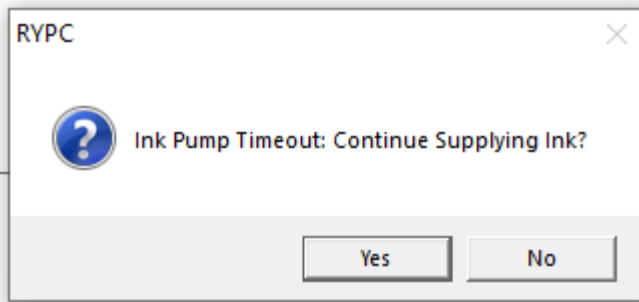# STARTUP PROCESS

Power on printer by pushing green button at front of machine above ink purge area.

Then push the blue button below it. The blue button is also pushed after an error such as resetting the printer after the red stop button on the carriage has been pushed due to a head strike or other stoppage and manually moved back to its home position. Make sure status light at top of carriage turns to solid amber.
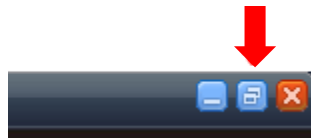

If there has been a power failure then it will most likely flash because one or more ink sub tanks have emptied due to the loss of negative pressure on the heads. If this is the case then you will need to do a series of pushing the silver button to the left of the carriage each time it starts to flash and also select "yes" on the print control screen when it asks if you want to continue supplying ink. You may need to do this as many as 10-12 times depending on how low the tank is and the light stays solid amber.

If the software is not already running you will need to start it before doing any of the above steps. Once started it will go through several steps before you will be able to do anything or open any other windows/programs on the computer.

Once the startup is finished you will need to click the minimize icon in order to take it out of full screen mode and reveal the bottom row of program icons.

The ColorByte design software is started by this icon. The green RIP software icon can also be started at the same time or it will automatically open once a job is sent to print.
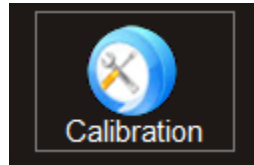

Once print control software has completed startup and no errors are present you can proceed to cleaning heads.
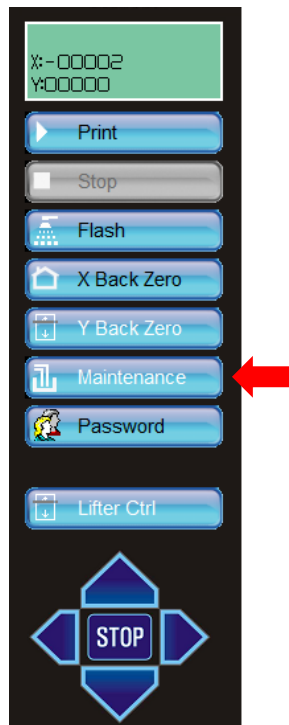
CLEANING HEADS

Before cleaning heads the WHITE ink heaters need to be turned on. Push the green rocker switch to the on position. On the left side of the carriage the temperature meters will need to reach 50.0c before the white ink is ready to purge or print.

First you will need to click the CALIBRATION icon.

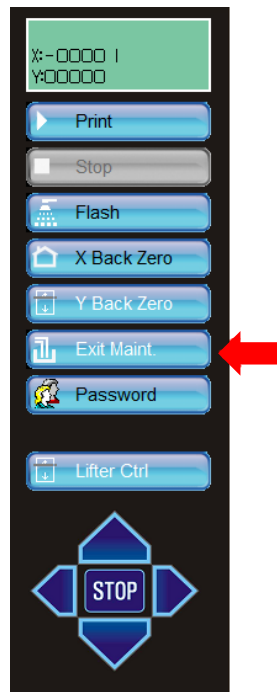Then select the MAINTENANCE tab. The carriage will lift to its highest position.

First push the WHITE purge button (bottom yellow) and let ink drip for 3-5 seconds. Do the same for the COLOR/CLEAR ink (second from bottom yellow).

