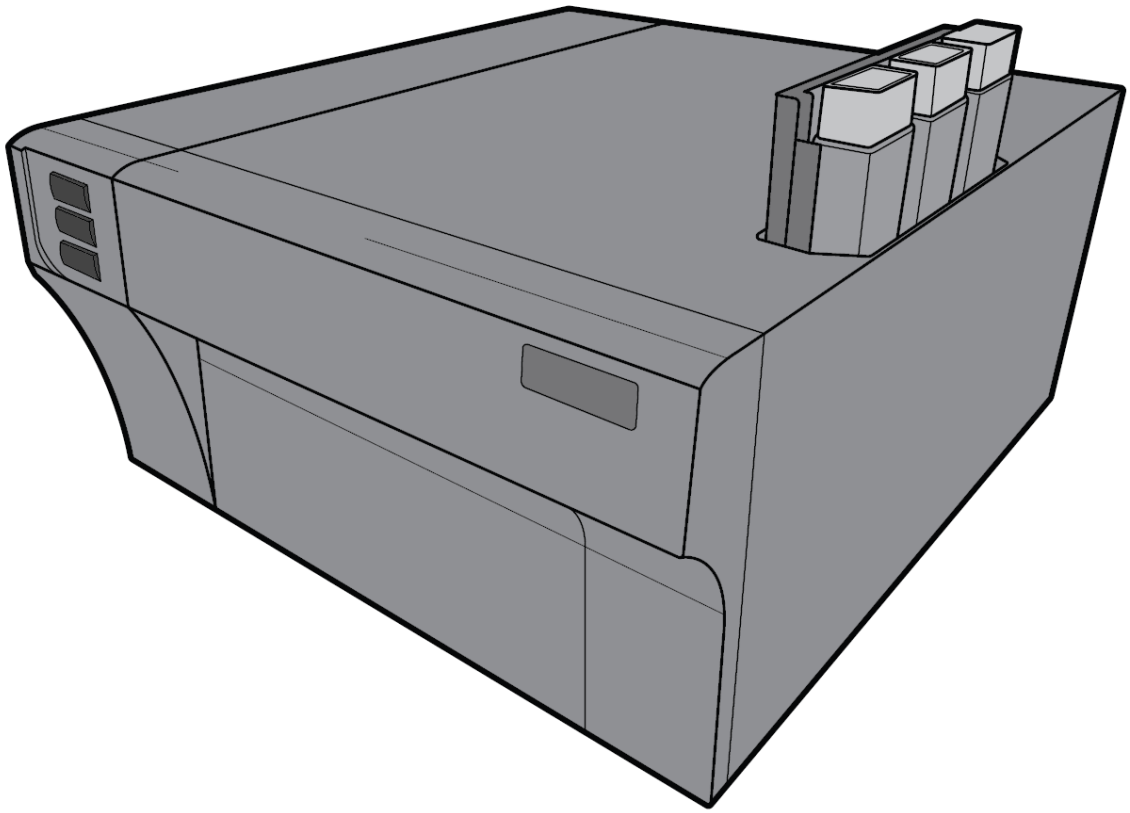


LX4000

COLOR LABEL PRINTER

User's Manual

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020725

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Printing History

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FCC Compliance Statement: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For Users in the United States: This product is intended to be supplied by a UL listed Direct Plug-In Power Supply marked "Class 2"or a UL listed ITE Power Supply marked "LPS" with output rated 12VDC, 5A or higher. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded cables is required to comply with the Class A limits of Part 15 of the FCC Rules. You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate and/or obtain warranty service for this equipment.

For Users in Canada: This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications. Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Product Disposal

Do not dispose of the Printer or supplies in the same manner as normal household waste. Consult your local authorities for disposal and recycling options.

WARNING

THE PRINT AREA CONTAINS HAZARDOUS MOVING PARTS. KEEP FINGERS AND OTHER BODY PARTS AWAY.

CAUTION!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE EXTERIOR PANELS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. OPERATE THE UNIT WITH ONLY THE PROPER ELECTRICAL SPECIFICATIONS AS LABELED ON THE PRINTER AND AC ADAPTER.

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Section 1: Getting Started

THANK YOU…

...for choosing an LX4000 Color Label Printer. The LX4000 Printer will print razor-sharp text and barcodes, vibrant colors, and even stunning photo-realistic photographs directly onto rolls of labels, card stock, and a variety of other approved media.

This User's Manual is your complete step-by-step guide to quickly and easily setting up and printing with your new Color Label Printer!

1A. Choosing a Good Location

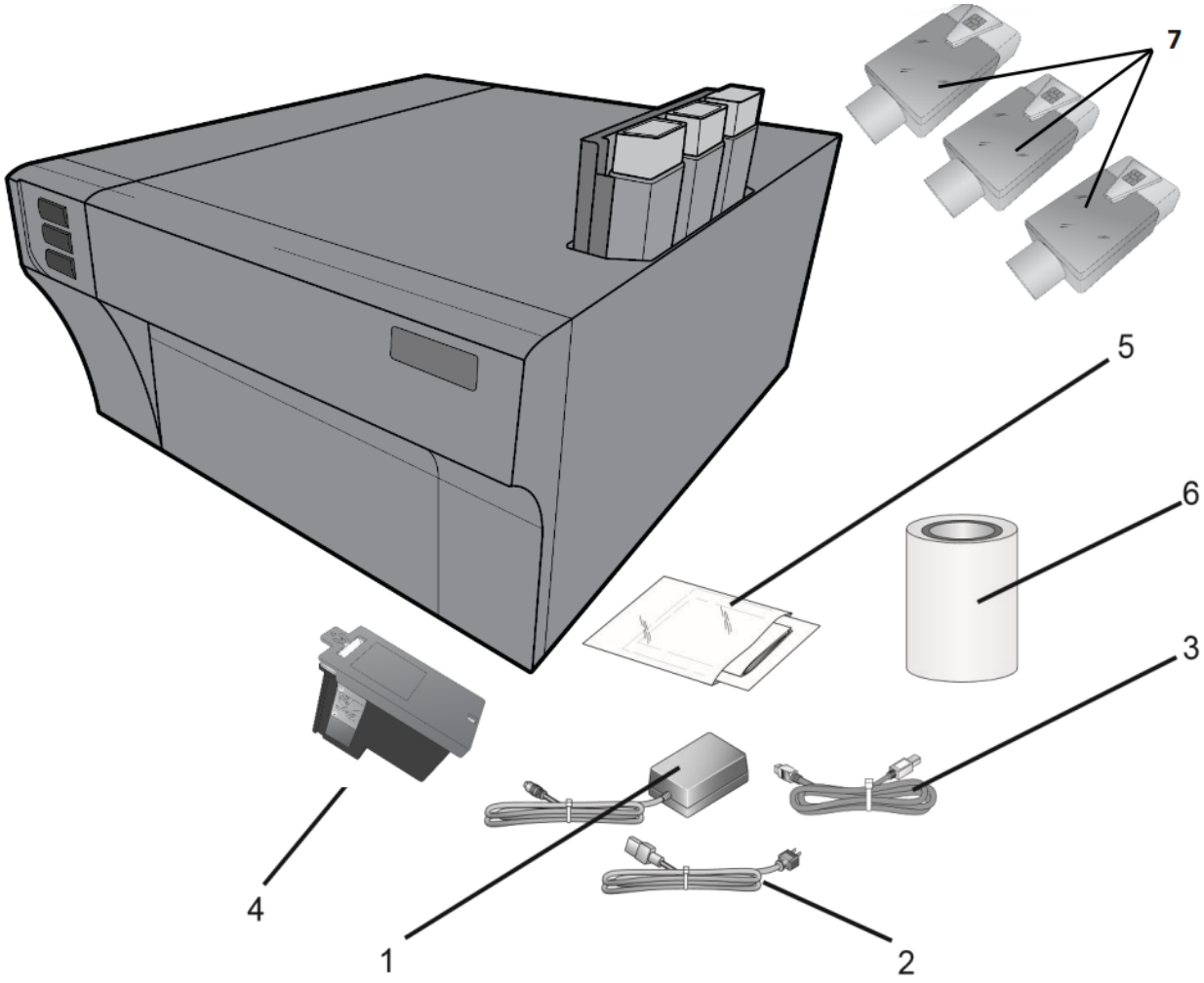
- Place the Printer on a flat surface in a location with adequate air circulation to prevent internal heat build-up.
- Do not place the Printer near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.
- Allow for adequate clearance in front of the Printer to accommodate the printed label stock as it is leaving the Printer to avoid the possibility of binding or jamming of the label stock.
- Allow for adequate overhead and left-side clearance for opening the top cover to allow easy access to the label stock and ink cartridge. The Printer will require 9.5 inches (24 cm) of additional space on the left side to completely open the cover (Total = 26.75" or 68 cm). The Printer will require an additional 15.9 inches (40.4 cm) of overhead space to open the cover (Total = 25" or 63.5 cm).

1B. Unpacking and Inspection

While unpacking your Printer, inspect the carton to ensure that no damage has occurred during shipping. Make sure that all supplied accessories are included with your unit. The following items are included in the supply box:

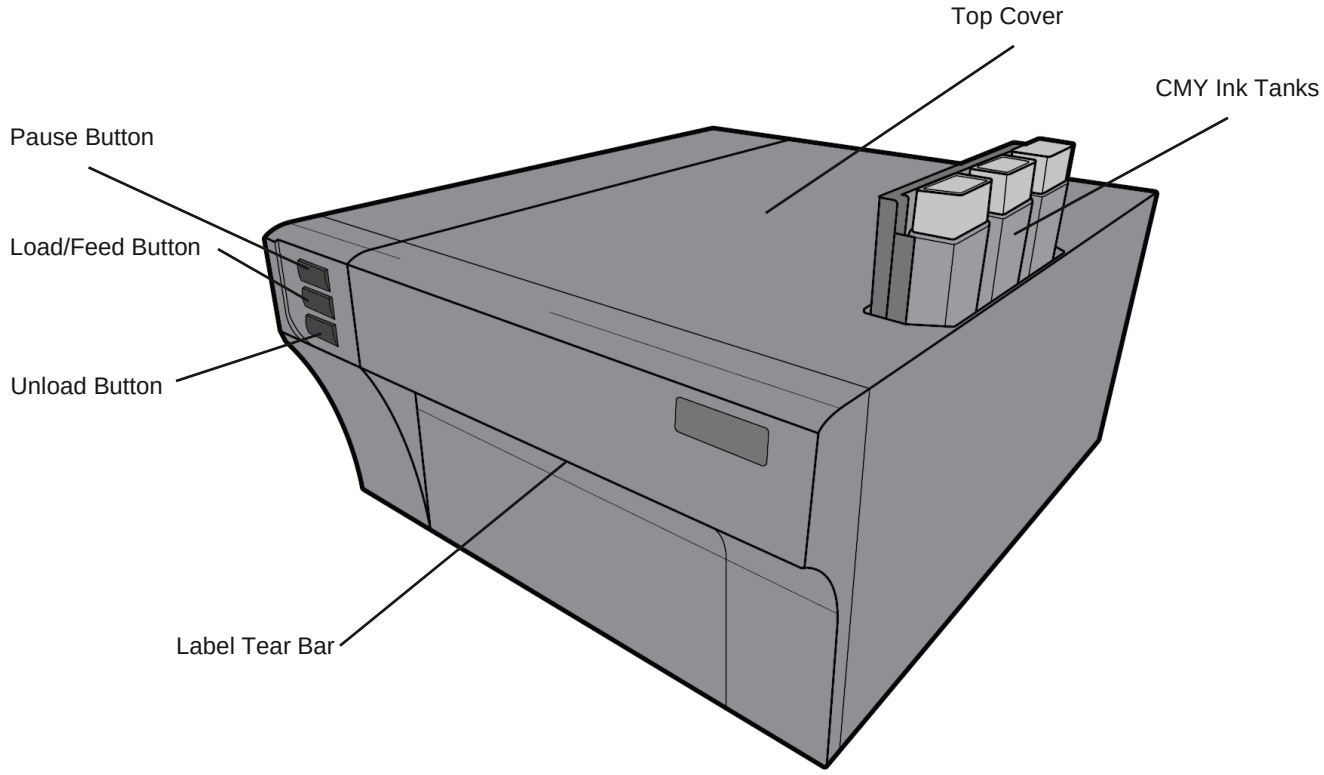
1. Power Adapter
2. Separate Power Cord
3. 6' USB Cable (If other USB cable is used, it must be 6'(2 M) or less.)
4. Print Head
5. Warranty Statement and Registration Card
6. Starter Roll of High Gloss Label Stock
7. Cyan, Magenta and Yellow Ink Tanks

Save the carton and packing materials. They will come in handy when transporting the Printer.



1C. Identifying the Parts

This illustration shows the front of the Printer with its control buttons and LED indicator lights.



The **Pause Button** is pressed to pause a job to allow for loading of label stock and ink cartridges. The Printer pauses after the printing of the current label has finished. The Pause LED will illuminate when the Printer is paused.

The **Power LED** indicates that the Printer is on and ready to receive print jobs.

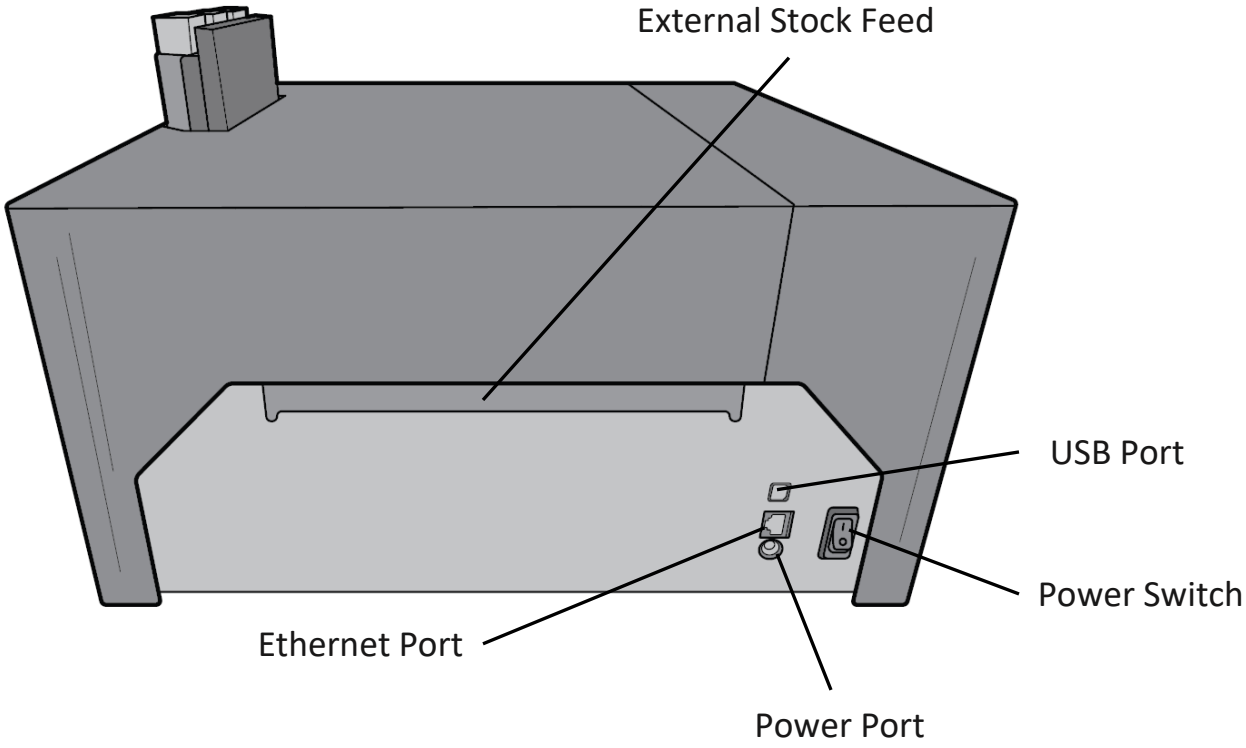
The **Load/Feed Button** is pressed in order to load label stock if the Printer does not automatically detect the stock. When stock is loaded each press of the button will cause one label to be fed through the Printer.

The **Ink Low LED** will illuminate when a cartridge has 10% or less of its ink remaining.

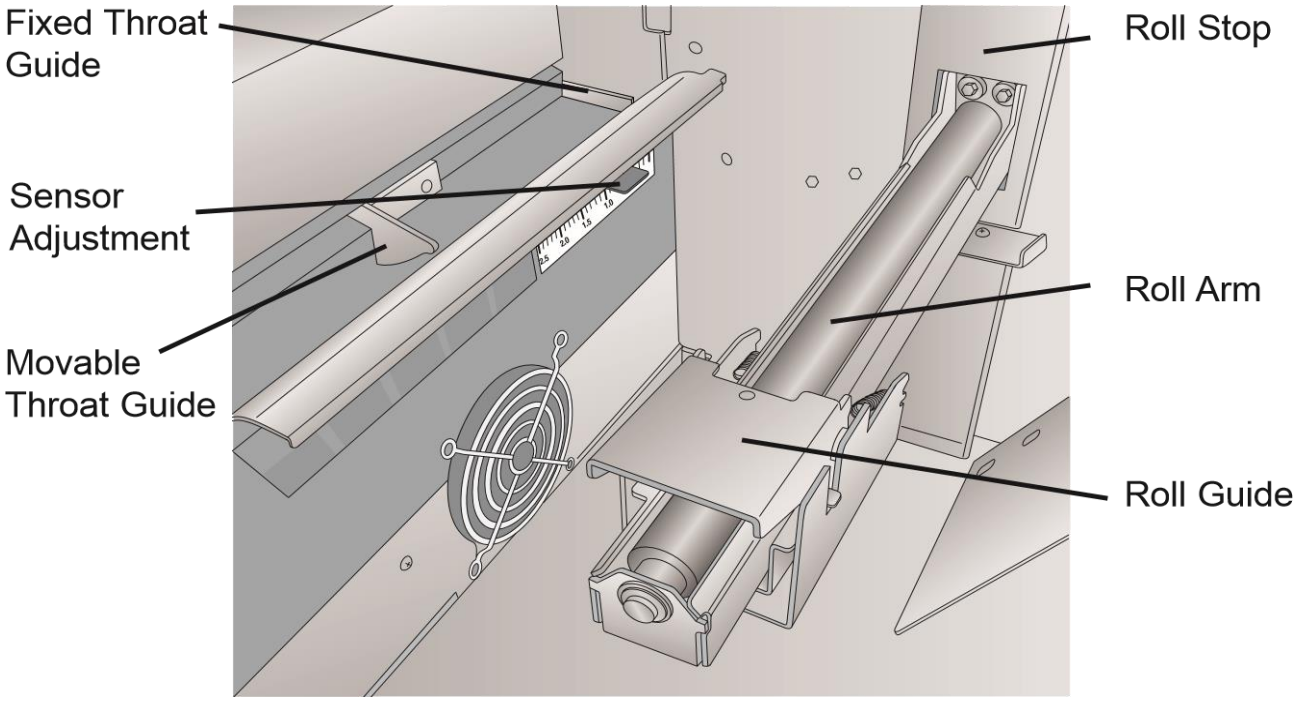
The **Unload Button** will unload the installed label stock by reversing it through the Printer. Make sure to tear off the printed labels before pressing the Unload Button.

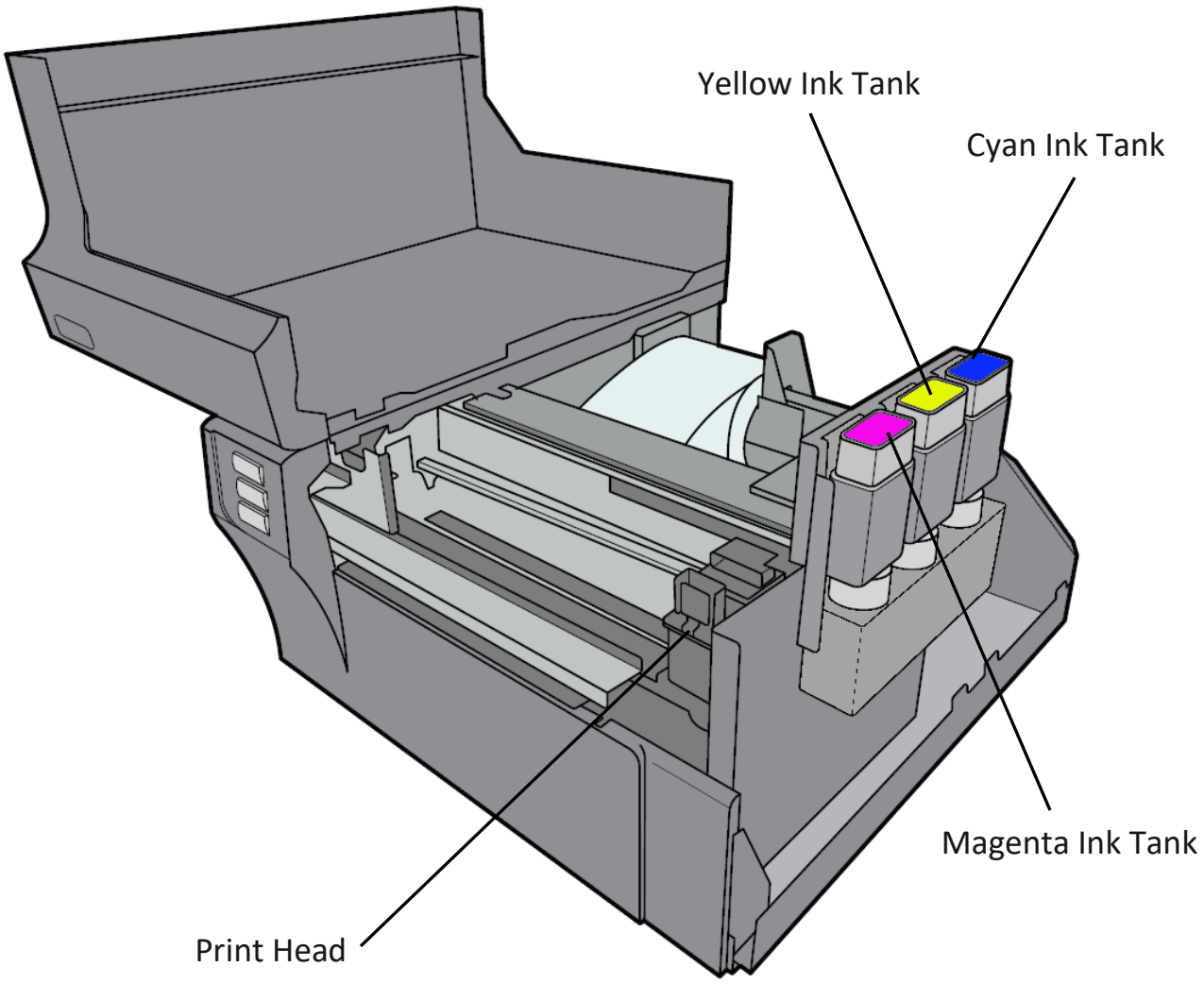
The **Label Tear Bar** is a serrated edge for conveniently tearing your finished labels from the Printer. The Printer comes with a white tear bar guard. For smoother label feeding, leave the guard in place during printing. When you are ready to tear off a label, remove the guard, tear off the label and replace the guard.

This illustration shows the input ports and power switch found on the rear panel of the Printer.



The next three illustrations show the interior of the Printer.

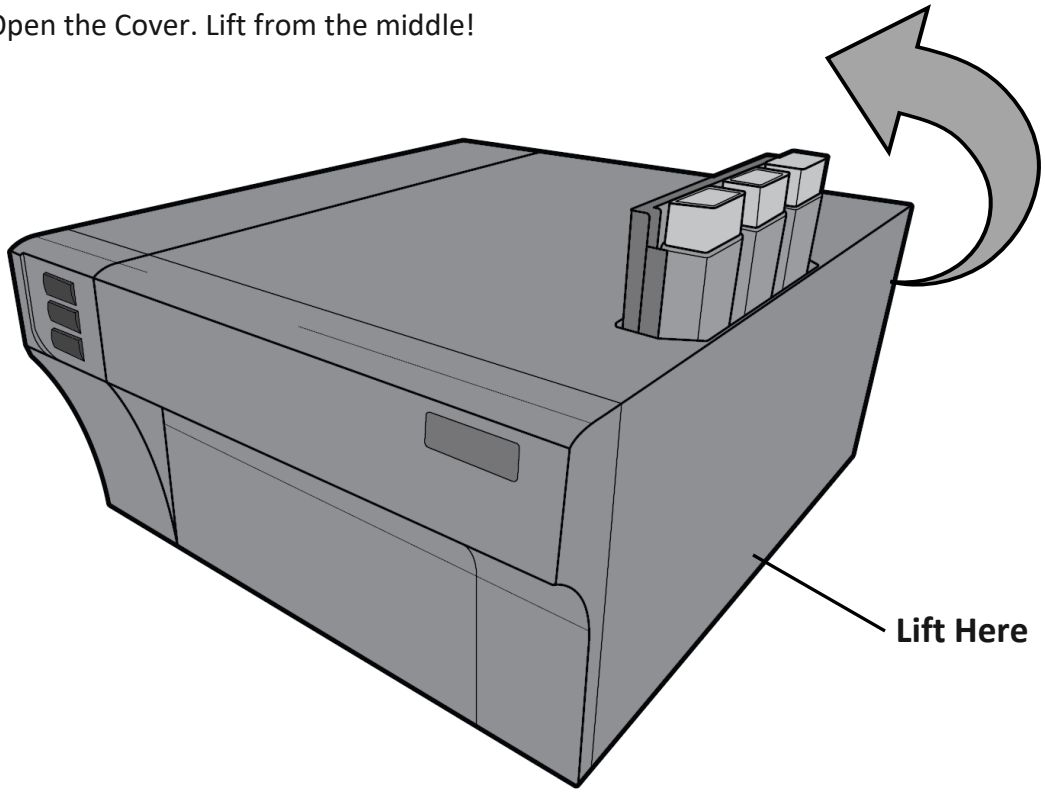



Yellow Ink Tank
Cyan Ink Tank
Magenta Ink Tank
Print Head

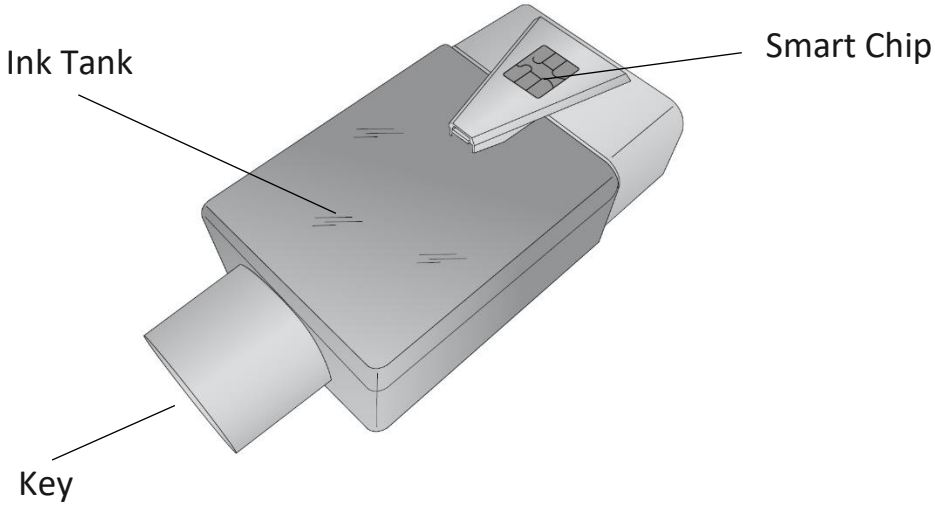
1D. Install the Ink Tanks

Install the Ink Tanks before using the Printer for the first time. When using the Printer for the first time Ink Tanks should be installed before the printhead is installed.

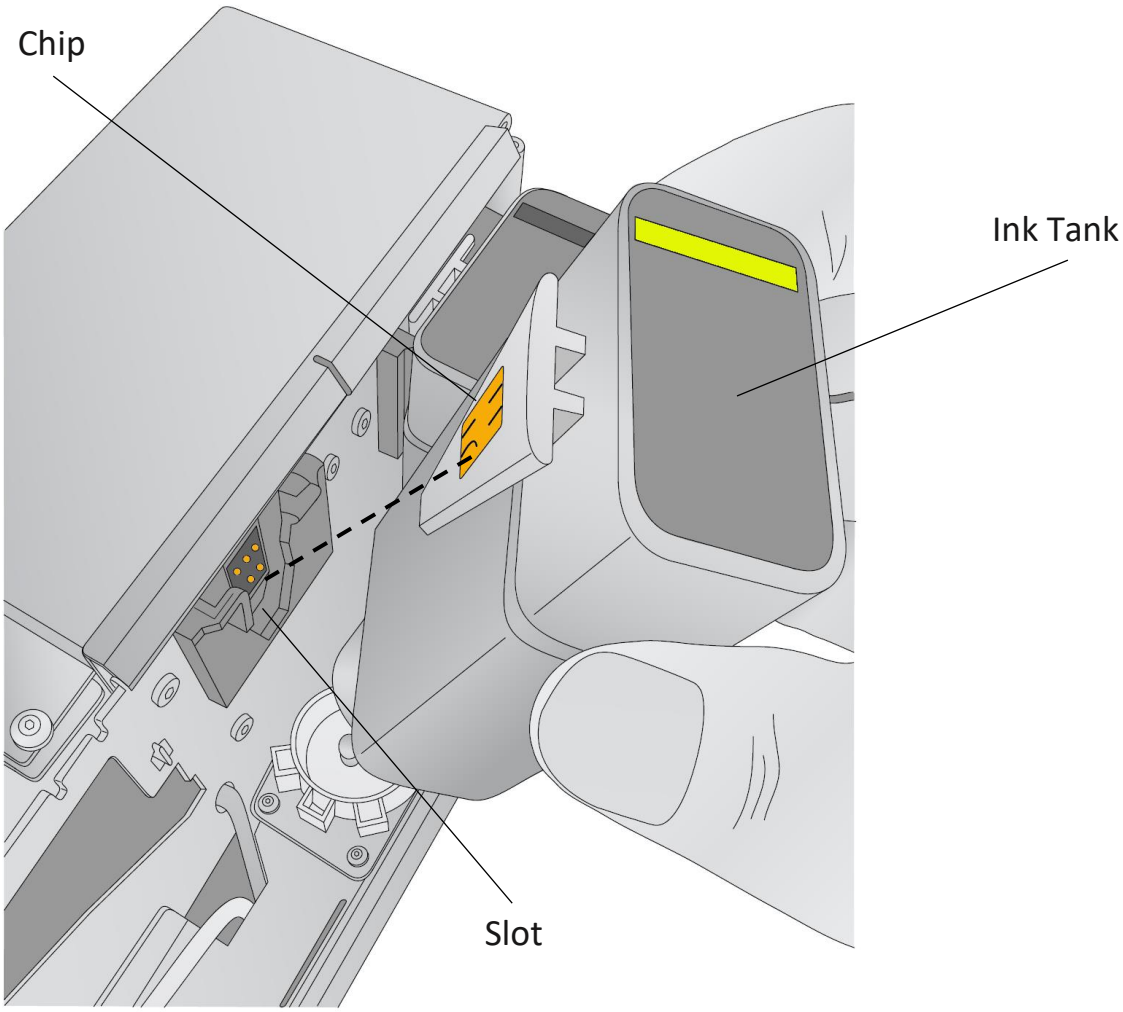
1. Open the Cover. Lift from the middle!



