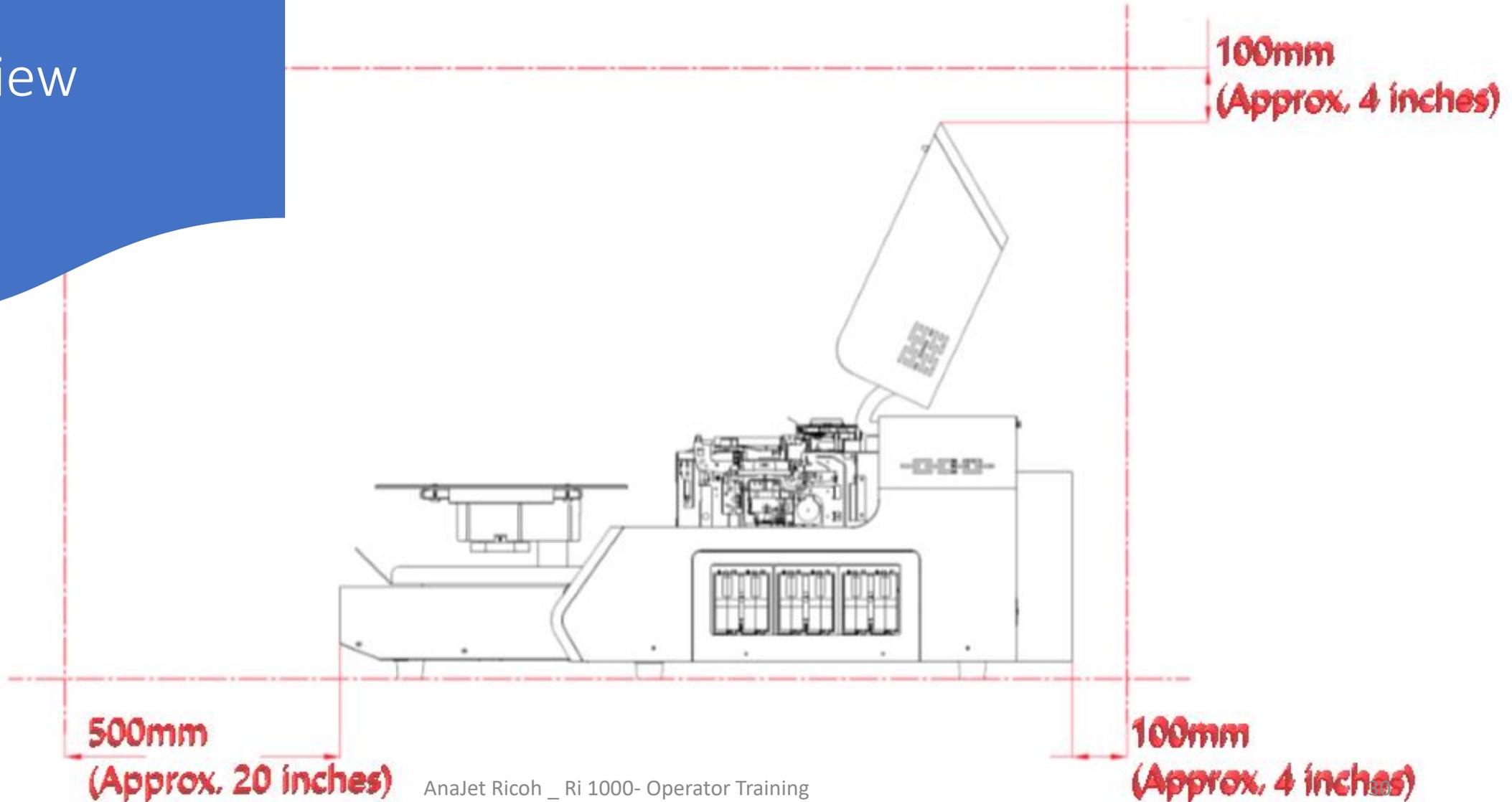
100mm
(Approx. 4 inches)

700mm
(Approx. 27.5 inches)

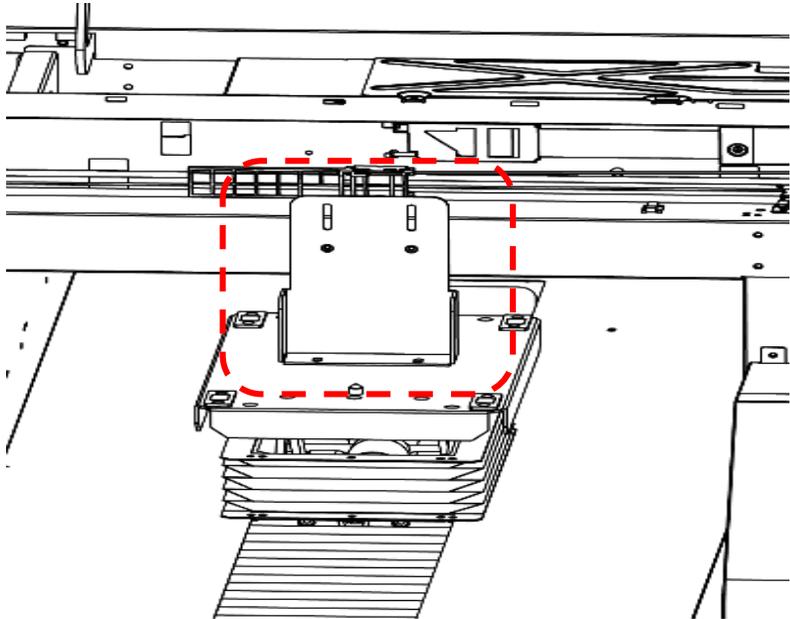


500mm
(Approx. 20 inches)

Installation Space: Side View



Remove
Shipping
Bracket:
4 Phillips Head
Screws

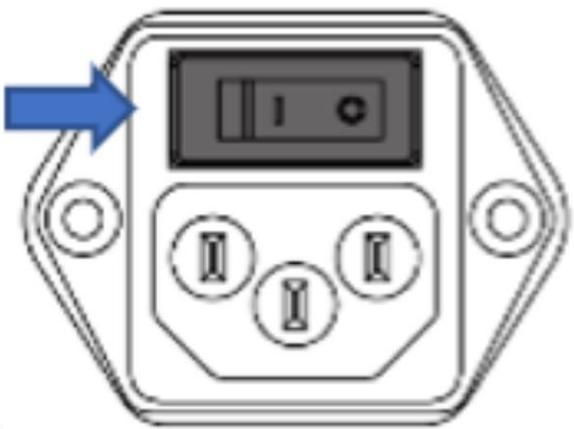
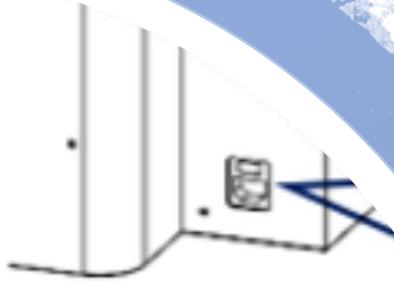




Remove Waste Ink Cap & Install Waste Ink Bottle



[AC Power Connector]



[AC Power Switch]

Connecting Power



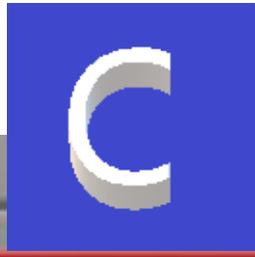
Knowledge Check

- How much space should I leave around the printer?
- Where is the shipping restraint mounted and how is it removed?
- Where does the waste ink bottle connect to?
- Where is the power connected?



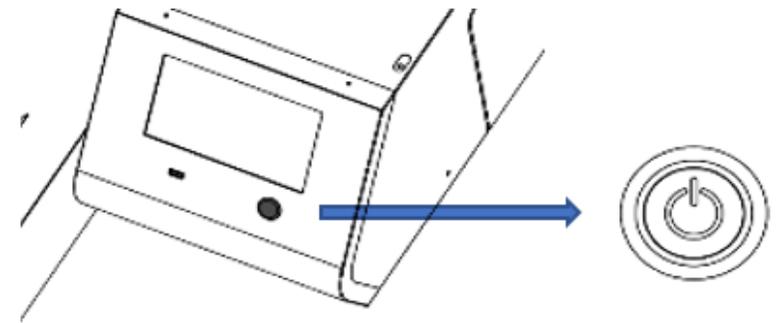
Charging Printer With Ink

Install Ink Cartridges



Power On Printer:

- * Flip I/O Switch
- * Hold Power Button for More than 3 Seconds



【 Printer status 】

Cleaner is filled in printer.

Fill ink for printing.

Initial Ink Filling 0%

Allow Approximately 20 Minutes for Fill Procedure

Knowledge Check

- What order are the cartridges keyed in?
- How long do you hold the power button to power on?
- How long does it take to charge the printer with ink while removing the cleaning solution?
- Where do we find the ink path control option?



Getting Ready to Print



0 – Best for T-shirts

Increase value by turning left or in the down direction to increase the gap between the printhead while lowering the table to allow for thicker substrates



Loading a Shirt



Shirt on Table

Recommend
Shirt to be
Sleeved on to
Table



Press

Be sure shirt is
as flat as
possible



Confirm

Before putting table hoop
on, confirm shirt is evenly
mounted on platen



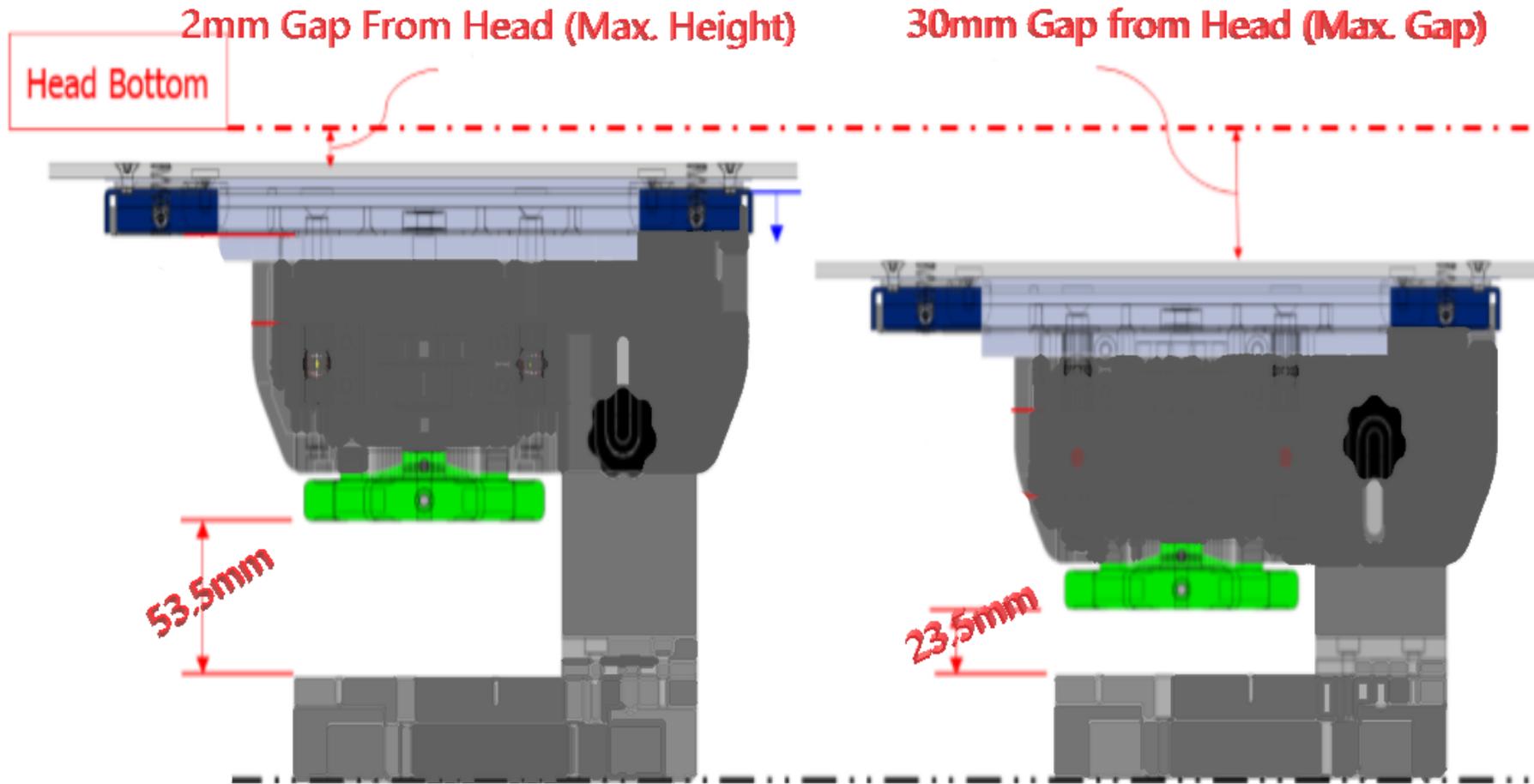
Set Your Table to Ready Position



If an obstacle is detected...

Lower your table until warning box is white

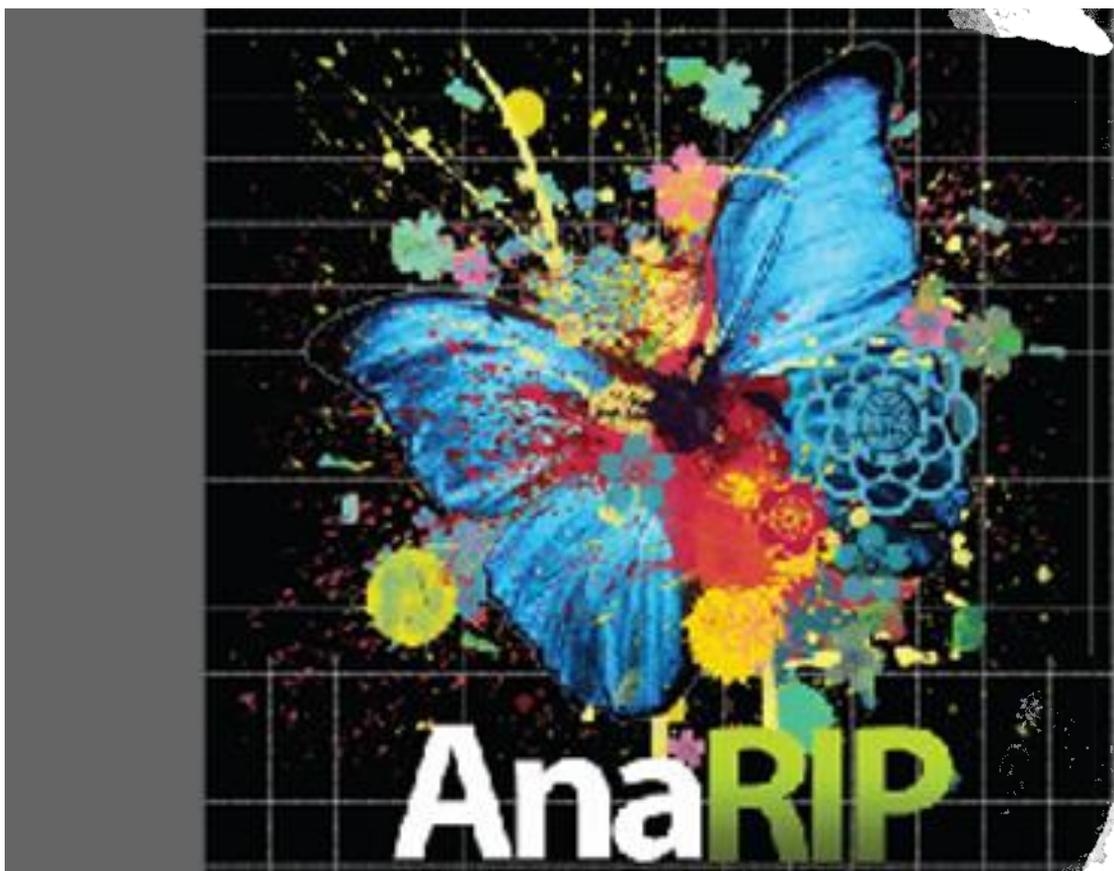
Table Height





Knowledge Check

- What does the ORANGE square mean when checking the height?
- How is the height adjustment made?
- How many millimeters are allowed for the table height?
- What is the correct dial setting for T-shirts?

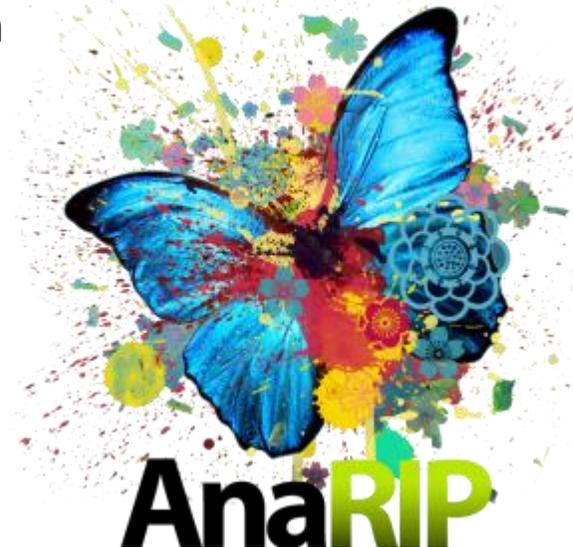


Installing AnaRIP

Computer Requirements

PC Requirements:

- Windows Vista, Windows 7, Windows 8 and Windows 10 operating system. Both 32bit & 64bit are supported. USB 2.0. minimum 3 GB of RAM
(If you are using the same computer for your image editing you may want to add more memory. Mac OS use will require using either Parallels or BootCamp)
- **RIP software and AnaJet Print Driver:** All AnaJet mPower's come with the AnaRIP™ software. You will have full access to download the AnaRIP software from the Technical Support section of AnaJet.com. When printing, all files must be sent from the AnaRIP™ software directly to the printer or saved to a USB drive or SD card.
- **Microsoft Updates** -PC must first have Latest windows updates for Microsoft Visual C++ and Microsoft .NET framework 4 before installing AnaRIP, these links are also available on our website.