Using a folded lint free cloth start at the back of each head and wipe forward. Make sure to use a clean section of the cloth for each head so you do not cross contaminate inks.
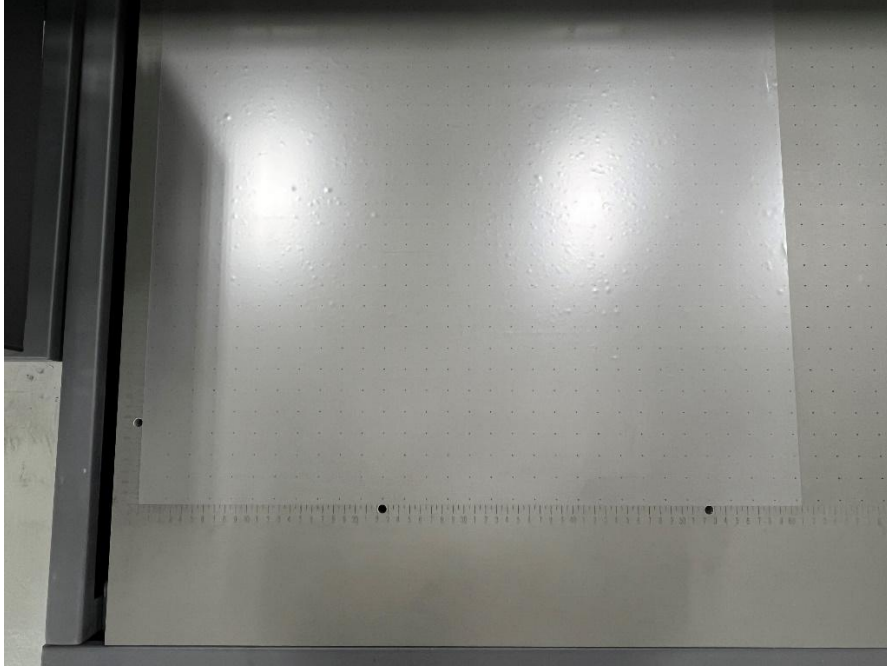
Once cleaned you can click the EXIT MAINTENANCE icon to bring the head down to print level.
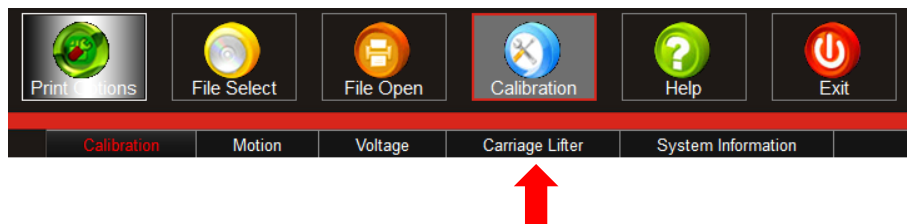
NOZZLE CHECK

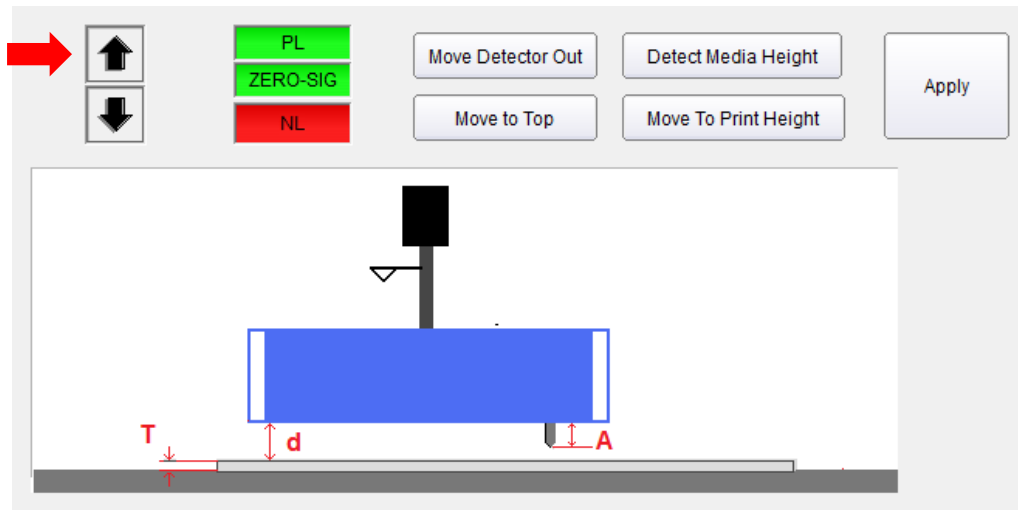Perform a nozzle check by placing a clear sheet on the table as shown below.

Turn on one or both of the vacuums depending on how large the substrate is. The table vacuum is divided into 2 sections. Vacuum 1 covers the 2'x8' area along the front of the table and Vacuum 2 is the 2'x8' section to the rear of the table.

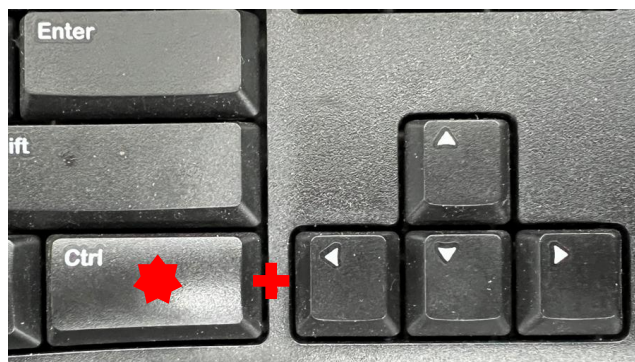Under the CALIBRATION icon select CARRIAGE LIFTER.