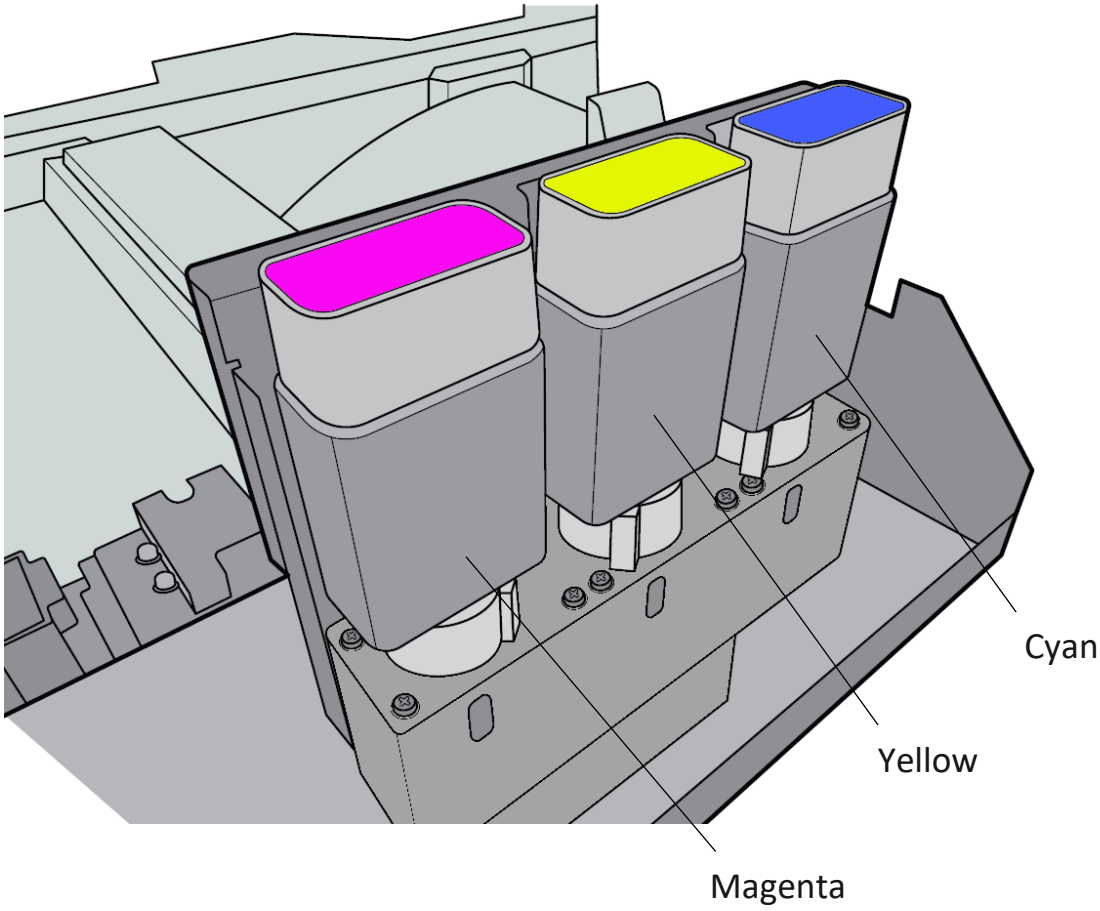
2. Locate a Cyan, Magenta or Yellow Ink tank. It doesn't matter which tank you install first. Each tank is keyed at the bottom to only fit in one slot. There is also a chip on the tank that identifies the color and tracks ink remaining.



3. Match the ink tank color with the sticker behind the corresponding slot on inside the Printer. Hook the chip to the slot.



4. Repeat the process for the remaining colors.



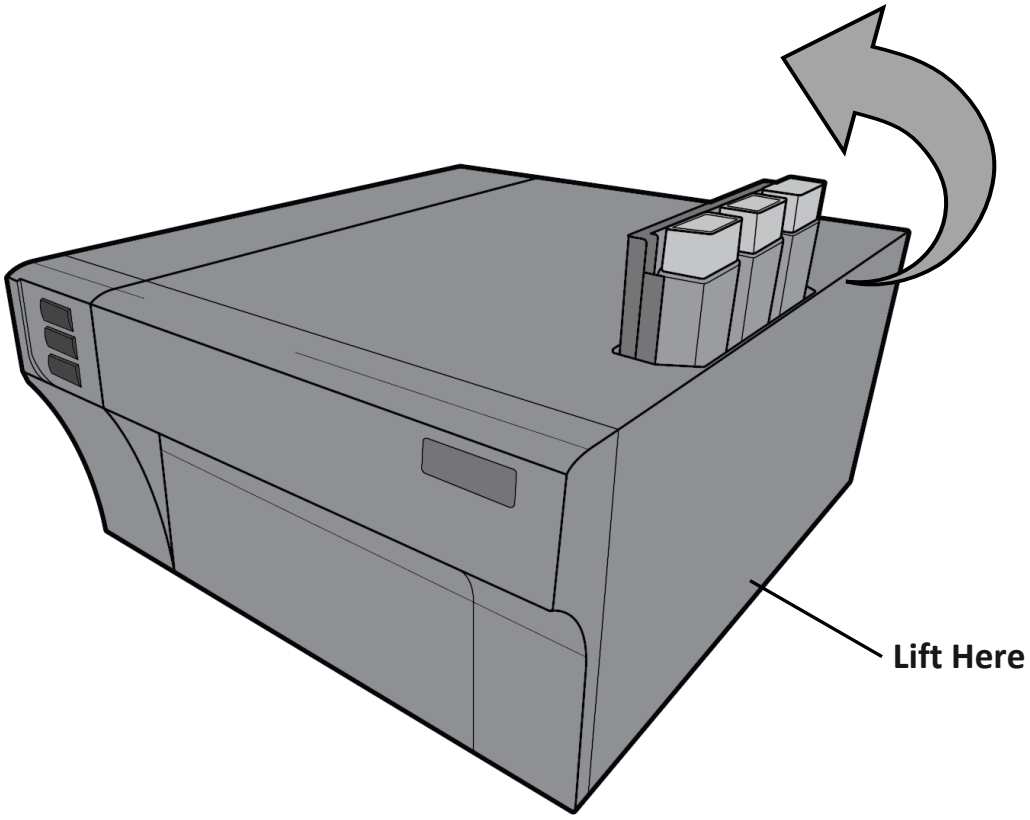
1E. Install the Print Head

You will need to install a print head before you use the Printer the first time. After that, you should replace your printhead when you start to notice quality problems. The print head is warrantied for four ink tank changes of any one color: Cyan, Magenta, or Yellow.

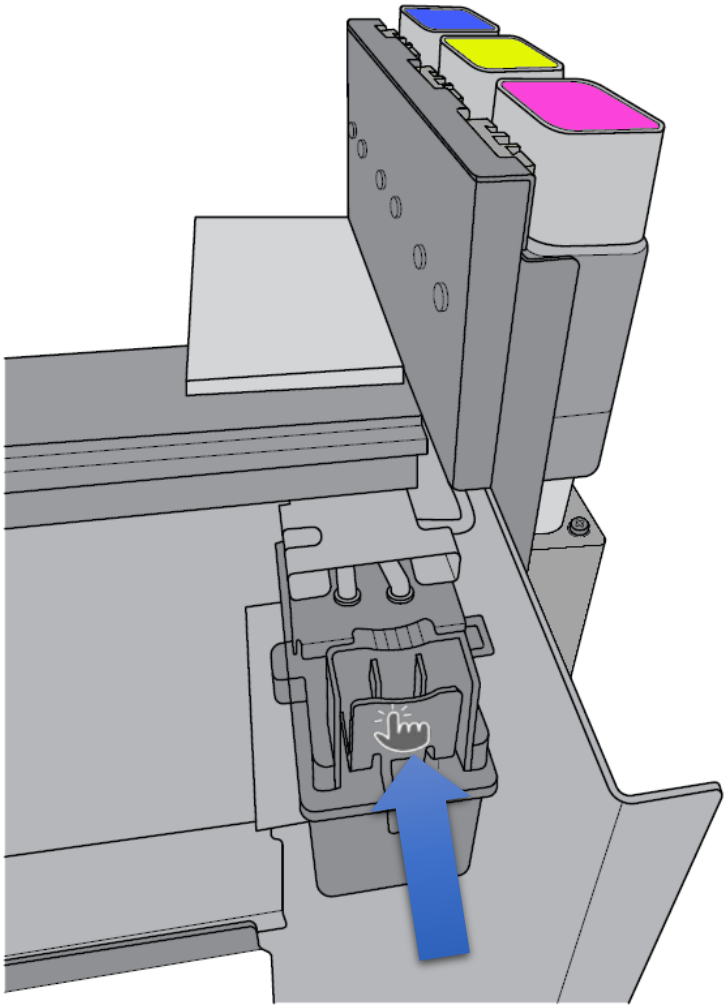
Note: Please ensure that the ink tanks are installed before replacing the print head.

Recommended Cleaning between Print head Changes. We recommend cleaning the copper contacts on the cartridge carrier each time you change Print heads. See step 6 below.

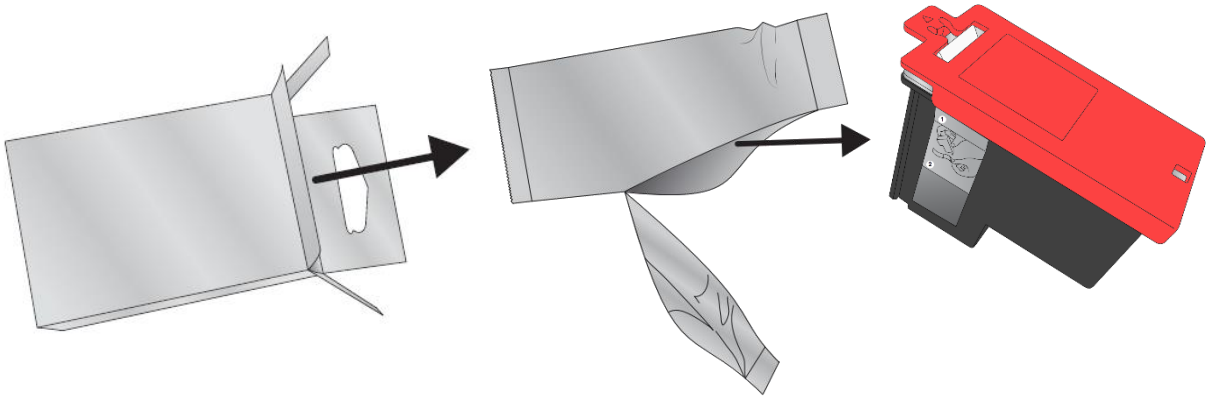
1. Open the Cover. Lift from the middle



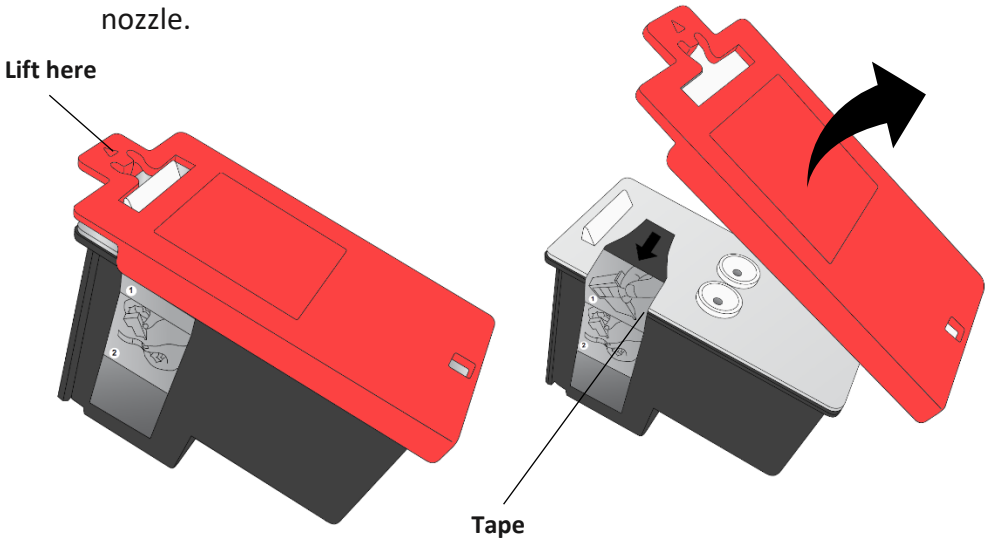
2. Press or pinch the tab on the front of the cartridge holder.



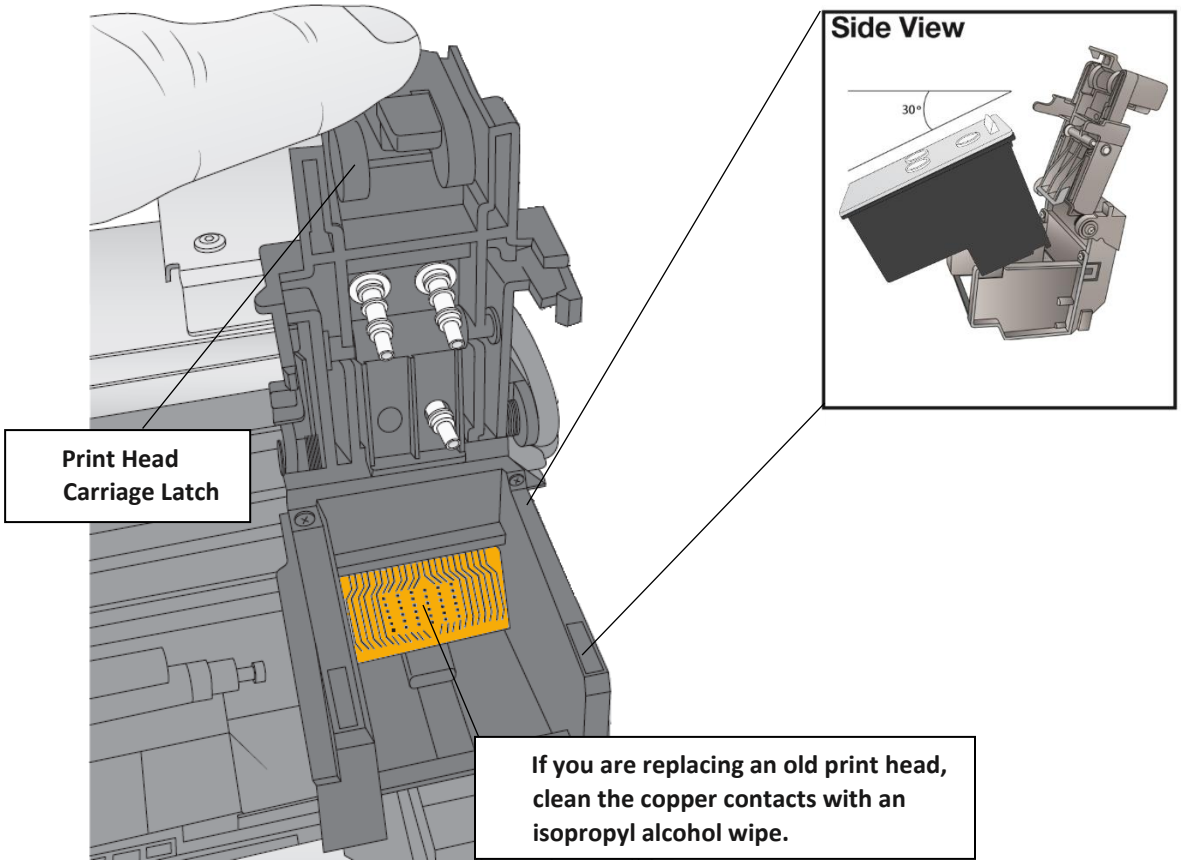
4. Locate a new cartridge and remove it from its packaging. Remove the foil outer package.



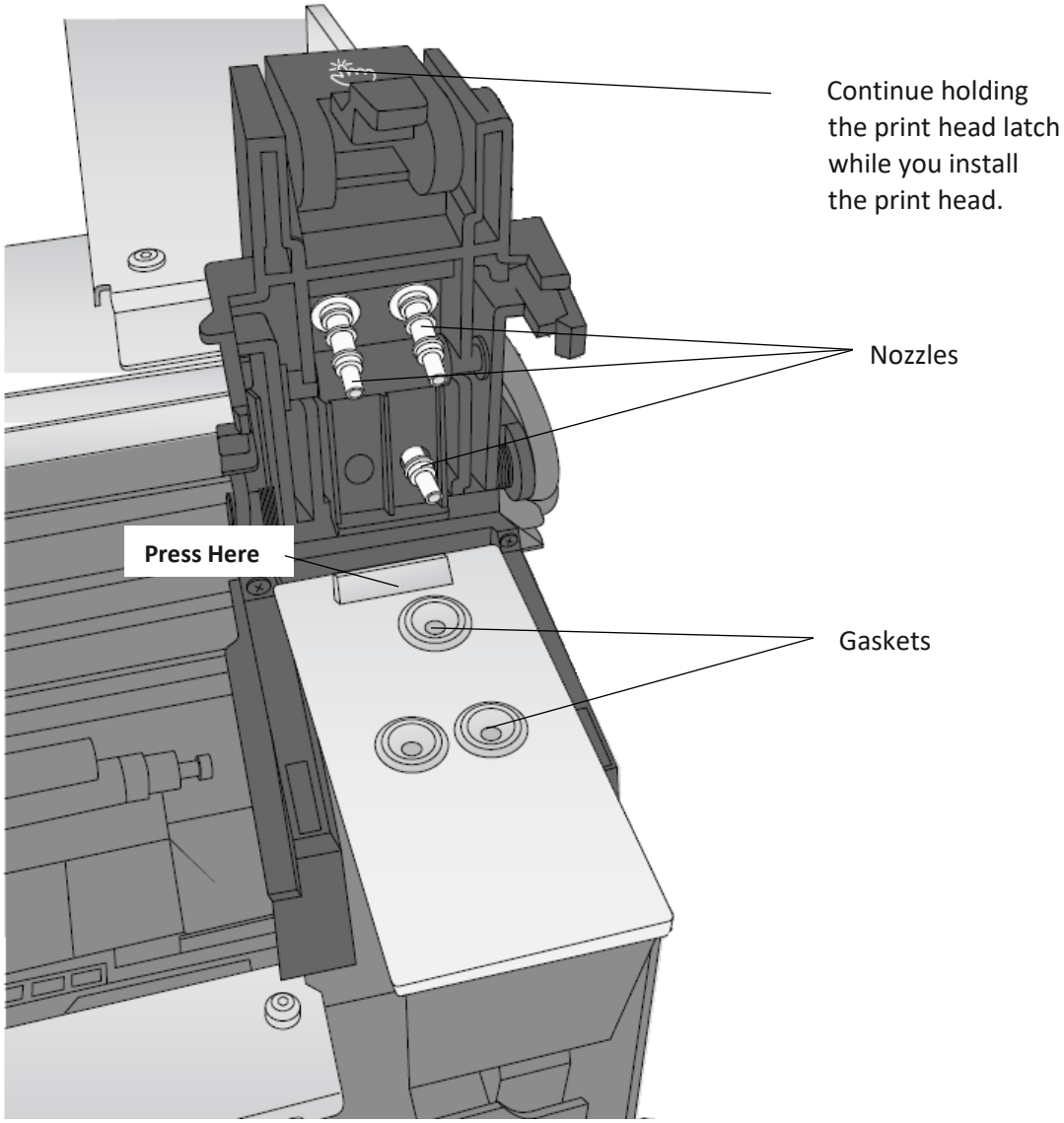
5. Remove and discard the red protection cap and peel off the tape covering the nozzle.



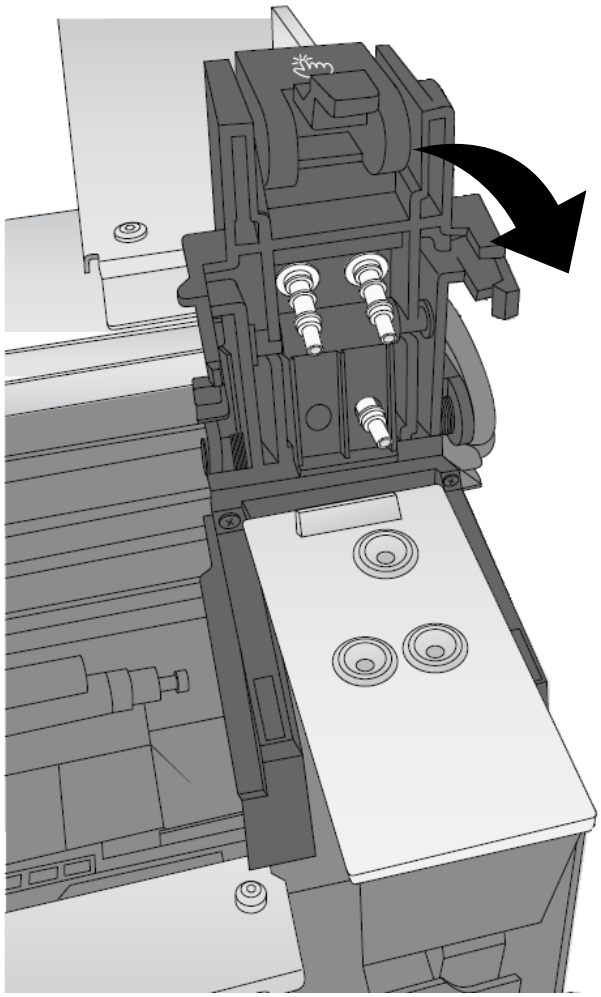
6. Hold open the print head carriage latch while you insert the print head. **Note**: When installing the print head, tilt the cartridge at a slight backward angle of approximately 30 degrees.

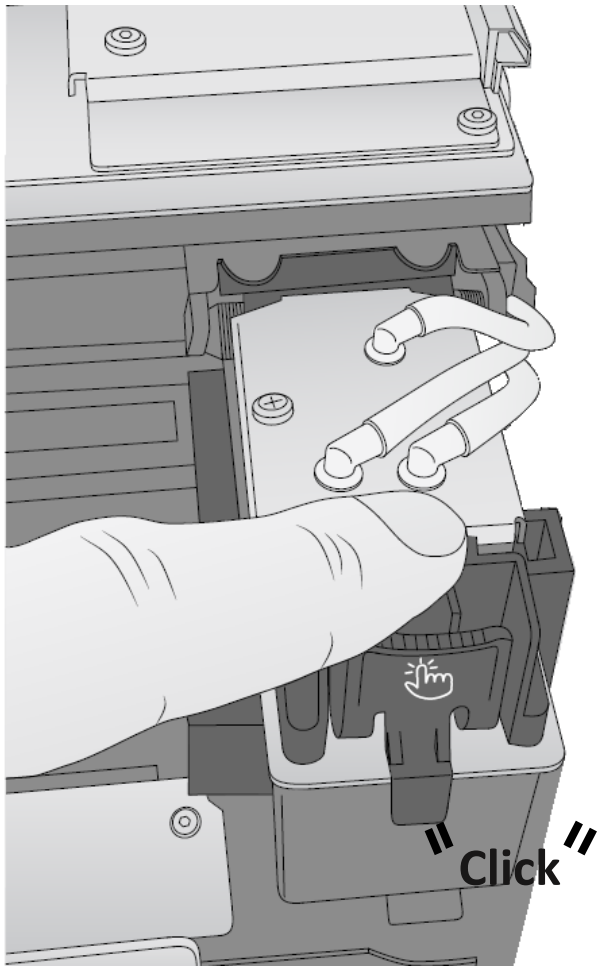


7. Press down firmly near the back of the print head to ensure good contact and proper alignment when you close the lid.



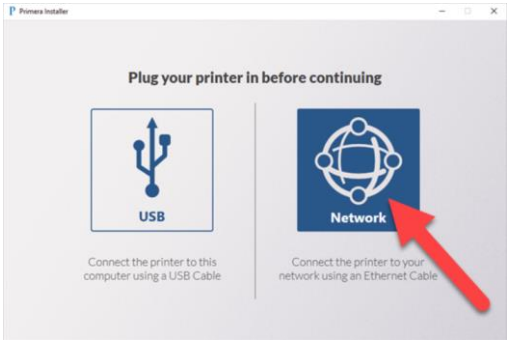
8. Close the lid on the print head by lightly pressing down from the top until you hear a click!



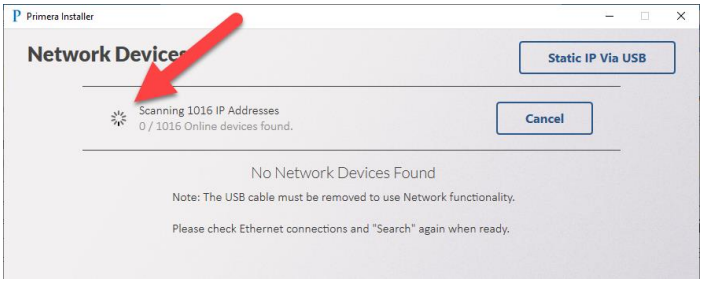


1F. Ethernet Connection Information (PC Only)

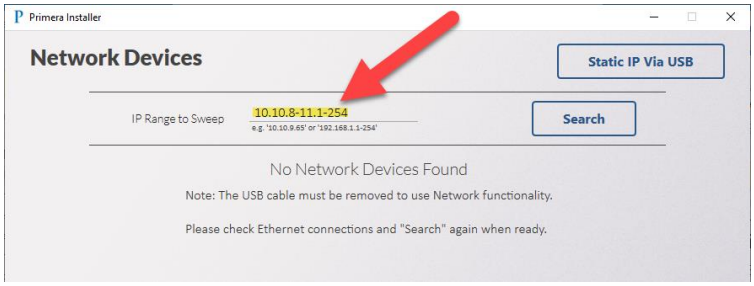
During the initial software setup, you may connect via USB or Ethernet. Depending on what you choose, different options will appear in the setup application. The instructions below explain how to install via Ethernet. Before continuing, connect only the Ethernet cable to your printer. (You cannot connect both the USB cable and Ethernet)



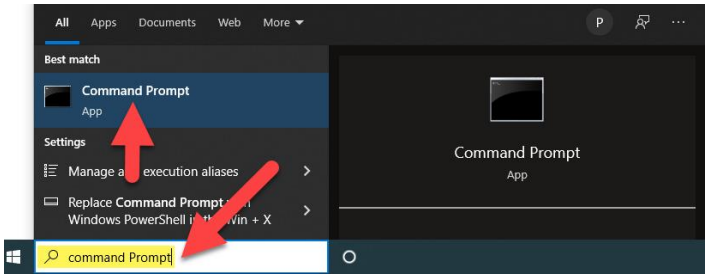
1. If you choose Ethernet, the installer will automatically search your network for the printer using the most common IP address range for simple networks (10.10.10.1-254 and 192.168.1.1-254). The IP address is the unique identifier that your network will automatically assign to printer when you connect it to your router or wall jack.



2. If no printers are found, you will be able to adjust the IP address you are searching for – **IP Range to Sweep**. In this example, we are searching for 10.10.8-11.1-254. It is searching for 1,016 IP addresses. There are 4 digits to any IP address that can equal 0-254. The dash in the 3rd and 4th digit indicates that the installer will search between 8 and 11. This means it will search for 8, 9, 10, or 11. In the 4th digit, the installer will search for 1 through 254.



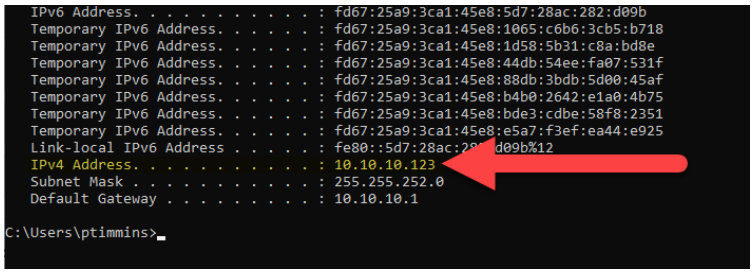
3. If you don't know where to search, your own computer can guide you if it is connected to the same network as your printer. Search for "Command Prompt" on your Windows Search Bar. Click it to open.



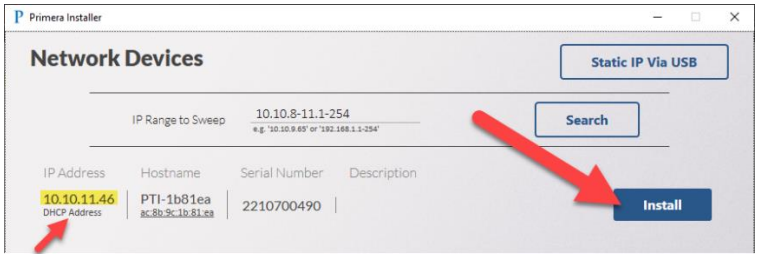
4. Now type ipconfig on the prompt and press Enter.



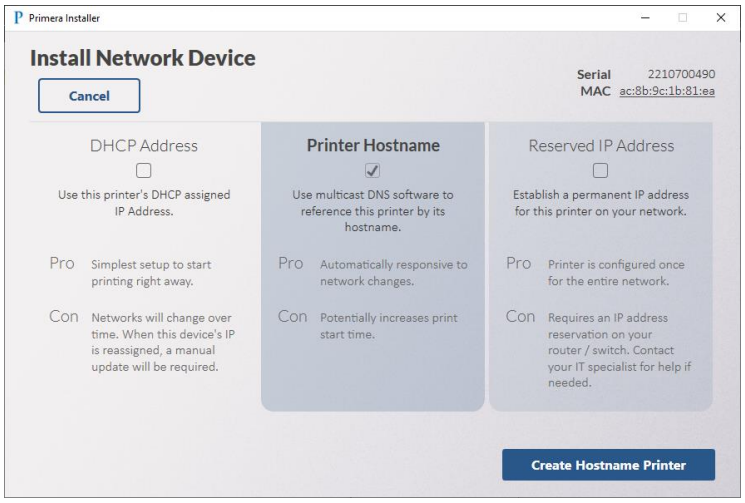
5. Look for your IPv4 or IPv6 address. In this example, the address is 10.10.10.123. This is my computers IP address. It tells me that we are using a 10.10. network, so the Eddie printer is probably on the same network. Now I can edit my IP Range to Sweep to include values in the 10.10.10.1-254 range. Depending on the number of devices on your network, you may need to expand that range. Click Search again.



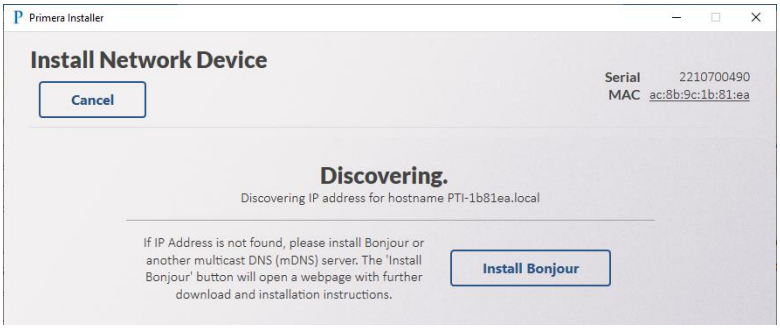
6. This printer was found on 10.10.11.46. Once it is found, click Install to install the printer driver. You can verify the printer found is the one you expect by checking the serial number displayed. If the printer is not found, make sure you see lights Green and Amber lights on the ethernet port on the back of the printer. If no lights are present, you may have a defective cable or a defective port on your printer or router/wall jack.



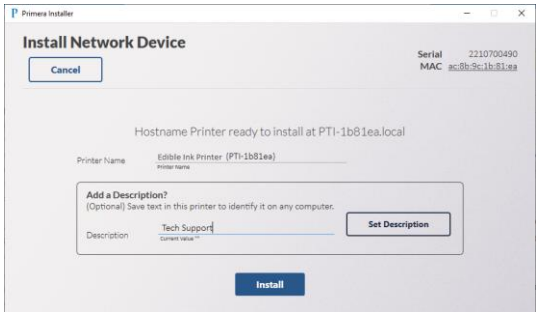
7. By default, the Printer Hostname method of installing the driver is checked. In most cases, this will work fine. If it fails for any reason, restart the installer and check DHCP address. The Reserved IP Address or static method is for advanced users. Click Create Hostname Printer.