Installing RIP Software

1. Download the installation file directly from the Anajet website. <http://anajet.com/downloads/>
2. The current AnaRip version is **5.2**
3. Open the .exe installation file, and run through the installation
4. Once completed open AnaRIP software to confirm that everything was installed right.

Please note: Windows must first have C++ update and .Net framework 4 installed prior to installing AnaRIP. Download links are also available on the AnaJet website.

There is also no activation codes, or serial number, AnaRIP can be installed multiple times on different computers.



Installing RIP

Establishing communication with your printer

If the printer is not receiving data from the computer, it is usually due to one of these two reasons:

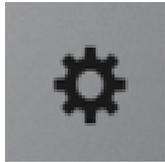
1. Ethernet cable is not plugged in properly
2. The printer is not powered on from the Power Supply, or the Control Panel.

Communication Errors

- Printer not powered up completely
- Ethernet Cable not connected or configured properly



Adding Printer via Ethernet



IP Address

IP ADDRESS	:	37	.	37	.	37	.	120
SUBNET MASK	:	255	.	255	.	255	.	0
GATEWAY	:	37	.	37	.	37	.	1
DHCP	:	Disabled						

CHANGE RETURN

Printer must be directly connected to a laptop/desktop device via the provided ethernet cable. If printer is being connected through a router, please check your router instructions for adding a network device or contact your network administrator

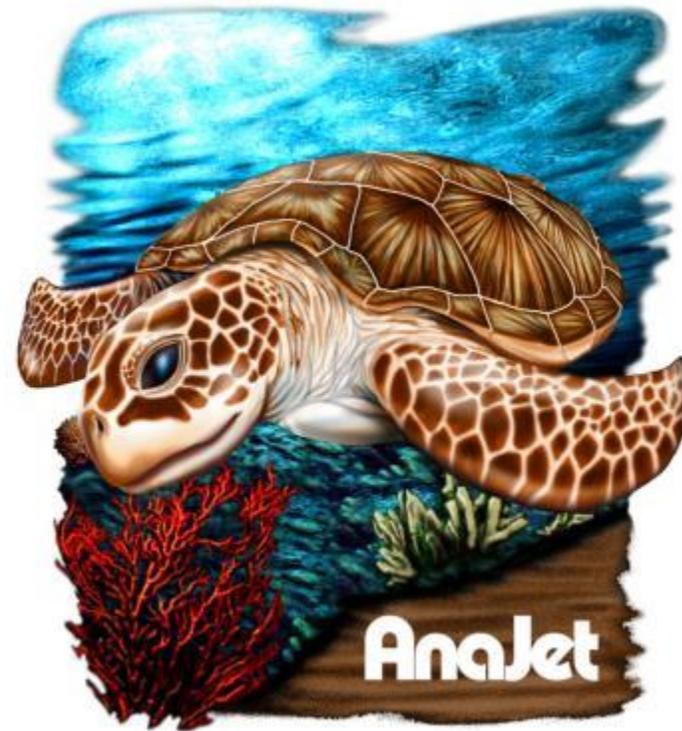
Installing RIP Software



What type of files can I use?

Printing different file formats: The printing method is to use our AnaRIP, RIP software. Our rip has a limited number of possible file types you can use. JPG, GIF, PDF, PSD, AI, TIFF, PNG, BMP. We recommend that you prepare your images as TIFF or PNG file types. Both support transparencies generally required for dark shirt printing. It is also good practice to avoid saving images as JPG or GIF. These are compressed file formats originally design for internet use only. **(For .ai and .psd files, multi-layered graphics must first be flattened.)**

Once a file is sent from the AnaRIP RIP program it can be printed directly from the control panel or it can be saved to a USB drive or SD card for later use.



Graphic Design Software

You will need a design software that can do two specific requirements:

1. Must be able to convert a graphic between CMYK and RGB. It is recommended that images are designed in the CMYK Color Mode for most accurate printed color results. Designing in RGB mode may use colors that the CMYK printing process cannot reproduce.
2. Create the image in True size. Don't create a 2x2 image and then print it 10x10
3. For dark shirt images you must be able to design transparencies. Commonly used programs that can perform this are: Adobe Photoshop, Adobe Illustrator, and Corel Draw.

(Adobe Photoshop Elements is an adequate and affordable alternative to Adobe Photoshop)

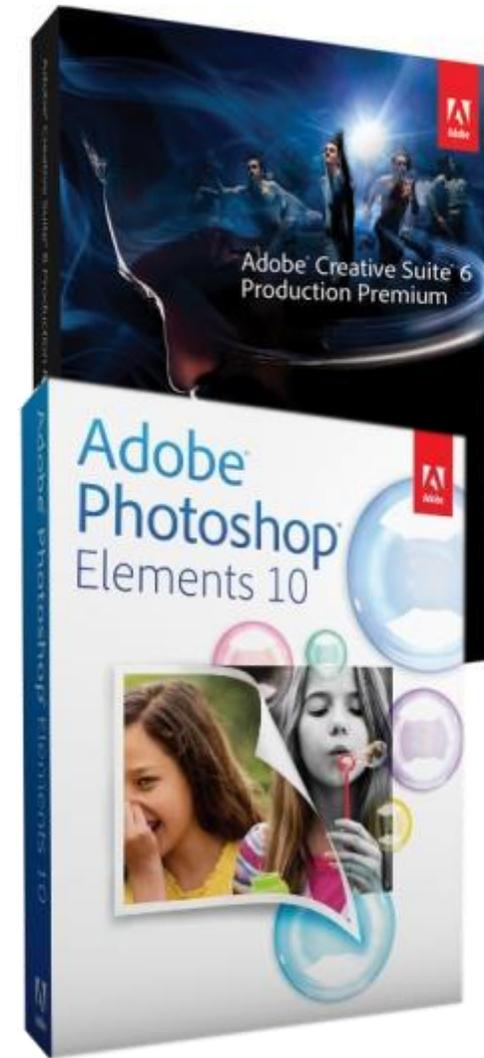
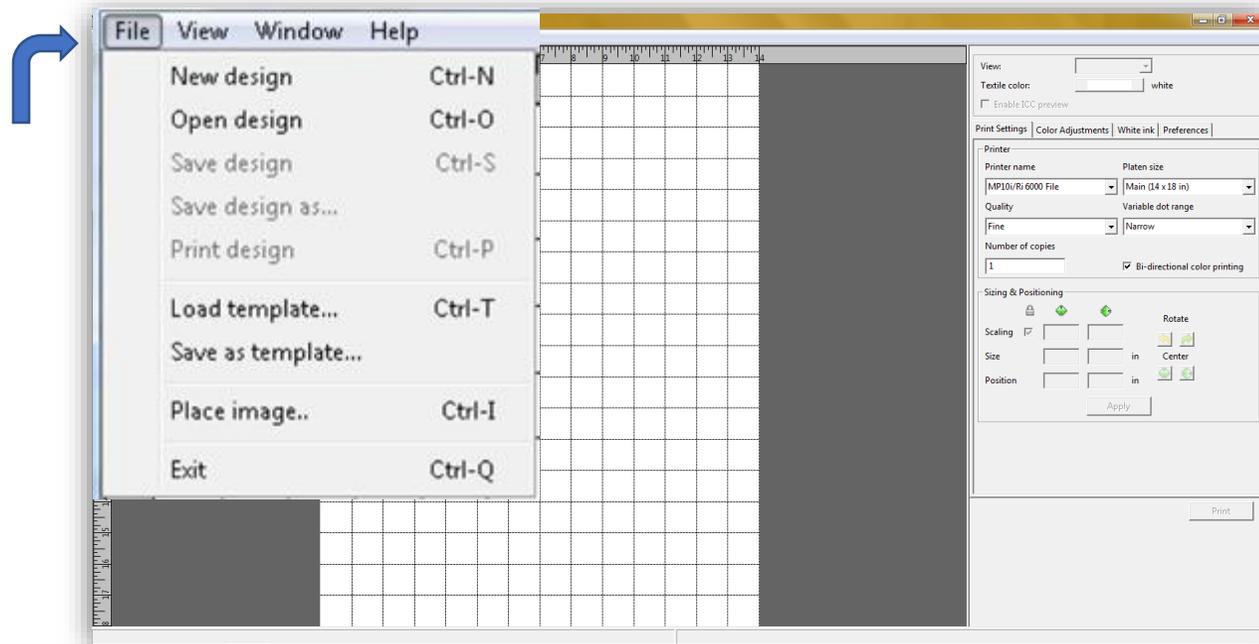


Image preparation

- **Recommended image files** - PNG, or Tiff.
- **Resolution** – for best results, should be set between **at least 300dpi**. Lower resolution images will result in choppy, pixelated images.
- **Maximum canvas size** should be no bigger than 16X19.6 inches. (size of Large platen, standard is 12.6X18 inches)
- **Acceptable files for Light T-shirts** – PNG, TIFF, high resolution JPG.
- **Acceptable files for Dark T-shirts** – PNG, TIFF with a transparent background
- **Design in CMYK color mode** for best color accuracy using Photoshop or other graphics program.



Printing From the RIP

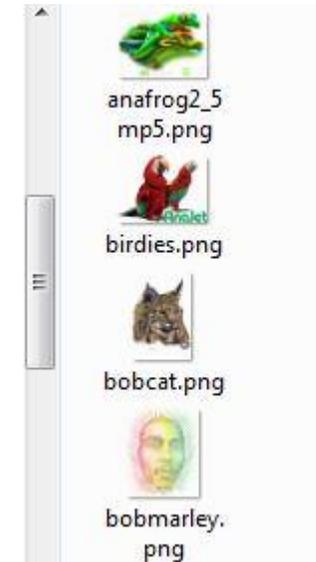
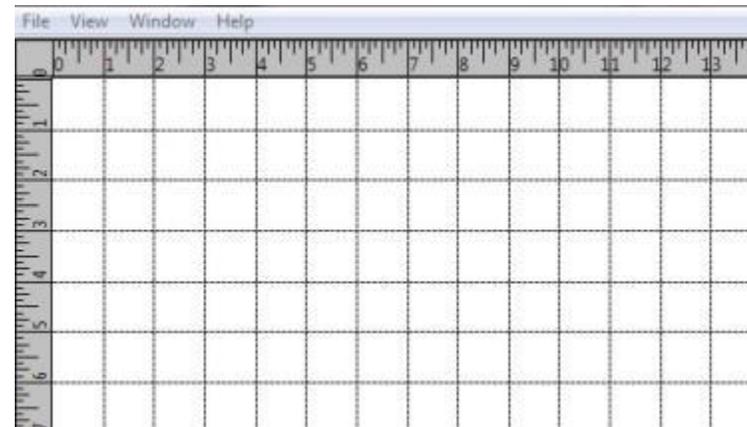
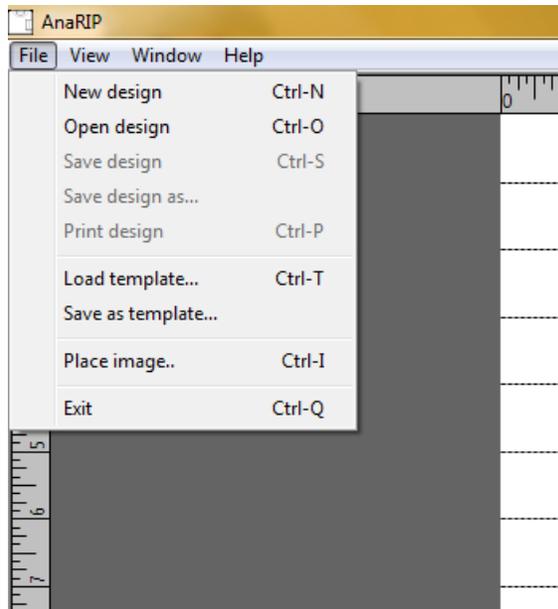


Place your graphic into the RIP by selecting **File, Place Image**, from the top left corner of the program, Pressing **CNTRL I** will do the same function. You can also drag and drop your graphic image into the program from an open folder containing the image file.

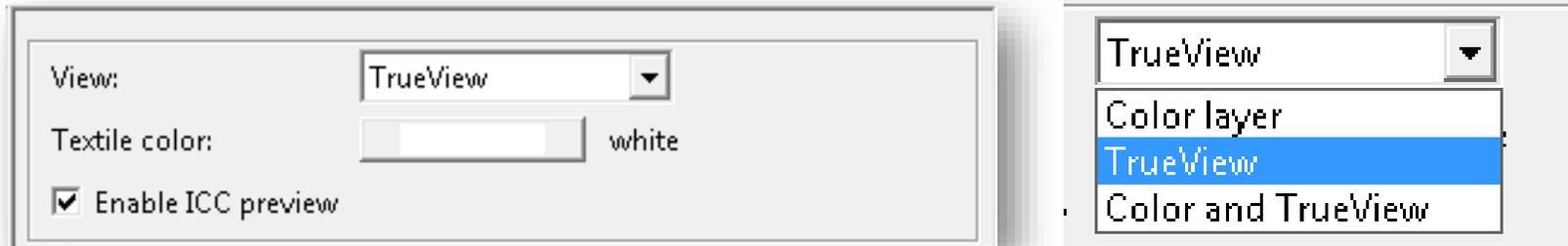
AnaRIP: How to place image

There are two methods to opening an image in AnaRIP.

1. Open AnaRIP. Go to FILE > PLACE IMAGE
2. Drag and drop into the RIP. Click and drag the image into the RIP software the rip will automatically open the file.



Printing From the RIP



View: The selected view options show **Color Layer** (the unchanged image file), and AnaRIP's exclusive combined **True View**. TrueView previews the effect of CMYK inks on white or colored fabrics. TrueView is the only true-to-output preview feature in the digital apparel printer market today. You may also choose to show both screens at the same time.

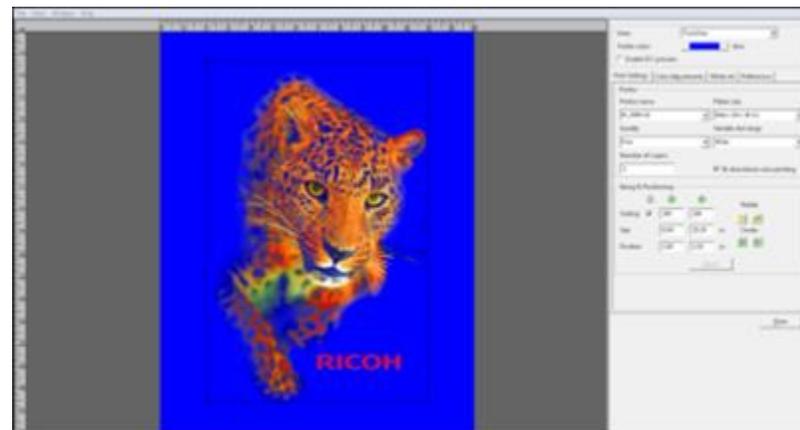
Textile Color: This is where you will select the color of the garment you are printing on and how that will effect the final print results.

Enable ICC preview: If the image was not created using the CMYK color mode check this box to preview how the colors will look when printed.

AnaRIP: Functions

Views

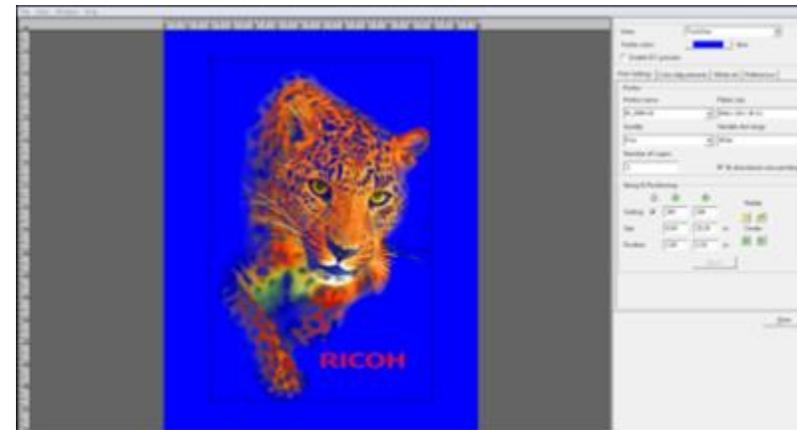
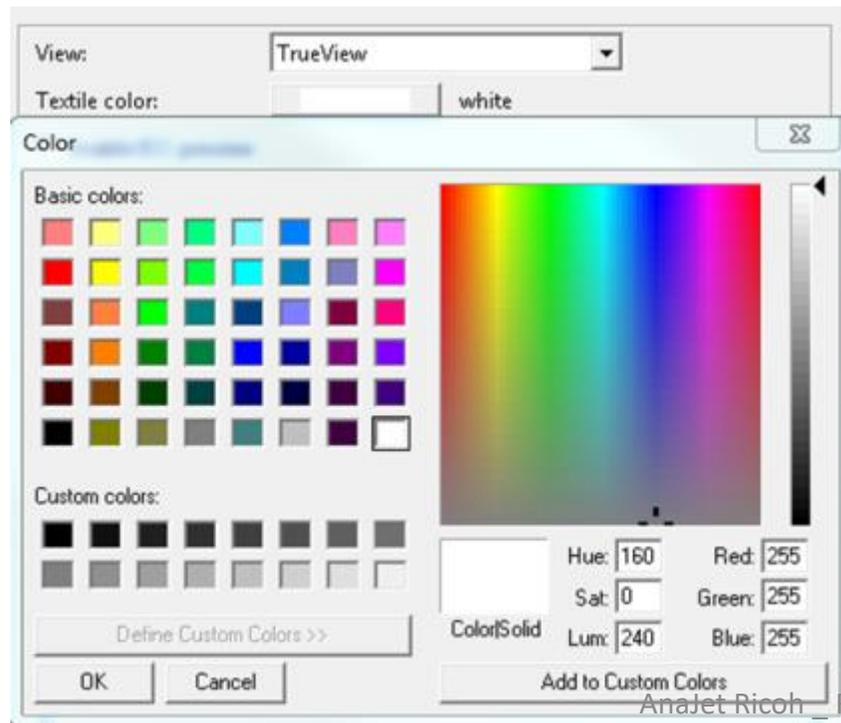
- **Color Layer** – Original image imported
- **Trueview** – A preview of How the image will print after adjusting your settings.
(Does not show the grid pattern in True View)
- **Color and TrueView** – Both previews above side by side (useful to compare)



AnaRIP: Functions

Textile color

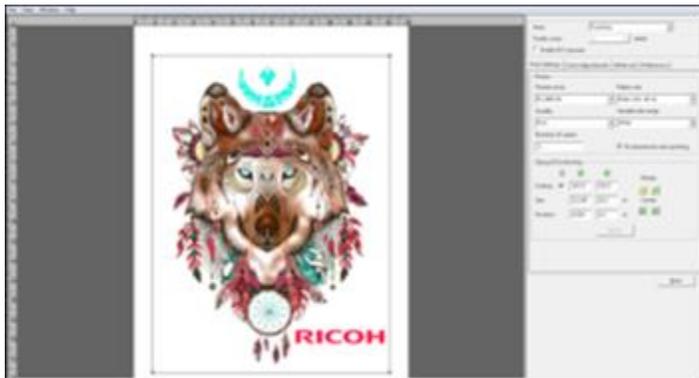
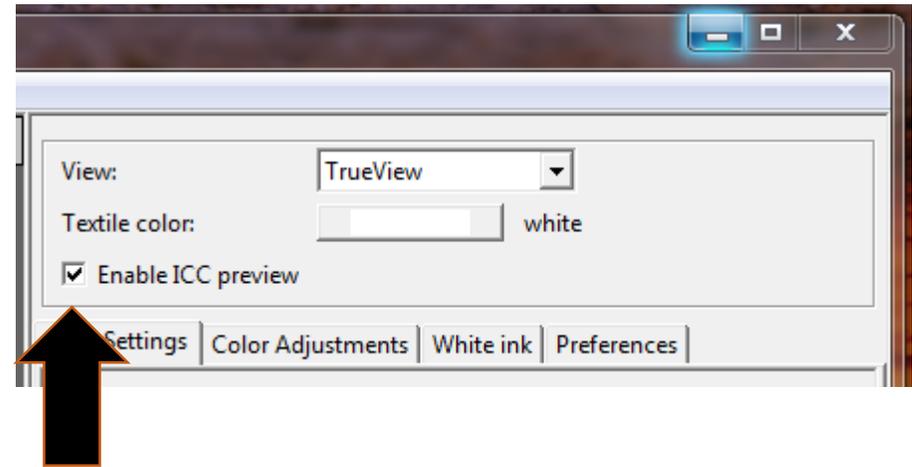
- Changes background to represent color of T-shirt its being printed on.
 - Changing the Color of a CMYK only print will show you a preview of the color change.