Then click on the up arrow to raise up the carriage slightly for the nozzle check. If you are printing on a substrate then raise it above the thickness of the material.
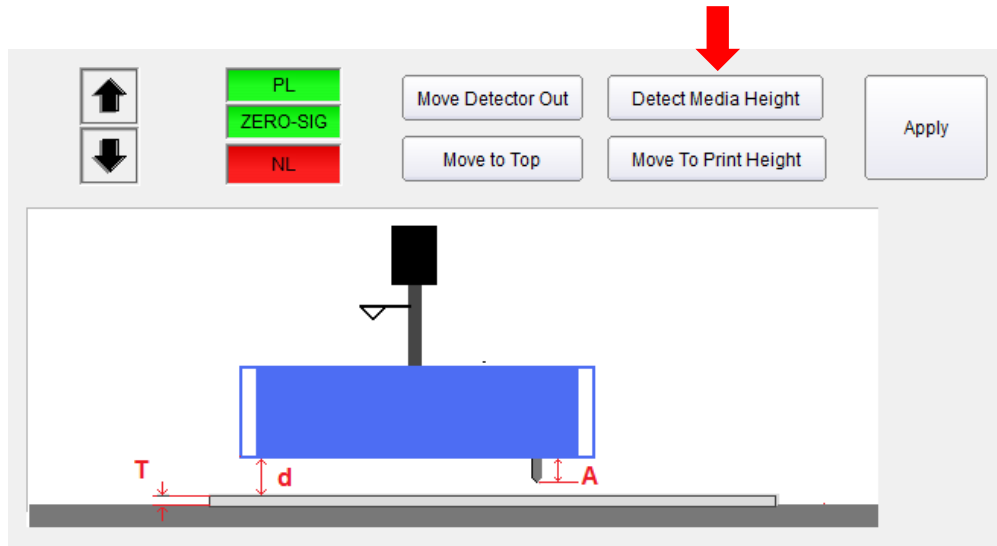

There is a height detector pad positioned a couple inches straight in from the spot shown below. If you look under the carriage you can see the circular pad. The red arrow shows its distance from the front of the carriage.
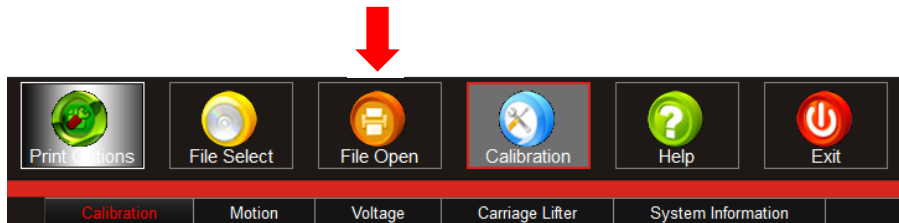

Make sure to position the carriage so that the circular pad is directly over the area you need to measure. You do this by holding down the CTRL button and any one of the arrow keys depending on which direction you need to move it. Make sure it will contact the substrate completely and not miss it in any way. Failure to do this may result in the carriage being put out of alignment. Double check its location before moving to next step.

Once over the area to measure select DETECT MEDIA HEIGHT and then NO when it asks to Move Carriage to Special Detect Position. The carriage will raise back to its highest position. You will hear a click as it engages the detect pad and then the head will lower. Once it reaches the substrate you will hear a click again as the pad makes contact and retracts.
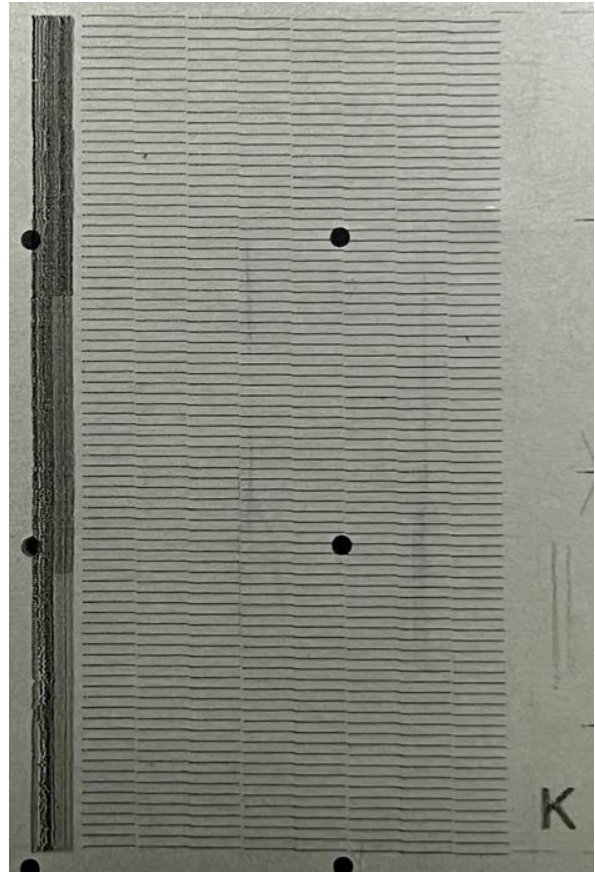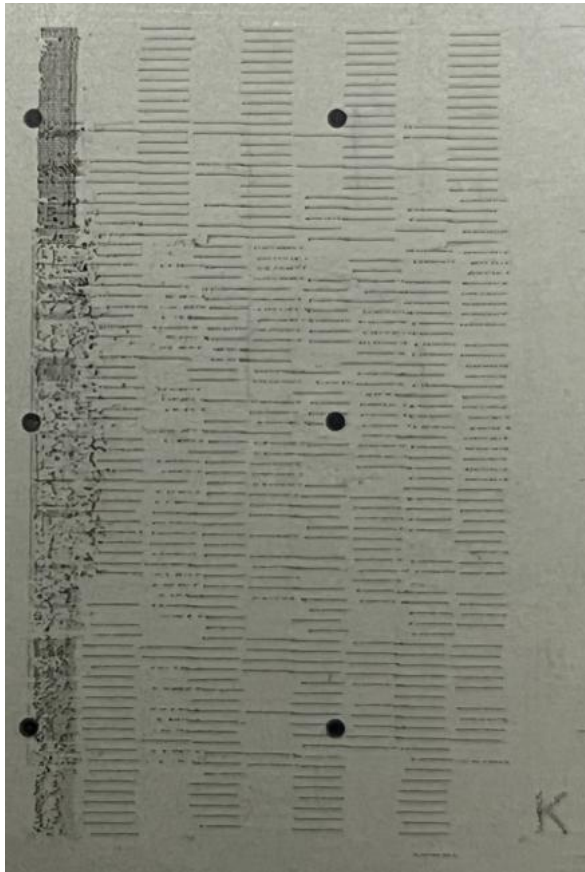