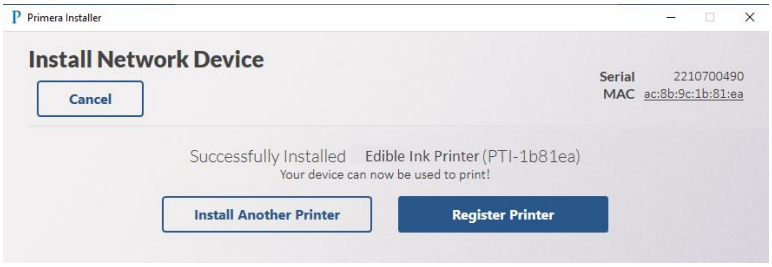
8. It should only take a few moments to install the driver. If the installer stays on this screen for several minutes, click Cancel to be brought back to the previous screen.



9. You will see the following when the printer is ready to be installed. You may choose to describe the location of the printer if you have multiple printers on your network. In this example, we chose “Tech Support”. Click Set Description and then click Install.



10. Congratulations! You have successfully connected your printer to Ethernet.



Note 1: If you want to change your connection type or change Ethernet connection settings, run the installer again and change the settings. There is no place to adjust these settings in Print Hub. To find the installer, visit www.primera.com/LX4000downloads

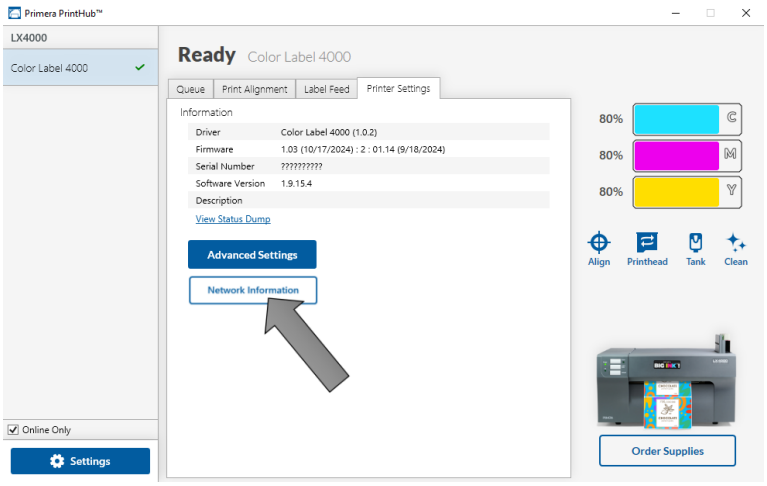
Note 2: The mac address will be printed on a label affixed to the back of your printer. The mac address may be necessary for reserved (static) IP address installations.

Note 3: If you have both USB and Ethernet connected, USB will be the default communication channel. To use Ethernet, you must disconnect the USB cable.

Note 4: It is possible to install both a USB driver and Ethernet driver so you may print using whatever method is connected.

- USB driver name: Color Label 4000.
- Ethernet driver name: Color Label 4000 (PTI-[Unique ID]).

If connected via Ethernet, you may type in the printer IP address to display information about the printer. To find the IP address open PrintHub – Go to Printer Settings – Click on Network Information.

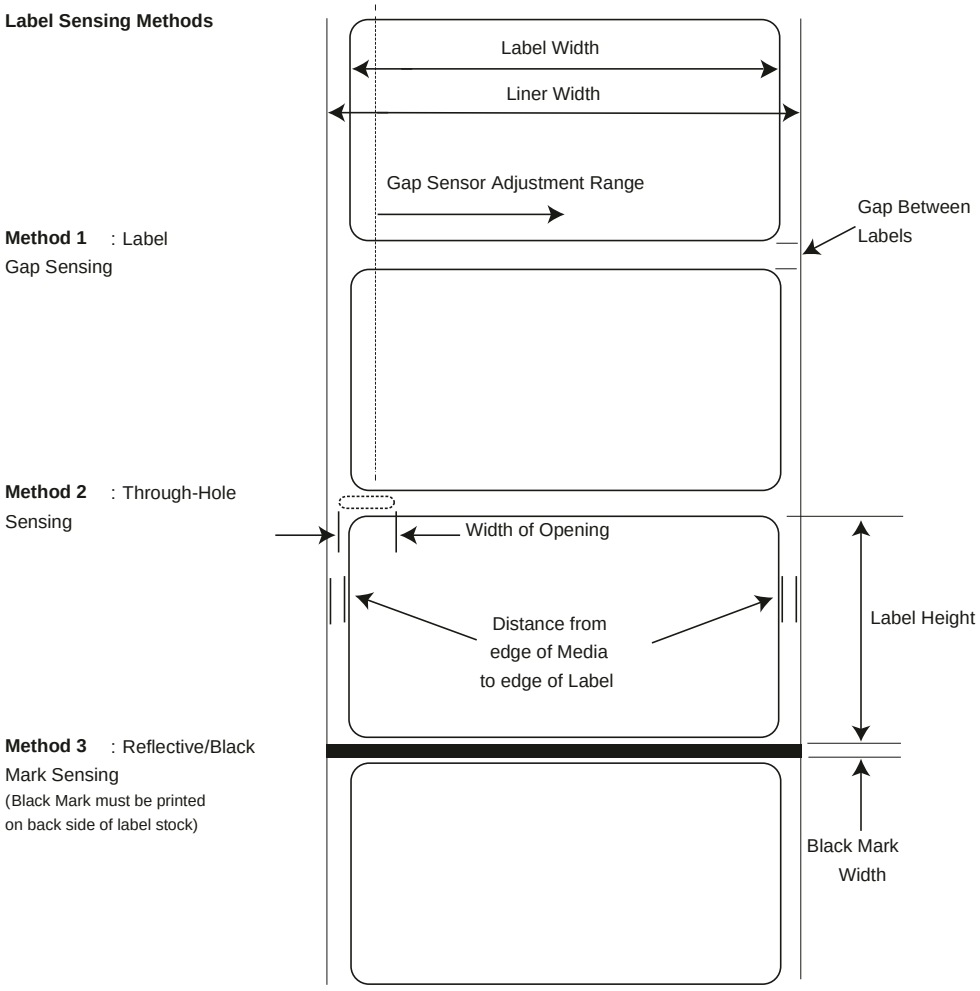


Section 2: Label Stock

2A. Label and Roll Specifications

A wide variety of label stock can be used in the Printer. Refer to the specifications and settings in the following sections before ordering custom stock from Primera or any stock from another company.

Important! *Test all custom-made label stock with the intended Printer before ordering large quantities! Primera will only assume responsibility for custom label stock ordered from Primera.*



Note: See table below for Max and Min values in inches and mm.

Label Stock

	Max	Min
Label width	8.25" (209mm)	0.5" (13mm)
Liner/media width	8.375" (212mm)	1.5" (38mm)
Label height/length	24" (609mm)	0.5" (13mm)
Gap between labels	10" (253mm)	0.10" (2.5mm)
Width of through-hole opening	0.5" (12.65mm)	0.25" (6.325mm)
Gap Sensor Adjustment Range (from left edge)	1.9" (48mm)	0.20" (5.06mm)
Reflective/Black Mark Width*	N/A	0.1" (2.54mm)
Max Outer Diameter (OD)	6.0"(152.4mm)	N/A
Inner Core Diameter (ID)	3.0" (76.2mm)	3.0" (76.2mm)
Total Thickness (Liner + Label)**	.0010” (10 mil)	N/A
Distance from edge of media to edge of label	This assumes a 2 mm gap. However, this is adjustable via the left margin offset.	

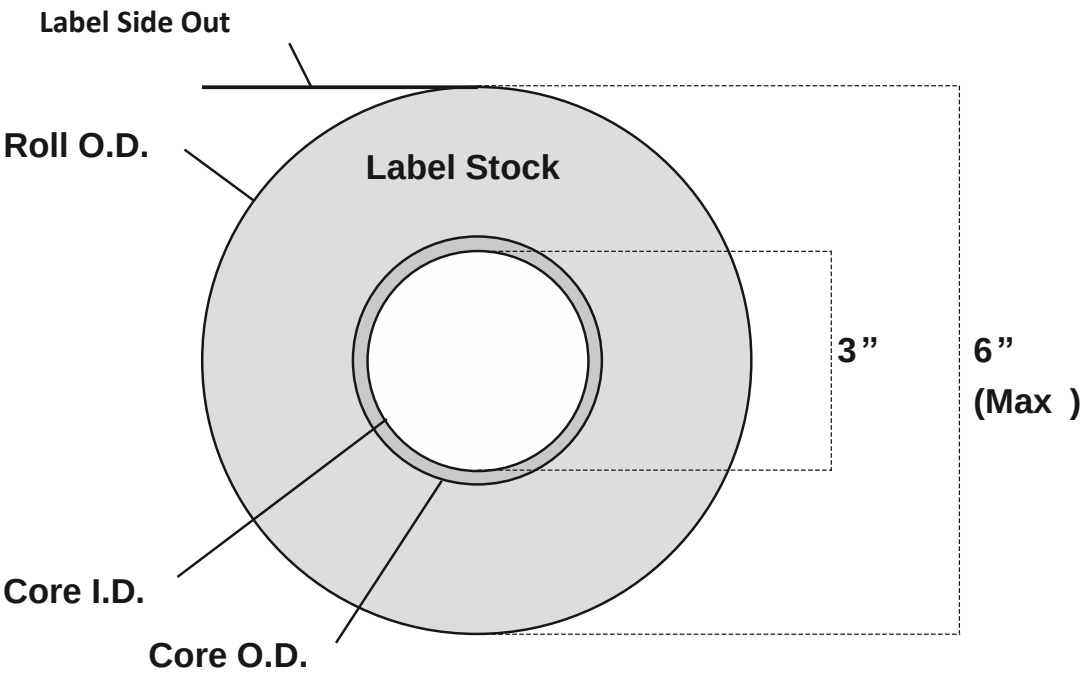
* The Reflective/Black Mark should be opaque to infrared light. The mark should be between the labels. The end of the mark should correspond with the beginning of the label.

** This is the recommended maximum. There are two factors that determine whether the Printer will accept any particular stock thickness.

1. The ability for the Printer to pull the paper through the print area.
2. The ability for the sensor to read through the backing if the sensor is set to die-cut.

If you are printing in continuous or reflective label sensing mode number 2 does not apply. The fact that the Printer must read through the backing in die-cut mode will limit the thickness much more than the Printer's ability to pull the paper through the print area. However, if you adjust opacity level of the liner enough to allow the label to be seen by the stock sensor, the thickness will only be limited by the Printer's ability to pull it through the printer area. For these reasons the weight or thickness of the liner is a variable that cannot easily be defined. Primera recommends and uses 40# liner with all label stock. **It is important to test all label stock with the intended Printer before ordering large quantities!**

Roll Specifications



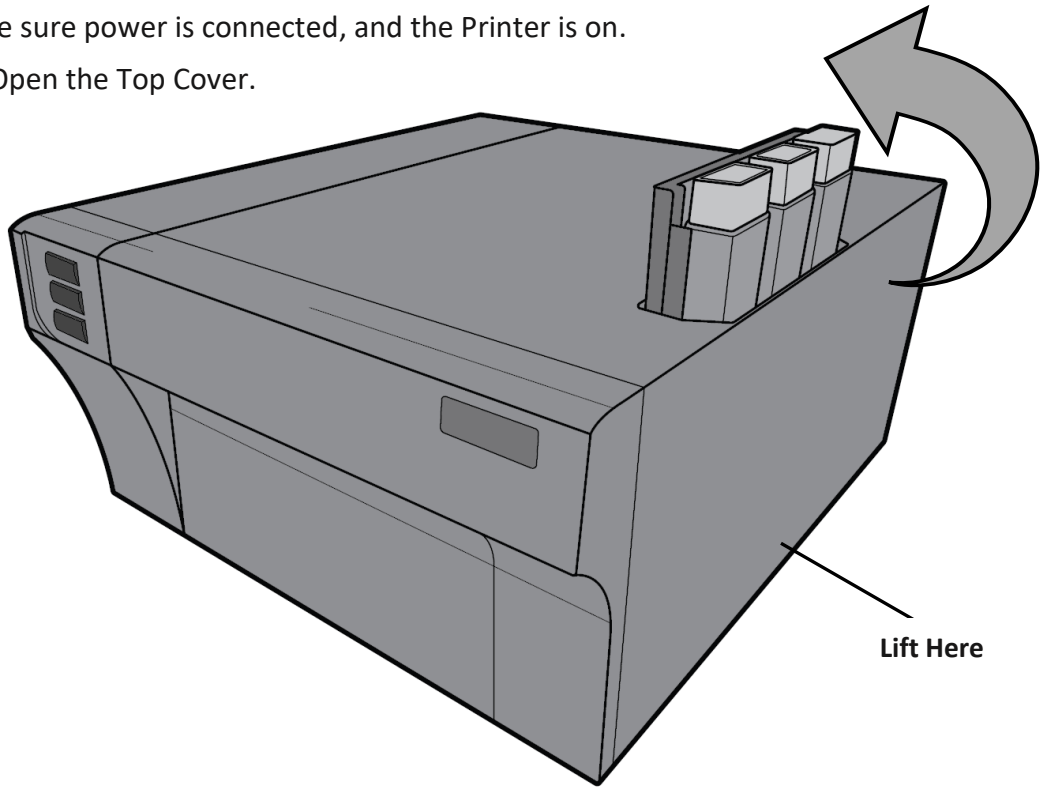
Note on Label Orientation: *If you are using an applicator to apply your labels, be sure to order label stock with the correct orientation for your applicator. For example, most applicators will apply the side of the label first, so you will want to print the labels sideways.*

2B. Installing Label Stock

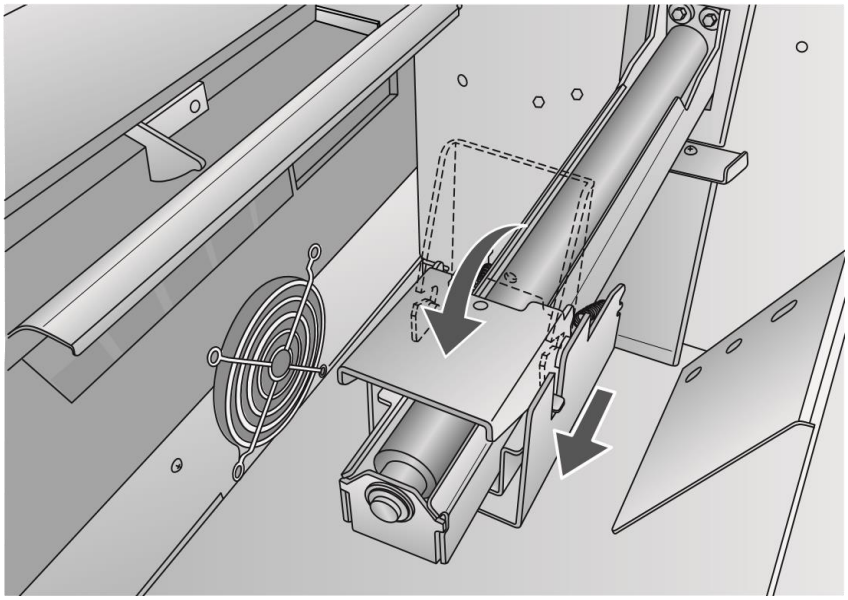
The following steps will guide you through loading label stock into your Printer:

Make sure power is connected, and the Printer is on.

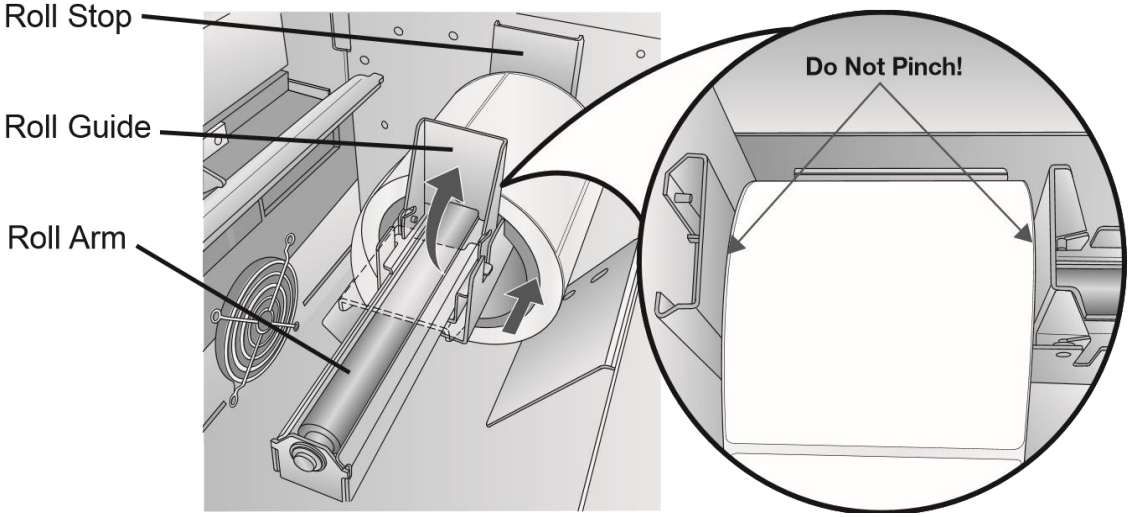
1. Open the Top Cover.



2. Lower the Roll Guide and pull it outward to make room for your label stock.



3. Remove any shipping tape from your label stock roll to ensure that it can unroll freely, making certain that no adhesive portion is exposed. It is important to note that any exposed adhesive surface can attach itself to the inner workings of the print mechanism and cause a media jam.
4. Place your roll of label stock on the Roll Arm and push it inward until it touches the Roll Stop.

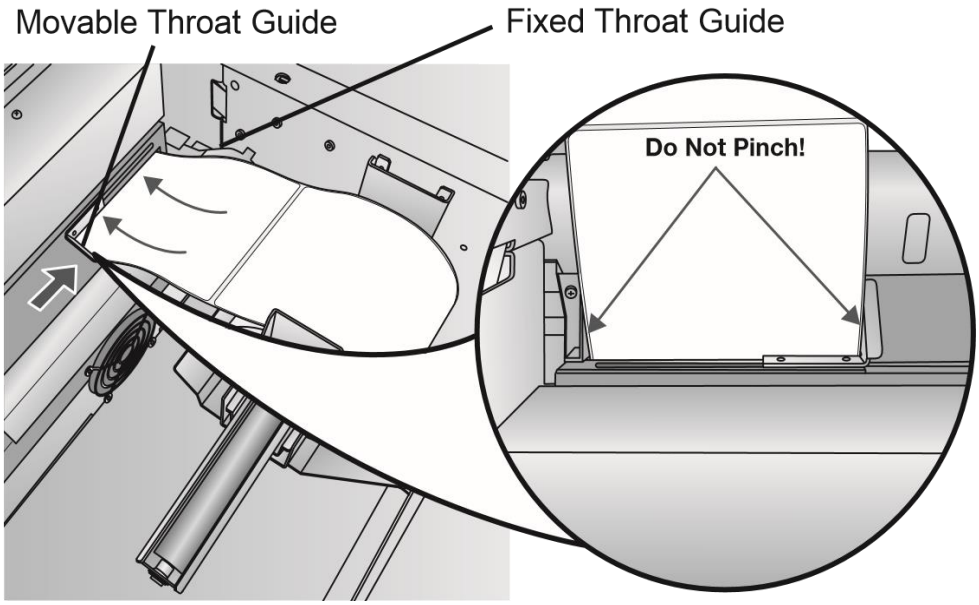


5. Flip up the Roll Guide and slide it inward until it touches the label stock. The Roll Guide will automatically pull back slightly to the correct position. There should be approximately a 1mm gap between the Roll Guide and the roll.

Important Note: *Be aware that some label stock may have a core that is slightly too large for the roll or the labels may have wrapped unevenly, causing some to stick out beyond the edge of the core. Both of these issues can cause feeding problems.*

6. Pull the Movable Throat Guide outward to make room for the label stock.

7. Place the leading edge of the label stock under the "label stock" symbols on the Throat Guides. The label stock should be placed far enough into the throat of the Printer to correctly position the Movable Throat Guide but not yet into the Printer itself



8. Slide the Movable Throat Guide inward until it **almost** touches the label stock.

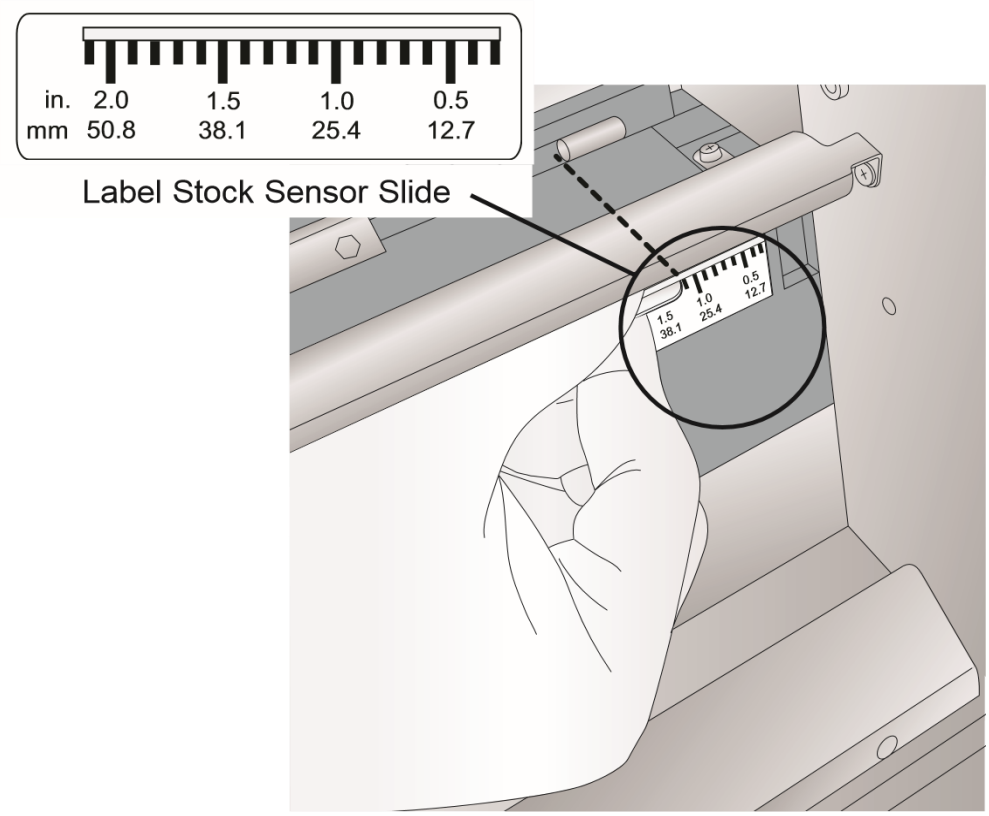
Important Note: *The label stock should be close enough to the Fixed and Movable Throat Guides to provide proper guidance but not close enough to pinch the label stock. (0-1 mm gap on either side) If the label stock is pinched by the guides, poor print quality or feeding problems could result.*

9. Feed the label stock further into the Printer until it senses the label and automatically feeds it through the Printer. If the Printer fails to feed the label stock, press the Load/ Feed button on the front panel while continuing to guide the label stock into the Printer. If the Printer does not automatically grab and feed the stock or continues to feed the stock without stopping, check the Gap Sensor position or mode (Section 2C or 2D).

2C. Adjusting the Gap Sensor Position

If you are using label stock other than standard square / rectangular die-cut labels such as circular die-cut labels or through-hole stock, use the instructions below to adjust the position of the label stock gap sensor. The sensor can be adjusted using the slide bar on the inside of the Printer. Below the slide bar is a measurement that represents the distance between the edge of the label stock and the sensor. Measure the distance from the edge of the label stock to the correct position on the stock. Set the sensor so the side of the slide bar lines up to this measurement. See the dashed line in the illustration below.

Important Note: *You must adjust the stock sensor before loading nonstandard label stock.*



Circular Labels

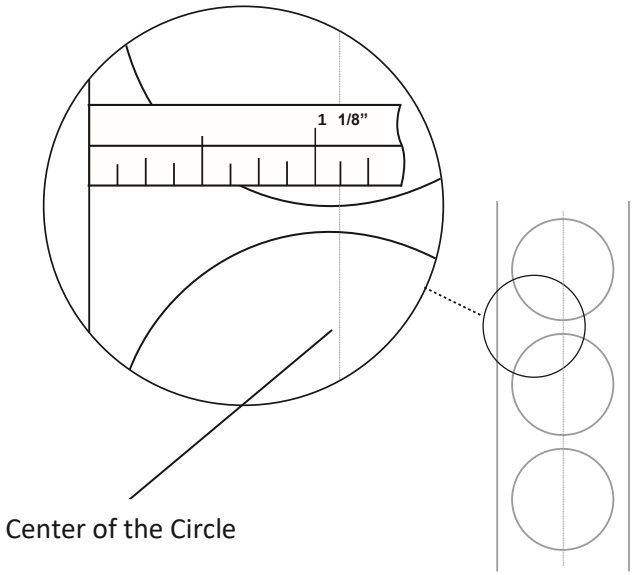
If you are using Circular Labels, you must adjust the stock sensor to correspond with the very top of the label where the circles are closest together. If the sensor is too far to the right or the left, the Printer will still sense the label, but the image may be offset downward because the Printer will start printing at the wrong position. If you are using stock that has multiple labels across, make sure the sensor corresponds to a place on the stock that has a label and not a vertical gap.

The sensor can only be moved a maximum of 2 inches from the left side of the printable area. This means that the maximum diameter circular label that can be printed is 4 inches. For circular labels larger than 4 inches in diameter, you must have a black mark printed on the back of the label stock.

This means that you must change the Stock Sensor Mode to Reflective. The Printer will now look for the black mark representing the beginning of the next label instead of the die-cut. For more information on changing the Stock Sensor Mode see Section 2D.

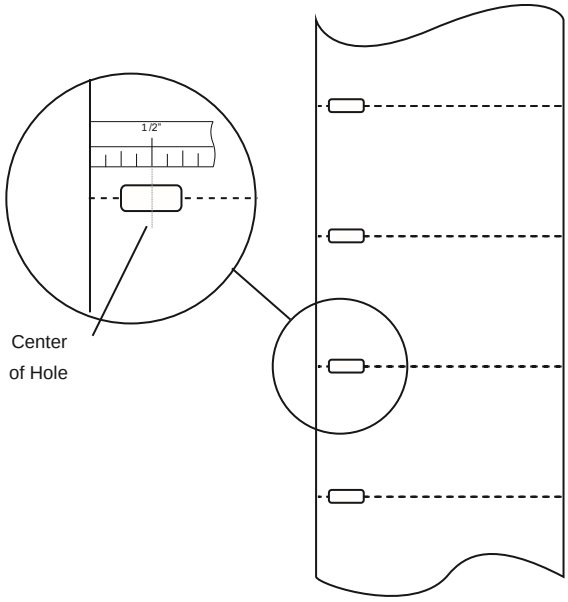
Circular Labels

Set Sensor Bar to 1 1/8" for 2" circular label (1/8" liner edge gap).



Through-Hole Labels

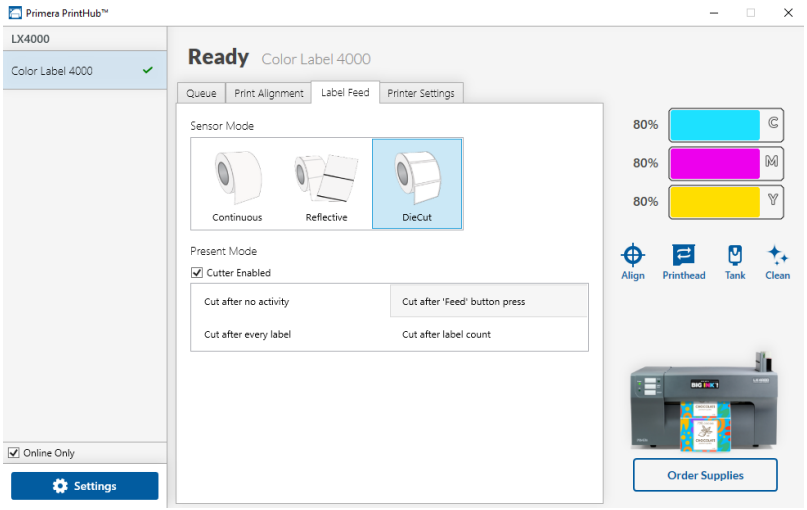
If you are using card stock or label stock that has a hole punch or a notch to identify a transition from backing to label, you can adjust the Stock Sensor to position it over the identifying mark.



2D. Set the Stock Sensor Mode

The stock sensor mode refers to the method the Printer will use to detect the print starting position for each label. To adjust the stock sensor mode, open PrintHub. In most cases, you will NOT need to change this setting. By default, it is set to sense standard die-cut labels. It is only necessary to change this setting if you are using clear labels or any label with a black sensing mark on the back.

1. Connect the Printer via USB and turn on the power. The Stock Sensor Mode setting is stored in the Printer's internal memory, so you will not be able to access it unless the Printer is turned on and properly communicating with the computer.
2. Go to Start - Programs - Primera Technology - Primera PrintHub.
3. Click on the Label Feed (3rd tab from left).
4. Select the Stock Sensor Mode by clicking on the graphic that most closely corresponds to the stock you intend to install.
5. Load the label stock after you have set the sensor mode.



There are three sensor modes:

Die-Cut (Default). If you are using standard die-cut labels that look similar to the graphic, use this setting regardless of the size of the label. Also, use this setting for Through-hole label material where a hole is punched through each label or a notch is cut in the side.

Reflective. Use Reflective for label material where a black pre-printed line (black mark) on the back of the label stock indicates the break between labels. Black marks are required on clear label stock rolls or labels where the label waste matrix (waste) is left on the liner. Black marks can also be used for irregularly shaped labels, circles larger than 4 inches, or on any stock where the print starting position can not be sensed using the label itself.

Continuous. (Sensor off) If you have continuous stock with no die-cut, reflective mark, or holes, set the sensor type to Continuous. This setting will turn off the stock sensor.

In this mode, there is no way to set the print starting position. The Printer will simply start printing the first label and print each subsequent label immediately after that previous one. To produce a gap between prints, simply add the desired amount of white space to the end of the label being printed.

Important Note: *You must also set the Stock Sensor Position (Section 2C) so that the sensor is sensing the correct point on the label stock.*

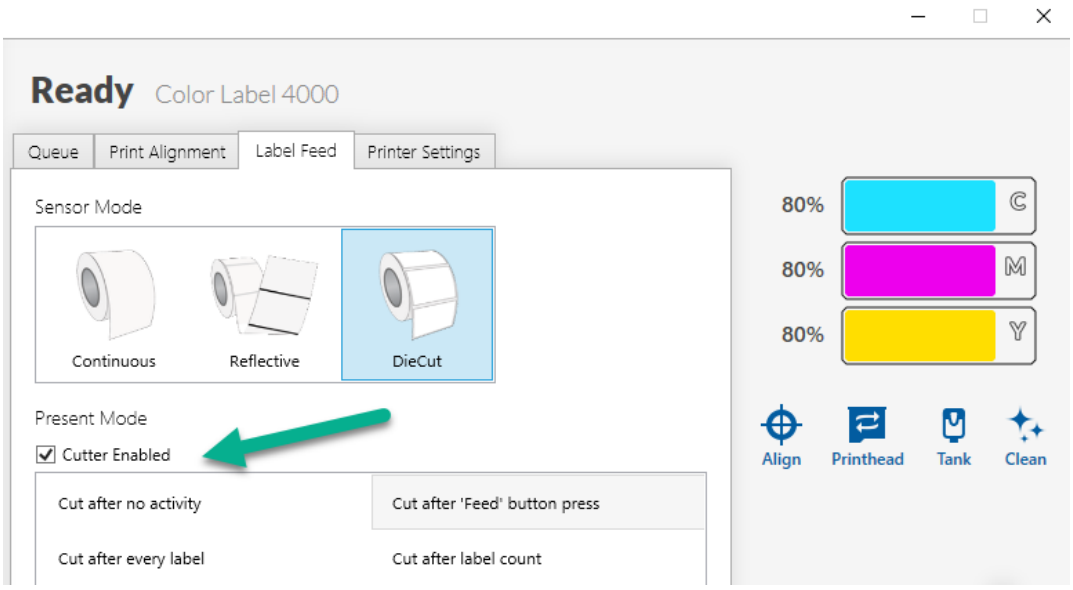
2E: Set the Present/Cut Mode

Use the Present/Cut Mode to adjust how the Printer presents labels after they are printed or if/when they are cut after printing. To adjust the Present/Cut Mode, open the PrintHub program.