AnaRIP: Functions

Enable ICC Preview

- **Enable ICC Preview-** will show you on the screen a preview of how these RGB colors will print using CMYK.

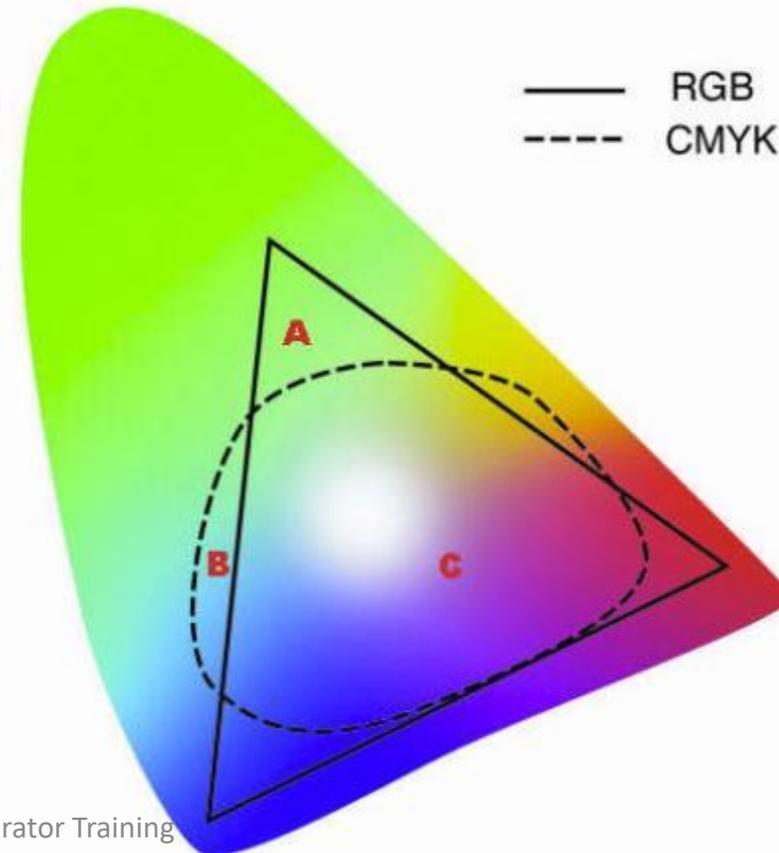


AnaRIP: Functions

Enable ICC Preview

- Not all colors in RGB can be printed using CMYK. This preview allows you to see the color change that will occur during the data conversion.

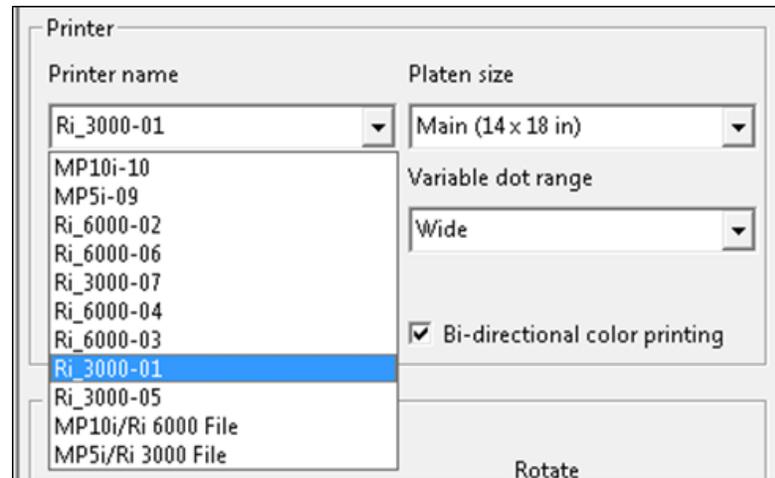
CMYK vs. RGB Color Space



AnaRIP: Functions

Printer Name

- Here you will find all the connected printer via LAN connection.
 - **Selecting IP** - will send the image via ethernet cable. All files that are sent via ethernet cable will automatically save in the printers stored jobs.
 - **Ri 1000 File** - will save a RIPPED file that you can use to print on a USB thumb drive.



Printing From the RIP

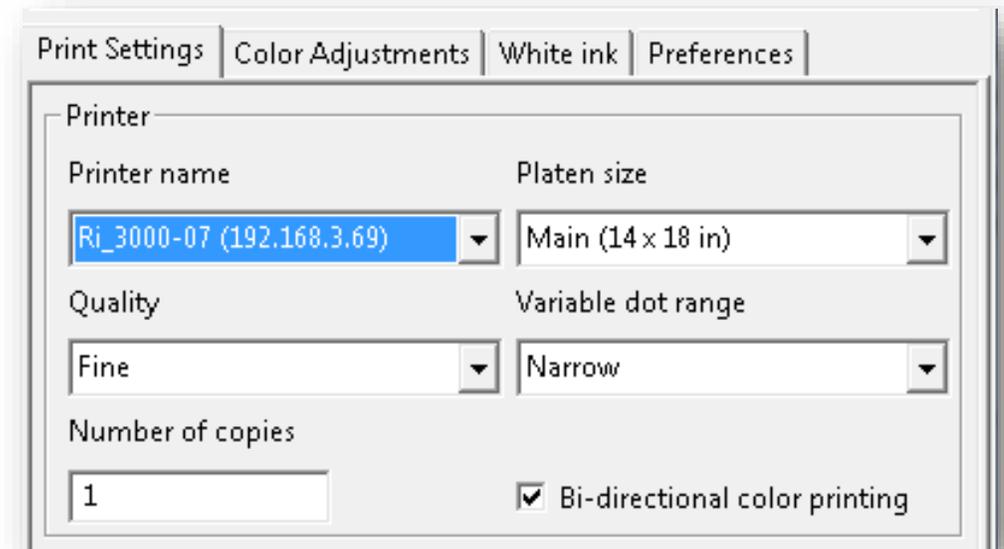
Platen Size: This needs to be set to the table size you are using. The standard table is Medium 12.6" x 18". You may also select the **Sleeve, Youth or Small Print adapter** sizes if you have these table attachments installed.

Quality Mode: You can select from 3 modes:

- Speed** (not recommended for solid colors),
- Fine** (recommended & default mode)
- Superfine** (Must change inkset to use this mode).**Not Yet Available in AnaRip 5.2 will be added soon

These modes change the number of lines it takes to print an image. The higher the mode the more lines are used to print it. Note, the more lines the longer it will take to print. Also, this setting does not affect the amount of ink used.

Print Settings Tab



The screenshot shows a software window titled "Print Settings" with four tabs: "Print Settings", "Color Adjustments", "White ink", and "Preferences". The "Print Settings" tab is active. It contains the following controls:

- Printer name:** A dropdown menu showing "Ri_3000-07 (192.168.3.69)".
- Platen size:** A dropdown menu showing "Main (14 x 18 in)".
- Quality:** A dropdown menu showing "Fine".
- Variable dot range:** A dropdown menu showing "Narrow".
- Number of copies:** A text input field containing the number "1".
- Bi-directional color printing:** A checked checkbox.

AnaRIP: Functions

Platen Size

- In this drop down you will find all additional platens options. When you select a different table the print area will adjust to the selected platen. All additional platens will be installed directly on the main platen.
 - **(included) Medium Platen – 12.6 x 18 inches**
 - **(optional) Large Platen – 16 X 20 inches**
 - **(optional) Small Platen – 10.5 X 13 inches**



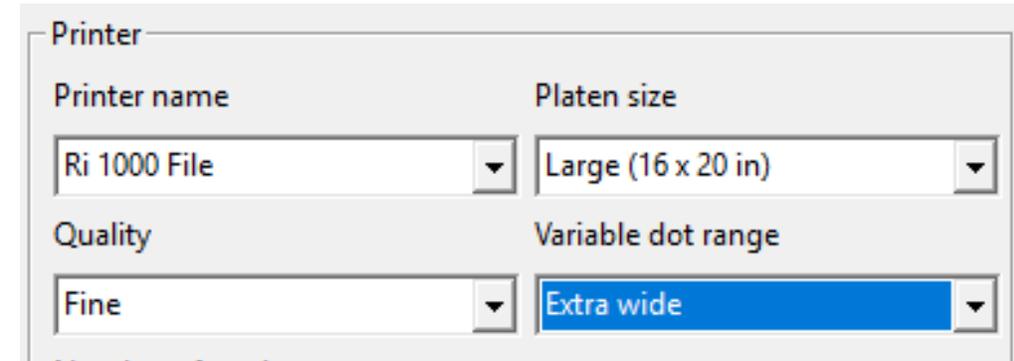
	Platen size
File	Medium (12.6 x 18 in)
	Large (16 x 20 in)
	Medium (12.6 x 18 in)
	Small (10.5 x 13 in)

AnaRIP: Functions

Quality Setting

- Each quality setting will give you a different level of saturation. By default the setting will be at **FINE**. This setting will give you the best results.
 - **Speed** – Can be used to achieve an acceptable print but CMYK nozzle check must be 100% (not recommended for solid colors)
 - **Fine** – Will give you the best saturation in color and no banding will appear. (recommended)
 - **Super Fine** – Will be used to print graphics which contain fine details. Superfine will print a more even color pass (requires special inkset) ** Not Yet Available in AnaRip 5.2, will be added soon

Recommended setting for quality is FINE. Fine will yield the best color results.



The screenshot shows a software window titled "Printer" with the following settings:

Printer name	Platen size
Ri 1000 File	Large (16 x 20 in)
Quality	Variable dot range
Fine	Extra wide

Printing From the RIP

Printer Settings Tab

- **Variable Dot Range:** Only use **Extra Wide** other drop sizes are used for special, non-standard applications like thinner fabrics (i.e. onesies)

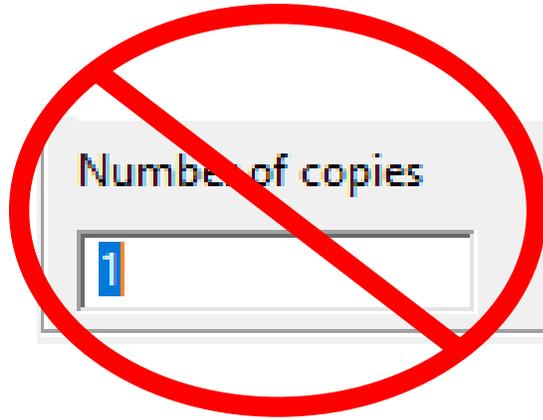
The screenshot shows a 'Printer' settings window with four dropdown menus:

Printer name	Platen size
Ri 1000 File	Large (16 x 20 in)
Quality	Variable dot range
Fine	Extra wide

- **Number of copies:** Disabled for the Ri 1000

- **Bi-directional color printing:** This setting when unchecked slows the printing process by firing the print heads only in one direction. This may be necessary when printing very small images.

AnaRIP: Functions



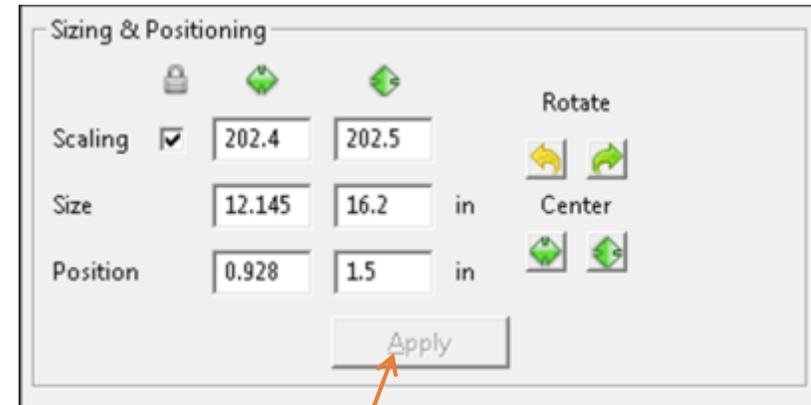
Bi-directional color printing

Bi-directional Printing

- Number of copies – Is disabled for the Ri 1000
- Bi-Directional Color Printing –
 - Checked – When printing the printer will print in both directions. Left to right, and then again coming back Right to left. (faster printing)
 - Unchecked (uni-directional) – When printing the printer will only print in one direction, left to right. When it moves back (right to left) it will not print. (slower printing)
 - **Advantages** – Printing in Unidirectional can potentially give you a more fine print, and in some cases get rid of some banding.
 - Best to use when printing photographs or images with fine details.

AnaRIP: Functions

- **Scaling:** This is the size of your image based on a percentage of it's original size.
- **Size:** Here you can size your image based on the measurement units you selected. If the padlock icon is check the aspect ratio will be maintained.
- **Positioning:** These are the measurements from the top, left of your image to the top, left of the platen.
 - It is recommended to print 1.5" to 2" from the top.
- **Rotation:** The image can be rotated in 90 degree increments using Rotate left and right.
- **Center:** The image may also be automatically centered Horizontally or Vertically.

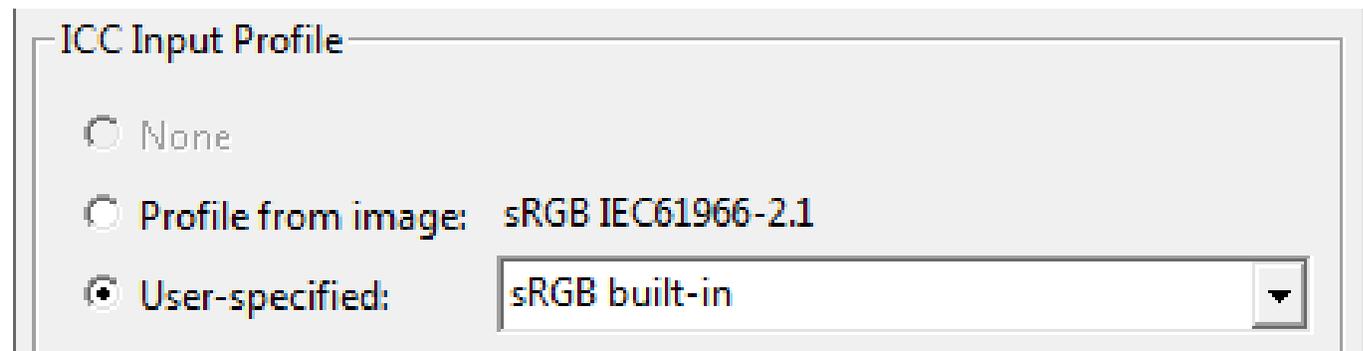


- Hit the Apply button to accept any changes before making another selection

AnaRIP: Functions

Color Adjustments

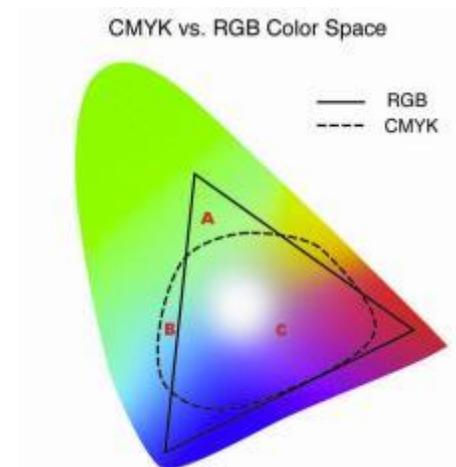
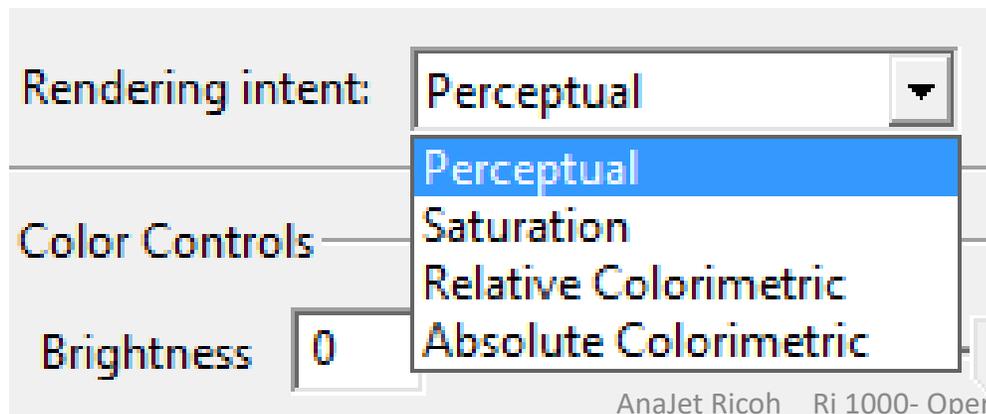
- **ICC Input Profile.**
 - **Profile from Image** - When selected the printer will use the ICC profile embedded in the image. This ICC profile is usually saved with a graphics program like Photoshop, Illustrator or Corel draw.
 - It is best to use the input settings from the image as to not distort the original image.
 - **User-Specific** – here you can select to use a different ICC profile, profiles that have been added or installed will show up in the drop down menu.