Now that the material has been measured you can perform the nozzle check. Select the FILE OPEN icon.

Make sure that the carriage is positioned over the substrate because the space between the taller black lines is the area in which the nozzle check will print. Use the CTRL + Arrow Keys to do this. Select STATUS and then OK and it will automatically print your nozzle pattern.

Look for missing or deflected nozzles. Purge again if needed or you can print the file "CMYK_WH_CL PURGE PRINT.CDL" and it will print a solid block pattern of each head. See examples of a bad and good nozzle pattern below.
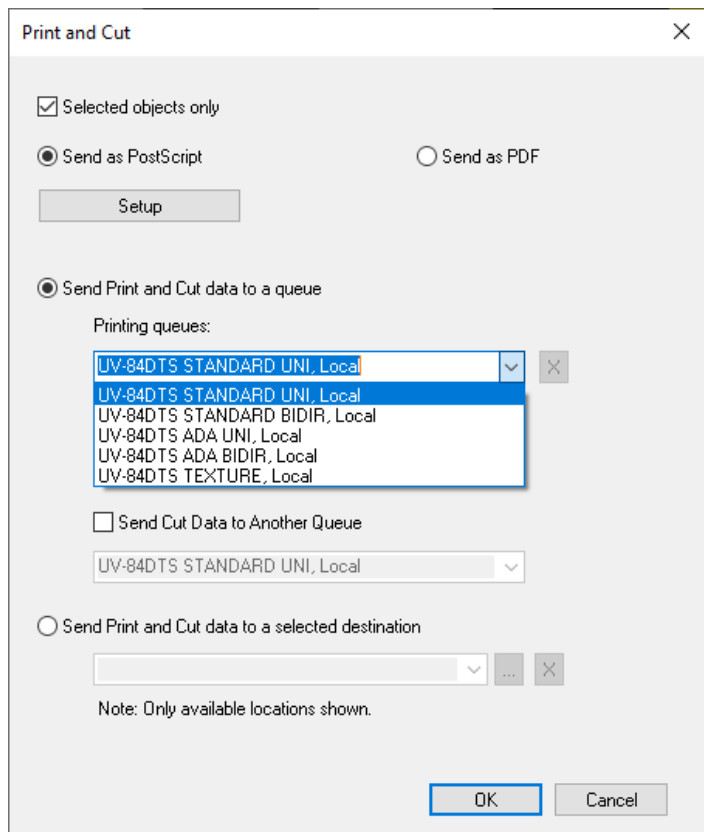