1. Connect the Printer via USB and turn on the power. The Output/Cut Mode Setting is stored on the printer main board so you will not be able to access it unless the Printer is turned on and properly communicating with the computer.
2. Go to Start - Programs - Primera Technology - Primera PrintHub.
3. Click on the Label Feed Tab.
4. Click on the Output/Cut Mode button.

There are different options available which change if the Cutter is enabled or disabled. If the Cutter is disabled, the label present options will be available. If the Cutter is enabled the present options are no longer available, but cut options become available.

Cutter Options:



Cut after button press. This setting will cut after you press the Load/Feed button on the Printer. This can be used after one label or an entire job. This feature is useful if you will not be present at the end of the print to catch the cut label.

Cut after label count. This option will cut after the number of labels specified in the toggle box that appears when this option is selected. This is useful if you have front/back labels or sets of labels.

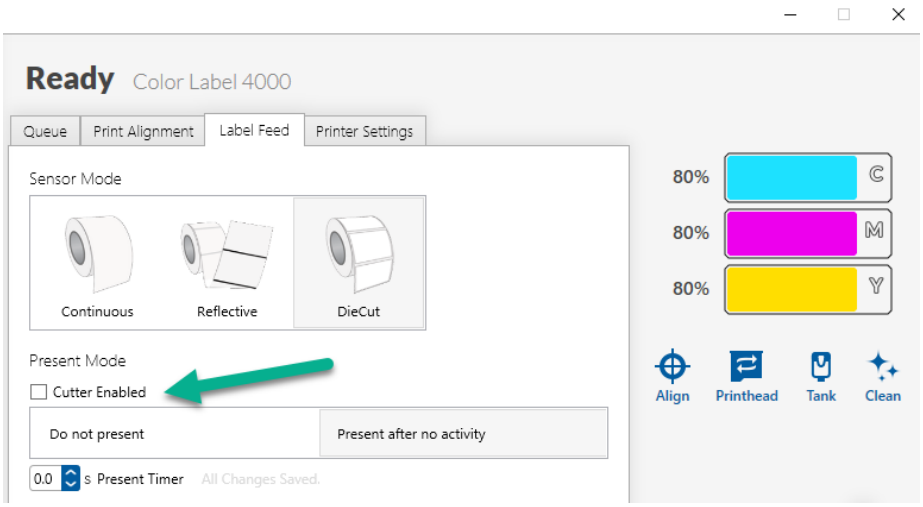
Cut after no activity. This setting will cut at the end of a print job if the Printer does not receive another print job within one second of the last print job in the queue. You can use this feature to cut at the end of multi-copy job, multi-page job or multiple individual jobs in the queue.

Cut every label. This setting will cut after every label.

Present Timer. Adjust this value to control how long after the last print the Printer will present the label for cutting or tear off. This can be useful to prevent unwanted cuts between jobs in queue.

Present Options:

Uncheck the Cutter Enabled box to show present options.



Do not present. In this mode the label stock does not move after the last label is printed. This means that part of the last label printed is still in the Printer. This should be used only if you have a label rewinder attached.

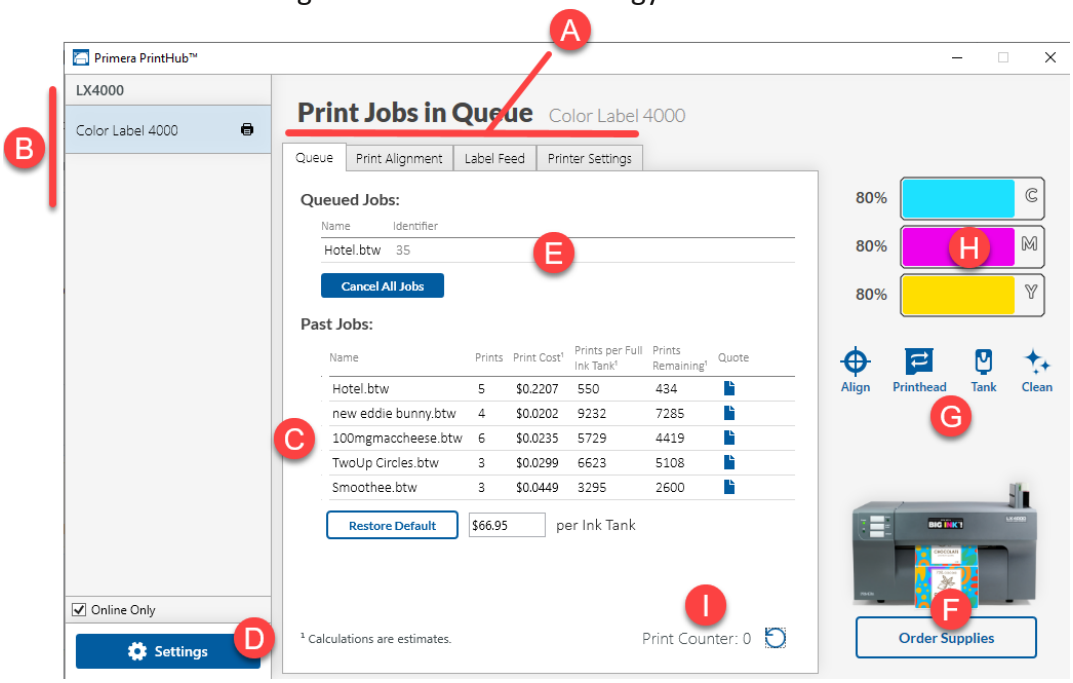
Present after no activity. This setting will present (feed all printed labels past the tear off point) at the end of a print job if the Printer does not receive another print job within one second of the last print job in the queue. You can use this feature to present at the end of a multi-copy job, a multi-page job or multiple individual jobs in the queue.

Section 3: Primera PrintHub

Primera PrintHub is used to interact with the Printer for gathering ink levels, maintenance, alignment, cost calculation and several other functions. You can use it to manage these functions on multiple LX4000 printers and other Primera label printer models.

PrintHub automatically installs with your printer driver and can be accessed through the printer driver preferences or as a program on your Windows start menu.

1. Connect the Printer via USB and turn on the power. PrintHub accesses most of the information it uses from the printer itself, so the printer must be turned on and communicating for the program to be useful.
2. Go to Start - Programs - Primera Technology - Primera



A. Use these tabs to adjust alignment, sensor mode, output mode, and advanced settings.

B. If you have multiple Primera printers connected, they will be listed here.

C. Past jobs will show the last five jobs along with cost information. Click the document icon to view a cost report.

D. Application Settings (Automatic Update Settings)

E. Print Queue shows the current printing job.

F. Order Link

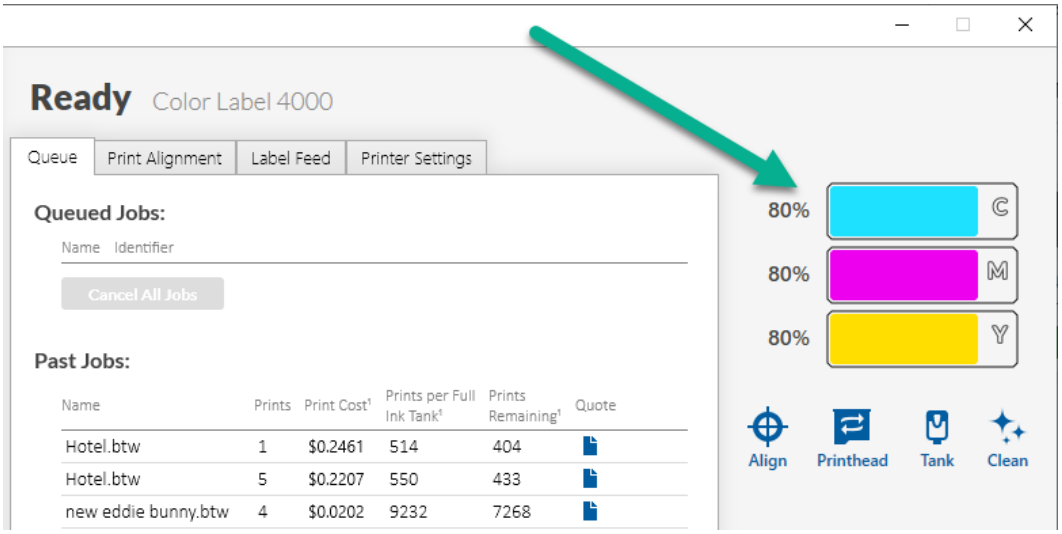
G. Frequent Activities

H. Current Ink Levels

I. Print Counter

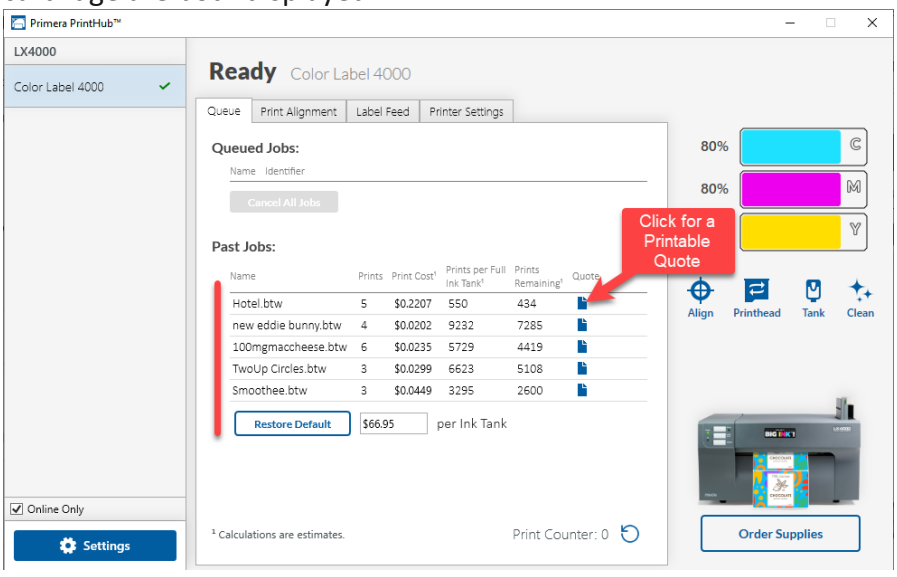
3A: Monitoring Ink Levels

Ink levels can be monitored at any time by using PrintHub. Immediately after printing starts, PrintHub will display the ink levels in the upper right corner of the application. Ink is displayed in 5% increments.



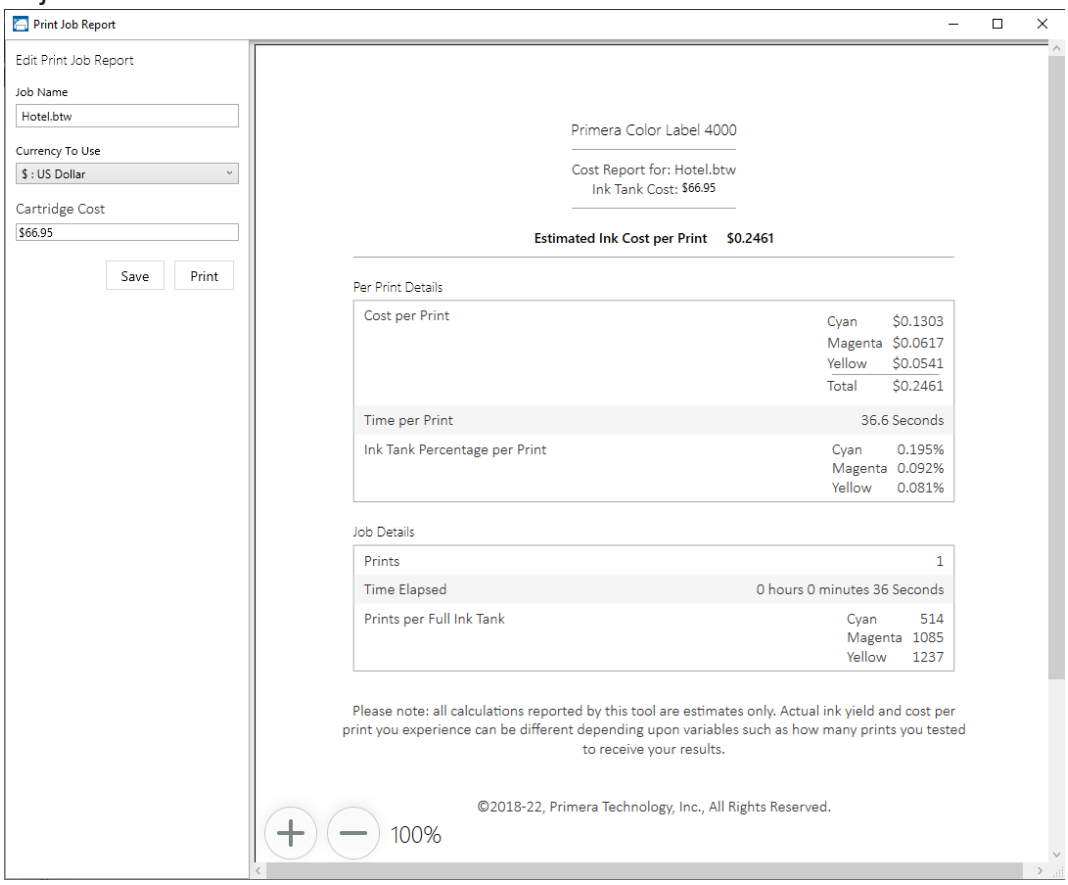
3B. Using the Cost Estimator

The cost estimator is found under the queue section on the first tab of PrintHub. The last five job costs are stored in the list. Each job will show the cost per label based on the cost per cartridge entered below the list. Enter the actual cost of the cartridge you paid. Prints remaining on the currently installed cartridge and total prints on the new cartridge are both displayed.



To see a printable/savable report click on the document icon next to the job you want to see. A report will display the information. You can print or save the report from this

screen. You can also change the currency using the drop down, change the job name or adjust the cost from this screen.



Important Note: *The cost per label represents the average cost per label over an entire run of labels. This means that the per-label cost will decrease and become more accurate as the number of labels printed increases. This is because the ink that is used for periodic cartridge maintenance is divided into a larger number of labels. Primera recommends printing at least 5 labels for an accurate per label cost.*

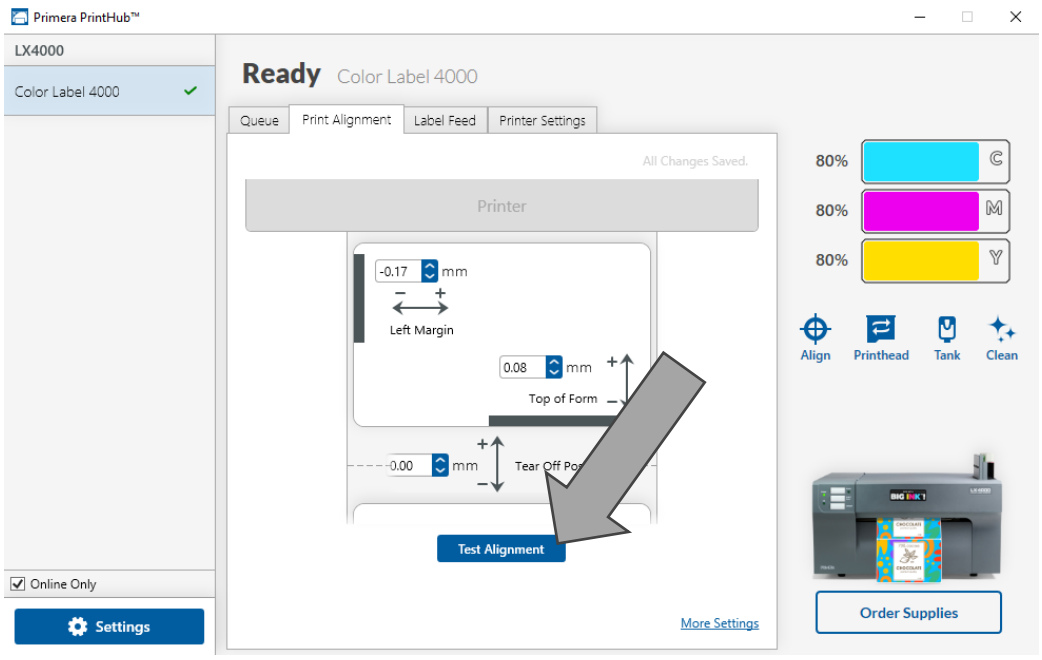
3C. Adjusting the Print Alignment

If your previous experience with printing is limited to printing letters and cards to 8.5 inch by 11-inch paper, you probably are not familiar with an essential part of a label printing - Print Alignment. Standard printers feed a sheet and start printing based on the start of the sheet. They also prohibit printing to the edge of the sheet. This is to avoid any need for alignment. The LX4000 senses the label's beginning with an optical sensor and can print to the top, bottom, left, and right edge. Because of this, it is necessary to align the Printer to work with specific types of label stock.

The LX4000 comes factory-calibrated to print exactly to the edge of Primera label stock. However, due to variations in the left margins and other variables, it may be necessary to fine-tune these settings at the beginning of each roll. This is especially true for other non-Primera brand label stock.

Important Note: *Before adjusting alignment settings, first print one label at the quality level you intend for the entire job. This will ensure the label stock is moving at the same speed, and the stock sensor will sense the gap in the same way.*

Adjust print alignment using the PrintHub. Go to the Print Alignment Tab (second tab).



Important! *Before adjusting any values, print the test alignment to see how close you are to alignment. The on-screen graphic is the same as the print, which makes it easier to adjust these values.*

Three items can be adjusted here:

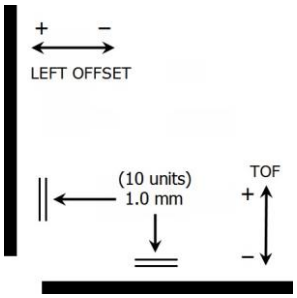
- **Tear off/Cut Position.** This value adjusts the position of the last label printed after it has been presented for tear-off or for cutting. This only applies if the output

mode is set to "Present the label." Add to the current value to move the tear point closer to the Printer. Subtract from the current value to move the tear point away from the Printer. The value is automatically saved as soon as you set it.

- **Left Margin Offset.** This value moves the printed label left or right. Add to the current value to move the printed label to the right. Subtract from the current value to move the printed label to the left.

Note: *Before adjusting this value, make sure the label stock is properly loaded so that there is no gap between the edge of the liner and the fixed throat guide. Any gap at this point will greatly affect the Left margin offset value needed to align the label. Also, if you adjust the value with improperly loaded label stock, you will have to adjust it again if you load the label stock correctly the next time.*

- **Top of Form (TOF).** This value moves the print start position up or down on the label. Add to the current value to move the printed label down or toward the Printer. Subtract from the current value to move the printed label up or away from the Printer. The value is automatically saved as soon as you set it.



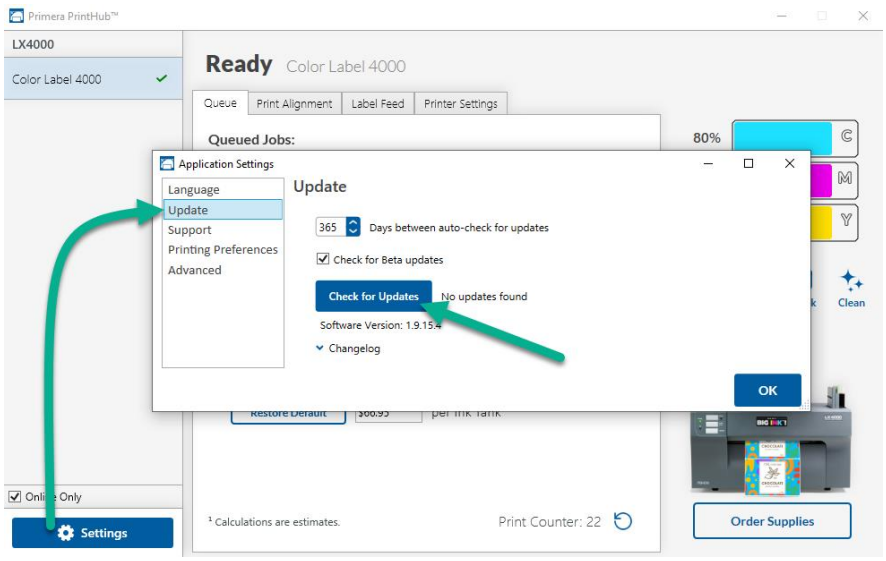
You may have to make several adjustments to one or more of these values. After each adjustment you can click the Test button to print a small test pattern on the label. This will help you find the proper alignment value.

3D PrintHub Settings

General application settings that apply to the software and all printers can be found by clicking the blue "Settings" button in the lower left. Printer-specific settings can be found on the "Printer Settings" menu item. See next section.

Language. Typically, the language is set to match the language setting in the operating system. However, you can override currency settings on the Language Tab.

Automatic Updates. Automatic Updates will update PrintHub, the printer driver, and the printer firmware. Every seven days, you will be prompted to update the software if there are any newer versions. You can choose to increase or decrease that automated check. You can also perform a check for updates immediately by clicking the "Check for Updates" button. Finally, if you would like to receive beta software, check the "Check for Beta updates" box



Printing Preferences. You can choose to close PrintHub after printing completes by checking the "Close this application after printing completes" box. PrintHub automatically opens whenever you send a print job to the Printer. If you do not want PrintHub to open in front of other programs, you can check the "Launch minimized during print" option.

Support. Click the "Generate Support Report" button to generate a zip file on your desktop containing all recent log files. Send this to tech support so they can help solve any printing problems.

Advanced. Check the "Generate Printer Status XML" box to create an XML at

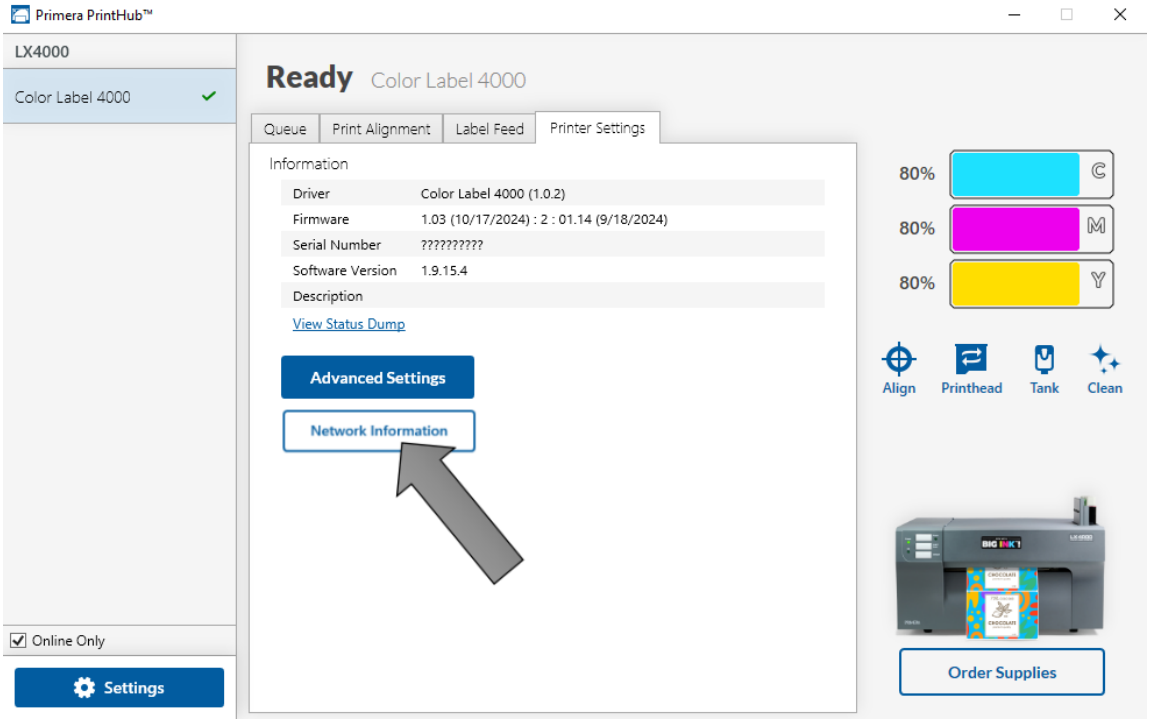
"C:\ProgramData\PTI\PrintHub\PrinterStatus.xml".
Software developers can use this file to display status information such as error messages and ink levels in 3rd party applications.

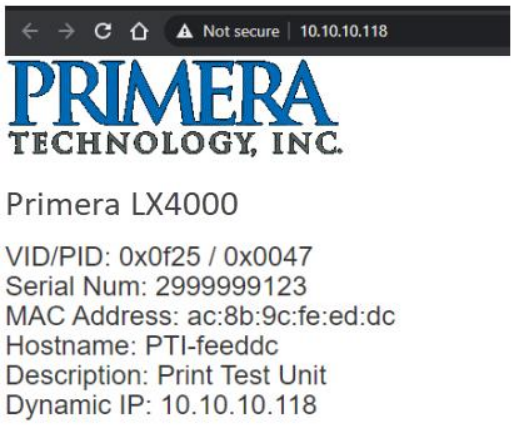
3E PrintHub Printer Settings

Printer settings can be found in Primera PrintHub on the Printer Settings Tab for the LX4000.

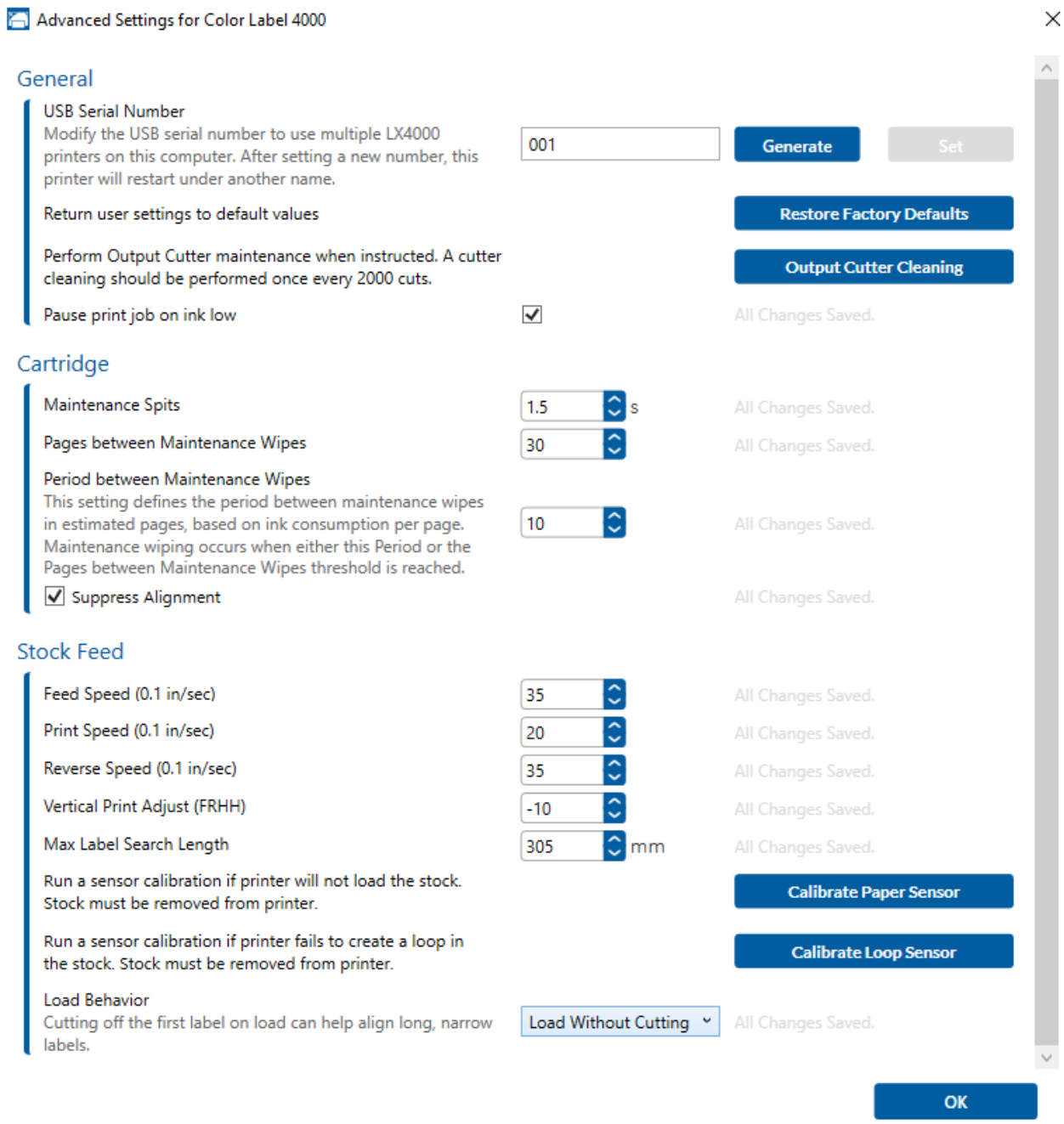
Information. This section displays all current driver, software and firmware versions.

3E.1 Network Information. This button will be displayed if you are connected to the LX4000 via Ethernet. Click this button to display printer network information in your browser.





Advanced Setting Button. Click the Advanced Settings button to view the following settings.



General Settings

3E2. Multiple Printer Support

You can install multiple printers to the same computer and use them simultaneously. To do so you will need to change the USB serial number identifier of one of the two printers, two of three printers, three of four printers etc. To change serial numbers:

1. Connect each new Printer one at a time. The current USB Serial Number will be displayed.

2. Click Generate. It will find the next available USB Serial Number based on the currently connected printers. For the first one it should set it to 2 and for the next printer 3 and so on.

3. Click Set. You will hear the Printer reset and the settings window will turn gray. After it resets you will be able to see the settings window again. Keep the Printer connected.

4. Now you can connect the next Printer. Windows will automatically install a new driver for that new Printer and name it Color Label 4000 (Copy 1). You can rename it later by editing the printer properties in the Windows printer list.

5. You will now see a second printer appear in the left column – Color Label 4000 (Copy 1). Click on it to display information about this Printer. If this is the last Printer, you will connect you are done. If you wish to connect additional printers, follow steps 2-4.

Restore Factory Defaults. This will set all Print alignment and other calibration settings back to factory defaults.

Output Cutter Cleaning. See this article.

Pause print job on ink low. Enable a warning at 20% ink remaining to check the physical ink levels in the tanks.

Cartridge Settings. Here you can adjust the frequency of certain maintenance operations. Increasing the value of "Seconds between Maintenance Spits" will decrease ink usage but could also cause poor quality printing.

Increasing or Pages between Maintenance Wipes will speed up printing but could also cause poor quality printing.

Check the Suppress Alignment message to prevent the window from appearing which prompts you to align the cartridge every time a new cartridge is installed. Skipping the alignment is faster but can result in poor print quality.