AnaRIP: Functions

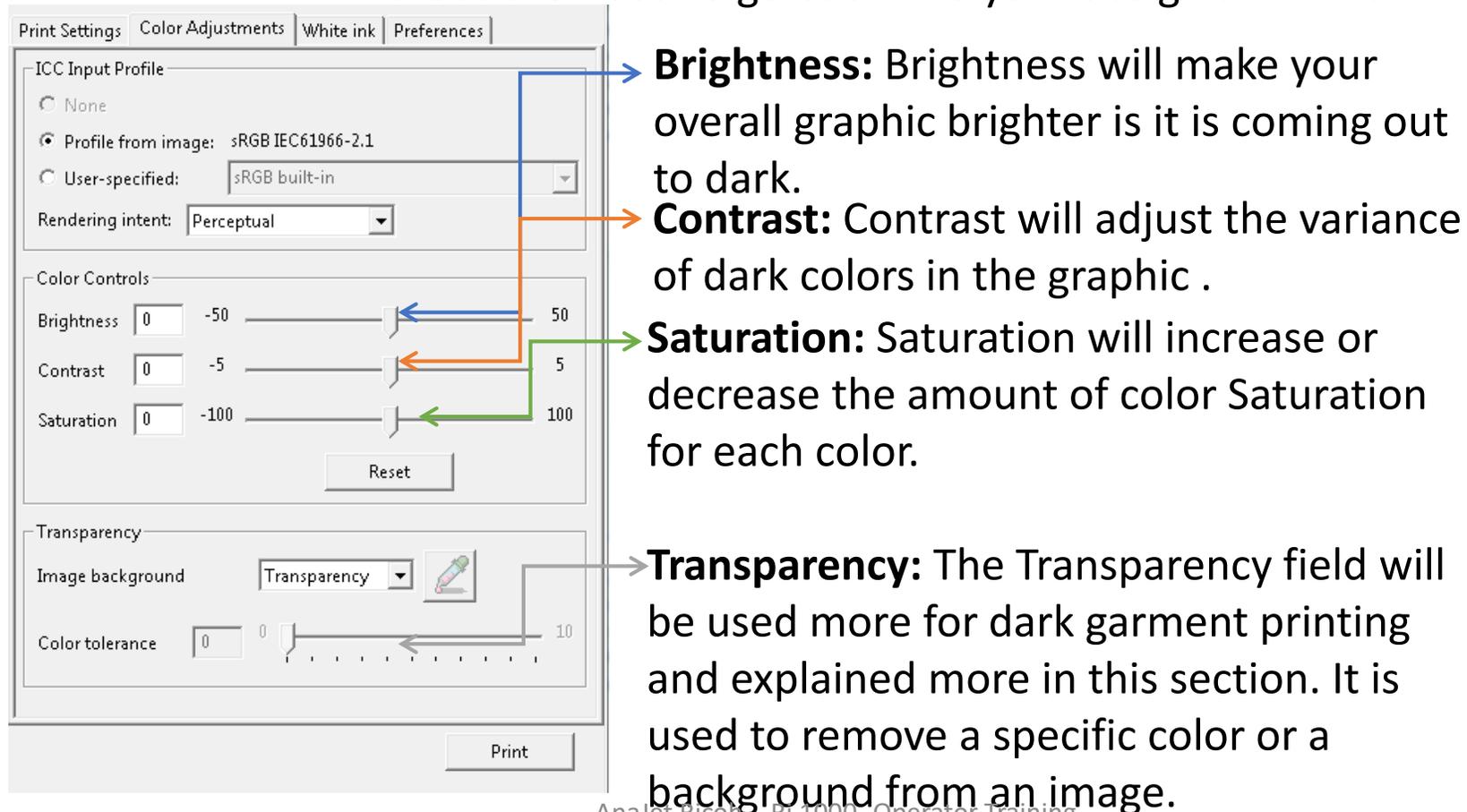
Rendering Intent

- **Perceptual** - This is the recommended setting when printing t-shirts. 90% of the time you will be using perceptual. Will maintain the relative difference between the color shades.
- **Saturation** - Will maintain the primary colors , but will saturate the colors to a higher level. This will increase your ink cost as well.
- **Relative Colorimetric**- Will combine Similar colors out of the gamut into the same color. Not recommended for heavy gradient images.
- **Absolute Colorimetric**- this will also combine similar colors (similar to relative colorimetric), also not recommended for heavy gradient images.



Color Adjustments

With the mPower RIP you can make live preview adjustments to your graphics without the need to go back into your design software.



The screenshot shows the 'Color Adjustments' tab in the mPower RIP software. It features several sections: 'ICC Input Profile' with radio buttons for 'None', 'Profile from image: sRGB IEC61966-2.1', and 'User-specified: sRGB built-in', and a 'Rendering intent' dropdown set to 'Perceptual'. The 'Color Controls' section has three sliders: 'Brightness' (range -50 to 50), 'Contrast' (range -5 to 5), and 'Saturation' (range -100 to 100). Below these is a 'Reset' button. The 'Transparency' section includes an 'Image background' dropdown set to 'Transparency' and a 'Color tolerance' slider (range 0 to 10). A 'Print' button is at the bottom right. Colored arrows point from text boxes to specific controls: a blue arrow from 'Brightness' to the slider, an orange arrow from 'Contrast' to the slider, a green arrow from 'Saturation' to the slider, and a black arrow from 'Transparency' to the dropdown menu.

Brightness: Brightness will make your overall graphic brighter is it is coming out to dark.

Contrast: Contrast will adjust the variance of dark colors in the graphic .

Saturation: Saturation will increase or decrease the amount of color Saturation for each color.

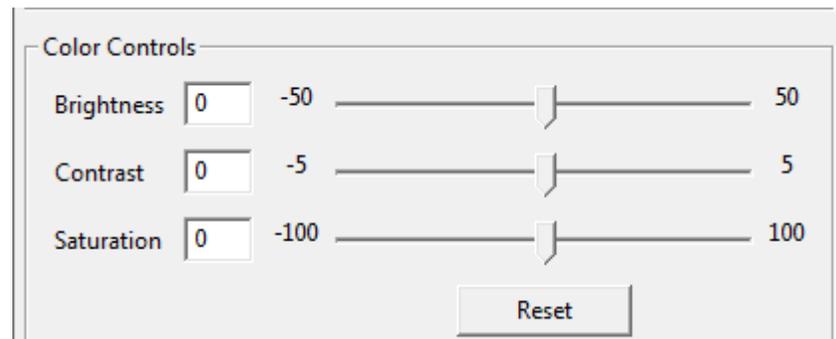
Transparency: The Transparency field will be used more for dark garment printing and explained more in this section. It is used to remove a specific color or a background from an image.

AnaRIP: Functions

Color controls

- **Brightness** - Brightness will make your overall graphic brighter is it is coming out to dark.
- **Contrast**- Contrast will adjust the variance of dark colors in the graphic .
- **Saturation**- Saturation will increase or decrease the amount of color Saturation for each color.
- **Reset button** will move all the slider to there default position at 0.

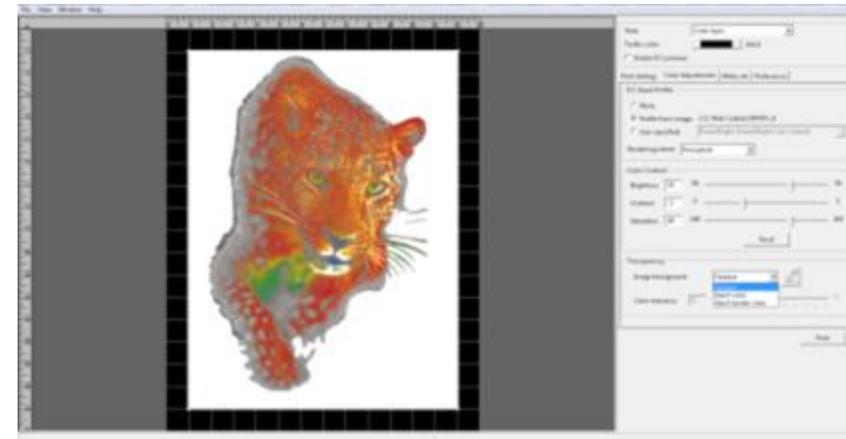
When you adjust these sliders the preview will also change showing you the modification you made and how it will print out.



AnaRIP: Functions

Transparency

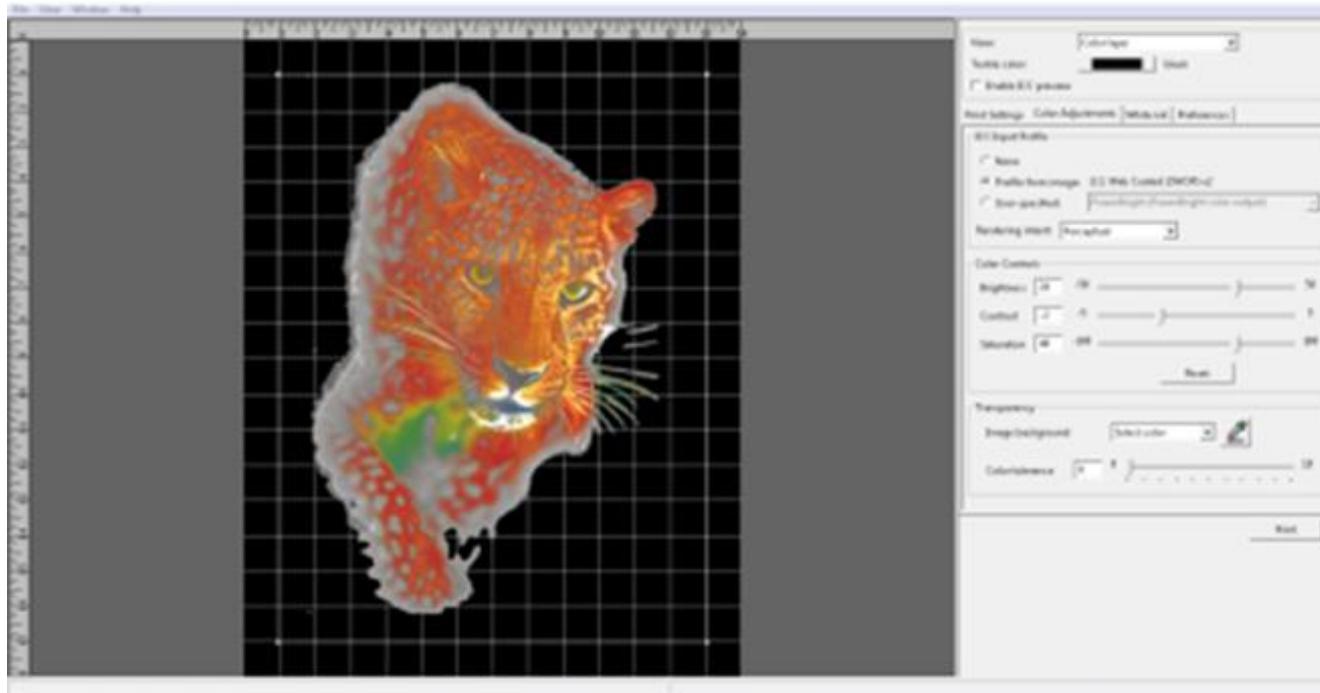
- **Image Background** – This feature will be useful to the background for an image. This feature is mostly useful for dark t-shirt.
 - **Opaque** – Original image, or any colors that you removed will reset back when opaque is used.
 - Transparency – will recognize the original transparency's in the image.
 - **Choose color** – When you select this option an eye dropper will appear, use the eye dropper to click and select a color you want to delete. It will find this color through the image and remove it.
 - **Select Border color** – When you select this option and eye dropper will appear , use the eye dropper to click and select the background to delete the background of the image.



AnaRIP is not an image editing software. The background may not always fully remove. It is best to perform this function in your image editing software.

White Ink Underbase Settings

Color and Background Removal



The background was removed from this image by using the Select Color option.

The Tolerance was set to 10

The Eye Dropper tool was then selected and clicked on the white in the image.

We now have an image ready for a dark garment with the background removed

Setting RIP Program Preferences

Display: Use the adjustments in the display box to adjust your measurement units (inches, points, millimeters or centimeters). You may also enable or disable the display of the grid and rulers.

Ink Cost: Enter the cost of one cartridge of either CMYK or White Ink into the appropriate box. This is what sets the base cost for the ink cost estimator.

Profile: Select the profile of the ink type which you are using. Ricoh Type A will be under the PowerBright Plus color profile.

The screenshot shows the 'Preferences' tab of a software interface. It is divided into several sections:

- Display:** Includes a 'Display units' dropdown menu set to 'inches', 'Grid size' input fields set to '1' x '1' inches, and two checked checkboxes: 'Display grid' and 'Display rulers'.
- Ink Cost:** Features 'Color ink cost' and 'White ink cost' input fields, both containing the value '60.00' and '70.00' respectively. Below these are two checked checkboxes: 'Extended color cartridge' and 'Extended white cartridge'.
- Default Input Profile:** Contains two dropdown menus. The 'RGB profile' is set to 'sRGB built-in' (highlighted in blue), and the 'CMYK profile' is set to 'PowerBright (PowerBright color output)'.
- Completed Jobs:** Includes a 'Maximum number of jobs to keep' input field set to '100' and a 'Delete excess jobs' button.

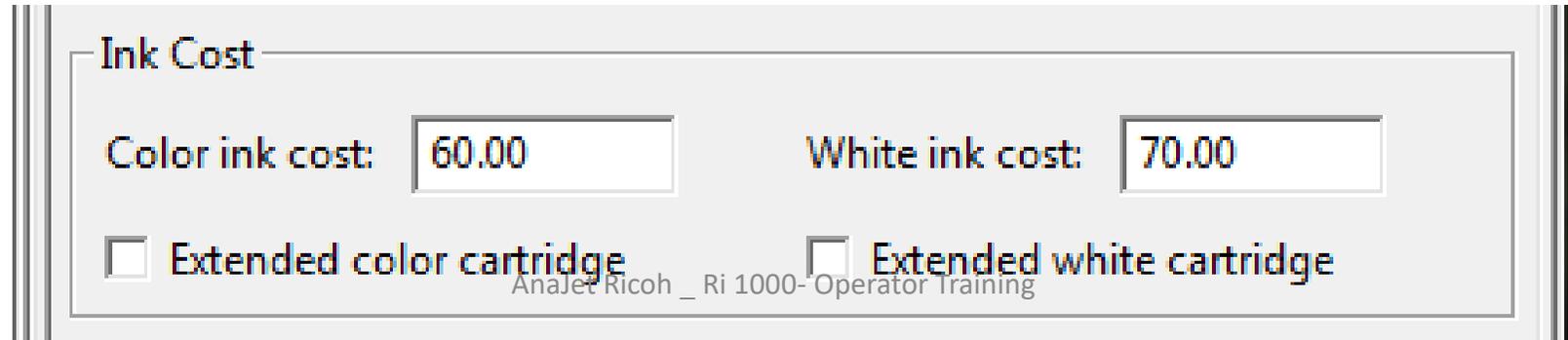
At the bottom of the dialog is an 'Apply' button.

AnaRIP: Preferences Tab

- **Preferences tab** – various settings can be adjusted for the rip.
 - Display units – by default measurements will be done in Inches, you have the option to change this to Centimeters, Points, or Millimeters.
 - Grid Size – size of squares on the grid displayed.
 - Display Grid and Display Rulers – This option can turn off the display of the grid or the rulers.

Ink Cost

- Ink cost can vary depending on size of images or settings used. Use the price for 1 cartridge for CMYK and the price for one white ink cartridge. The RIP will use this price to calculate how much ink is being used for a print. If you are using an extended 440ml cartridge make sure to check the “extended cartridge” option.