If a couple ink purges doesn't improve quality there may be air in the line. You can do another purge but when you push in the color/clear purge button immediately push the corresponding air purge button on the front of the machine and hold it for 3 seconds before releasing it first followed by the ink purge button. The top air purge is for all colors and the bottom is clear only. There is no air purge for white as that is handled differently.
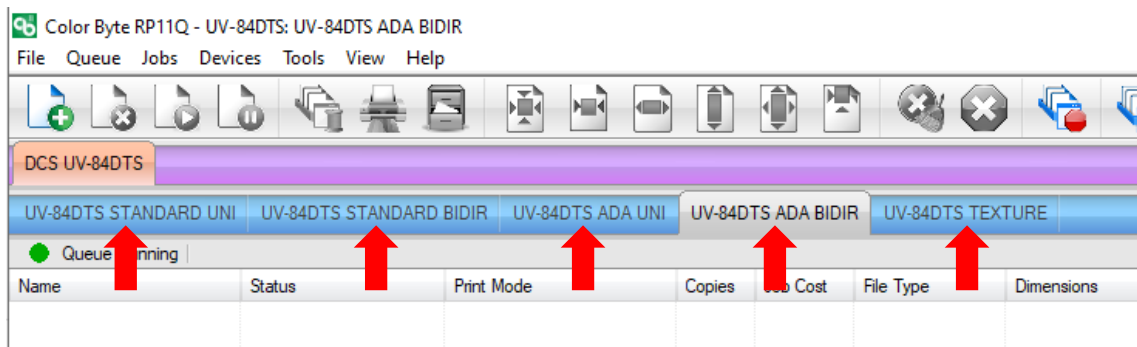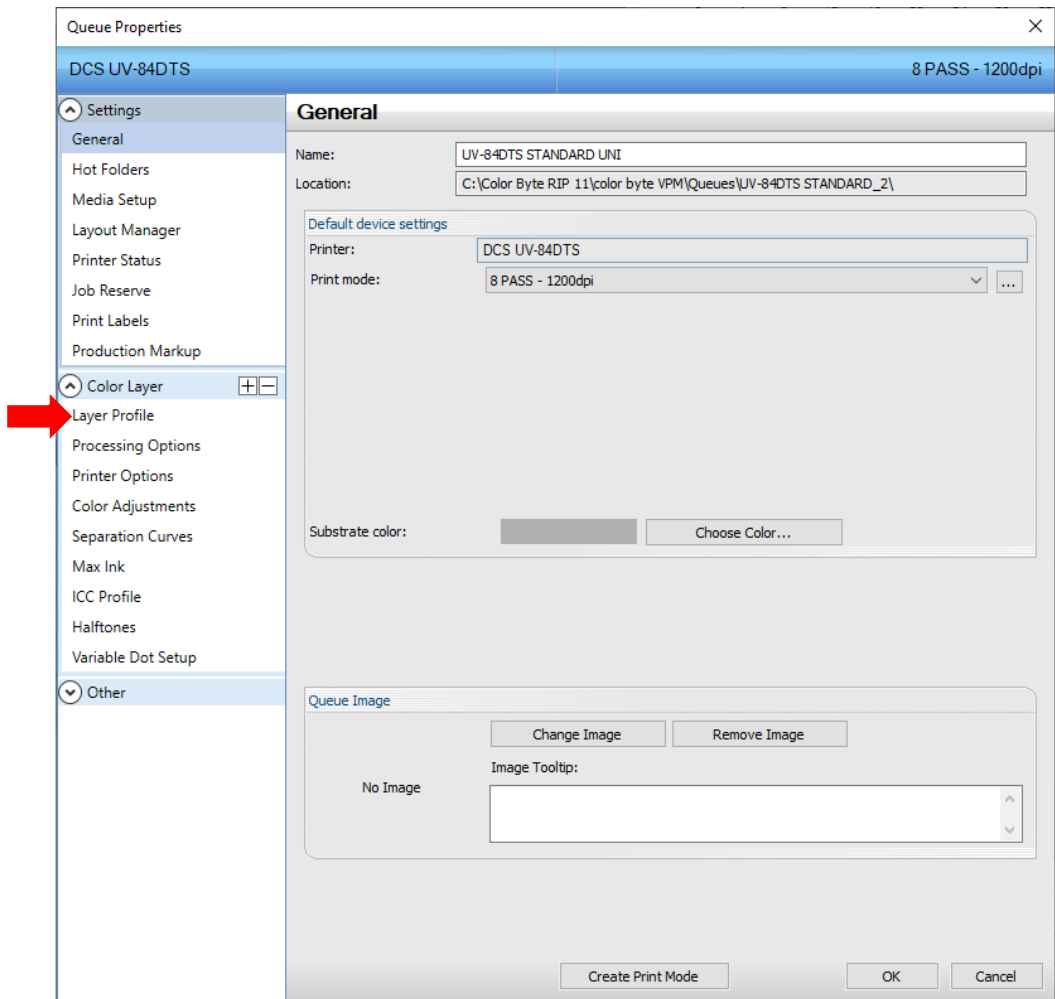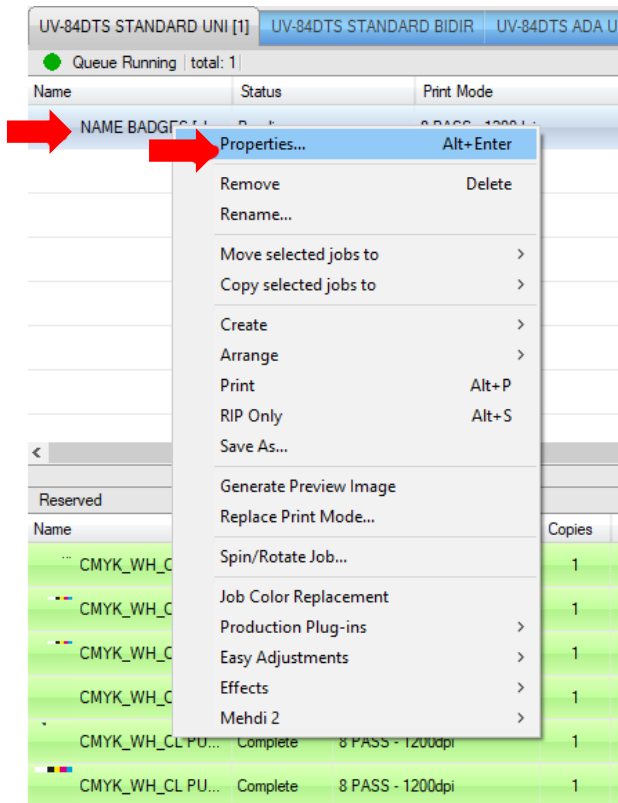
RIPPING

Once a job is ready to send from the Colorbyte Design Software you will select the part that gets printed and go to FILE and then SEND TO RIP. On the popup menu you will choose which queue to send it to based on what you are printing.