Stock Feed Settings

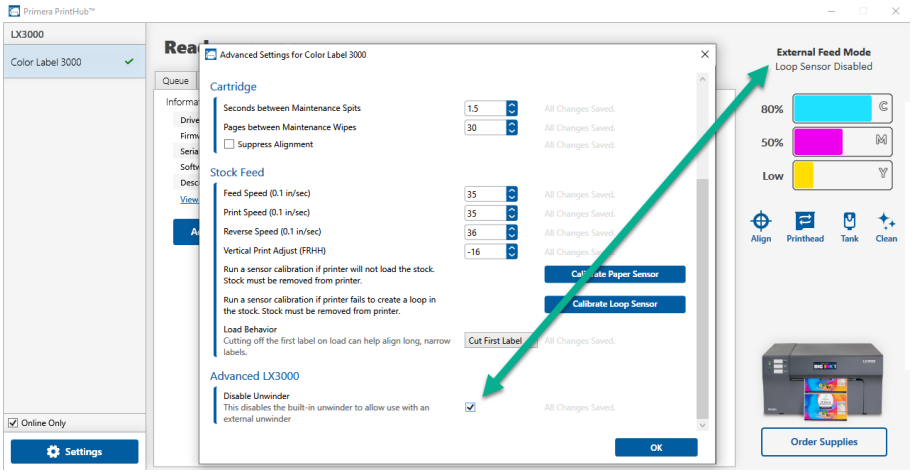
Feed, Print, Revere Speed settings. Adjust these settings only if you experience skipping and feeding problems described in this article.

Max Label Search Length. See this article.

Calibrate the paper sensor if you are receiving TOF errors. The calibration process will prompt you to remove all paper/stock from the Printer before calibrating.

3E.3 Disable Unwinder/External Feed Mode.

Check this box to disable the loops sensor so that you may feed label stock from an external unwinder through the slot on the back of the printer. In this mode, labels placed on the internal unwinder will no longer feed. For this reason, a visual reminder is enabled in the upper right corner of Print Hub.



Tip: Leave a roll of labels installed on the internal unwinder so that your external labels will feed more easily past the roll bar.

Section 4: Printing from a PC

4A. Using BarTender®

Primera Special Edition BarTender UltraLite is included with the LX4000. You can download it at the link below. Use the code below when prompted after installation.

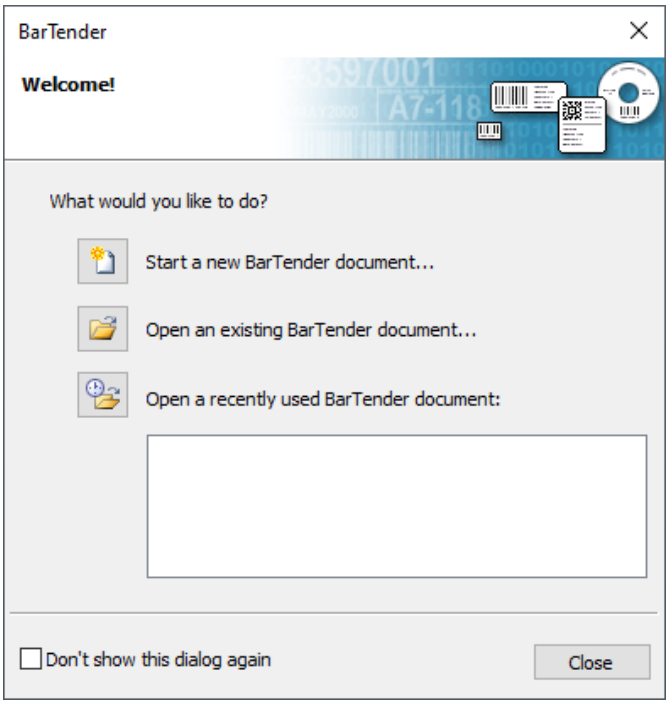
Download: https://portal.seagullscientific.com/downloads/bartender

Code: Z3T0-7ZJY-JFD1-3J9P

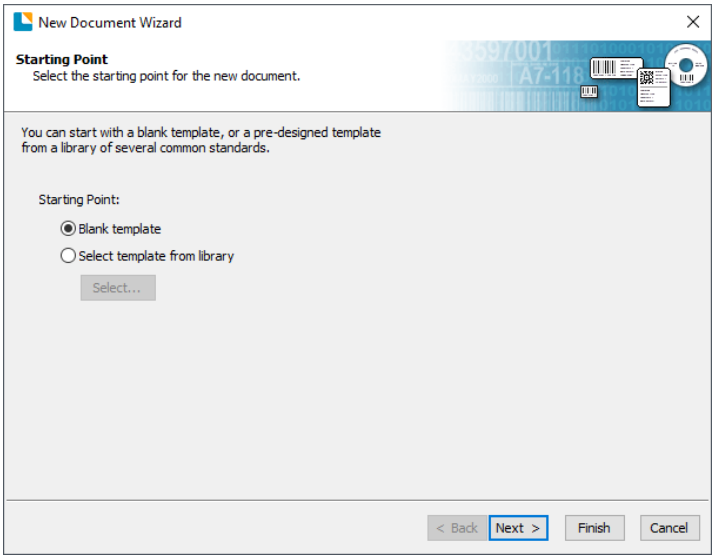
Other programs can be used to print. If printing from other programs, please follow the guidelines in Section 4D.

Use the following instructions as a guide through the wizard setup process.

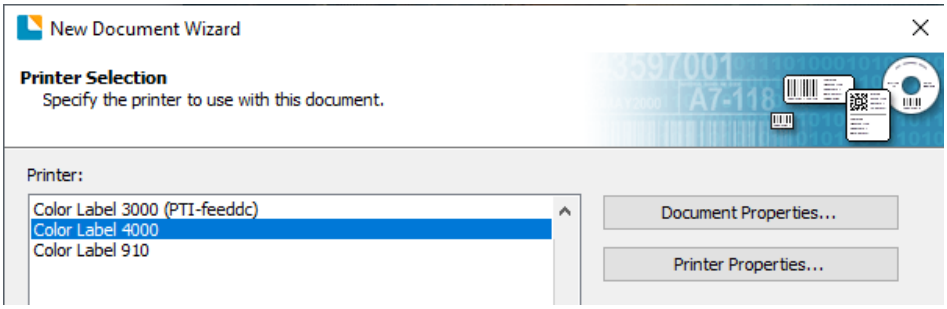
1. Choose "Start a new BarTender document..."



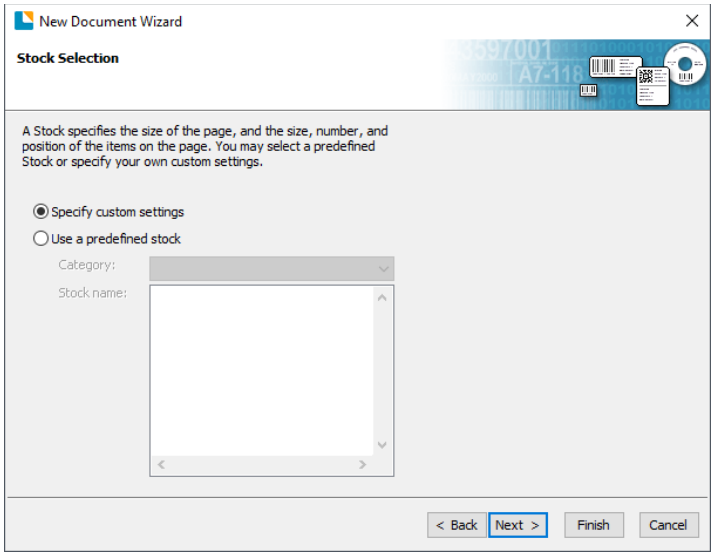
2. Select "Blank Template". Click "Next".



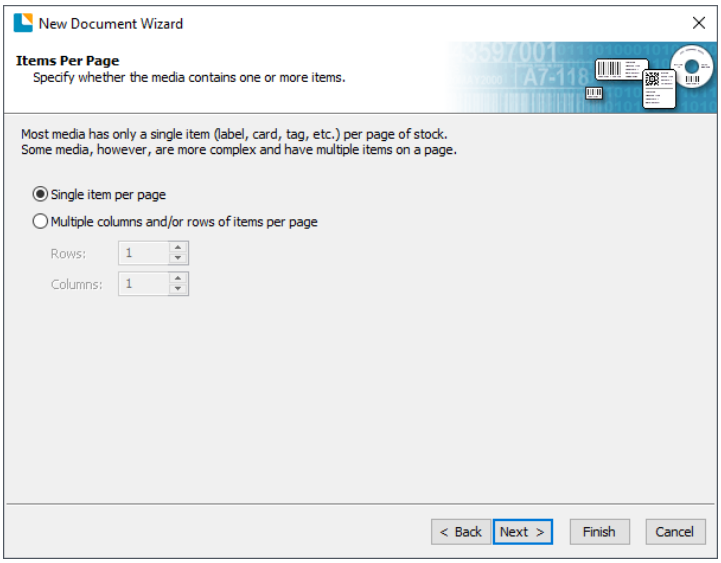
3. Select "Color Label 4000". Click "Next".



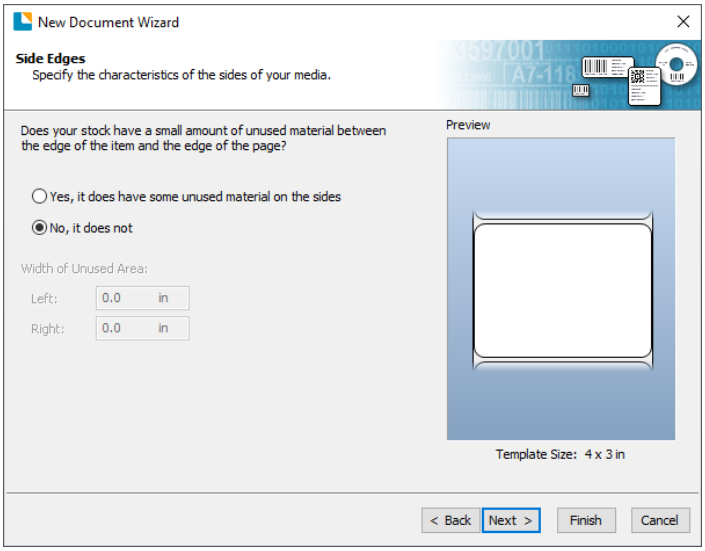
4. Select "Specify Custom Settings". Click "Next".



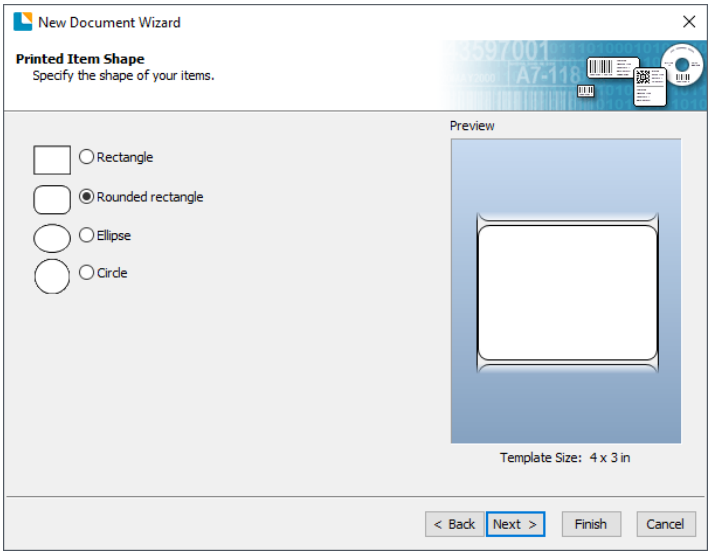
5. Select Single Item per page. Click “Next”.



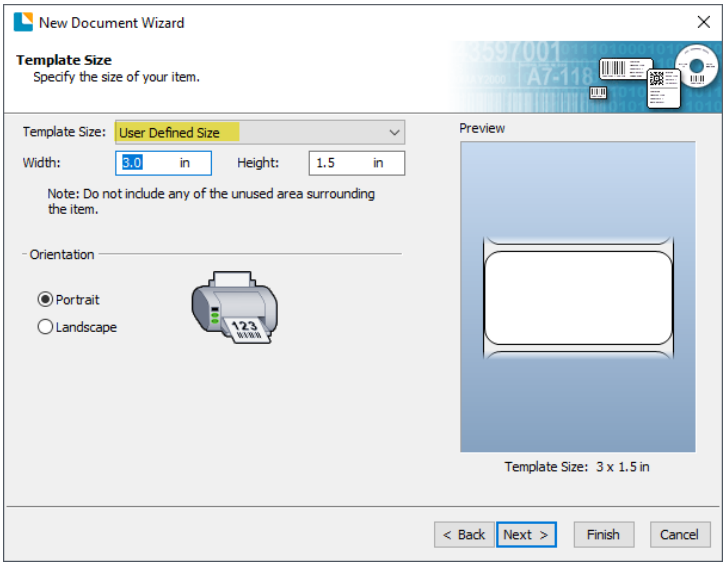
6. Select No, it does not for Side Edges.



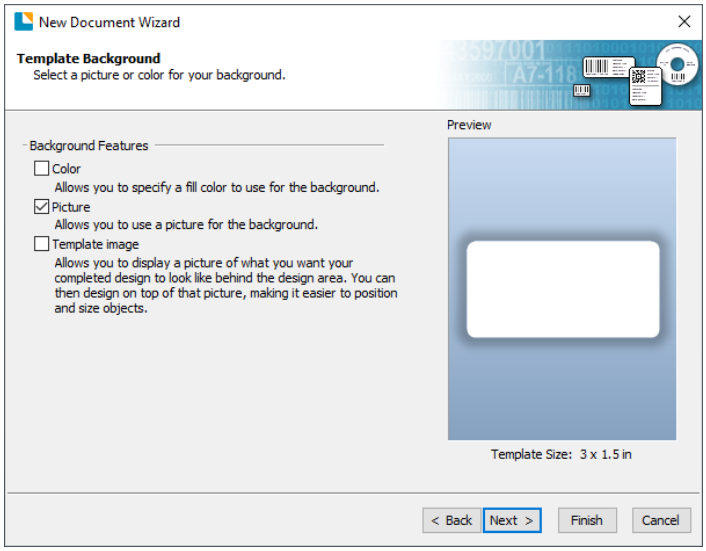
7. Select your label shape. This is typically "Rounded Rectangle" for standard labels from Primera with a .125 corner radius. Click Next.



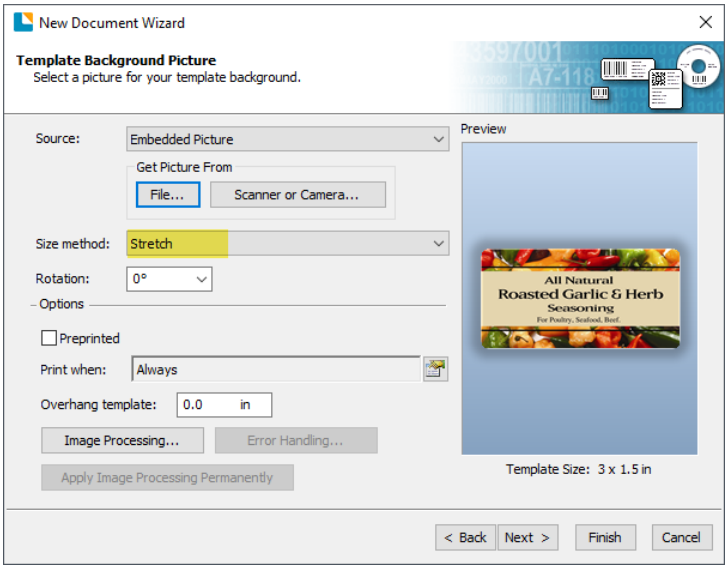
8. Set the template size to match labels installed in the Printer. Change the Template Size to User Defined Size to gain access to width and height. Click "Next".



9. Check the "Picture" box to add a background photo or graphic to your label. Click "Next". If you click "Finish", the remaining default wizard options will be set and no picture will be added.

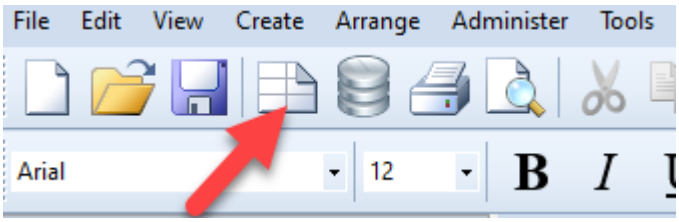


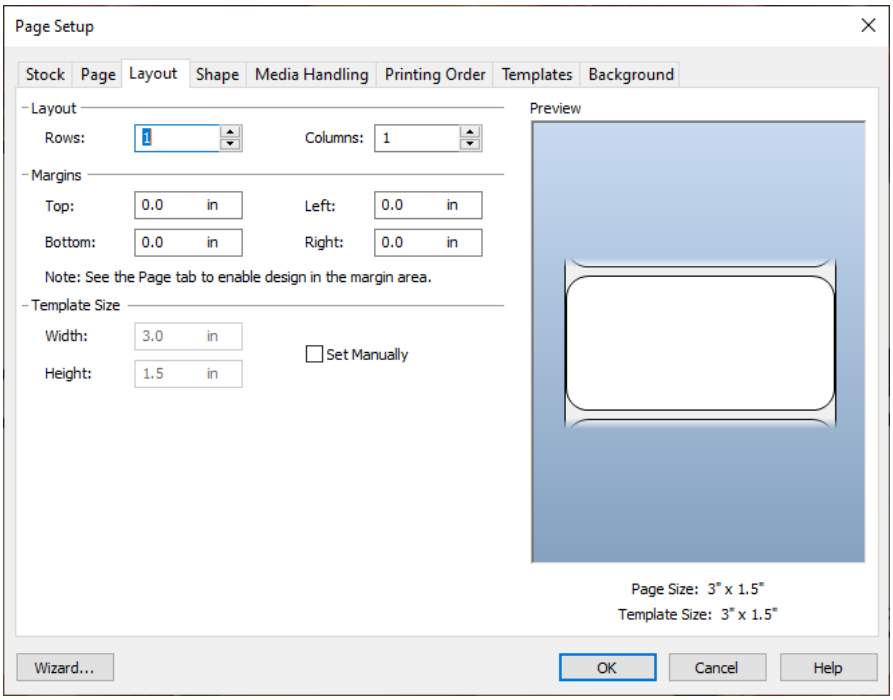
10. Select "Embedded Picture". Click the "File" Button to browse to the location of your photo/graphic file. Set the Size Method to "Stretch". Note the preview to the right. Click "Next" if you are satisfied with the layout of the photo or graphic. Otherwise, you may try one of the other Size Methods in the drop-down menu.



11. Review the label setup summary. If it is correct, click "Finish". Your blank label or label with background will be displayed.

You can edit any of these initial settings by going to the File Menu and selecting "Page Setup". Basic and advanced settings are available on the various tabs or click on the Page Setup Icon.



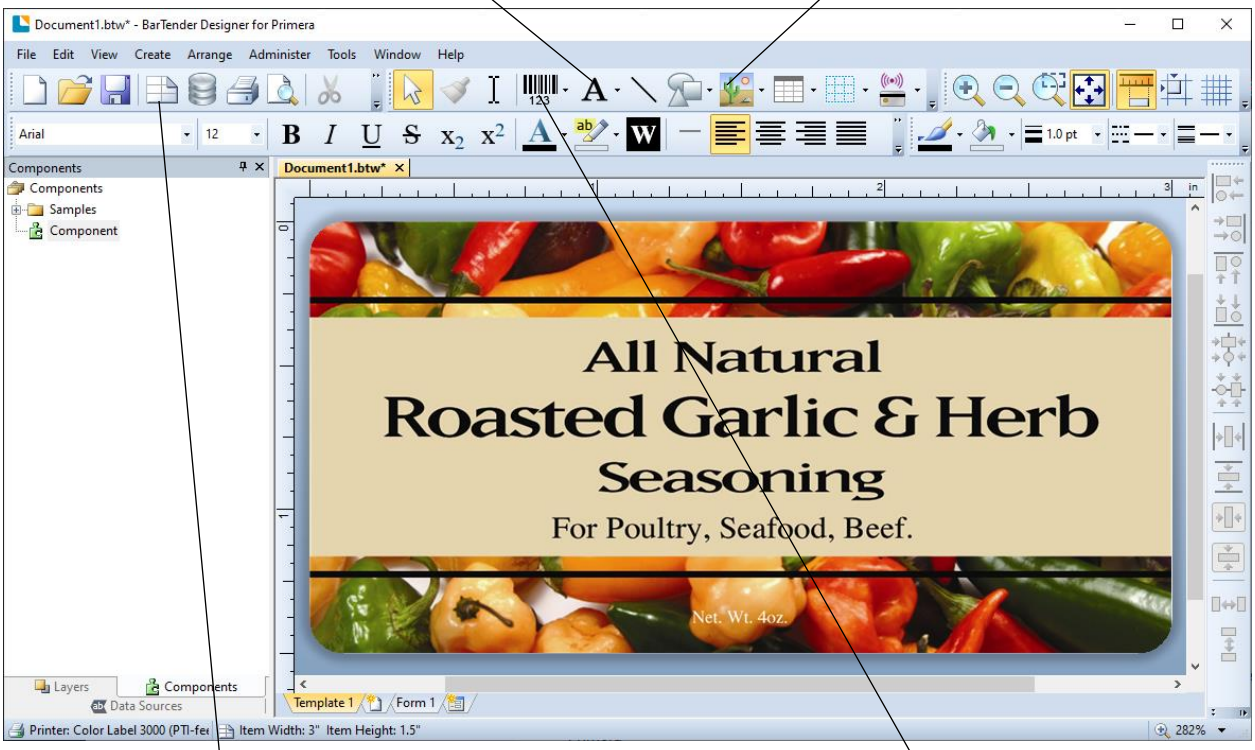


4B. Add Text, Barcodes, and Graphics to a BarTender Label

Once you have created your label size you will be able to add text, a barcode and/or graphics. This can be done using one of the buttons on the button bar at the top of the screen.

Add Text. Click the Text button. Now click anywhere on your label. "Sample Text" will appear. Edit the text on screen or double click it to open up text settings to change font, size and other settings.

Add Graphic. Click the Image button. Now click anywhere on your label. An Image icon will appear. Double-click it to open up image settings and browse to the image/graphic that you would like to insert.



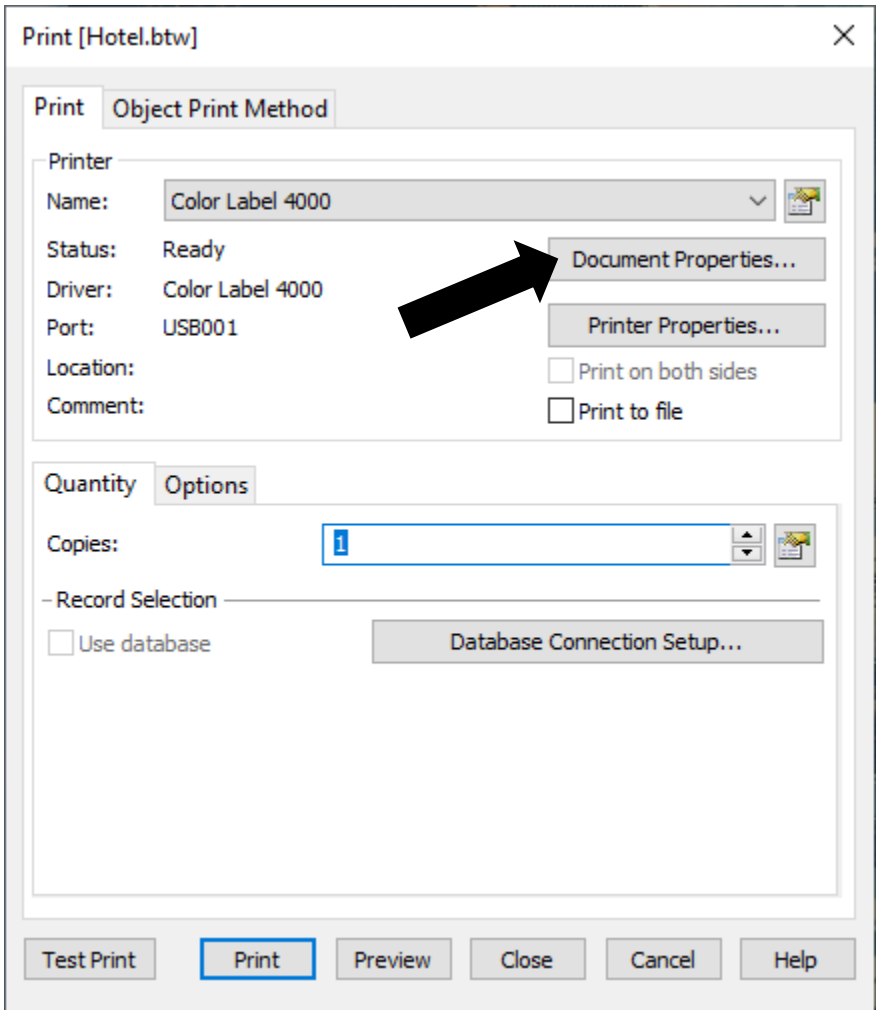
Page Setup. Click the Page Setup button to change your label size, adjust corner radius or change the shape.

Add Barcode. Click the Barcode button. Now click anywhere on your label. A barcode settings window will appear. Here you can choose any type of barcode and enter the value.

Tip! Double-click any object to open settings for that object.
Tip! Go to the Help menu to access the BarTender Manual and Tutorials.

4C. Printing from BarTender

1. To print, click the Print button or go to the File Menu and select "Print". The Print Dialog window will appear
2. Click Document Properties to access print quality settings. (Section 4F)
3. Set the number of copies
4. Click Print.

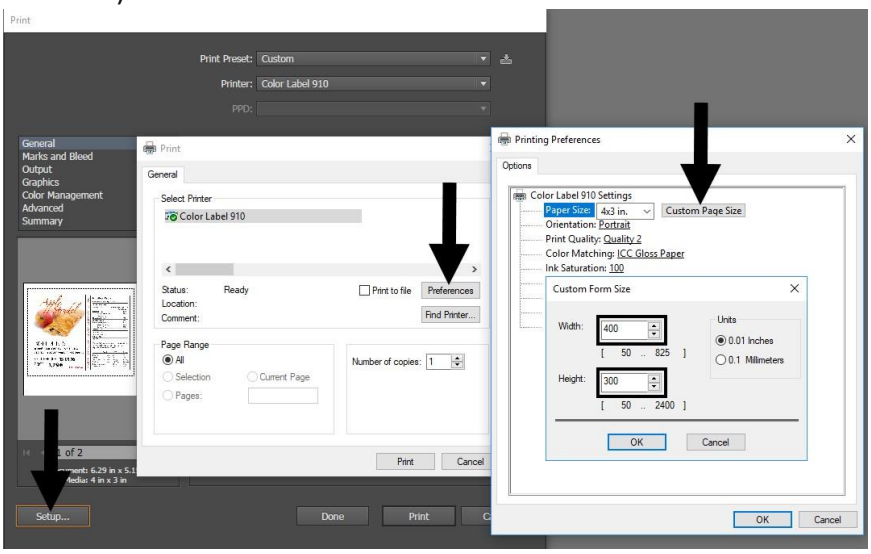


Tip! *Click on "Document Properties" to adjust driver settings like Print Quality and Color Matching.*

4D. Printing from other programs

Since this Printer uses a standard Windows printer driver you can print from any application you would like. There are just a few things to remember that will make it much easier.

1. **Set the Page/Label Size in the Driver.** BarTender automatically prompts you for the size of the label that you are using. When printing from any other program you must do this manually. Before you print, simply set the custom page size just as you would set print quality in the printing preferences. In the example below the label size is 4" x 3" so the custom page size is set to 400 x 300 (displayed in .01 inch units).

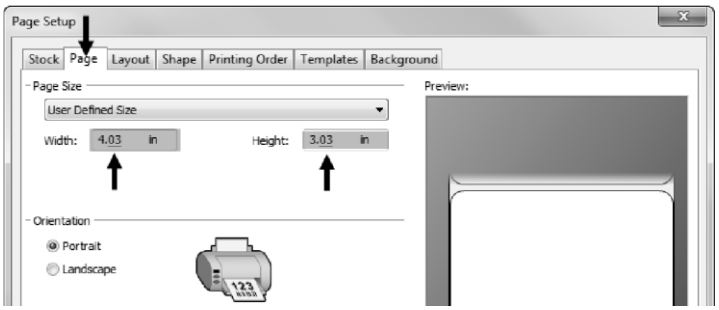


2. **Check the image or document size.** The image size or document size set in Illustrator should match to the Page/ Label Size set in the driver. If you have set your page size to 4" x 4" but your image is actually 5" x 3" the printer driver will automatically shrink your image to fit inside the 4" x 4" label. The result is that the actual printed label is 4" x 2.4". Avoid this by setting your document size or image size to match the label size.
3. **Choose the right printing program.** There are many different applications that are capable of printing to the LX4000. However there are only a few that are ideal printing applications. For example, Adobe Illustrator is an excellent design program but is not always the best printing program. It can be difficult to find the printing preferences or to know the exact size of the art board. It is best to save as a PDF file and print from Adobe Reader or export as a 300 dpi JPG and print from BarTender.

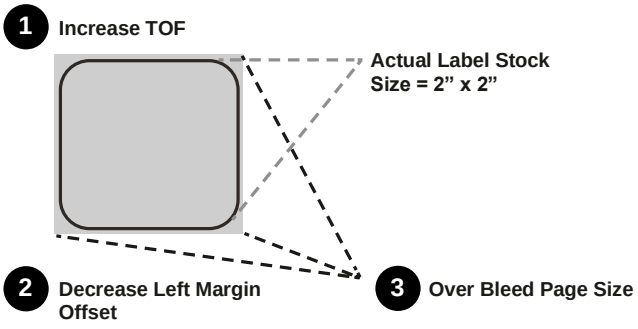
4E. Creating a Full Bleed Print

1. To create a label that completely fills the space with no white margins, adjust these settings in the status monitor and printing application (BarTender).

   Page Size. Increase the page size width by .03 inches (1mm). Increase the height by .03 inches (1mm). If you are using BarTender, simply change the size under the File Menu - Page Setup. If you are using other graphics programs, you will need to change the page size in the application and in the printer driver preferences.



   Left Margin Offset. You must decrease the left margin offset to center the over bleed on the label. If you over bleed by .03" you will need to decrease the Left Margin Offset by 0.4mm. This will center the page size increase so there is a .03 inch over bleed on both left and right sides. Some additional adjustment may be necessary if the label was not perfectly aligned to begin with. See Section 4E.
   TOF. Increase the Top of form by 0.4mm. This will cause the Printer to start printing before the label and ensure a fully printed label. Some additional adjustment may be necessary if the label was not perfectly aligned to begin with. See Section 4E.