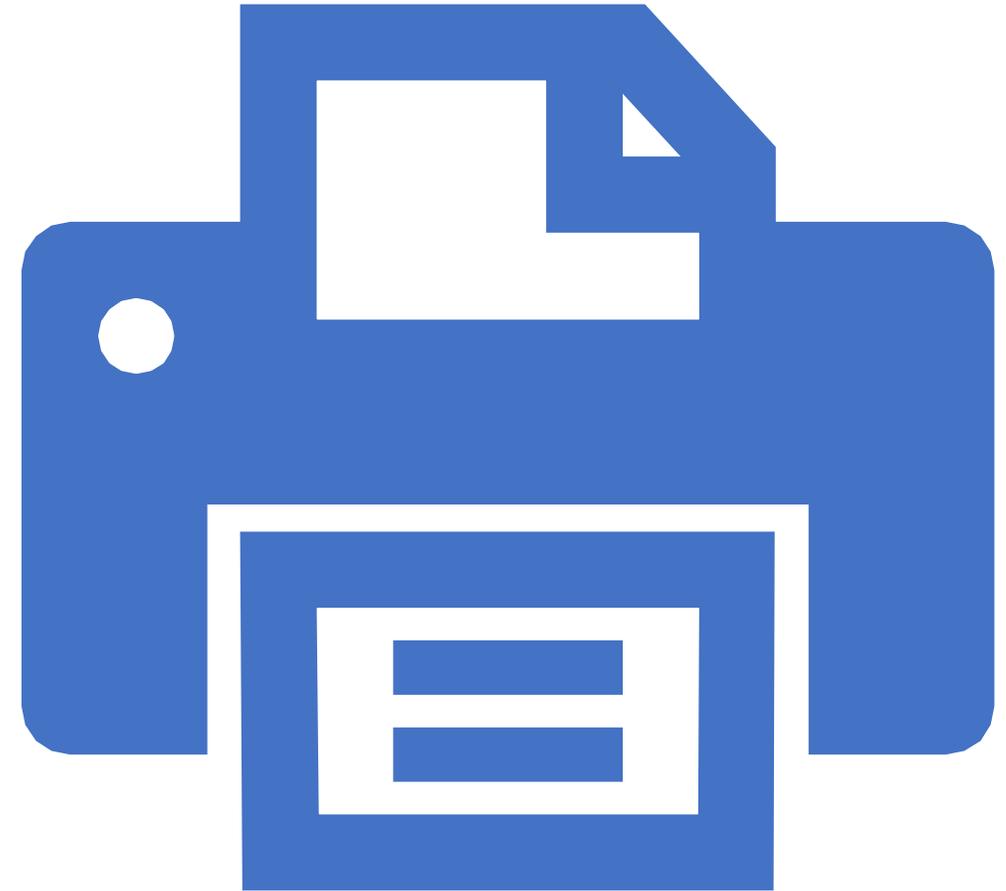


The screenshot shows the 'Ink Cost' section of the AnaRIP software interface. It features two input fields for ink costs: 'Color ink cost' with a value of 60.00 and 'White ink cost' with a value of 70.00. Below these fields are two checkboxes: 'Extended color cartridge' and 'Extended white cartridge', both of which are currently unchecked. The text 'AnaJet Ricoh _ Ri 1000- Operator Training' is visible at the bottom of the window.

Knowledge Check

- What ways can a job be sent to the Ri 1000?
- What Platen Sizes are available ?
- Where do I add my printer from?
- Can I use multiple images inside AnaRip?
- What are the four tabs in AnaRip?

Selecting Print Job From Printer





Choose Job Location



squares few highlight

Platen 319.1 x 457.2 mm (Custom)
White 600 x 1200 DPI 8 Pass
Mixed 600 x 600 DPI 8 Pass

2018/07/25 10:36:02



fine EW highlight

Platen 319.1 x 457.2 mm (Custom)
White 600 x 1200 DPI 8 Pass
Mixed 600 x 600 DPI 8 Pass

2018/07/25 10:31:45



highlight

Platen 319.1 x 474.7 mm (Custom)
White 600 x 1200 DPI 8 Pass
Mixed 600 x 600 DPI 8 Pass

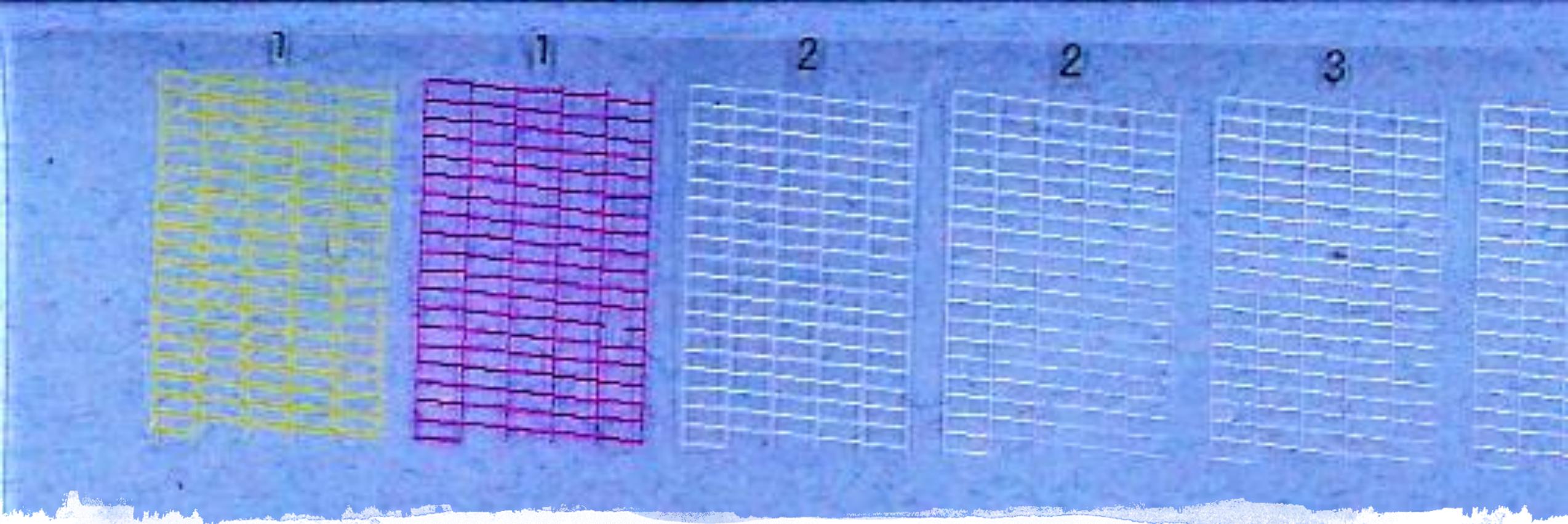
2018/07/25 10:23:06

Choose Desired Job & Select PRINT

Delete

Print

Return

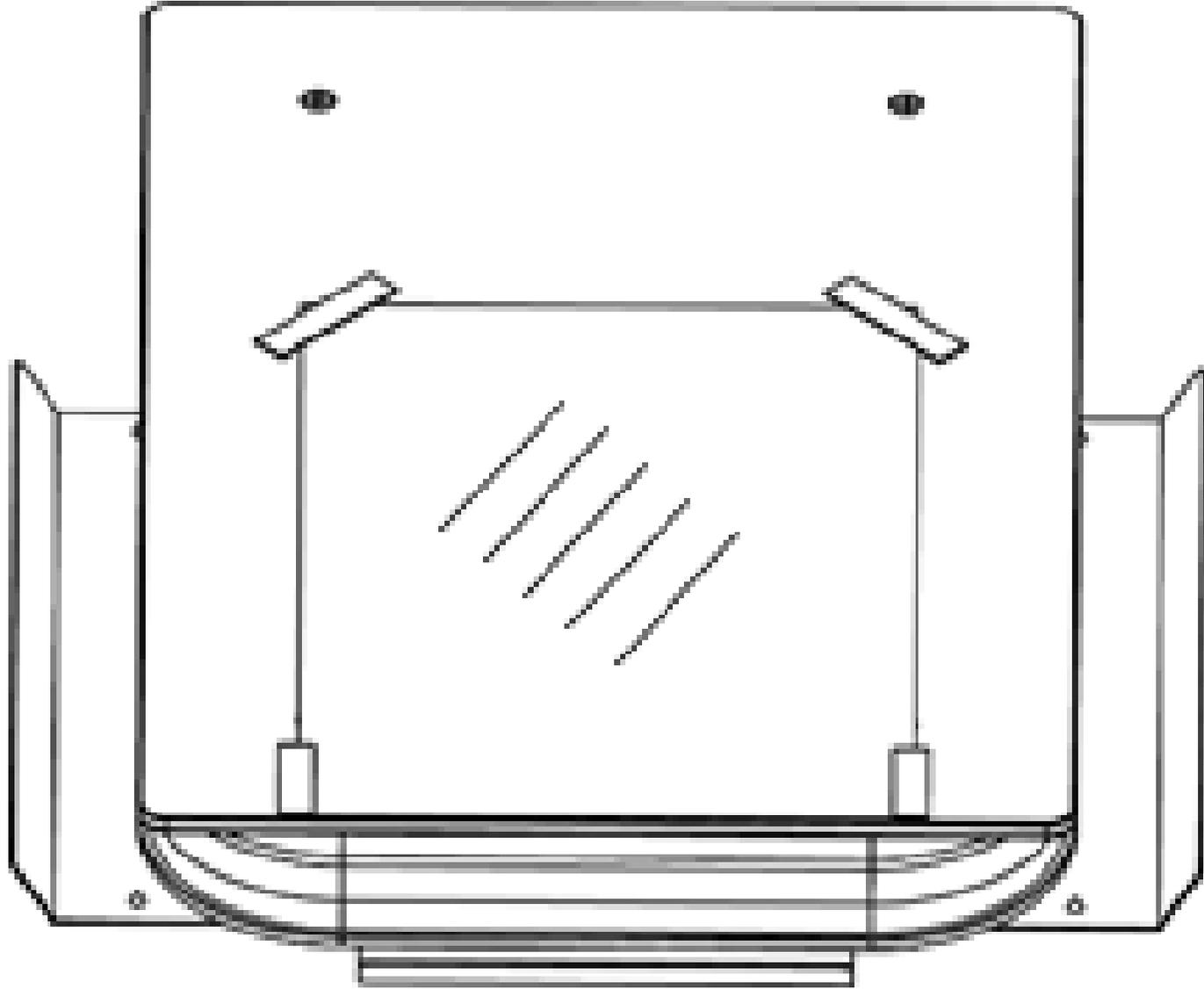


Preparing the printer for printing.

- **NOZZLE CHECK !** – before any printing can be done we must first print the nozzle check. The nozzle check will tell us the current state of the print head and whether we need to do any head cleans.

* A bad nozzle check will result in bad quality prints, or banding may appear as well.

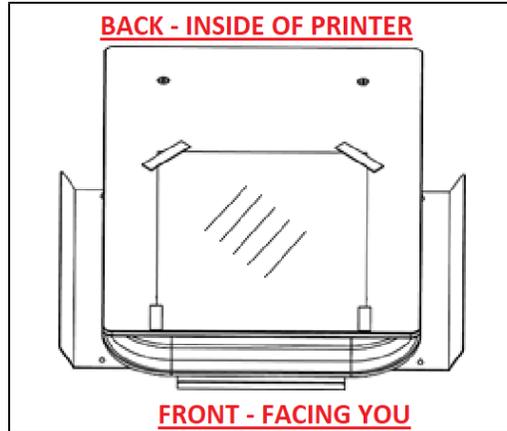
BACK - INSIDE OF PRINTER



Over Head
Projector
Screen: On
Print Table

FRONT - FACING YOU

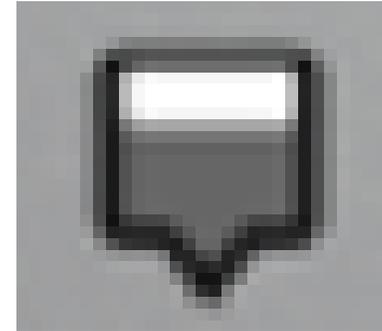
Perform Nozzle Check



Step 1 – Place OHP Screen on table



Step 2 – Click Set

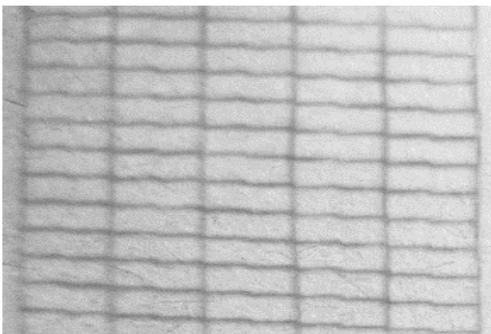


Step 3- Click Maintenance Tab

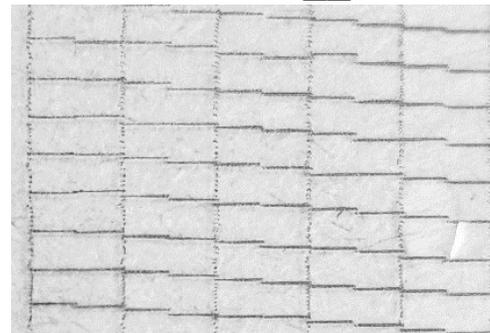


Step 4- Click Nozzle Check

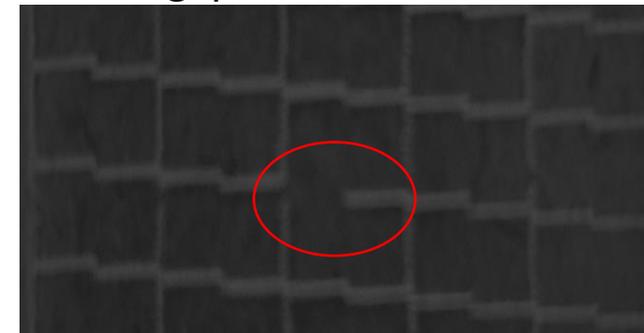
Perfect Nozzle Check



Nozzle Deflection:
When horizontal lines
are uneven --- _



Clogged Nozzle: When the
horizontal lines have small or
minor gaps -- --



Bad Nozzle? Check the Following:

- Make sure table is within 1.5mm of the printhead (or as close as possible) Using the obstruction sensor, make sure your print table is as close as possible without triggering the obstruction detected.
- Perform a Head clean based on the color/channel experiencing a missing nozzle

- Your printer performs automatic maintenance routines based on time and use. Because of this your machine is almost always ready to print when you need it. However, it is also a best practice to perform a nozzle check prior to printing.



Period	Perform
Every 1 hour	White ink circulation
Every 3 hours	White channel cleaning
Every 12 hours	All channel cleaning
	Alarm agitating white cartridge
Every 7days	Alarm manual cleaning

❖ **WARNING!** Auto maintenance will not perform if the following conditions occur:

- * Ink cartridge is missing or reading 0%
- * CR encoder error
- * Any Service call message (see trouble shooting guide)
- * Front cover is open
- * The ink bay has been opened for maintenance

If the auto maintenance is not being performed, then the print heads can get clogged



Auto Head Clean

Choose
Appropriate
Head Clean
Option



Clean All CMYKWW : Normal
A few missing nozzles in all channels

Choose
Appropriate
Head Clean
Option



Clean All CMYKWW : **Strong**

A lot of missing nozzles in all channels

Choose
Appropriate
Head Clean
Option



Clean All CMYK : Normal

A Few missing nozzles in all CMYK channels

Choose
Appropriate
Head Clean
Option



Clean All CMYK : **Strong**

A lot of missing nozzles in all CMYK channels

Choose
Appropriate
Head Clean
Option



Clean W1 W2 : Normal

A few missing nozzles in W1 and W2

Choose
Appropriate
Head Clean
Option



Clean W1 W2 : **Strong**

A lot of missing nozzles in W1 and W2



Pretreating Dark Colored Substrates

Pretreatment

- **What Pretreatment does.**
Pretreatment is a primer/bonding agent that is ***only necessary when using white ink.***
(MSDS Ingredients list available).
- **Required tools**
A sprayer that can spray a fine mist, A Wagner HVLP (High Volume Low Pressure) sprayer is recommended, you can also use another type of HVLP Sprayer.
- **Application Procedure**
Mix the pretreatment with distilled water at a 2 to 1 ratio and ***apply an even coat*** to the point where the garment looks wet but not soaked. Be sure to squeegee in one direction to get even coverage and to flatten the fibers of the garment.
- **Drying options**
Line dry, Flash Dry, Conveyer dry, or heat press by hovering the heating element above the garment.
- **Storage**
Once completely dry, shirts can be folded and stored until needed.

Pretreatment

Application Procedure

- ✓ Apply Pretreatment in slow EVEN passes.
- ✓ Look for an EVEN wet sheen across the area that requires pretreatment.
- ✓ If the pretreatment begins to run, puddle or drip you are applying more than needed.
- ✓ Even out the pretreatment and flatten the garment fibers using a card squeegee to assure EVEN coverage.



Pretreatment Tips

1. One hand length above t-shirt
2. Keep the trigger press the entire time
3. Remain in 1 direction, side to side or top to bottom
4. A 1 in. roller can be used in place of the squeegee for more even pressure
5. When pretreating both front and back, they must be done separately . Let one side completely dry before pretreating the opposite side of the t-shirt.
6. Always pre-press garments before printing to laydown fibers

Pretreatment

What not to do:

When drying the pretreated garment with a heat press, be sure to hover the heating element above. If you clamp the press down, you may cause the pretreatment to glaze as shown below.



Pretreatment



Wet shirt



Press paper



Manually press for 3 sec



Release for 5 sec

3x



Solution to absorb moisture

Last step is 10 sec full pressure and result is dry without glaze.....

Caution:

- When drying the pretreated garment with a heat press, be sure to follow the steps above. If you clamp the press down, you may cause the pretreatment to glaze as shown.