On the RIP screen you will see that the queues are already setup with the default settings for each print type. However there will be times where you may need to adjust things like white and clear choke or CMYK shift if print looks out of registration. Click on any of them to see the list of files that are ready to print.

If you need to make any adjustments you can make it either at the individual file level if it's job specific or at the queue tab if this is a permanent change. For specific files right click on it and select PROPERTIES. Once open expand the COLOR LAYER section and click the LAYER PROFILE tab. For permanent changes you can double click the queue tab and follow the same steps.
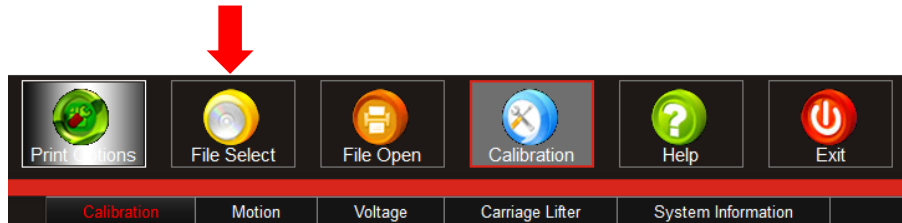
Once opened you will see the settings you can make changes to. The defaults for white and clear have already been saved but you may need to make changes if your color layer is not completely covering the white/clear base layer(s). To change it you would increase the number to shrink the white and clear or decrease it if you need more spread. The numbers are based on pixels. You can shift any color up/down/left/right to improve output. X is right to left and Y is front to back. Increasing the X number will move it to the left of the table as you face it, while decreasing will move to the right of the table. For Y, increasing will move it towards the front of the table, while decreasing will move it towards the back of the table. After making changes click OK to apply them.

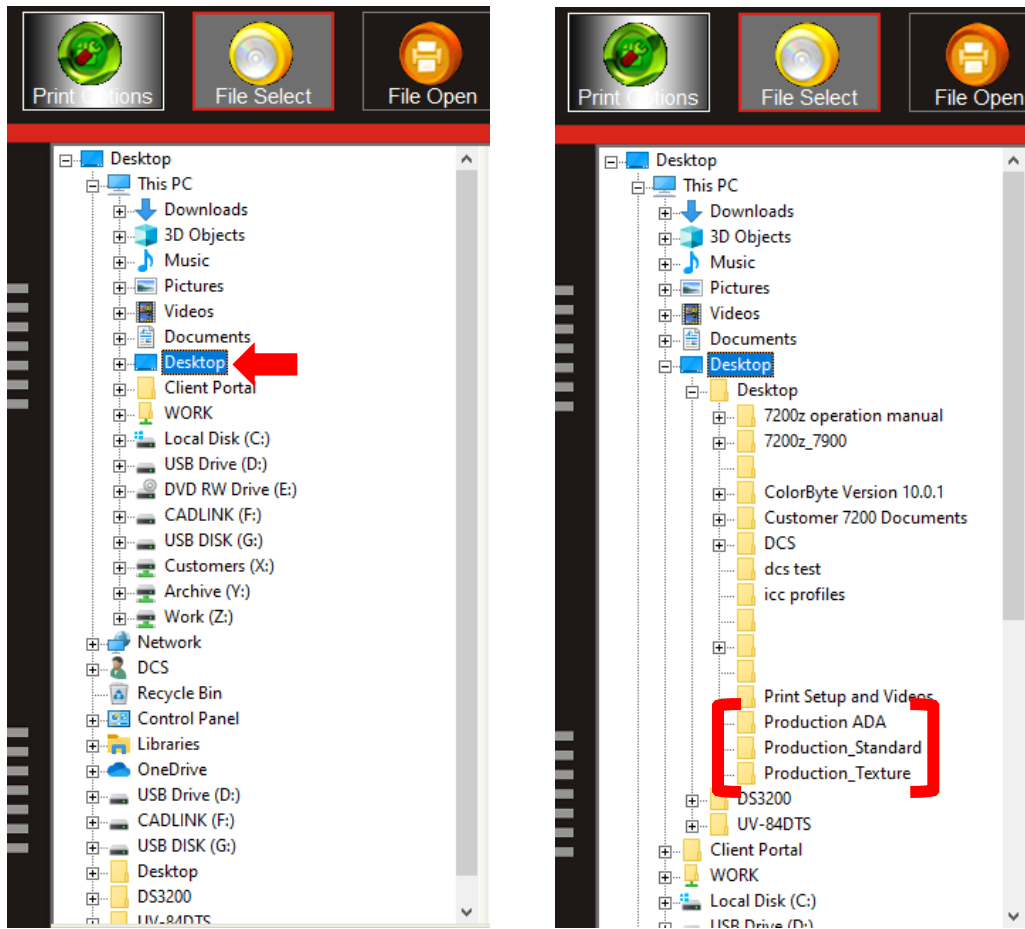| Plane	Enable	Choke	Synonym	Flood	X Shift	Y Shift	
Magenta	✓	0		☐	0	0	⌃
Yellow	✓	0		☐	0	0	
Black	✓	0		☐	0	0	
White	✓	7	White	☐	0	0	
Clear	✓	5	Clear	☐	0	0	⌄