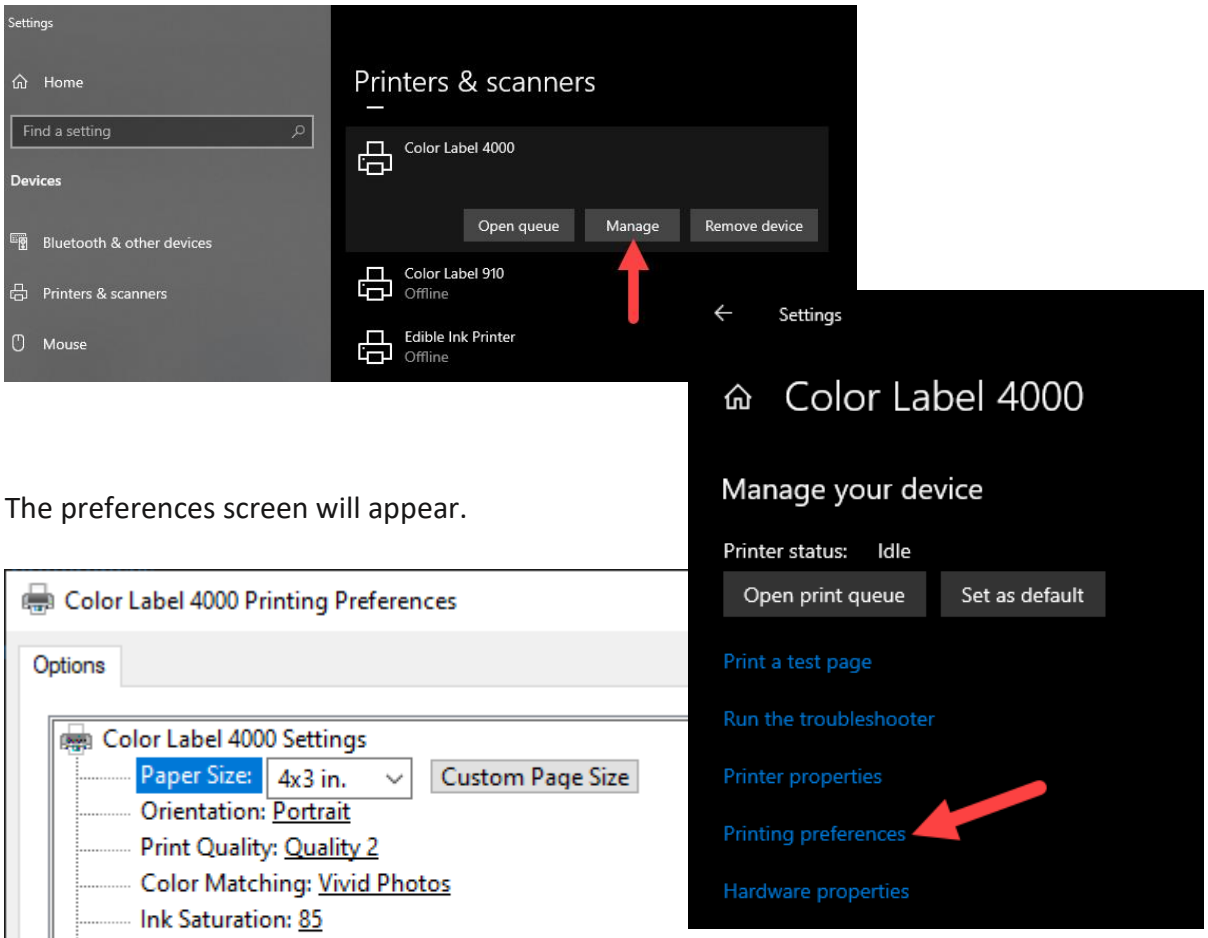
Note: *It is best to over bleed as little as possible to avoid excess ink on the label backing. Also, over bleeding too much will cause the Printer to skip labels. This is because the Printer stops printing too late to sense the next label.*

4F. Printer Driver Settings

Once the printer driver has been successfully installed, you will need to setup the driver with the appropriate print options. Refer to the following steps to change or verify your default printer driver preferences. These settings will apply to all new designs created in BarTender or other programs after the preferences were changed. Existing labels saved in BarTender will not be affected since the preferences are saved with the label. To change these preferences, you will have to change printer preferences through BarTender. (File Menu - Printer Settings)

To find Driver Settings:

Click the **Start** button, search for "Printers". Select Printers and Scanners. Select the Color Label 4000. Choose Manage. Select Printing preferences.



The preferences screen will appear.

Note on PC Settings:

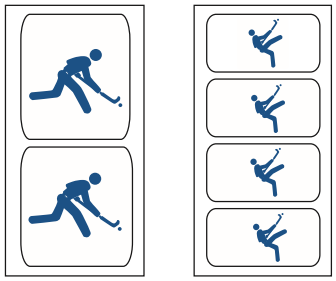
Most applications allow you to change these same printer driver options from their "Print" and/or "Printer Setup" screens. Some applications such as BarTender save your settings with the label, others use settings only for the current print job just sent to the Printer.

Paper Size

If you are using BarTender, this setting is adjusted during the label setup wizard. If you are using a program other than BarTender you will need to set this to the dimensions of your label. Keep in mind that the dimensions are always relative to the width and height of the actual label in the Printer. Orientation of an image on the label should not change this setting. See Section 2A for minimum and maximum label sizes.

Orientation

There are two settings for orientation, Portrait and Landscape. If your text and graphics print left to right or as shown on the screen, select portrait. If you wish your printing to rotate 90 degrees from what you see on the screen so it is printing horizontally, select landscape as your orientation. Remember, this does not change the width and height Paper Size. It is only a tool for viewing a label upright on screen that will be printed sideways on the Printer.



Portrait Landscape

Print Quality

There are 4 levels of print quality in the driver. The lower the quality, the faster the print. Quality 1 provides the fastest print available while Quality 4 provides the best quality. It is recommended that you experiment with the different levels when designing your label to find a good balance between print quality and print speed. Quality 2 is the default.

Color Matching

There are several options available depending on which cartridge is installed (Pigment or Dye). The options will update automatically depending on which cartridge is installed.

Vivid Graphics mode is best used for graphical images where accurate color reproduction is not as essential. Images printed in this mode will look more vibrant because more ink is being used to produce them. However, printing images of people may produce skin tones that have a reddish tint.

Vivid Photos mode is best used for photographic images where accurate color reproduction is very essential. Images printed in this mode will look lighter than those

printed in Vivid Graphics mode. Skin tones especially will look more natural in this mode.

ICC Gloss Paper, ICC Gloss Polyester and ICC Matte Bopp are all ICC calibrated color matching options. Select the setting that corresponds to your installed Primera media of the same type to produce ICC color matched prints. Note: ICC monitor calibration and additional setup is required for this option to work.

-NONE- will use no color matching. Select this option to use your own ICC profile using the instructions in article 042721.

Ink Saturation

This option controls the amount of ink used when printing an image. The default setting is 100%, which will provide the most accurate color matching. If the ink is not drying fast enough or "bleeding", you can decrease the Ink Saturation to lessen the amount of ink that is applied to the label.

Rotate 180 Degrees

Set this setting to Yes to print with the labels right side up as they exit the Printer.

Enable Bi-di

Set to "Yes" for fastest print speed. Requires an alignment print after every cartridge change. Set to "No" for better quality print (in some cases).

Launch PrintHub

This setting will open the Primera PrintHub application.

Details

Select this setting to see current firmware and driver version information and other printer settings.

Section 5: Printing from a Mac

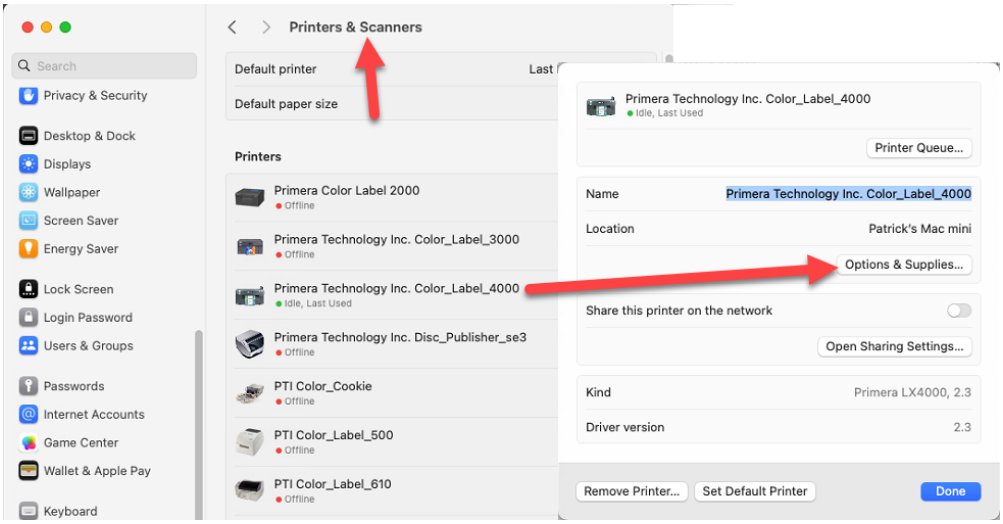
5A Print Utility Settings (LX4000 Config Utility)

The LX4000 Config Utility is used to interact with the printer for gathering ink levels, maintenance, alignment, and several other functions.

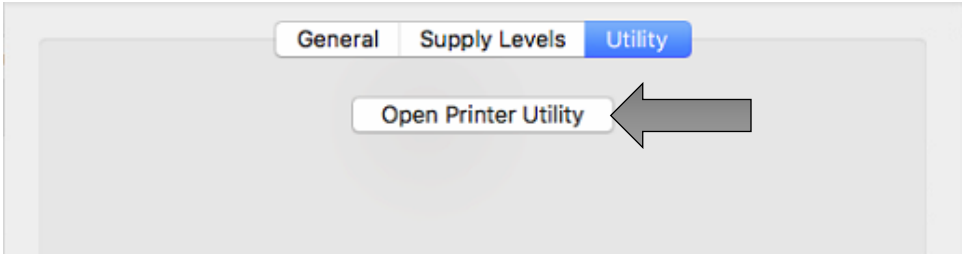
To Find LX4000 Config Utility:

The LX4000 Config Utility automatically installs with your printer driver and can be accessed through the Printer & Scanners in Mac under Apple Icon – System Preferences.

1. Connect the printer via USB and turn on the power. The LX4000 Config Utility accesses most of the information it uses from the printer itself so the printer must be turned on and communicating for the program to open.

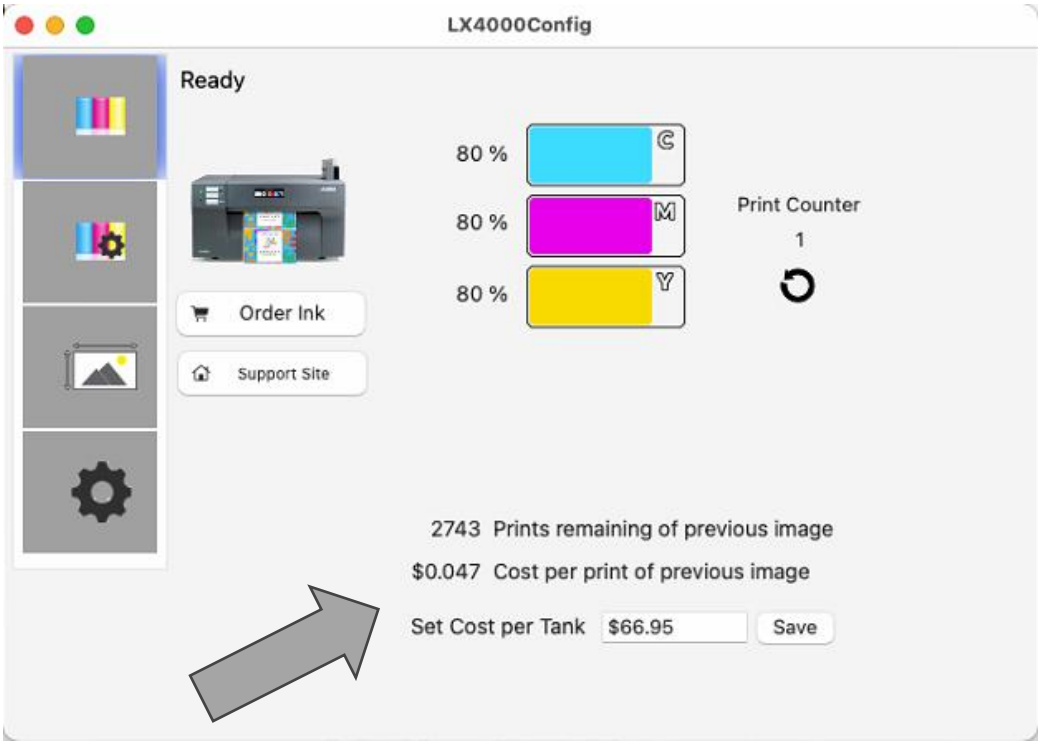


2. Go to the Apple Icon – System Preferences - Printers and Scanners, select the PTI Color_Label_4000, click on, Options & Supplies, and Open Printer Utility. Or you may simply print to the printer and the Utility will open.



3. The LX4000 Config Utility has 4 tabs that are arranged on the top of the window. Each tab opens a screen that has various similar functions.

- **Status Tab** (First Tab). Displays ink levels, print counter and any error messages.
- **Cartridge Tab** (Second Tab). Use for aligning the cartridge, cleaning the cartridge, and changing cartridge.
- **Alignment Tab** (Third Tab). Adjusts vertical and horizontal print alignment. Changes the Stock Sensor Mode and toggles the Output/Cut Mode.
- **Settings Tab** (Fourth Tab). Displays printer information including firmware version, driver version, and software version. Check for updates and set other advanced settings.



The cost per Label is listed below the ink levels. Set your cartridge cost to get an accurate estimated cost.

5B Adjusting Print Alignment/Label Offsets

If your previous experience with printing is limited to printing letters and cards to 8.5 inch by 11 inch paper you probably are not familiar with an essential part of label printing – Print Alignment. Standard printers feed a sheet and start printing based on the start of the sheet. They also prohibit printing to the edge of the sheet. This is to avoid any need for alignment. The LX4000 senses the beginning of the label with an optical edge. Because of this it is necessary to align the printer to work with specific types of label stock.

The LX4000 comes from the factory calibrated to print exactly to the edge of Primera label stock. However, due to variability it may be necessary to fine tune these settings at the beginning of each roll. This is especially true for other non-Primera brand label stock.

Important Note: *Before adjusting alignment settings first print one label at the quality level you intend for the entire print job. This will ensure the label stock is moving at the same speed and the stock sensor will sense the gap in the same way.*

Adjust print alignment using the LX4000 Config Utility. Click on the Alignment Tab (Third Tab).



Three items can be adjusted here:

* **Top of Form (TOF).** This value moves the print start position up or down on the label. Add to the current value to move the printed label down or toward the printer. Subtract from the current value to move the printed label up or away from

the printer. After adjusting the value click the Set Offsets button to send the value to the printer

* **Tear off Position.** This value adjusts the position of the last label printed after it has been presented for tear off. This only applies if the output mode is set to "Present." Add to the current value to move the tear point closer to the printer. Subtract from the current value to move the tear point away from the printer. After adjusting the value click the Set Offsets button to send the value to the printer.

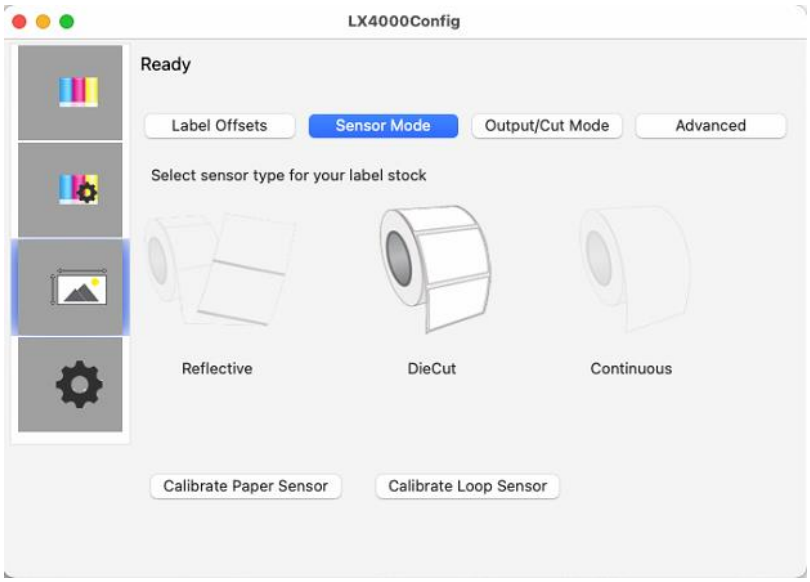
* **Cutter Offset.** This value adjusts the position of the cut after the last label printed. This only applies if the output mode is set to "Cut." Add to the current value to move the cut closer to the printer. Subtract from the current value to move the cut away from the printer. After adjusting the value click the Set button to send the value to the printer.

* **Left Margin Offset.** This value moves the printed label left or right. Add to the current value to move the printed label to the right. Subtract from the current value to move the printed label to the left. After adjusting the value, click the Set Offsets button to send the value to the printer.

You may have to make several adjustments to one or more of these values. After each adjustment you can click the Test Offsets button to print a small test pattern on the label. This will help you find the proper alignment value.

5C Set the Stock Sensor Mode

The stock sensor mode refers to the method the printer will use to detect the print starting position for each label. To access the Stock Sensor Mode, click on the Alignment button, then select Stock Sensor Mode. In most cases you will not need to change this setting.



Important Note: *Set the Stock Sensor Mode **BEFORE** loading label stock!*
You must also set the Stock Sensor Position (Section 2D) so that the sensor is sensing the correct point on the label stock.

Die Cut (Default). If you are using standard die-cut labels that look similar to the graphic use this setting regardless of the size of the label. Also, use this setting for through-hole label material where a hole is punched through each label or a notch is cut on the side.

Reflective. Use Reflective for label material where a black preprinted line (black mark) on the back of the label stock indicates the break between labels. Black marks are required on clear label stock rolls, or labels where the label waste matrix (waste) is left on the liner. Black marks can also be used for irregular shaped labels, circles larger than 4.6 inches or on any stock where the print starting position cannot be sensed using the label itself.

Continuous. (Sensor off.) If you have continuous stock with no die-cut, reflective mark or holes, set the Sensor Type to Continuous. This will turn off the stock sensor. In this mode there is no way to set the print starting position. The printer will simply start printing the first label and print each subsequent label immediately after the previous.

To produce a gap between prints simply add the desired amount of white space to the end of the label being printed.

5D Set the Output Mode

Use the Present/Cut Mode to adjust how the printer presents labels after they are printed or if/when they are cut after printing. There are different options available which change if the Cutter is enabled or disabled. If the Cutter is disabled, the label present options will be available. If the Cutter is enabled the present options are no longer available but cut options become available.

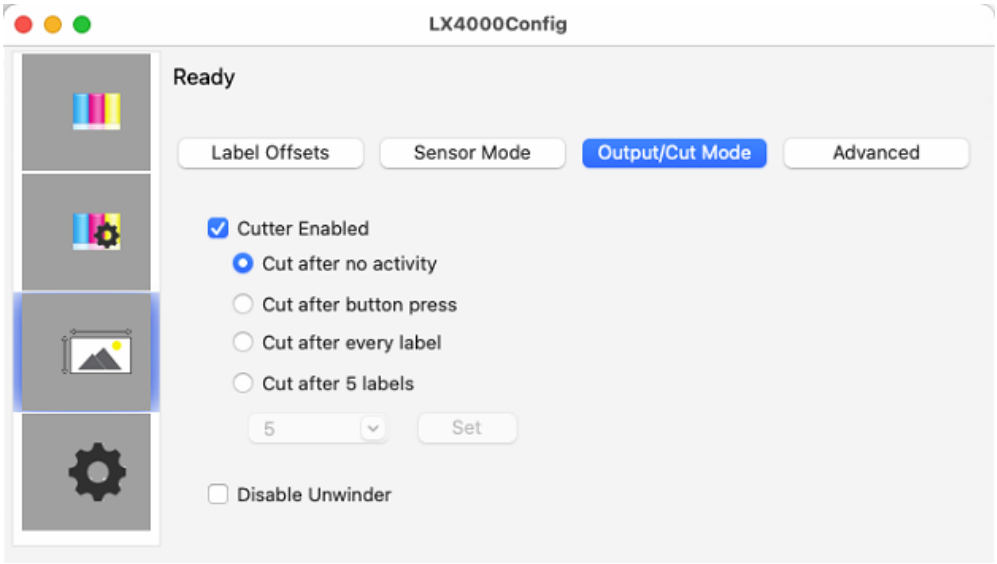
Cut Options (Check Cutter Enabled):

Cut after no activity. This setting will cut at the end of a print job if the printer does not receive another print job within one second of the last print job in the queue. You can use this feature to cut at the end of multi-copy job, multi-page job or multiple individual jobs in the queue.

Cut after button press. This setting will cut after you press the Load/Feed button on the printer. This can be used after one label or an entire job. This feature is useful if you will not be present at the end of the print to catch the cut label.

Cut every label. This setting will cut after every label.

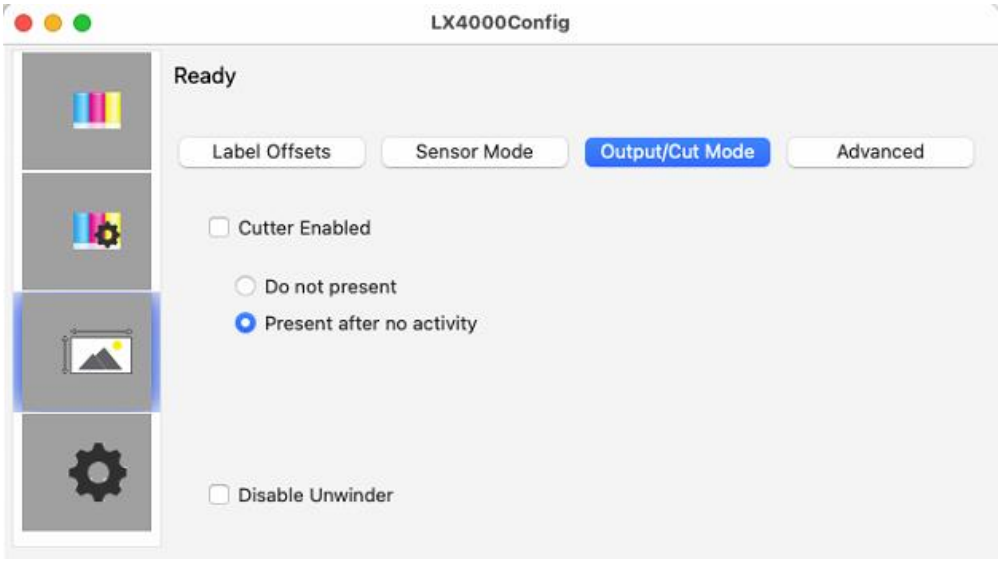
Cut after label count. This option will cut after the number of labels specified in the toggle box that appears when this option is selected. This is useful if you have front/back labels or sets of labels.



Present Options (Uncheck Cutter Enabled)

Do not present. In this mode the label stock does not move after the last label is printed. This means that part of the last label printed is still in the printer. This should be used only if you have a label rewinder attached.

Present after no activity. This setting will present (feed all printed labels past the tear off point) at the end of a print job if the printer does not receive another print job within one second of the last print job in the queue. You can use this feature to present at the end of a multi-copy job, a multi-page job or multiple individual jobs in the queue.

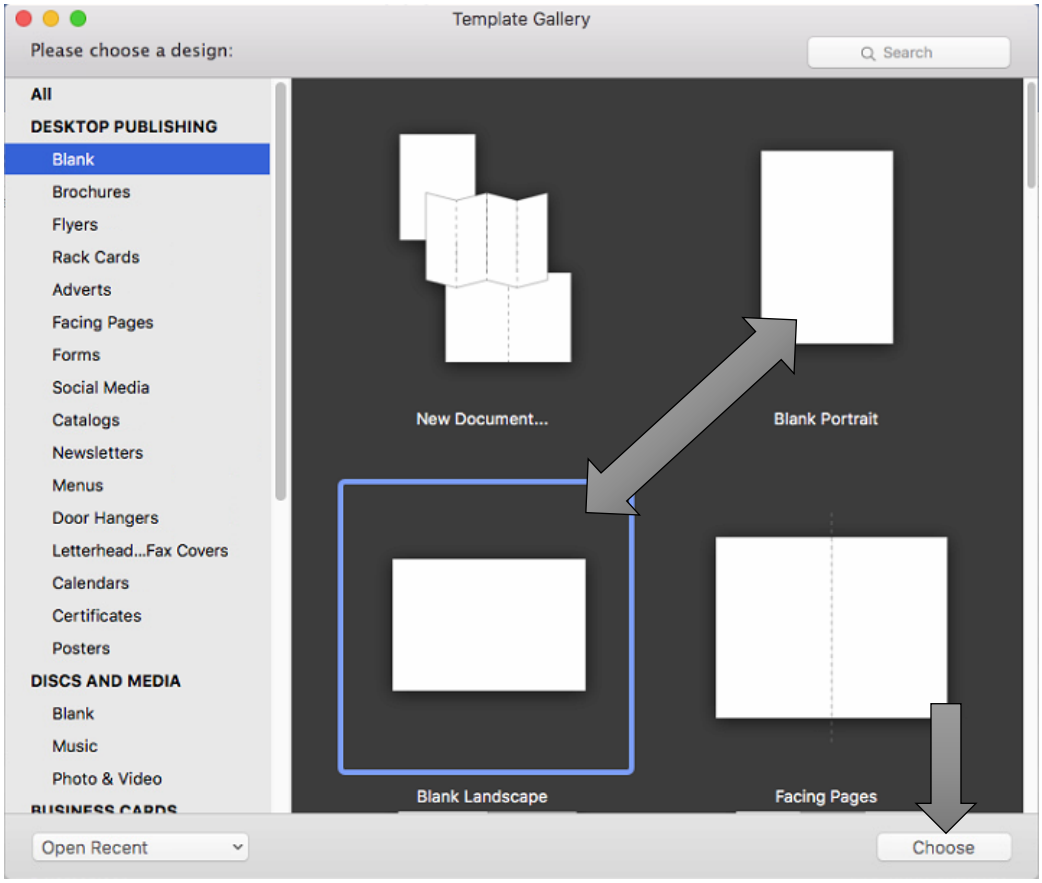


5E Printing from Swift Publisher

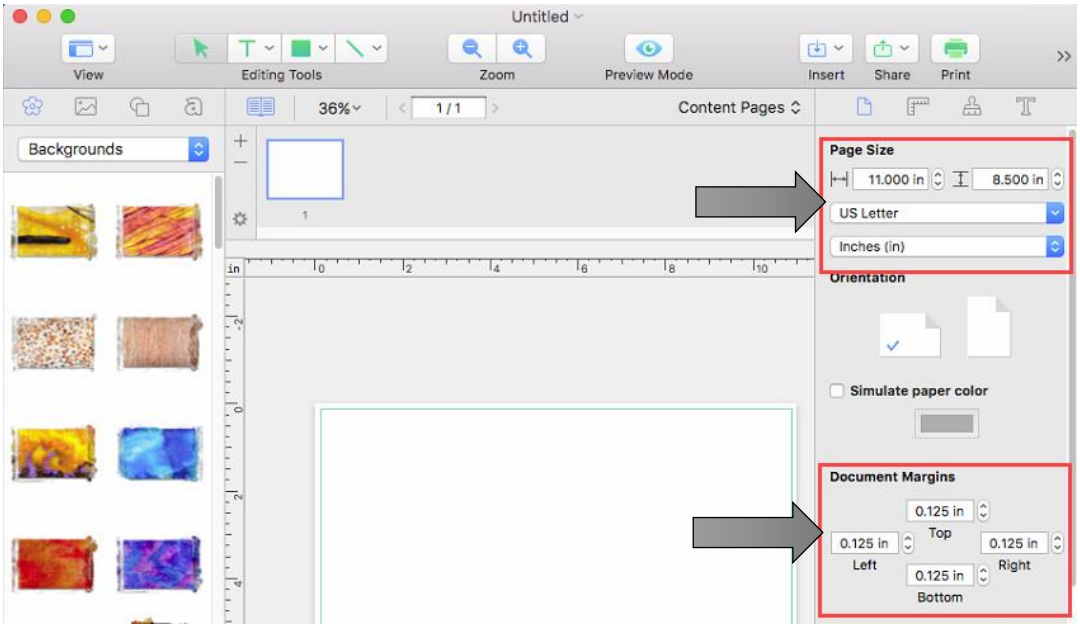
Swift Publisher is an inexpensive software that can be used to design/layout and print your labels if you are using a Primera label printer attached to a Mac. Below is a tutorial on how to setup a label using Swift Publisher by Belight.

Download a Free Trial Here:
https://www.swiftpublisher.com/

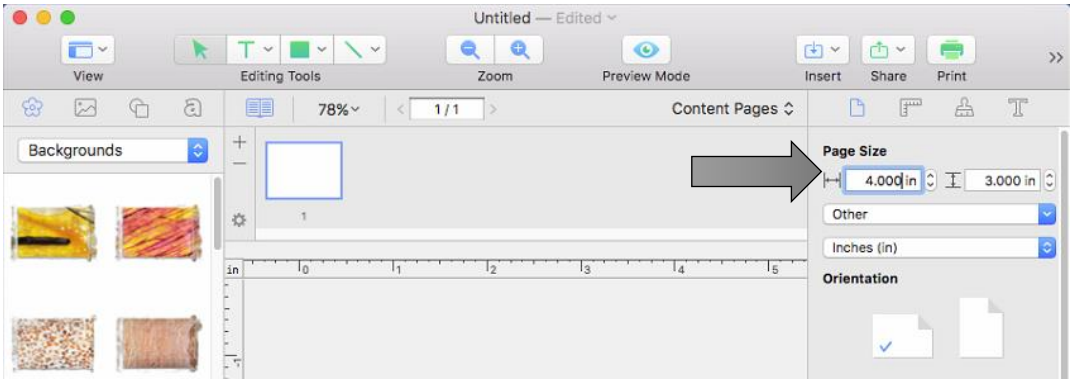
When you open the software for the first time you will be asked to choose a Template. Select Desktop Publishing – Blank. (Do not choose from the "Labels" category!) Choose either blank landscape or portrait. Click Choose.



1. It automatically defaults to 8.5 x 11. We will need to adjust the page size and the margins.

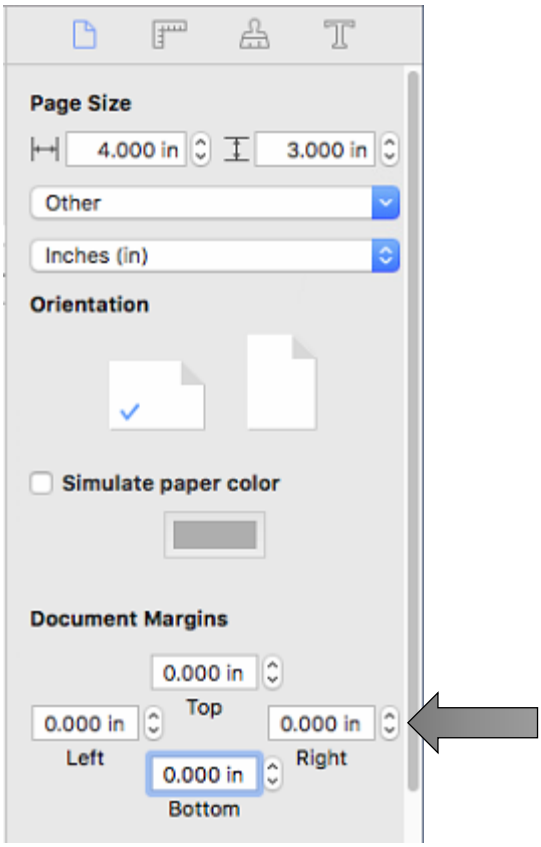


2. Type in the size at the top.

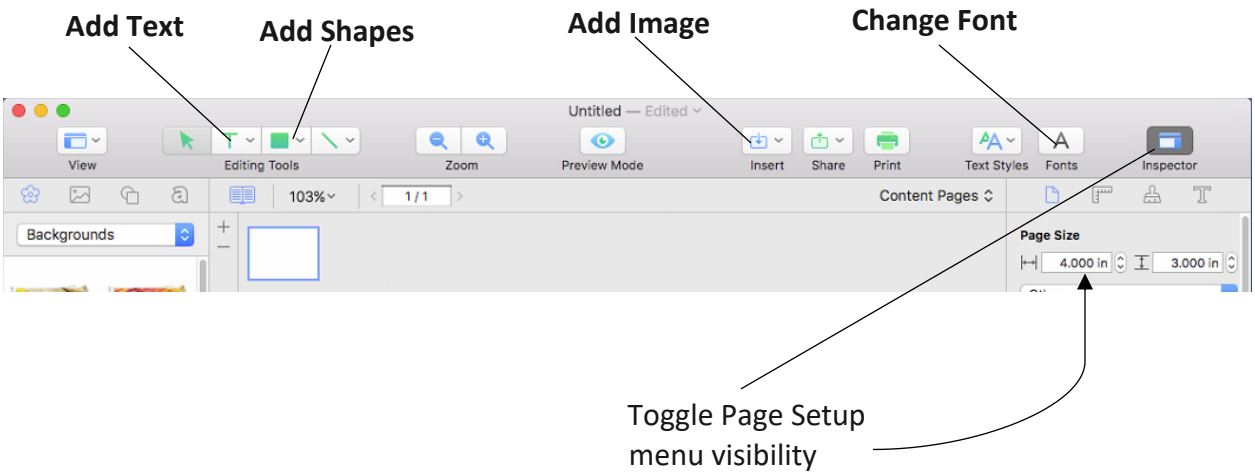


Important Note: The page size is not the same setting as the label size. In many cases you will choose the same size for both. However, if you change the orientation of the label so you can see text/graphics upgright on screen but the actual print will be rotated, you may need to choose the opposite setting for the label size. For example: Page Size = 3x4. Label Size = 4x3. Do not change the orientation as it will change the page size. Orientation is set automatically depending on the page size.