Pretreatment

Effects of poor pretreatment:

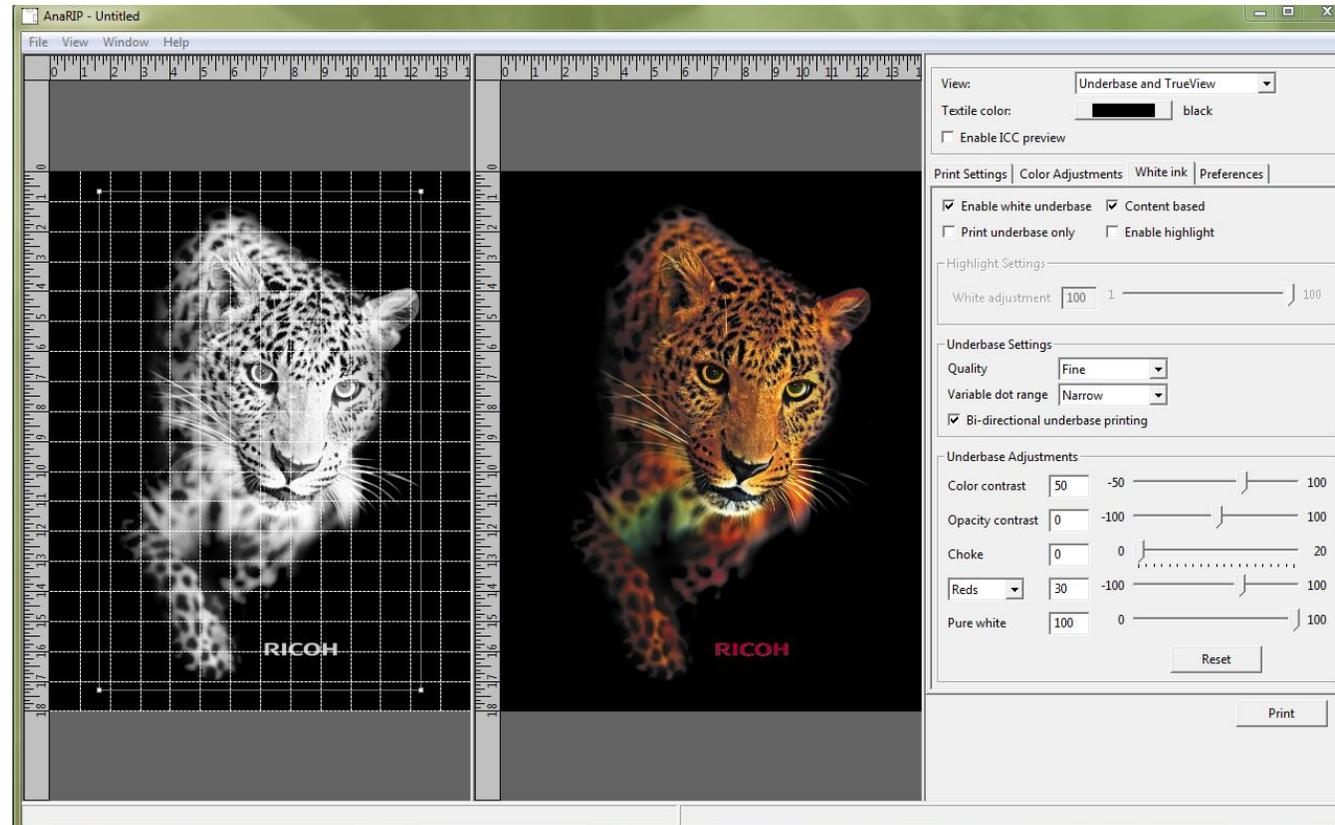
In this case the pretreatment was applied **unevenly** with the lighter areas allowing the white ink to soak into the fabric causing a mottled appearance.



A large, dark blue ink splatter or blotch is centered on a white background. The splatter has irregular, feathered edges and contains several smaller, lighter blue spots and streaks. The text is centered within the dark blue area.

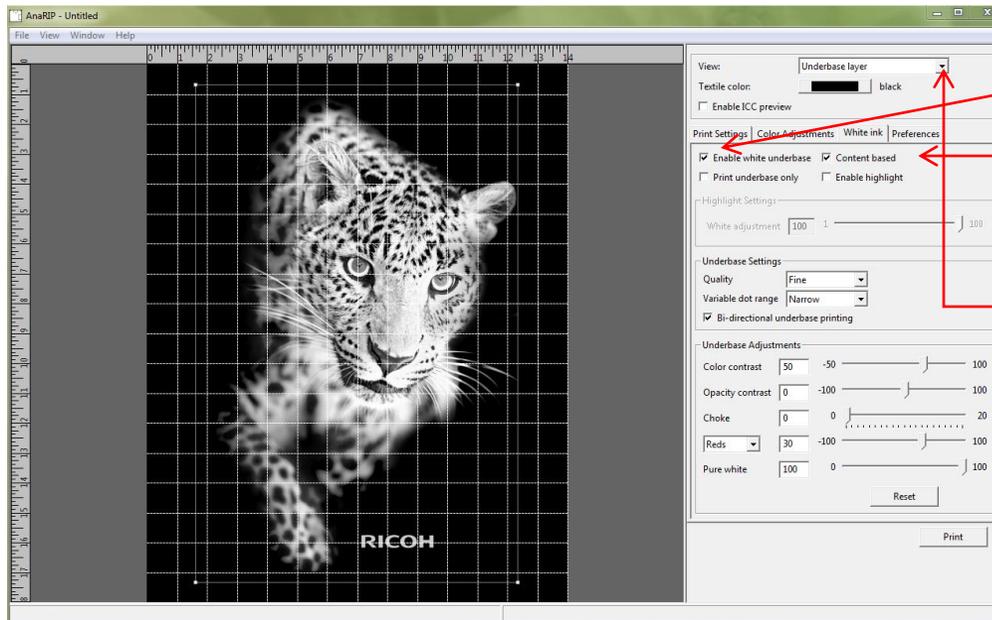
Dark Shirt AnaRip Settings

RIP Software Settings



Place your image into the rip program the same way as done before in Light Shirt Printing

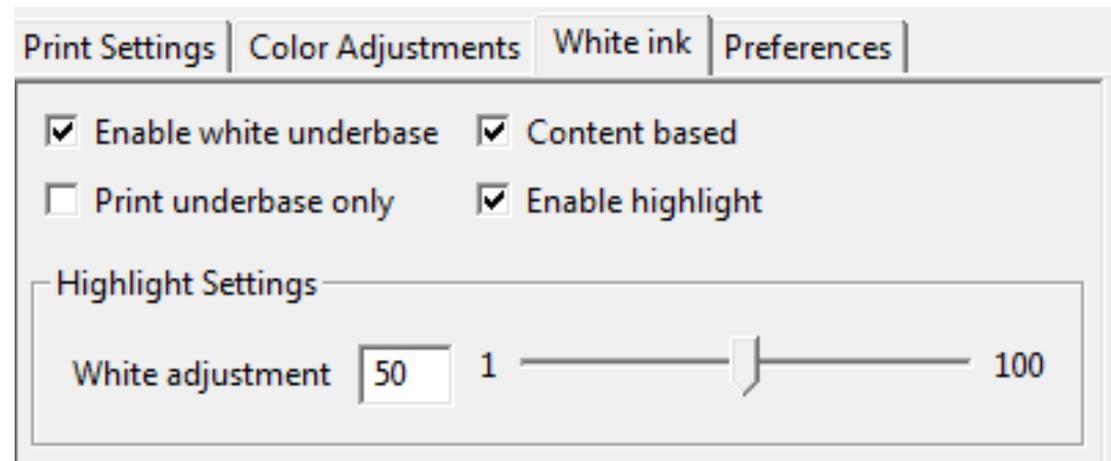
White Ink Underbase Controls



- Click White Ink Underbase Enabled.
- Content Base should be clicked also for most efficient White ink underbase.
- You can view your image Underbase or Foreground color by selecting the view.

White Ink Underbase Settings

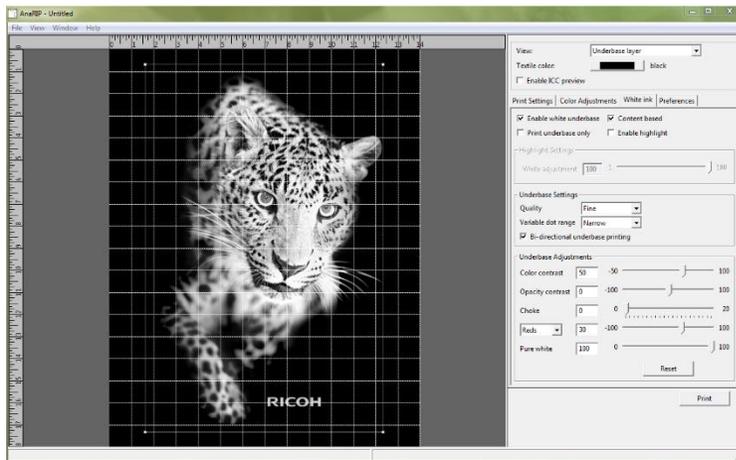
Enable Highlight



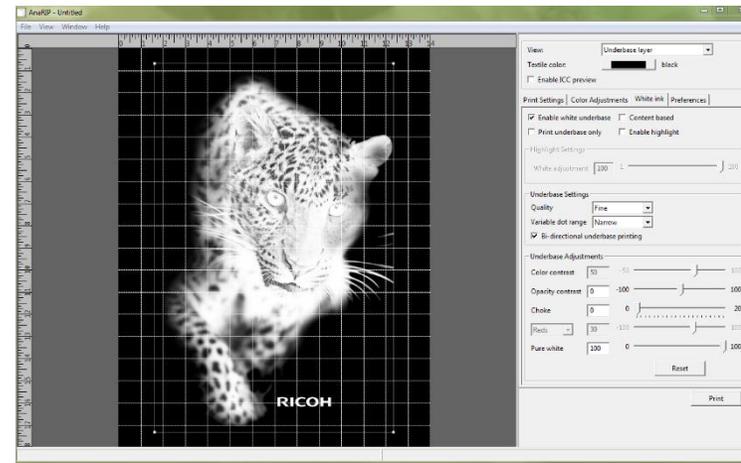
- **Enable Highlight** adds a second layer of white during the color pass to the image where there is pure white ink only.
- The slider controls the percentage of white ink which is laid down during the second pass to prevent pooling.

White Ink Underbase Settings

White Ink Underbase Preview



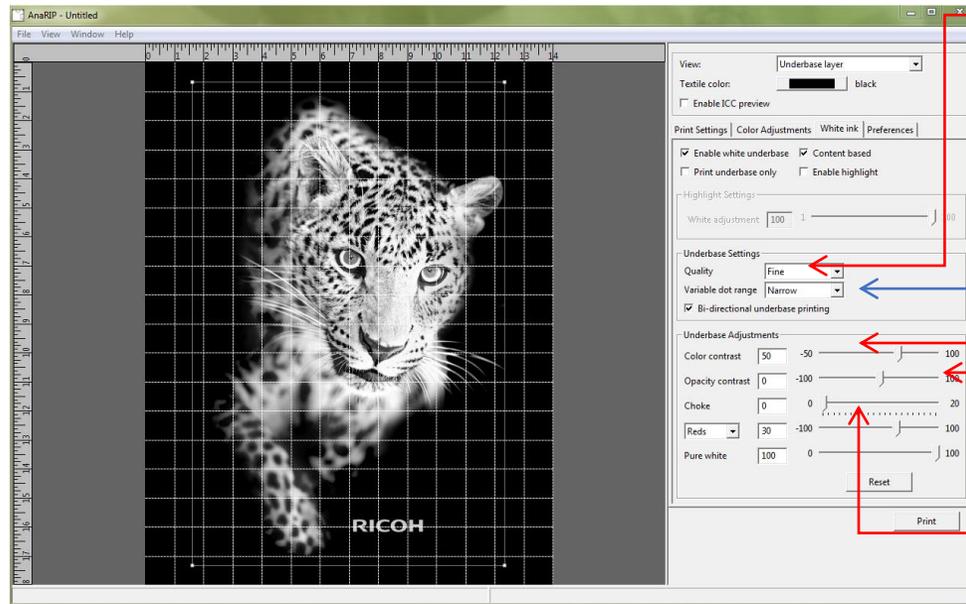
Content Based



Not Content Based

White Ink Underbase Settings

White Base Ink Control



• **Quality**- should be set to the default value of Fine

• **Dot Range** should be set to **Extra Wide**

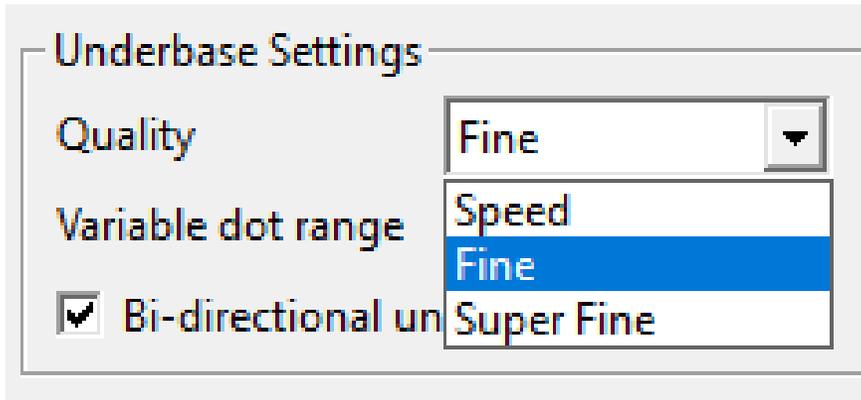
• **Color Contrast** will adjust how much white ink is printed for lighter and darker colors. 100 % will give you the most white. The more the slider is moved to the left the less white is used.

• **Opacity Contrast** will help give you a softer blend into the garment if your images has a transparent or fading edge like in the image shown. Move the Slider right to soften and to the left for a harder edge.

• **Choke** should be set to the default value of 1, if you notice any white ink outside the edge of the print the value will need to be increased. What choke does is compensate for the swelling of white ink when printed.

White Ink Underbase Settings

White Base Quality and Variable Dot Range Settings



Quality

- **Speed** – used for test printing
- **Fine** – Default mode, used for general printing
- **Super Fine** – Used for heavy white ink applications

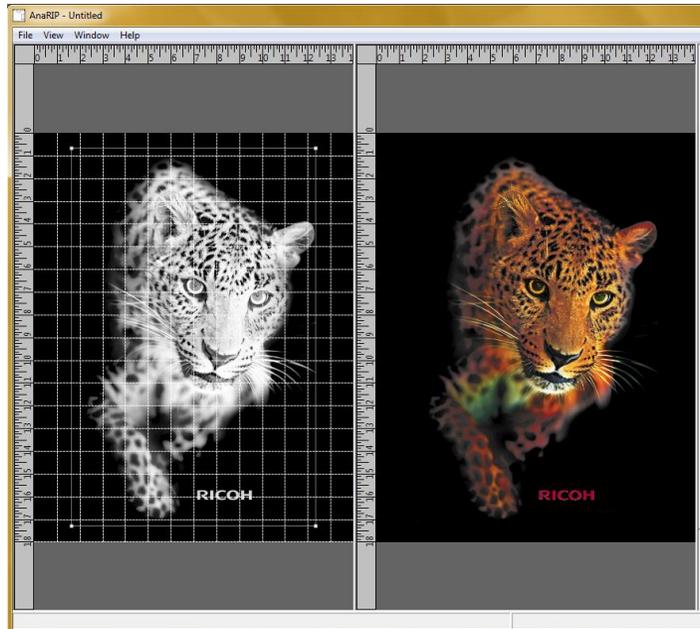
*Not Yet Available in 5.2 but will be added soon

Variable Dot Range

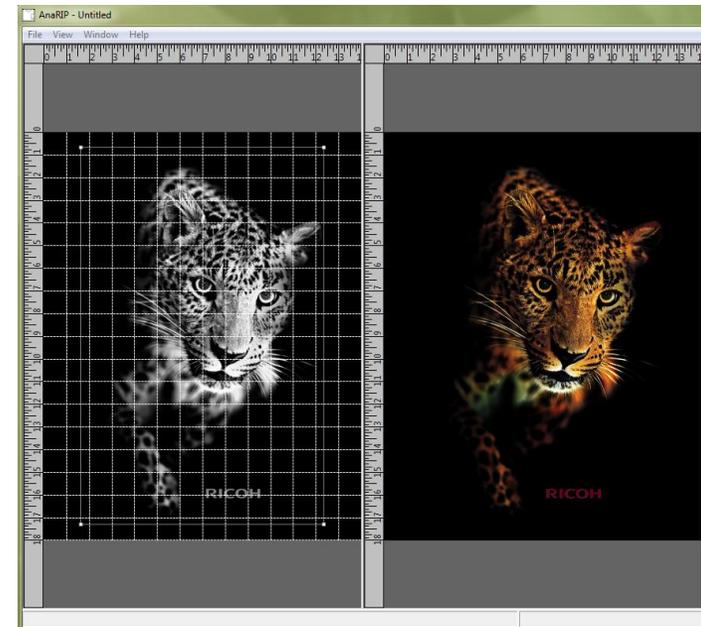
Extra Wide – Default for white underbase