Once all settings are confirmed you can right click on the file in the queue list and select PRINT to transfer it to the PRINT CONTROL SOFTWARE.
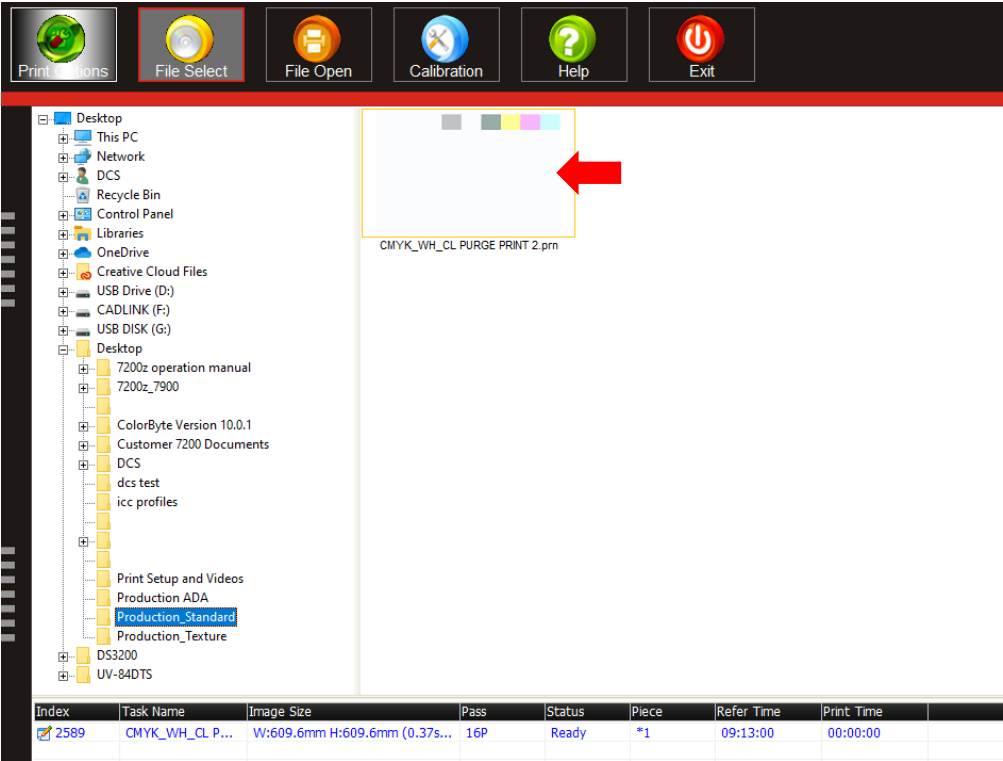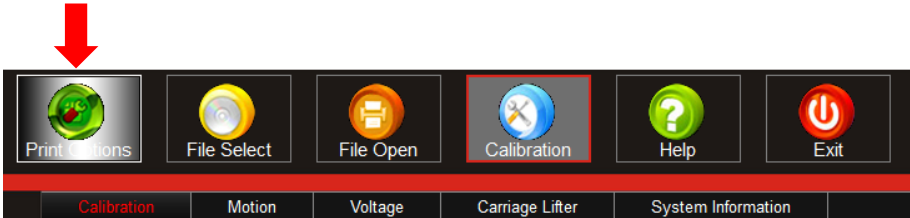
PRINTING

First go to FILE SELECT.

Then expand the DESKTOP folder and then the second DESKTOP folder. You will see 3 production sub folders. Click on any of them to see what jobs are now in those queues.

You will see the jobs populate in the main screen section.

You can right click on one of them and select PRINT to immediately start the printing process but prior to that you need to set or confirm print options. Click on the PRINT OPTIONS icon. The only section you will need to adjust is the spot processing and the settings are changed according to flat vs. tactile/braille. Below are the default settings for each.