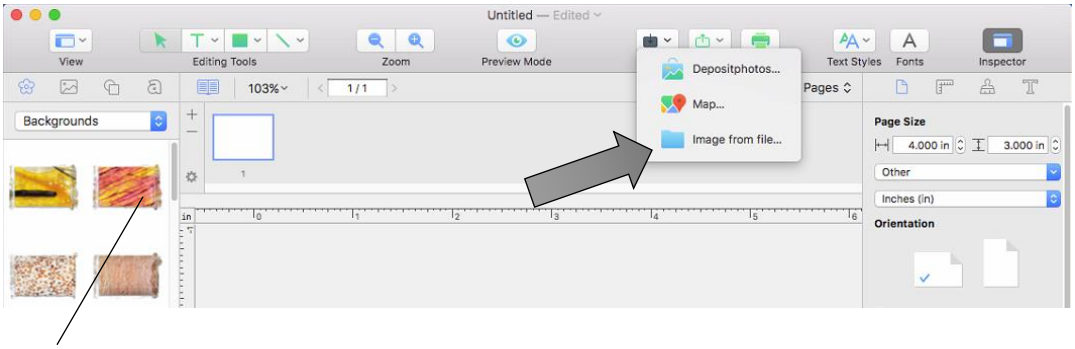
3. Next, set all margins to zero. This will allow you to create designs that completely fill the label.



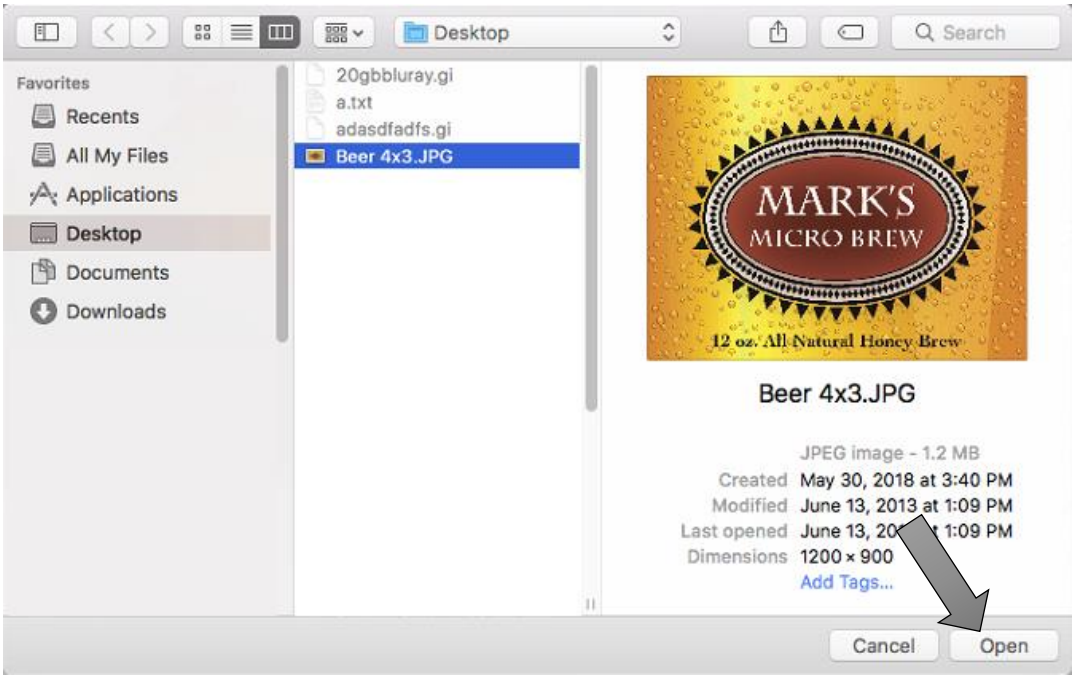
4. Add Text, Barcodes, shapes and images to your design.



5. For this example, we will add an image that we created. Click the insert Icon and choose Image from file….



Note: You can also add images from the Backgrounds menu included with Swift Publisher. Simply drag them to your template.



6. Once your image is imported into your template you will need to adjust the size to fill the entire template (if that is your intention). Adjust the size by clicking the ruler icon in the Inspector with the image selected. Check the “Fit aspect ration” box and then type in your size.

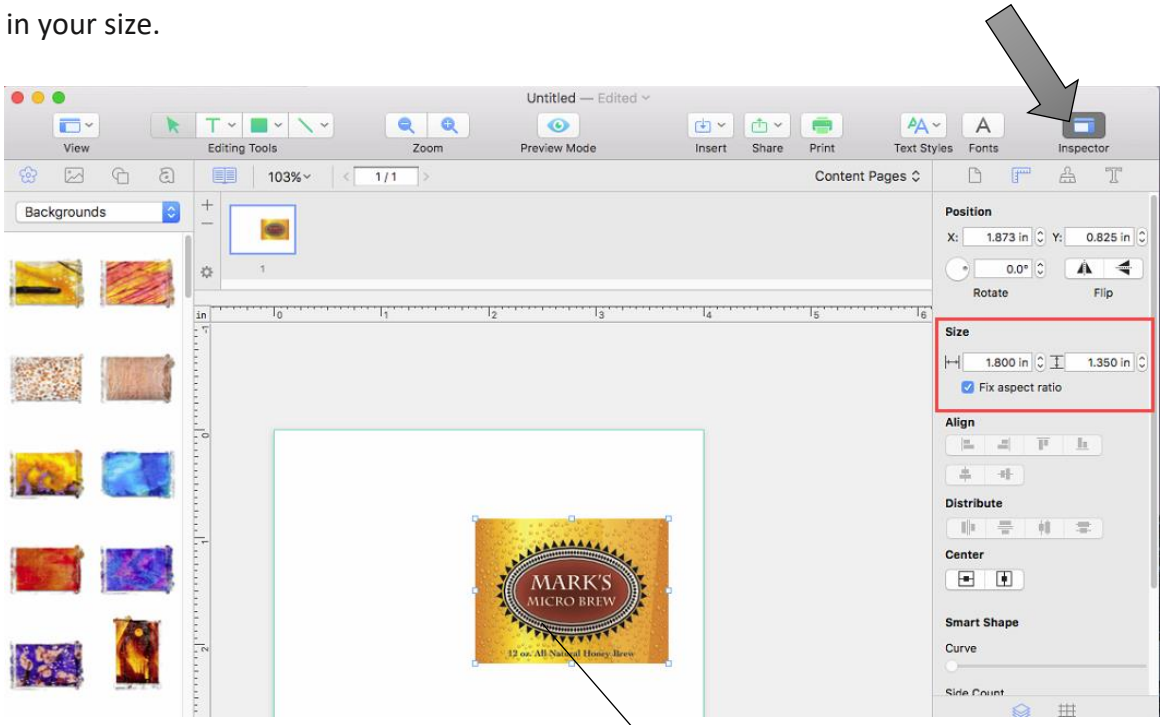
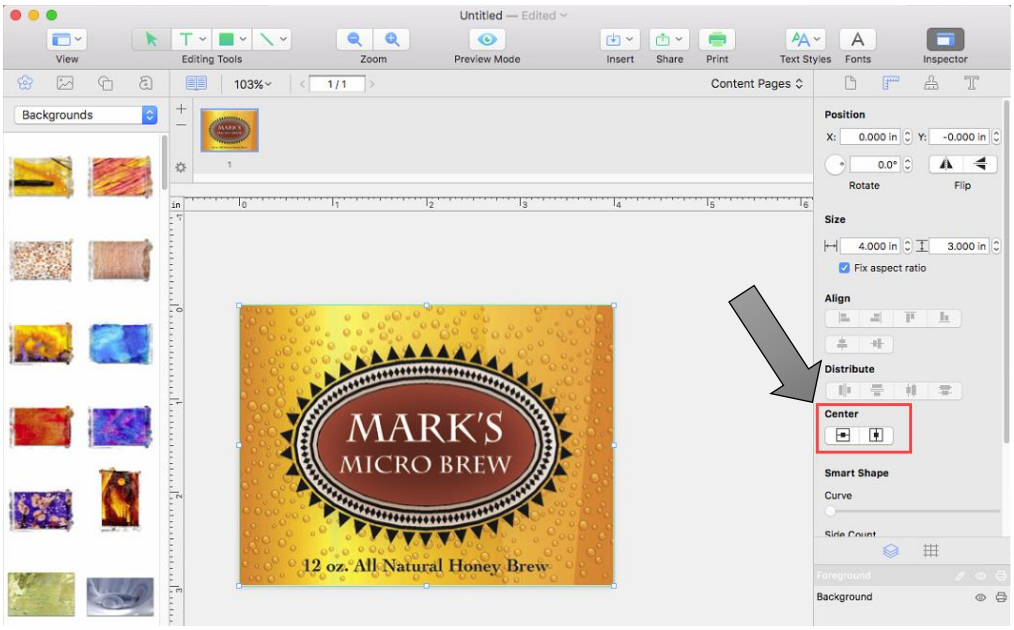


Image Selected

7. Now center the image by clicking both the horizontal and vertical centering buttons.

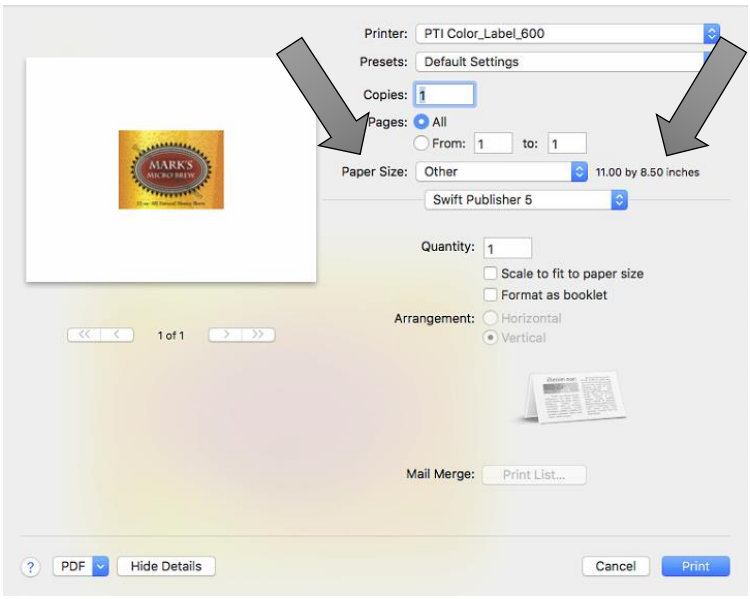


8. You are now ready to print. Click the Print icon to open the print box.

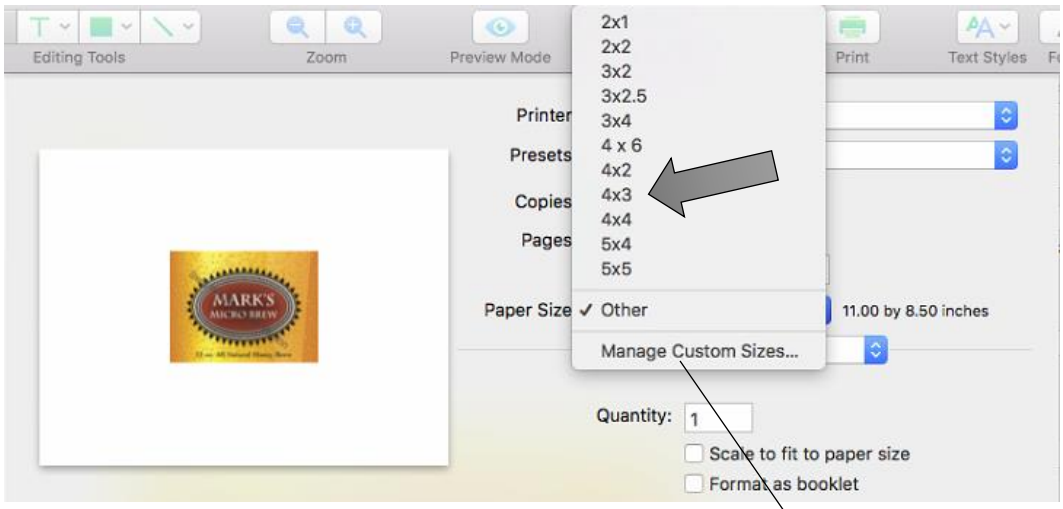


dialog

9. The default label size is 8.5 x 11. You can see this is not correct by looking at the preview. Always adjust the Paper Size to <u>match the label stock size installed in the printer.</u>

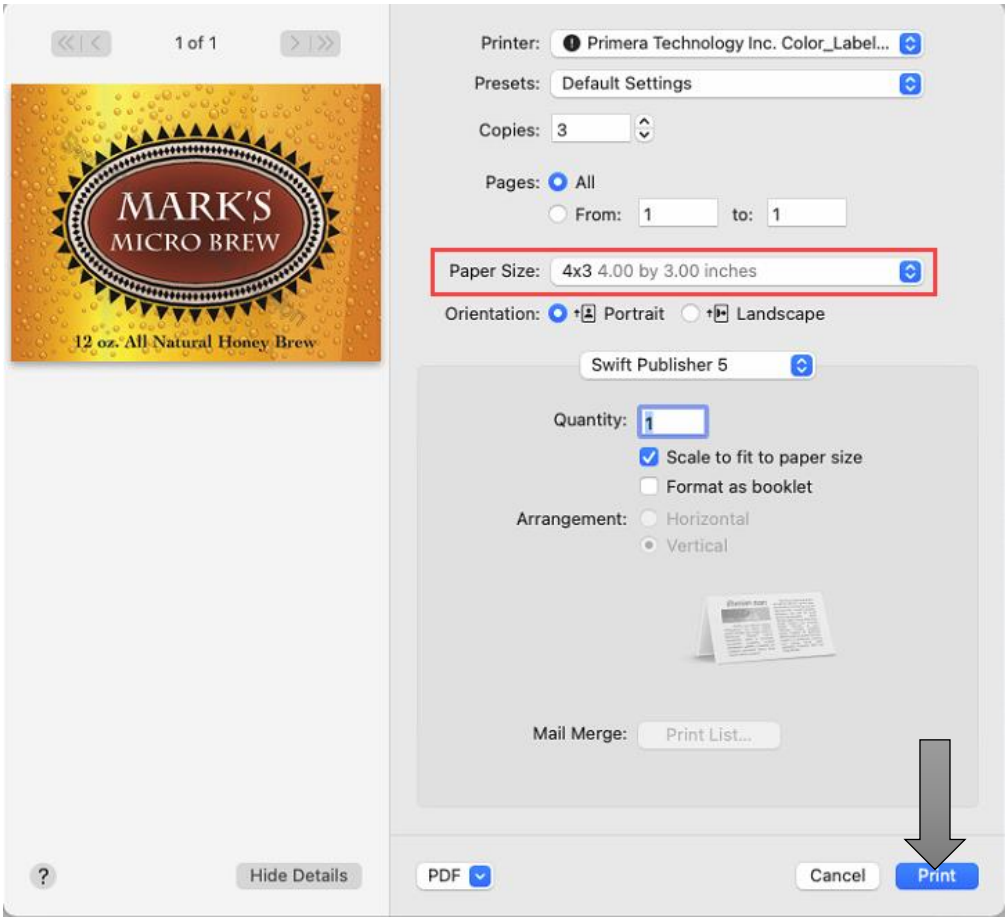


10. In this case we can choose a preset size (4x3) to match the label size installed in the printer.



Choose Manage Custom Sizes… if your label size is not listed

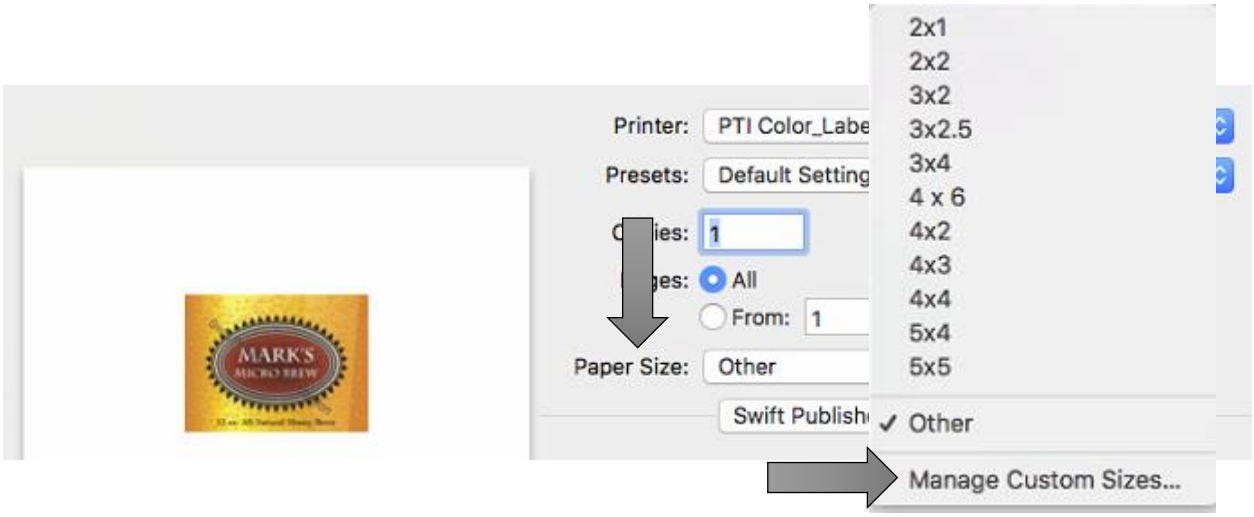
11. You can now see the preview is correct, the paper size is set so you are ready to print.



5F Creating a Custom Page Size

In many programs such as Adobe Illustrator, Photoshop or Acrobat Reader you will need to choose your label/page size before you print. If the label size you need to use is not already on the list of available pages sizes you will need to create a new custom size on the print screen of the program you are using to print.

1. Click the Paper Size drop down menu. Choose Manage Custom Sizes.

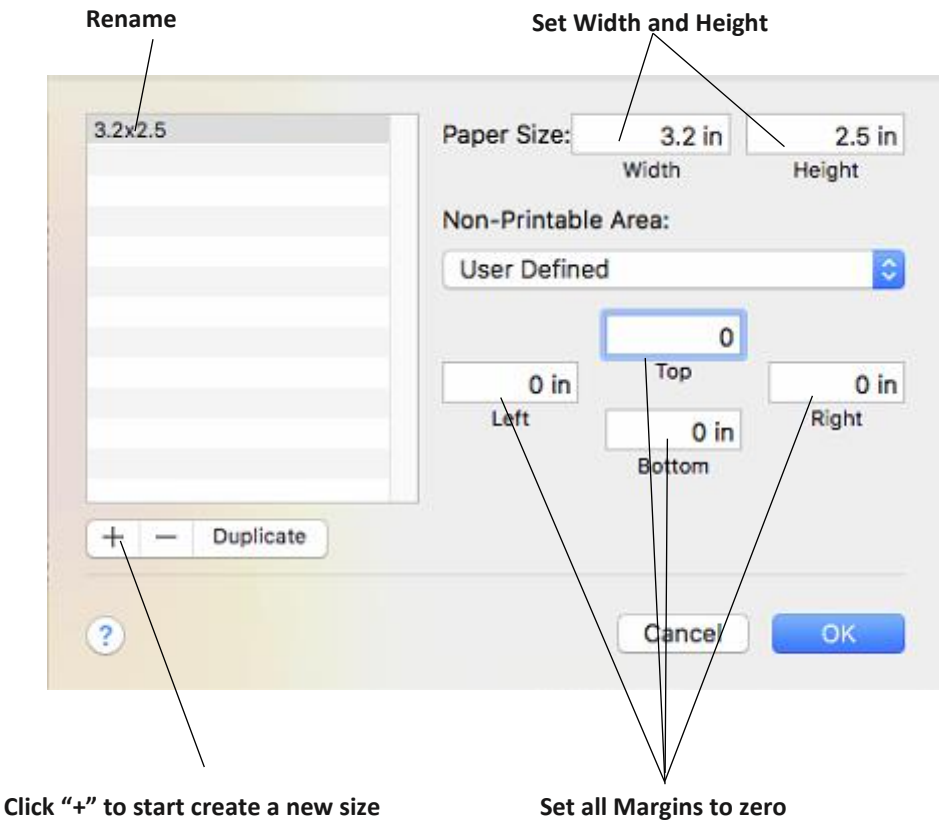


2. Click the + to create a new size.

3. Enter the actual width and height of your label stock.

4. Set all margins to zero.

5. Rename the size the same as the width and height.



6. Your custom size will now appear at the bottom of the preset size list in this application and any other application on this Mac.

Note: If you need to overbleed your image to achieve complete coverage of your label, you would use this process to create a custom size which is .03" (or less) larger than your actual label stock. For Example 4.03" x 3.03" for a 4" x 3" label.

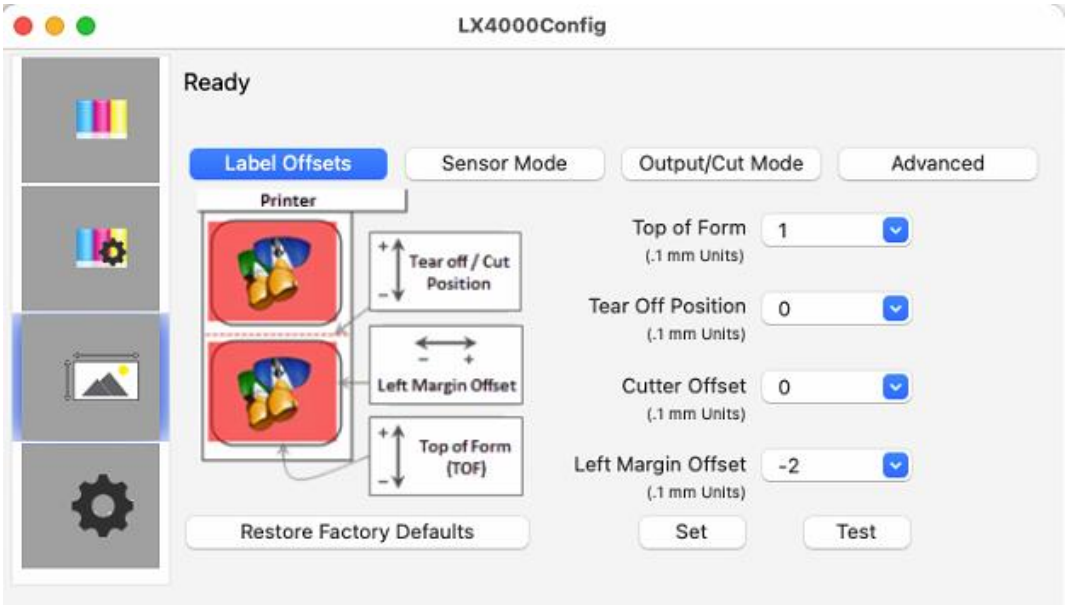
5G Creating a Full Bleed Print

If you are having trouble making the image cover the entire label, first make sure the image is printing at least as big as the label size you have selected. Increase the selected page size by .03 inches on the width and .03 inches on the height to create an over bleed.

Note: *Make sure under scaling options to select 'Fit to Page' in the print dialogue box if printing from Illustrator.*

Left Margin Offset. You must decrease the Left Margin Offset to center the over bleed on the label. If you over bleed by .03 inches, you will need to decrease the Left Margin Offset by 4. This will center the page size increase so there is an over bleed on both the left and right sides.

TOF. Increase the Top of Form by 4. This will cause the printer to start printing before the label and ensure a fully printed label.



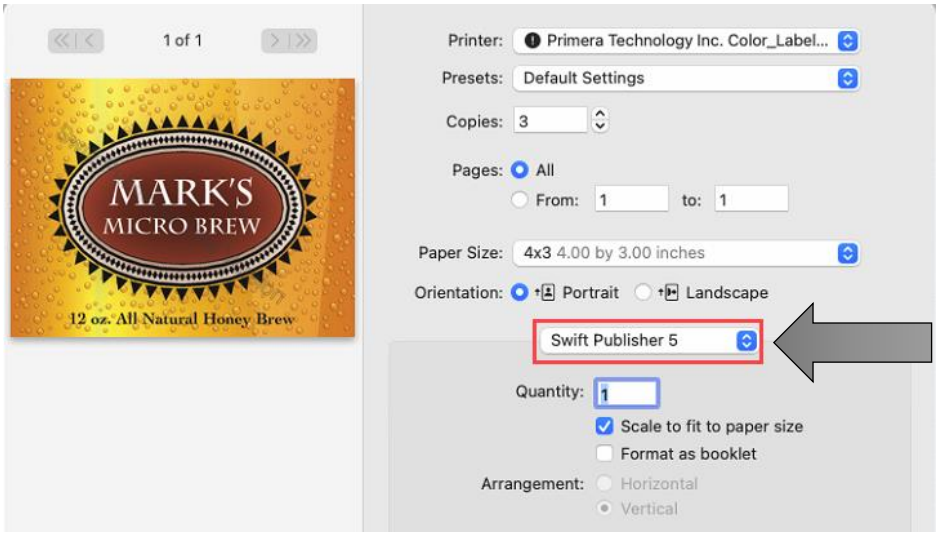
Note: *It is best to over bleed as little as possible to avoid excess ink on the label backing. Also, over bleeding too much will cause the printer to skip labels. This is because the printer stops printing too late to sense the next label.*

5H Printer Driver Settings

Printer driver settings are accessible on the print window of any application right before you click print.

Printing from Swift Publisher

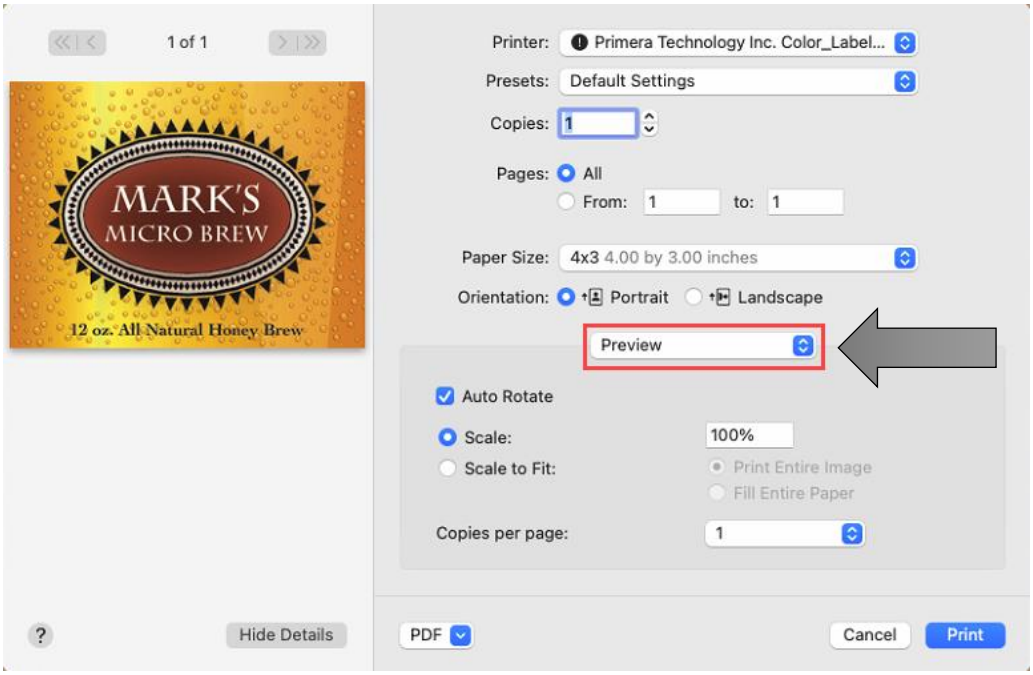
Click on the Swift Publisher 5 dropdown menu and choose Printer Features.