White Ink Underbase Settings

White Base Color Contrast Settings



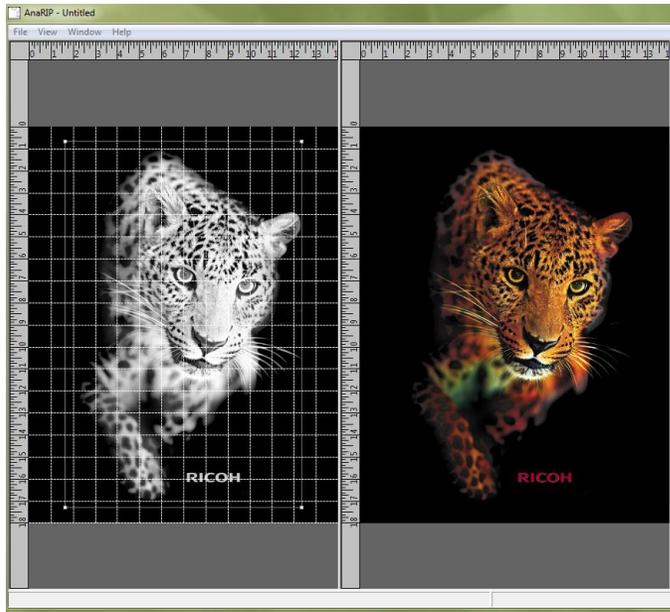
Contrast +100



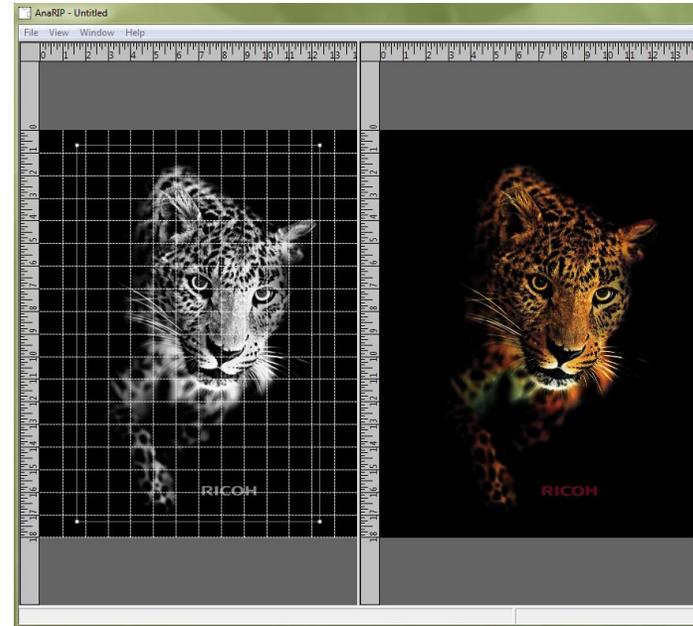
Contrast -50

White Ink Underbase Settings

White Base Color Contrast Settings



Opacity +100



Opacity -50

White Ink Underbase Settings

White Base Ink Control

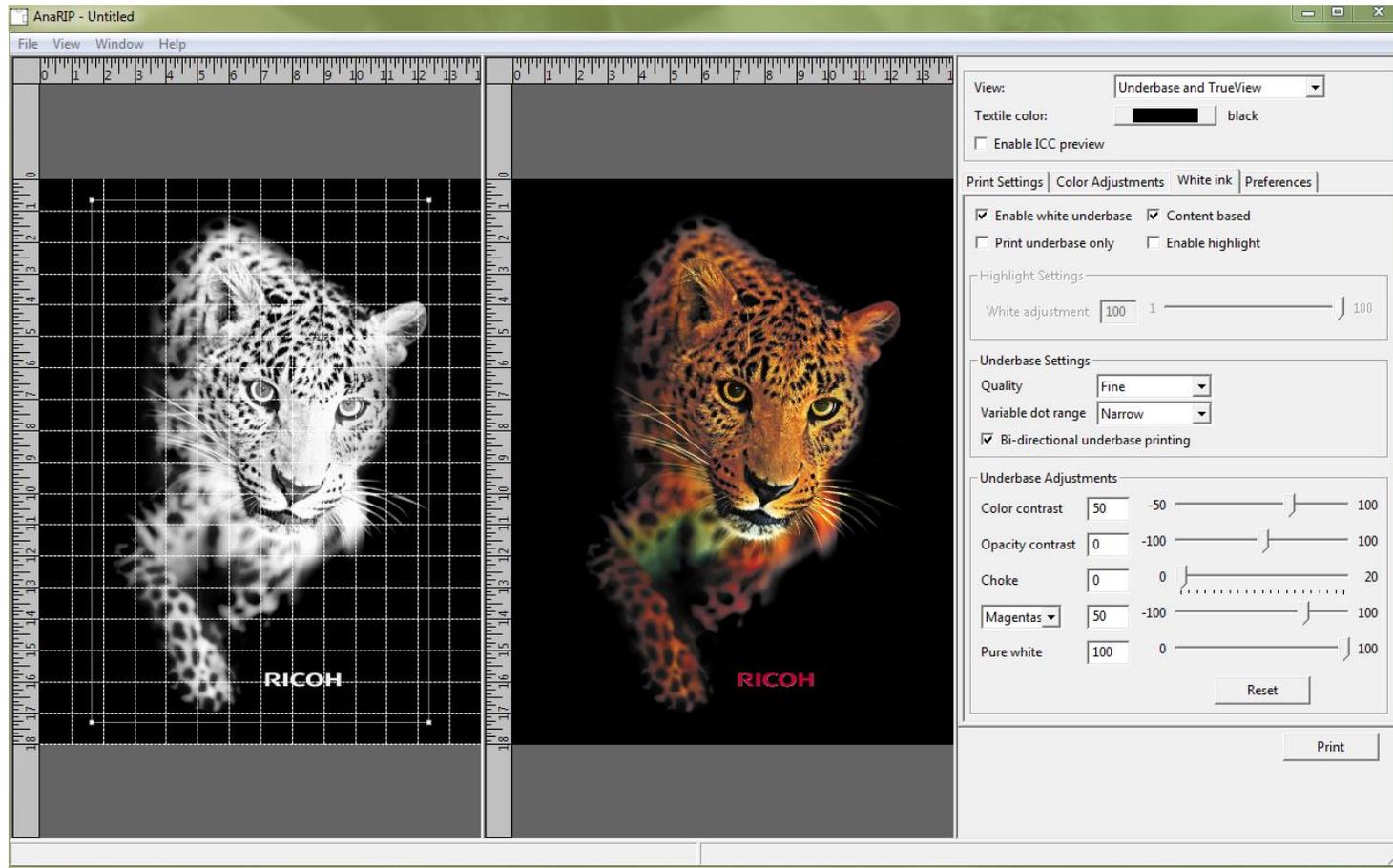
Underbase Adjustments

Color contrast	<input type="text" value="50"/>	-50		100
Opacity contrast	<input type="text" value="0"/>	-100		100
Choke	<input type="text" value="0"/>	0		20
<input type="text" value="Reds"/>	<input type="text" value="30"/>	-100		100
<input type="text" value="100"/>	<input type="text" value="100"/>	0		100

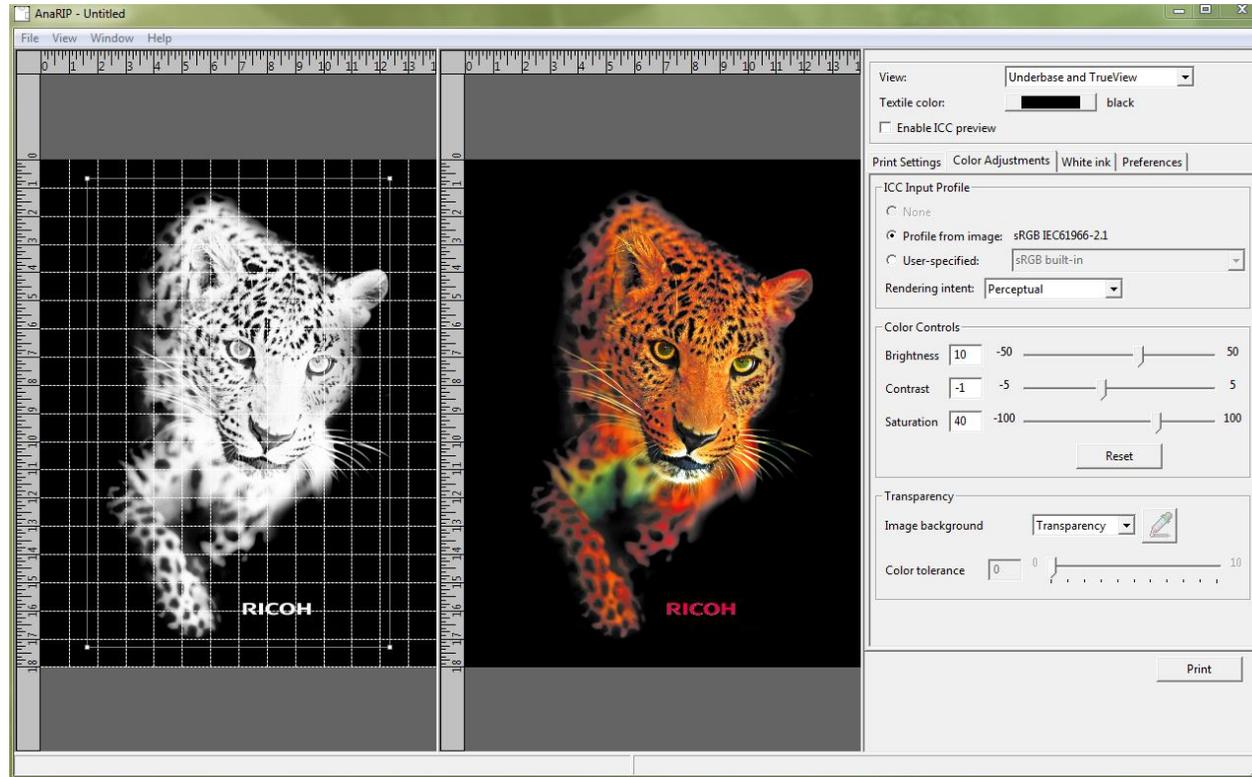
- This drop down menu allows for white Underbase adjustment under the specific color.
- As opposed to a non-content based image to improve color quality, this tool allows for adjustments just where they are needed to keep white ink cost low.

White Ink Underbase Settings

Magenta – 50



White Ink Underbase Settings

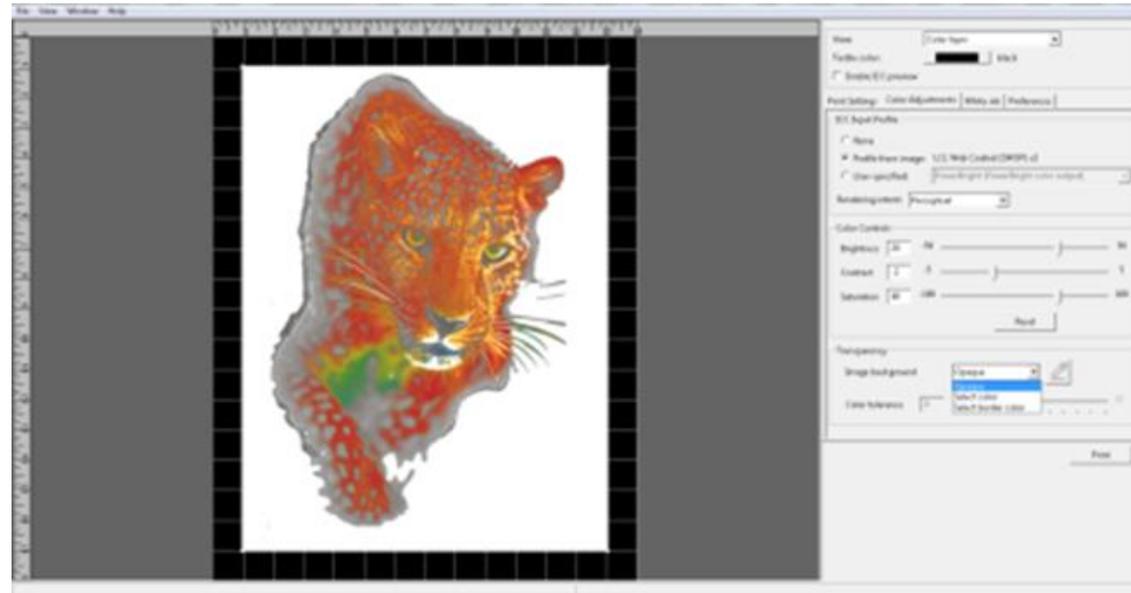


After the Underbase adjustment, be sure to adjust the color layer as needed under the color adjustments tab.

White Ink Underbase Settings

Color and Background Removal

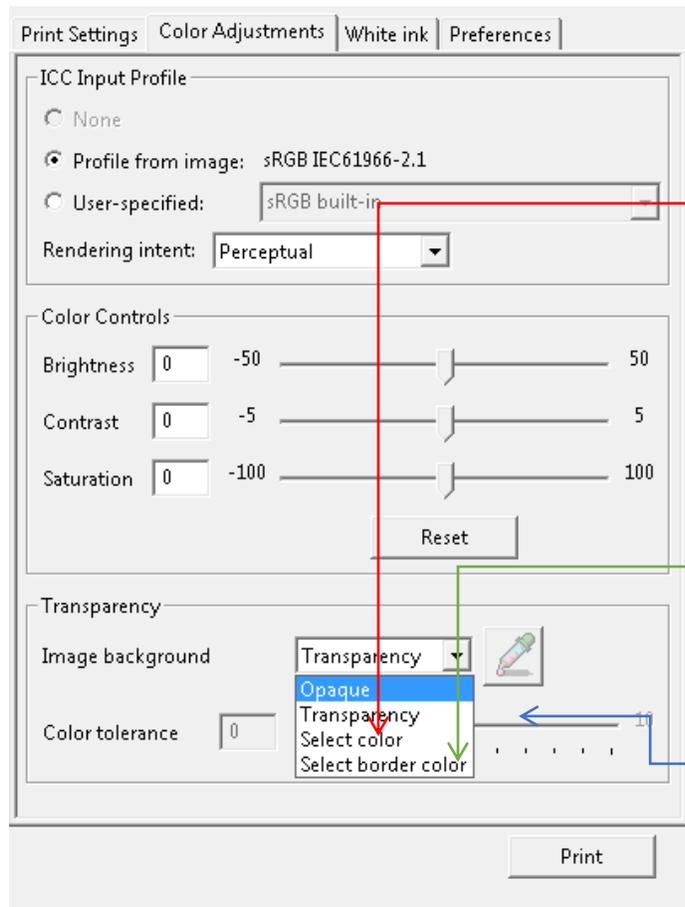
One of the great features in the mPower RIP is color and background removal tools. Keep in mind that the best form of any editing will be a program like Photoshop.



This is a jpeg image that has a solid white background. Because we are printing on a black shirt we will need to remove its white background. An image like this will show as Opaque in the Image Background field, this is because it is a jpeg image and will always have a solid white background.

White Ink Underbase Settings

Color and Background Removal



To remove a color or background select the drop down list in the Image Background field.

Select Color- will remove an entire color from an image.

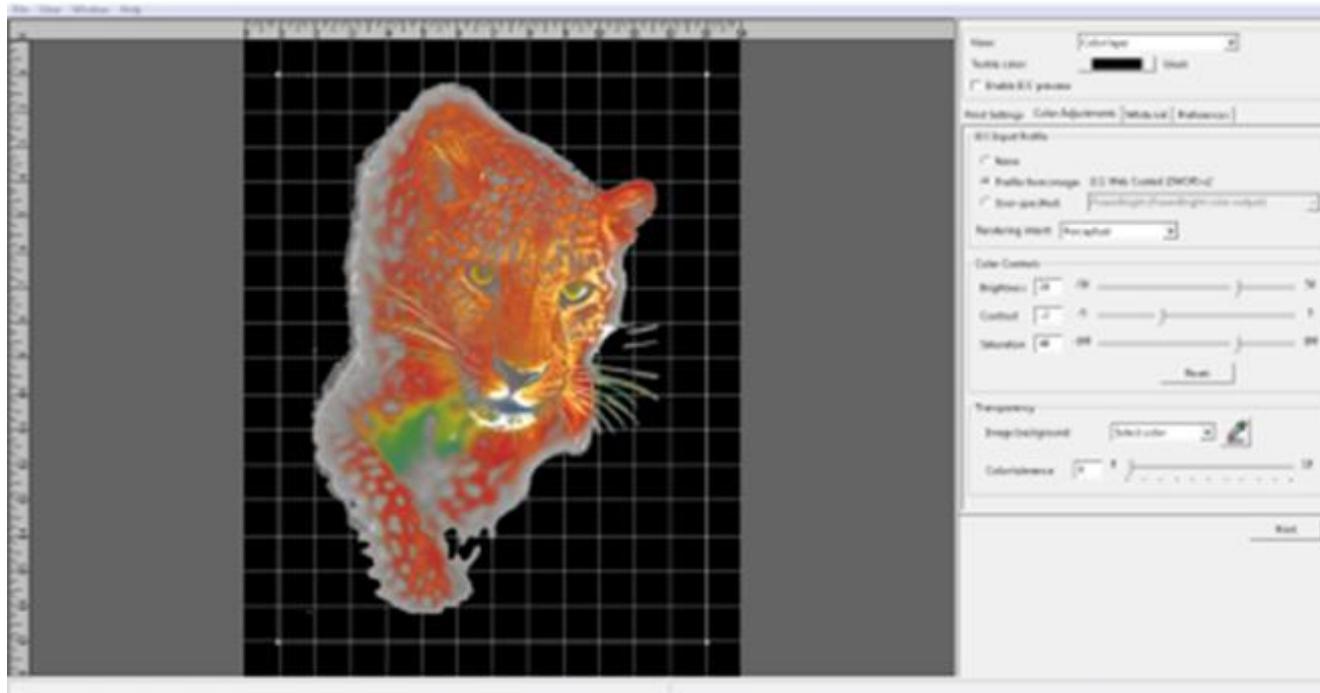
Select Border Color- will remove a color like white up to the edge of the graphic.

Once you have selected one of these options click on the Eye dropper tool and then click on the color or area you would like to remove

Color Tolerance- If you still see some of the color left over after using the color tolerance, try pushing up the slider bar. This will give more of a range to the color it is removing.

White Ink Underbase Settings

Color and Background Removal



The background was removed from this image by using the Select Color option.

The Tolerance was set to 10

The Eye Dropper tool was then selected and clicked on the white in the image.

We now have an image ready for a dark garment with the background removed

Please note- With some graphics using Photoshop to edit them may give you better results

White Ink Underbase Settings

Color Layer Wait Time/ White Drying Time

The Printer will first print the White layer, once completed the printer will print the Color Pass. Since the white under base layer may not be dry enough to receive the color layer, there is an adjustment on the printers job window to set a wait time before the color layer is printed. By default it is set to 0.

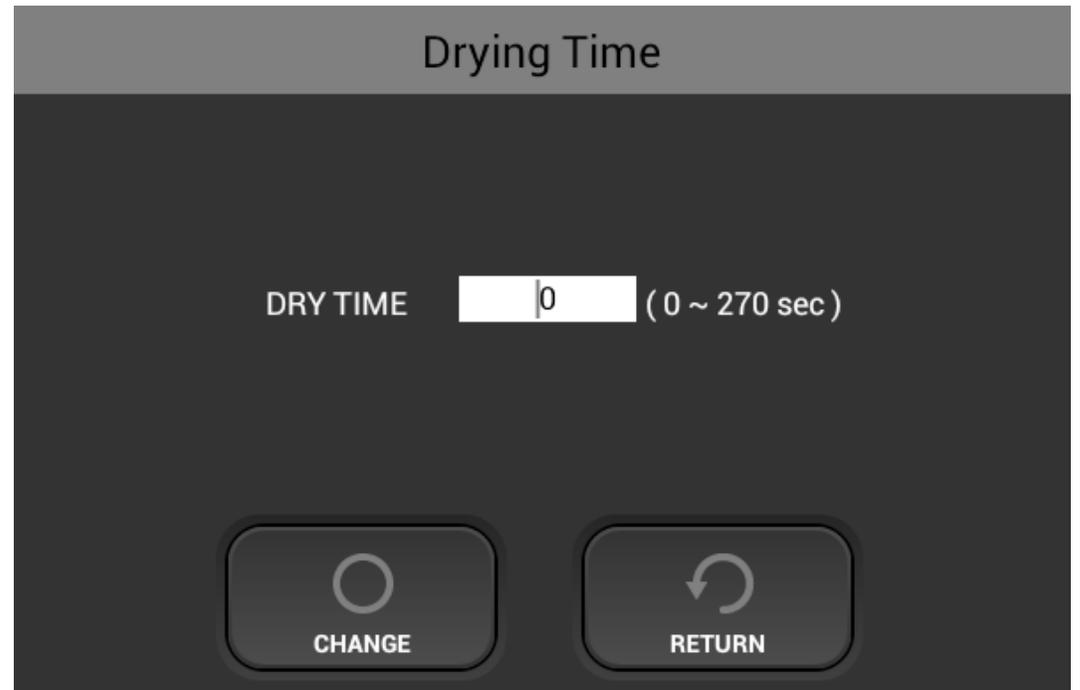
Go to Settings Tab



Select Drying Time Icon



Enter the desired dry time in seconds (up to 270 secs. and select change



Printing with Foils

- High Pressure is required
- Foil is to be placed color side up
- It is best to color match when using foils
- A pressure mat or t-shirts may be need to achieve higher pressure

The Golden Rule

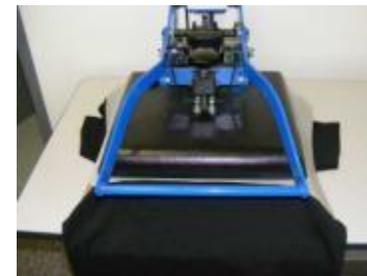
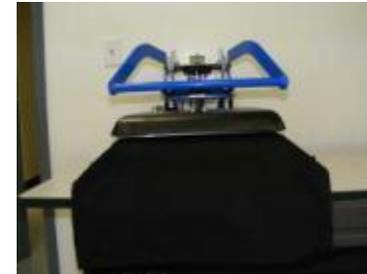
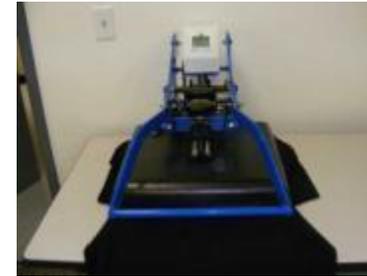
ALWAYS USE THE MINIMUM AMOUNT OF WHITE INK
THAT IS COMMERCIALY ACCEPTABLE.