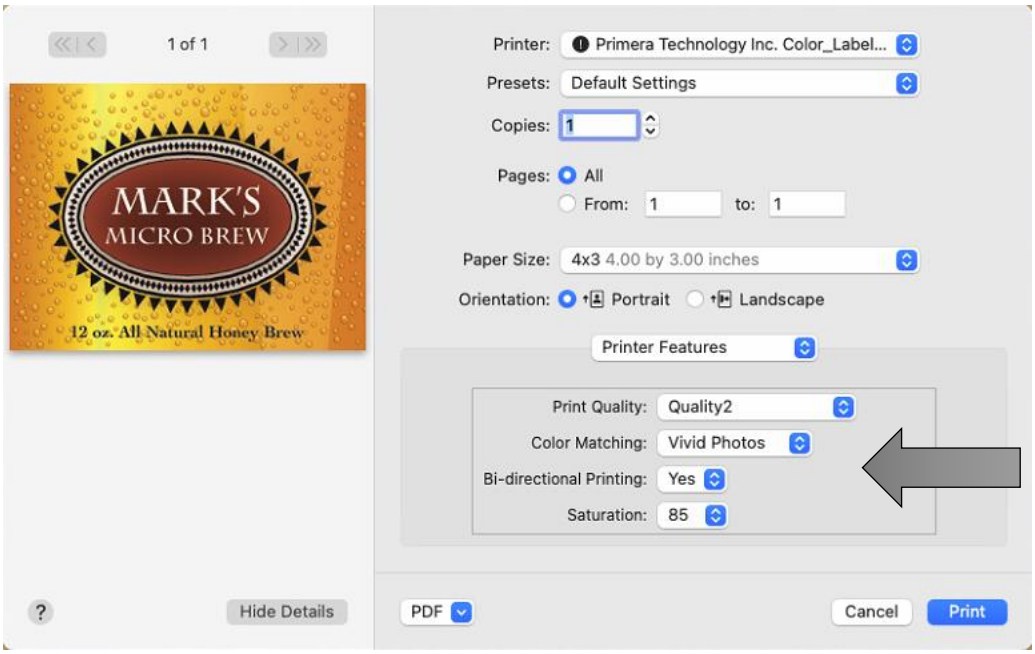




Printing from Preview:

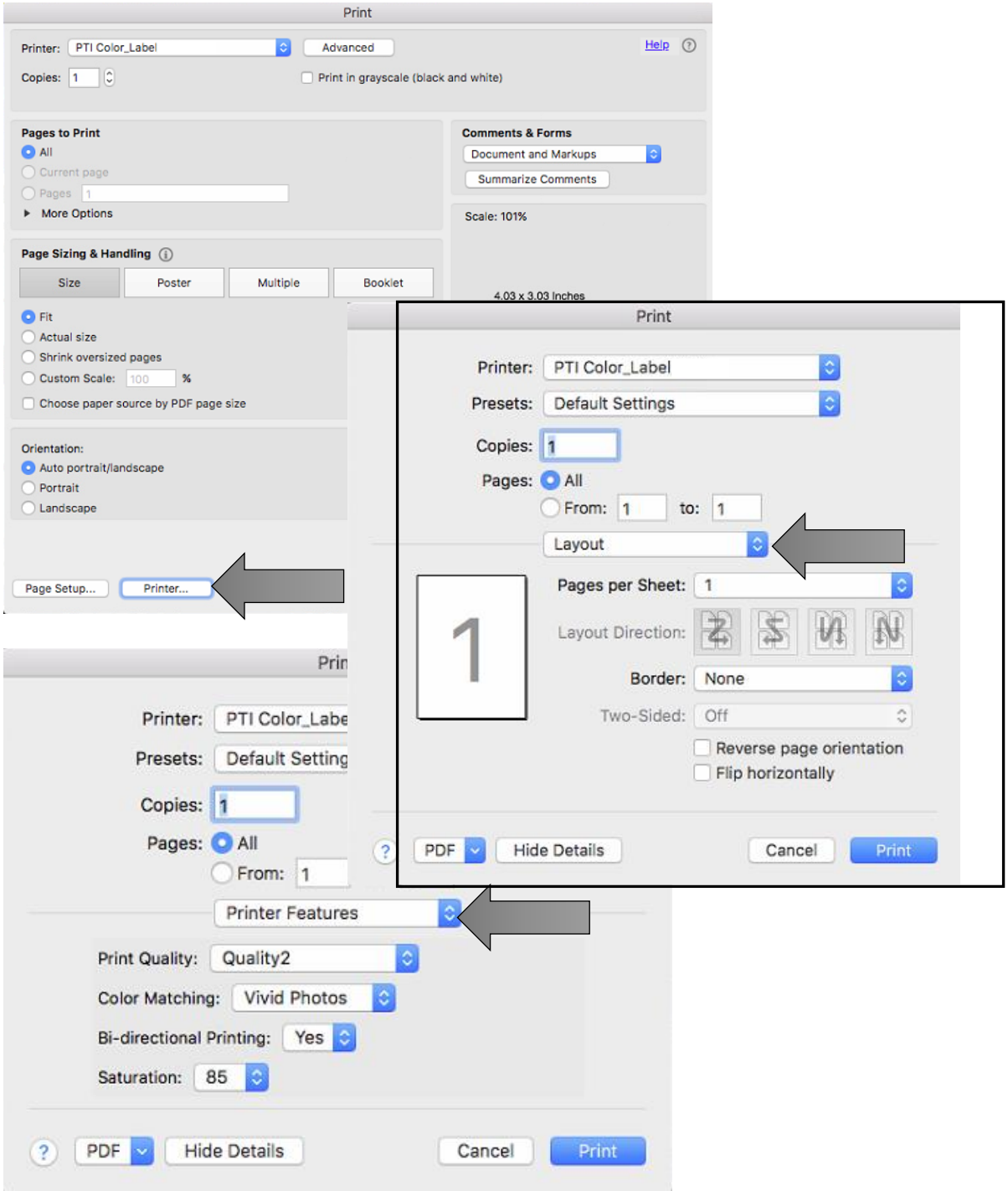
Click on the Preview dropdown menu and choose Printer Features.





Printing from Adobe Reader

First click on Printer... to access settings. Click on the Layout dropdown menu and choose Printer Features.



Print Quality

There are 4 levels of print quality in the driver. The lower the Quality, the faster the print. Quality 1 provides the fastest print available while Quality 4 provides the best quality. It is recommended that you experiment with the different levels when designing your label to find a good balance between print quality and print speed.

Color Matching

Best for Graphics mode is best used for graphical images where accurate color reproduction is not as essential. Images printed in this mode will look more vibrant because more ink is being used to produce them. However, printing images of people may produce skin tones that have a reddish tint.

Best for Photos mode is best used for photographic images where accurate color reproduction is very essential. Images printed in this mode will look lighter than those printed in Photo mode. Skin tones especially will look more natural in this mode.

Note: *Exact color matching of the printed labels to the screen may never be possible since there are factors that affect this out of the drivers control. The surface of the label reacts with the ink in the cartridge to produce the color. For this reason, when printing the same image to different types of labels with different surfaces the printed output can look entirely different.*

Ink Saturation

This option controls the amount of ink used when printing an image. The default setting is 100%, which will provide the most accurate color matching. If the ink is not drying fast enough or is bleeding, you can decrease the Ink Saturation to lessen the amount of ink that is applied to the label.

Enable Bidi (Bidirectional) Printing

Set to "Yes" for fastest print speed. Requires an alignment print after every cartridge change.
Set to "No" for better quality print (in some cases)

Section 6: Troubleshooting and Maintenance

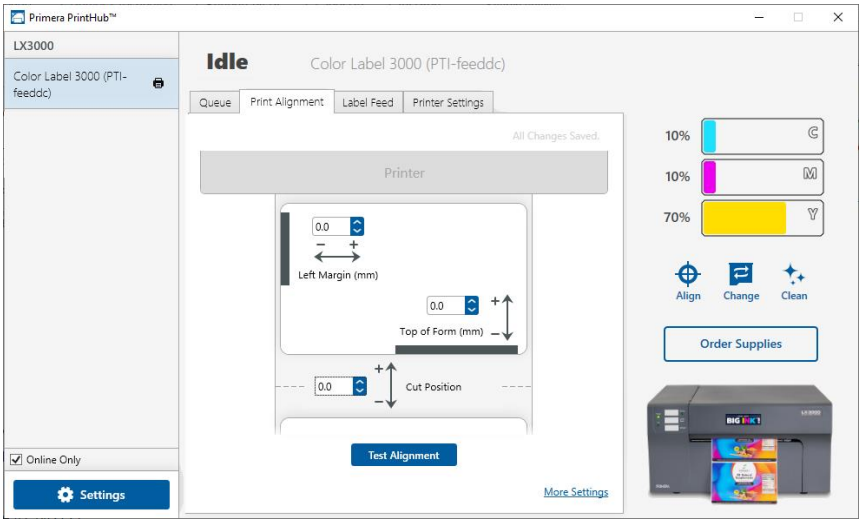
6A. Solving Print Alignment Problems

Image is Vertically Offset

The LX4000 decides where to start printing by detecting the start of die-cut label, detecting a black mark on the back of the label or detecting a through-hole that corresponds to the start of the label.

The following items can cause the label sensor to improperly detect the start of a label:

1. **Top of Form (TOF).** TOF stands for Top of Form, and this setting allows you to fine-tune the alignment of your printing on your label stock. This will be factory-calibrated. If fine-tuning is needed, increase this setting to move the image down on the label; decrease this setting to move the image up on the label. The unit of measure is
   0.1mm. This setting is found on the Alignment Tab of the PrintHub and Print Utility (Mac).



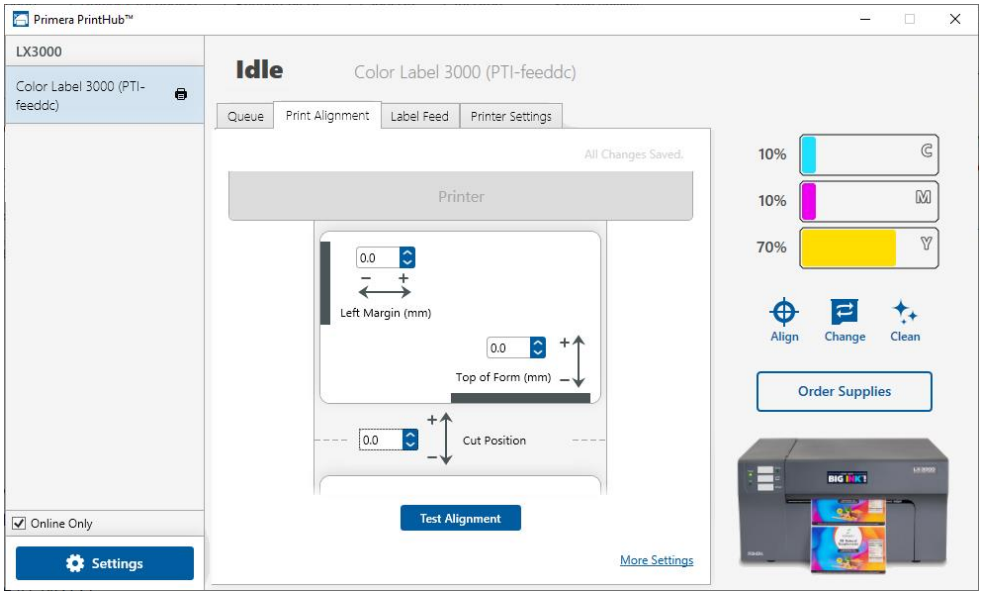
2. **Nonstandard / Non-translucent Backing Material**. Test the unit with the label sample material that came with the unit. If it prints correctly, your label stock may not be compatible with the Printer. The label sensor needs to see the difference between a label and a backing material by seeing through the label stock for light variations. If it cannot see through the label, problems will arise. If you must use this type of backing, try label stock that has a black mark on the back to show where the label begins. You will need to change the Stock Sensor Mode in the PrintHub or Printer Utility (Mac).
3. **Insufficient Label Gap Distance.** See Section 2A for label specifications.

4. **Page Size is Bigger than Label Stock Size.** If the page size set in the driver is larger than the actual label stock, ink will be printed on the gaps and the sensor will start looking for a gap too late. This can cause label skipping or inconsistent print starting points. Adjust the page size in the printer driver settings.
5. **Portrait / Landscape.** If the Portrait / Landscape setting does not correspond to the label stock installed this will also cause the Printer to print over the gap and onto the next label. Make sure this is set correctly.
6. **Stock Sensor Position.** Circular, nonstandard label shapes or multiple labels across will require precise adjustment of the label sensor. If you are using circular or other non-rectangular die-cut labels see Section 2C for instructions.

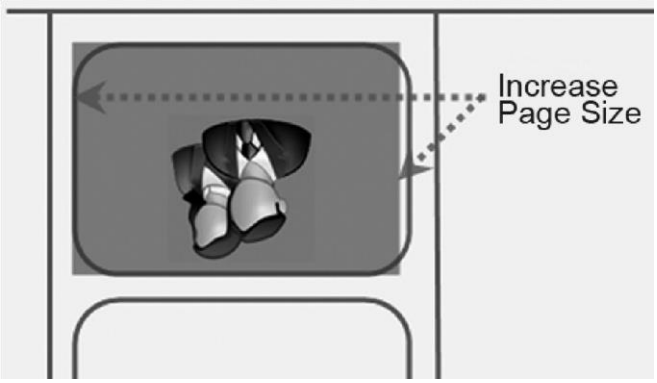
The image is printing horizontally offset.

1. Label Stock Loading. It is very important to correctly load the label stock so that there is no space between the throat guides and the label liner edge. If there is a gap between the throat guides and the label stock it may "walk" back and forth causing inconsistent horizontal printing. See section 2B for label stock loading instructions and tips.

2. Left Margin Offset. This adjustment is found on the Alignment tab of the PrintHub. See Section 4D.



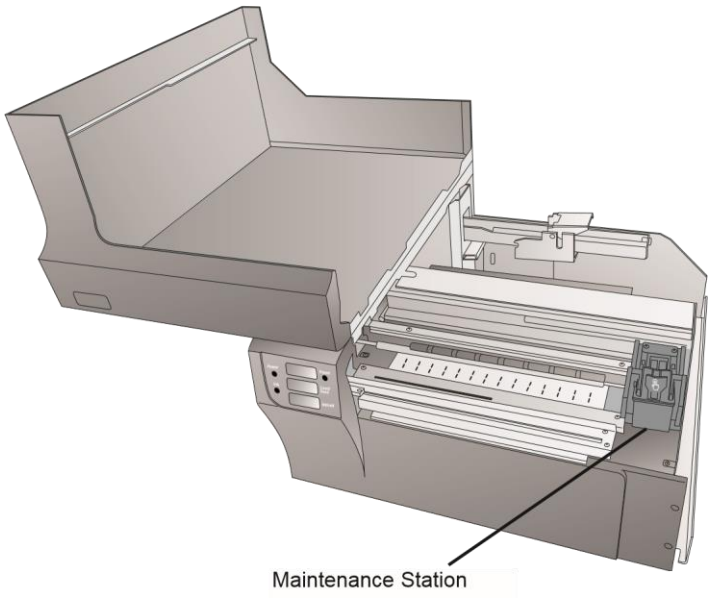
3. Page Size. Often the page size is not large enough for the label. If this is the case you may see white space on the right (Printer's left) side of the label and no image over-lap on the opposite side. This indicates that the page size needs to be increased. Increase the page size through the printer preferences enough to cover the label.



6B. Solving Print Quality Problems

Many factors can affect the quality of the print. The following are listed in order from most likely to least likely:

1. **Quality Setting.** Change your quality setting. The lowest (and fastest printing) quality may not be sufficient for many photos or graphics. The highest quality setting may cause ink to bleed on certain graphics in combination with certain label stock. Increasing the quality increases print time because the Printer makes more horizontal movements across the label.
2. **Clean the Cartridge.** Run an automatic cleaning print or manually clean the cartridge as described in Section 6D .
3. **Change the Cartridge.** Try a new cartridge. Make sure that the ink cartridge has ink remaining. Check the ink levels via the PrintHub or Printer Utility (Mac).
4. **Align Print Head.** Normally, print head alignment is only necessary after changing a print head. However, in certain cases, running the alignment again can improve print quality. Align the print head by opening the PrintHub or Printer Utility (Mac). Click on the Align Print Head button on the Cartridge Utilities Tab (second tab). Follow the onscreen prompts to load your paper for alignment.
5. **Clean the Maintenance Station.** Power off the Printer! Gently move the cartridge to the left to access the maintenance station. Clean the maintenance station located on the right side of the print area. This includes the rubber cartridge nozzle cap and the plastic roller. Under normal use this can become dirty with ink. Clean with rubbing alcohol and a paper towel.



6. **Color Matching.** Change your Color Matching setting to Graphics or Photos via the printer driver preferences. See Section 4G or 5H.
7. **Media.** Make sure your label stock is inkjet printable. Many thermal label stocks look the same as inkjet but do not allow the ink to soak into the surface of the media.
8. **Source File Image Mode.** The image mode of the source file may be set to RGB instead of CMYK. This can cause the color matching to be off. Change the image mode of the original file, resave and reprint.
9. **Copper Contacts.** Clean the copper contacts on the back of the print carriage and the contacts on the print head with rubbing alcohol and a paper towel.
10. **Image Resolution (DPI).** Try another Image. Perhaps the resolution of the current image is not sufficient for a quality print. Many graphics suitable for viewing onscreen have a DPI of 72. This is the minimum DPI for proper screen display. However, if you print this image it will look blurry and pixilated. 72 is a typical DPI for images or graphics saved from web sites. We recommend a 300 DPI image.
11. **Cable.** Try another USB cable. Make sure that it is less than 6ft (2 Meters) long. Faulty cables or cables that are too long interrupt communications which can result in print quality issues.
12. **Saturation.** If ink is bleeding, decrease saturation in driver preferences.

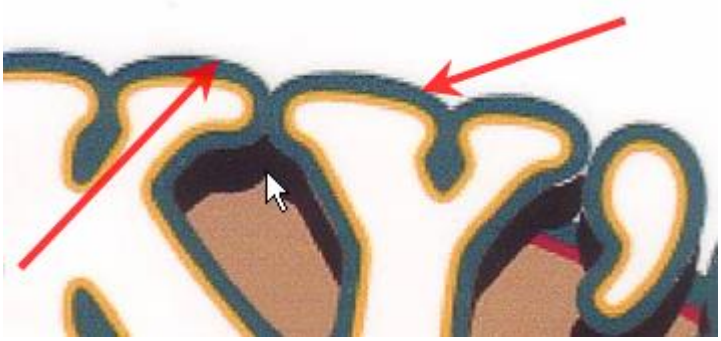
6C. Color Matching and Design Tips

Whether you contract your graphic design or do it yourself, these guidelines will help you get the best quality labels out of your LX4000.

1. **Image Size/Shape.** The image size should correspond with the size of the label you will be printing.

Note: *If the source image is smaller and must be enlarged to fill the entire label space, this will affect the DPI. A 2" x 2" 300 DPI label blown up to fit on a 4" x 4" label would have an effective DPI of 75. This would not be a sufficient resolution. See item 2.*

2. **Resolution.** Resolution is measured in dots per inch or dpi. 300 DPI is sufficient to get the best possible quality from most images. A 72 DPI image will look fine on screen but WILL NOT print well. Graphics and logos found on websites are typically 72 DPI. The image below was printed from a 72 DPI image. Notice the jagged edges. Remember, print quality settings found in the label printer driver will have no effect on improving a low DPI source image.
   On the other hand, resolutions higher than 300 DPI will not produce better quality but may require more RAM to print and hard drive space to store. They could even slow down the print process.



72 DPI Image printed with the LX4000

3. **Image File Format.** Most graphics are created in a graphic application. Since this graphic application is not usually on the same computer as the label printer doing the printing, it is necessary to export the graphic into a universal format that can be read by other programs. We recommend TIF and BMP files for graphics. These formats are uncompressed. JPG files also work well for graphics that include photographs. All three formats can be imported into the BarTender application.
4. **Color Mode.** Set the color mode in the source graphic application to CMYK. In most cases this will produce the most accurate color reproduction of the image on screen. However, if CMYK is not producing the desired color matching try changing the source image to RGB and then exporting the image again in one of the universal formats mentioned above.

Note: *Often it is useful to request that your graphic designer provide you with several different formats for you to try printing. For example you could request your image in six different formats: A JPG, BMP, and TIF in RGB color mode and a JPG, BMP and TIF in CMYK color mode.*

5. **Color Matching Setting.** Experiment with the Color Matching setting in the printer preferences (Section 4G or 5H) to achieve the best color matching. There are multiple media type options which correspond with the various types of label stock sold by Primera. Match this setting to the media installed in the Printer to achieve the closest color match to the screen. Each of these settings employs a slightly different color table developed specifically for the media type listed.

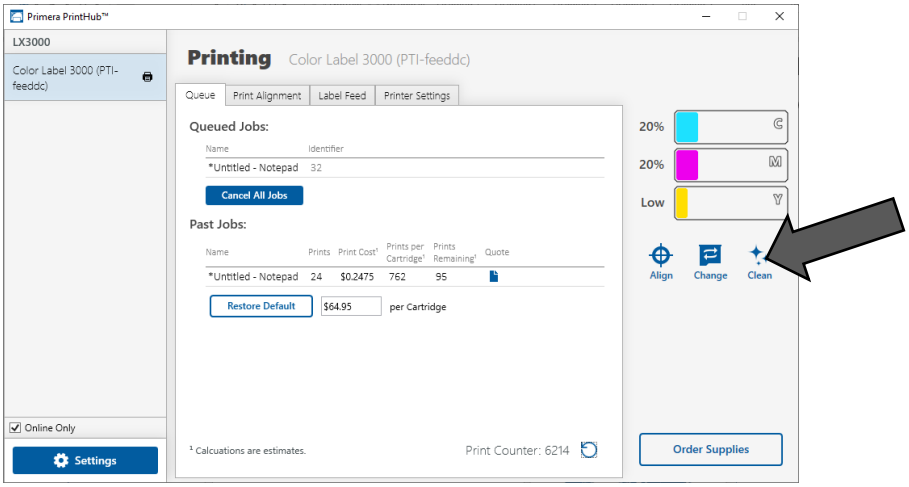
6D Poor Print Quality – Cleaning the Print Head

It may be necessary to clean the Print Head nozzles if you notice reduced print quality, or if you suspect a cartridge nozzle has become slightly dried out or clogged. If the print head has been left out of the printer more than 30 minutes or the printer has been unused for several weeks, the ink in the print head nozzles may have dried. If you are having print quality problems, follow the steps below:

Important Notes:

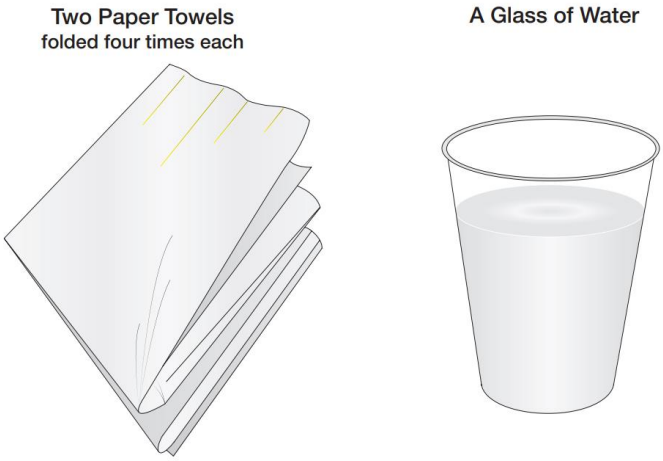
- **You may open and close the lid up to 8x times** before the print head will lose its prime and need to be replaced. Each time you open the lid, air is introduced into the system and transferred inside the printhead . The print head has 17 ml of space and initially carries 3ml of air. You may open the lid 8 times before there is not enough space for ink and the print head loses its prime.
- To keep the printhead ready for printing, do not remove it from the printer and keep the printer powered on. The LX4000 will occasionally clean the nozzles but only if it remains powered on. This will minimize the need for the manual cleaning described below.
- Watch this video to view an alternate cleaning method.

1. First Try cleaning the cartridge using the clean function in PrintHub.

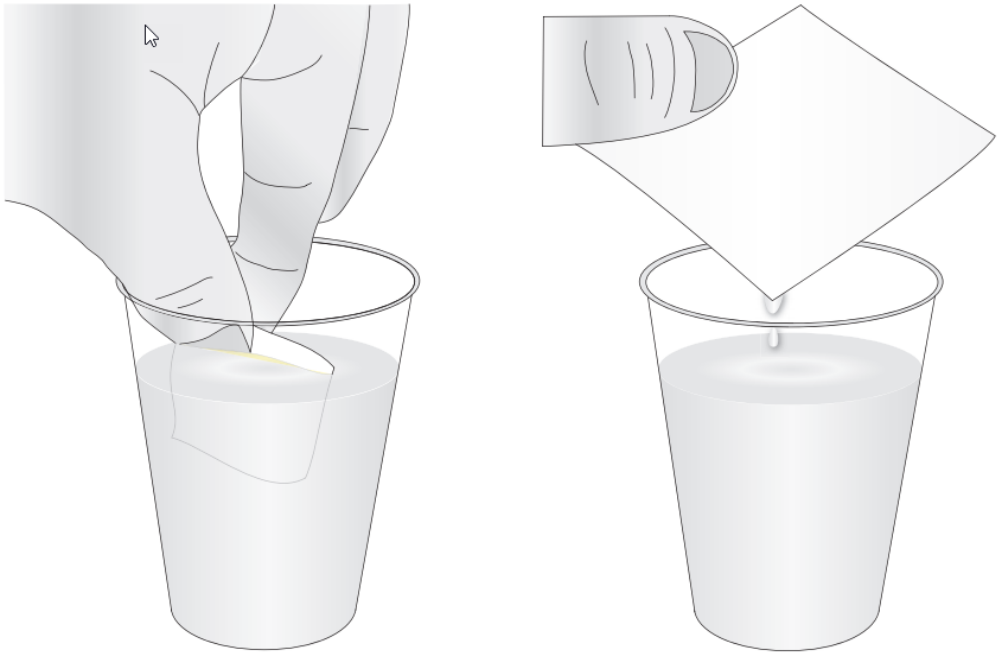


2. Determine if printing is now acceptable by printing your image. If the sample has missing colors or voids within a color strip, remove the cartridge from the printer and proceed to step 4.

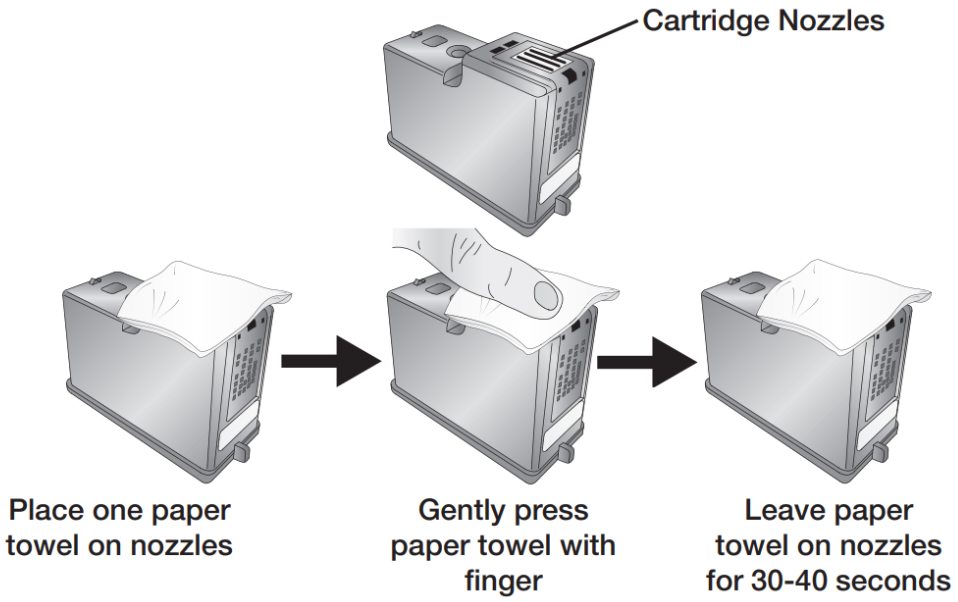
3. Prepare items needed for the procedure



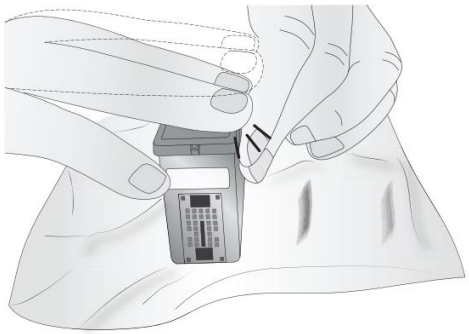
4. Soak the paper towels in water for 5 seconds.

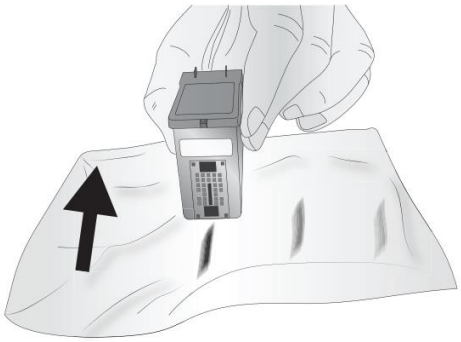


5. Place one paper towel on cartridge nozzles. Gently press the paper towel with your finger. Leave the paper towel on the nozzles for 30-40 seconds.



6. Wipe nozzles.





a. Place second paper towel on flat/hard surface.
b. Press the nozzles into the paper towel.
c. Firmly tap the top of the cartridge three times to force the ink out.
d. Wipe/Drag the cartridge in the direction indicated.
e. Repeat until all colors are seen on the paper towel. After wiping the nozzles, the paper towel should show all three colors. If all three colors are present, proceed to step 8. If the paper towel doesn't show all three colors, then repeat step 7. If paper towel still doesn't show all three colors repeating step 7, then replace the cartridge.



7. Dry the cartridge.



Dry excess water from cartridge. Ensure cartridge contacts are completely dry. Printer damage may result if cartridge contacts are not completely dry.

8. Verify cartridge is now functioning properly by printing your label.

6E. Interpreting the Indicator lights

Most error messages will appear on your computer screen via the PrintHub application or the Printer Utility (Mac). However, if the error prevents communication with the computer the LED lights may be used to help diagnose the problem.

LED	Explanation
Intermittent Flashing Pause	Printer is doing maintenance. Appears during start up or after a cartridge change.
Slow Flashing Power	Missing Label Stock.
Solid Power Light	Power is on.
Rotating Ink, Power and Pause LEDs	Firmware update or start up sequence is in progress - do not remove power or USB until flashing stops.
Simultaneous Pause and Ink Flashing	Print head is not being recognized. Clean contacts or replace the print head.

6F. Technical Support

If you have difficulties in operating your Printer, the procedures in this manual and the software User's Guide should, in most cases, solve the problem. If you still have difficulty, contact the technical support using one of the methods listed below.

Source	**Location/Hours**
Primera Knowledge Base	www.primera.com/kb
BarTender Software Help files	Open the software. Click on the **Help Menu – Contents**
Email Support	www.primera.com/customer-support
Phone Support	Monday – Friday 7:00 am to 10:00 pm (CDT, -5 GMT) and Saturday 11:00 am to 8:00 pm (CDT, -5 GMT)
Chat Support	www.primera.com – look for the chat prompt on lower right Monday – Friday 7:00 am to 10:00 pm (CDT, -5 GMT) and Saturday 11:00 am to 8:00 pm (CDT, -5 GMT)

Section 7: Technical Specifications

Print Method:	Thermal inkjet
Print Resolutions:	Up to 4800 DPI
Print Speeds:	Draft Mode: 4.5" per second Normal Mode: 1.8" per second High Quality Mode: 0.8" per second
Print Head:	Replaceable Multi-Use Print Head
Ink Tanks:	60 ml Cyan, Magenta, Yellow individual ink tanks; process black
Colors:	16.7 million
Color Matching:	ICC color profiles for all Primera-supplied media. Ability to add custom ICC color profiles for other media types.
Print Width:	0.5" (13mm) to 8.25" (210mm)
Media Width:	1.5" (38mm) to 8.375" (212mm)
Media Types:	Roll-fed pressure-sensitive labels, roll-fed tags, fan-fold labels or tags
Media Sensing:	Moveable see-through sensor for die-cut labels; reflective sensor for labels and tags with black stripe; can use continuous and pre-printed labels and tags
Supply Roll:	6" (152mm) maximum diameter on 3" (76mm) core
Ink Level Warning:	Calculates actual number of prints remaining based upon ink usage of graphics being printed (patent-pending)
Indicator Lights:	Power, Pause, Ink
Controls:	Pause, Load/Feed, Unload
Operating Systems:	Window 7, 8, 10, Mac OS 10.11 – OS 15
Data Interface:	USB 2.0 Ethernet
Label Design Software:	Seagull Scientific BarTender® UltraLite Software Version included; can also be used with most other popular label design and graphics programs
Electrical Rating:	12VDC, 5.0A
Power Requirements:	100-240VAC, 50/60 Hz, 60 watts
Certifications:	UL, UL-C, CE, FCC Class A
Weight:	36.5 lbs. (16.6 kg)
Dimensions:	17.25"W x 9.1"H x 17.25"D (438mmW x 231mmH x 438mmD)

Environmental Policy

The European Union (EU) has developed the WEEE (Waste Electrical and Electronic Equipment) Directive (WEEE Directive 2012/19/EU) to ensure that systems for collection, treatment, and recycling of electronic waste will be in place throughout the European Union.

Electrical and electronic equipment (EEE) contains materials, components, and substances that may be hazardous and present a risk to human health and the environment when waste and electronic equipment (WEEE) is not handled correctly.

Equipment marked with the below crossed-out wheeled bin is Electrical and electronic equipment (EEE).

The crossed-out wheeled bin symbol indicates that the product is EEE and must be collected separately, in accordance with the WEEE Directive 2012/19/EU.



Users of EEE must not discard WEEE together with household waste. Users must follow local recycling regulations to reduce adverse environmental impacts in connection with disposal of WEEE and to increase opportunities for reuse, recycling, and recovery of WEEE. As a user of this EEE, you have an important role in recycling this equipment and contributing to the protection of the environment and the conserving of natural resources.

When a product reached its end of life, contact us at environment@primera.com or +1-763-475-6676 to arrange its recycling. Primera will work with you to arrange for the recycling of the product.