(This saves you money on ink cost, while being acceptable to your
customer.)



Heat Press Settings

- Before printing on dark garments it is necessary to first flatten the fibers of the pretreated garment by putting it in the heat press and clamping down for about 5 seconds.
- After the garment is printed, place it on the heat press and hover the heat element over the garment by approximately ½" (15mm) for about 15 seconds.
(This procedure allows the layers of ink to set up before applying pressure, keeping the white underbase layer from pushing up through the color layer fading the image.)
- Place the heat press sheet on the garment and clamp down the heat press with medium pressure for 90 seconds at 330°F, 165°C. **These heat and time settings are crucial to the washability of your graphic.**



Knowledge Check

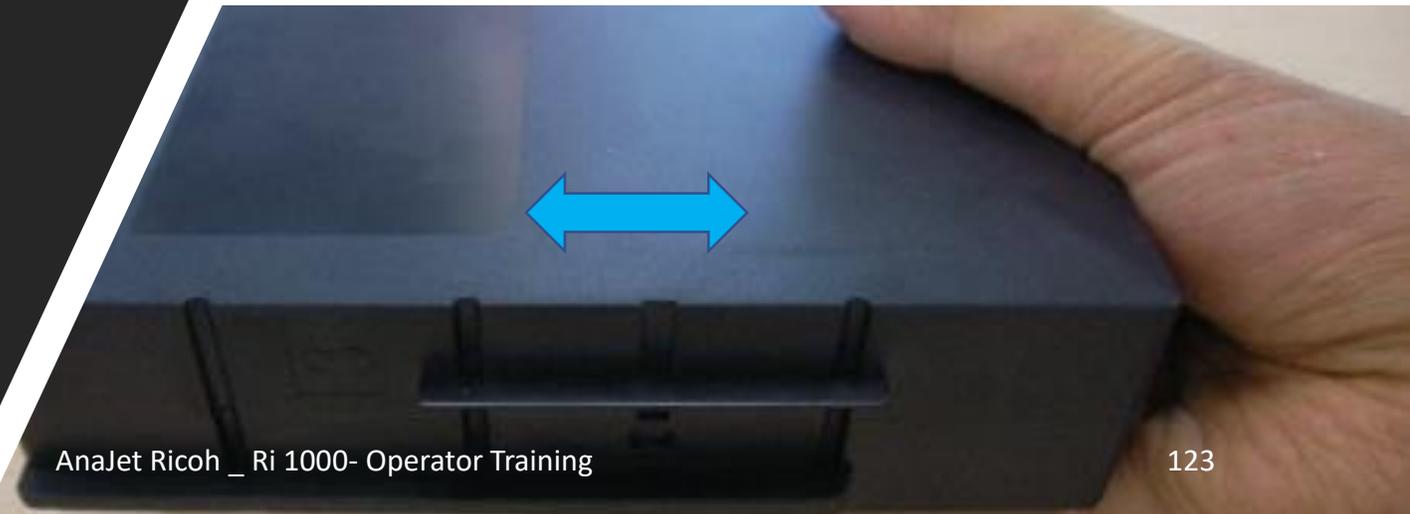
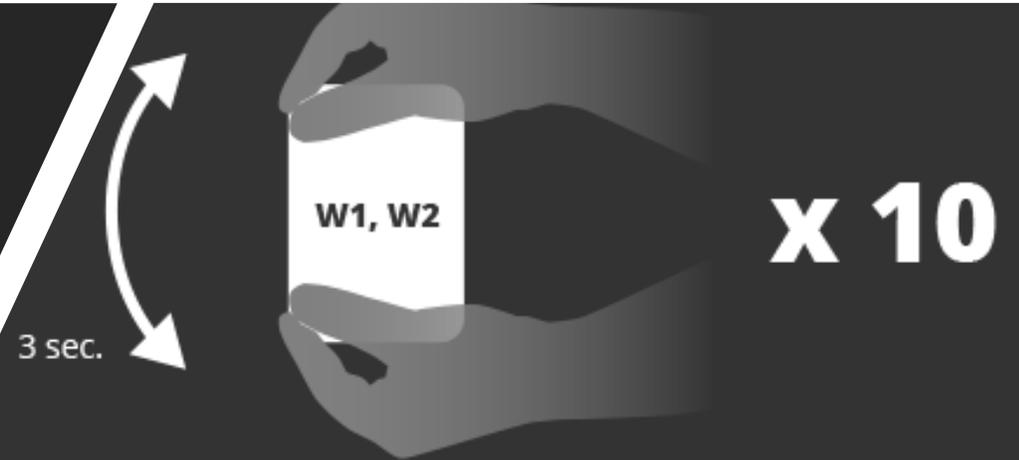
1. What is the purpose of pre-treating garments?
2. How do you access the white ink underbase settings?
3. What does “Content Based” do?
4. When would you use the Choke settings? When would you not?
5. What’s the Golden Rule when printing dark garments?
6. What are the correct Heat Press Settings, and what does heating do?
7. What should you do before printing with white ink?

Daily, Weekly, Monthly
Maintenance



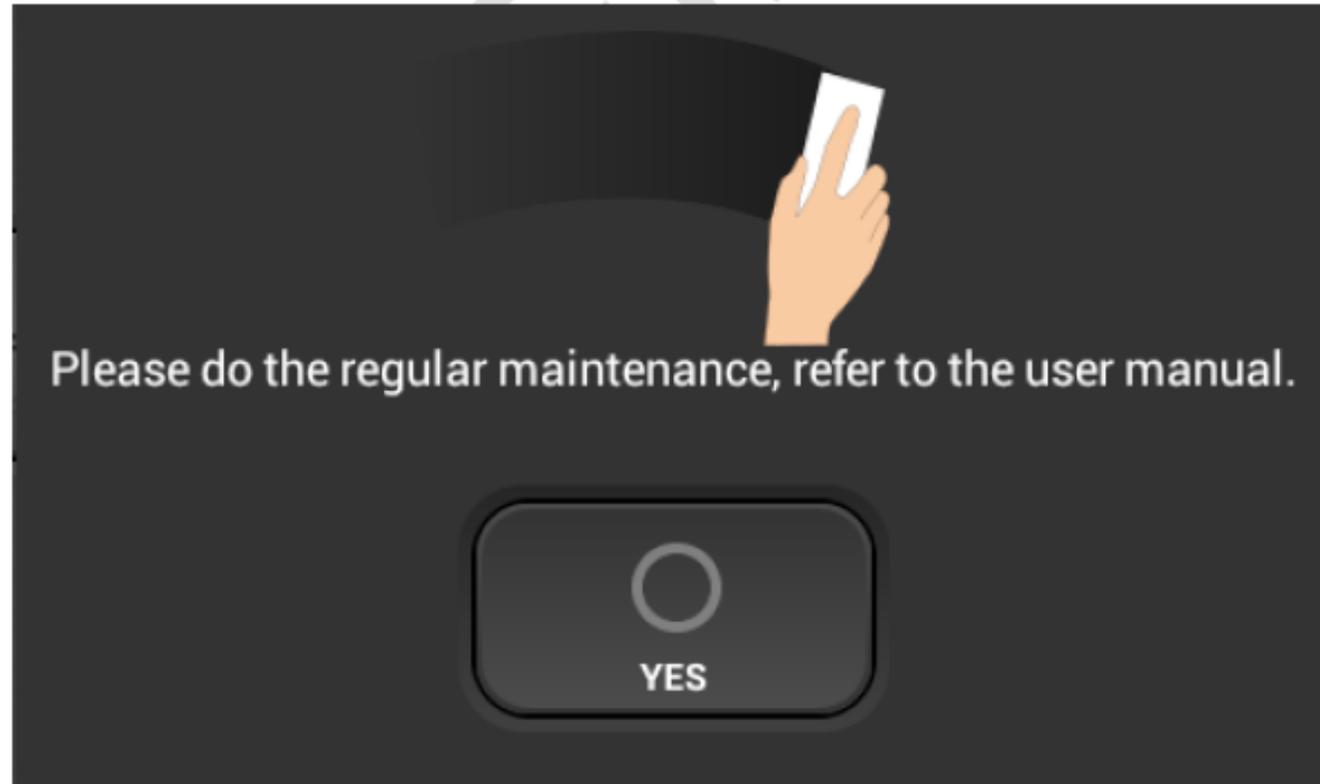
Daily Maintenance

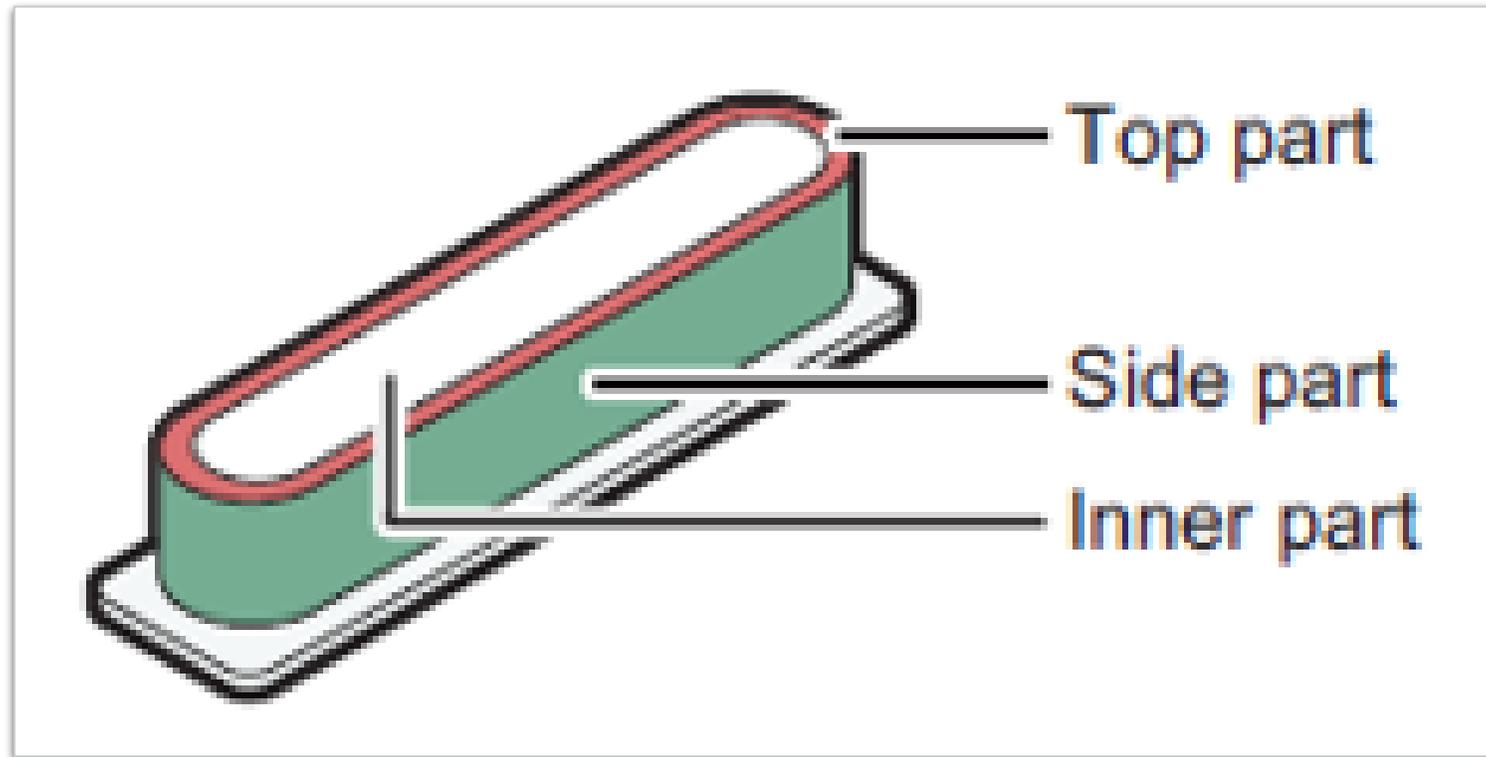
- Agitate White ink cartridges (message will occur every 12 hours)
 - *See Section 8.2 in the user manual*



Weekly

This Message will appear every **7 Days**





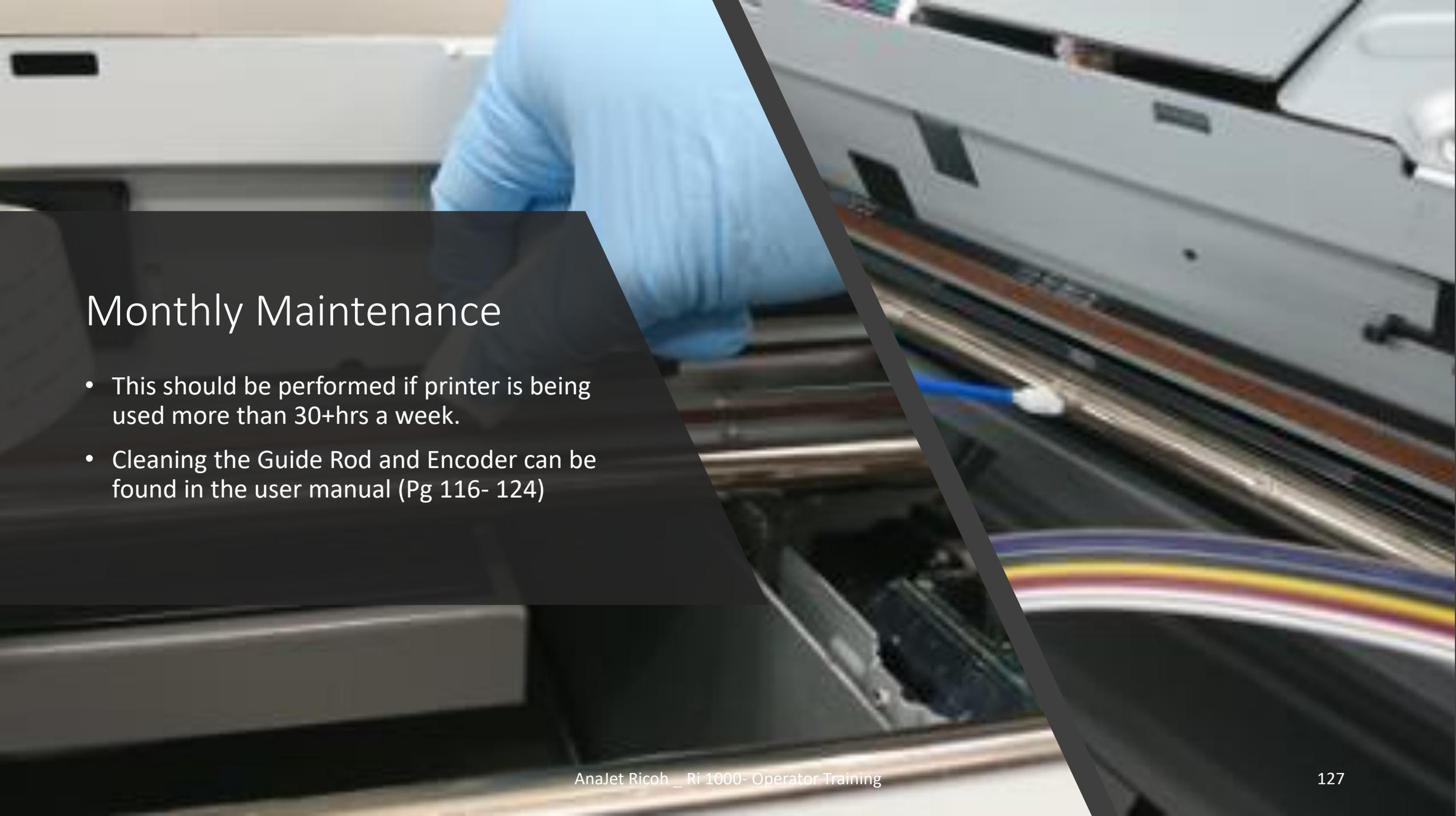
Weekly Maintenance – Clean the Maintenance Station

Clean the maintenance station as detailed in the user manual (Pg 100-109 in user manual)



Weekly Maintenance – Clean the Nozzle Cover

Clean the nozzle cover as detailed in the
user manual (Pg 110 – 115)



Monthly Maintenance

- This should be performed if printer is being used more than 30+hrs a week.
- Cleaning the Guide Rod and Encoder can be found in the user manual (Pg 116- 124)