FLAT   TACTILE / BRAILLE
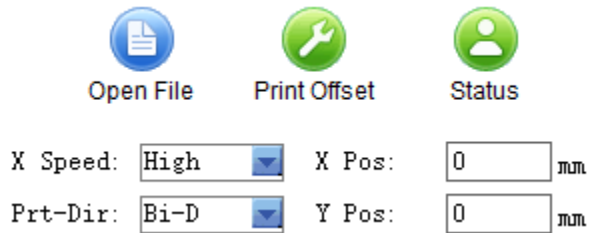

If you make any changes to what was previously on that screen make sure to hit APPLY (do it twice to be sure) so that those settings take effect immediately.
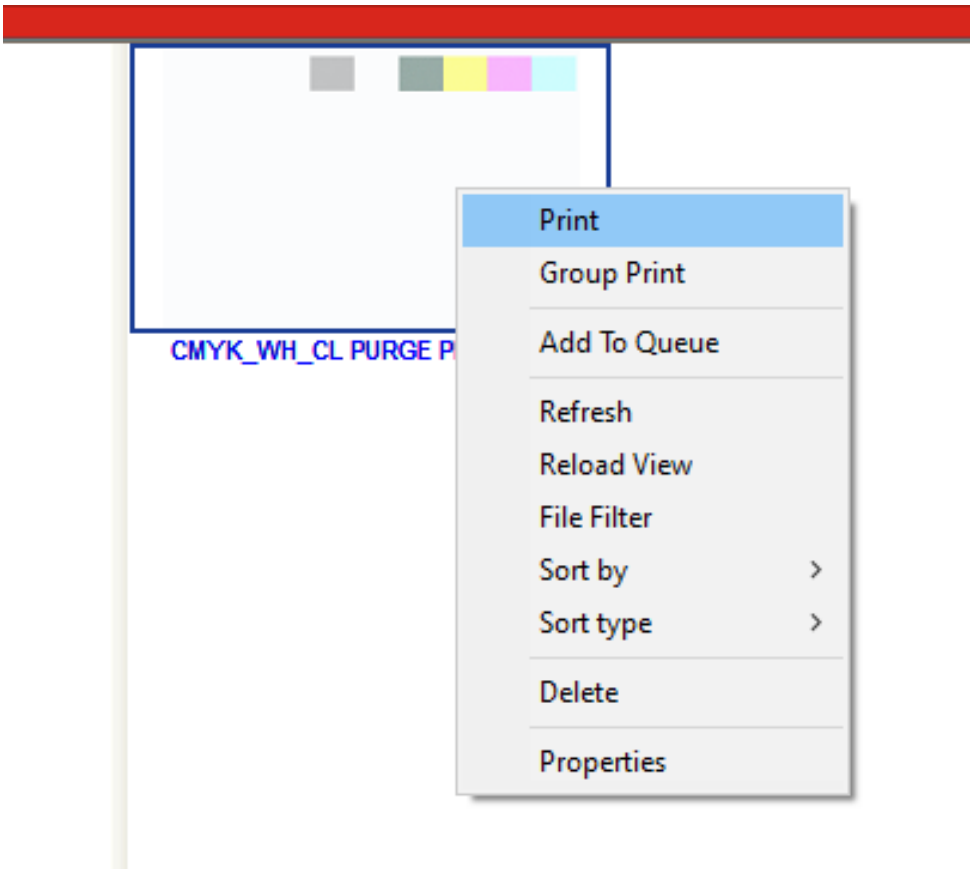
Once set you can click back to FILE OPEN.

The PRT-DIR is the only setting you need to adjust. Use LEFT for flat printing and BI-D for tactile/braille. Make sure to double check this as well as the PRINT OPTIONS settings before sending to printer.

Now you can go back to the FILE SELECT icon. Right click on the job you are sending and select PRINT.

You will see a PROPERTIES popup window where you can make changes such as mirror print or 2nd surface print before clicking OK. Next popup is MEDIA THICKNESS where you confirm settings. Click OK and DCS will start printing the job. If you notice that the media thickness does not look like it matches the material on the table it may be because the step of detecting media height was not done so you will need to cancel out and perform that step.

Properties

Src	Path
☑ 1	C:\Users\DCS\Desktop\Desktop\Production_Standard\CMYK...
☐ 2	
☐ 3	

Task Name: CMYK_WH_CL PUR   Pass Mode: *8PASS

Clear: Print Sync   Clear Curing: Varn Sync

Region(mm)

X Pos: 0   Y Pos: 0

Width: 914.4   Height 609.6
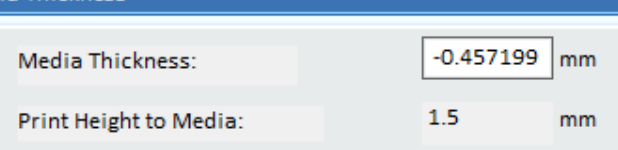
Array (mm)

X 1   Y 1

X Gap: 0   Y Gap: 0

Task Settings

X Pos: 0 mm   Copies 1   ☐ Split White ☐ Continuous

Y Pos: 0 mm   Z Incr.: 0 mm   ☐ No Color ☐ 2nd Surface

☐ Region   ☑ Original Depth   ☐ IncreaseInk   ☐ Mirror Print

☐ Array   ☐ X Speed   High   ☐ NoSC Feather

OK   Print Size   Edit   Ink Volume   Cancel

Size: (W)914mm (H)610mm
Resolution: (X)720 (Y)1200 (C)6 (C
Description:
    RETC Calibration File

Media Thickness
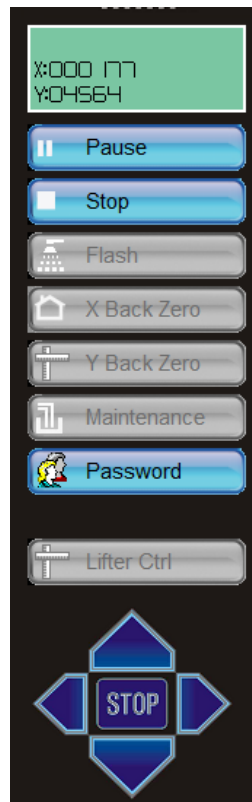
Media Thickness: -0.457199 mm

Print Height to Media: 1.5   mm

Confirm   Manual Detect   Auto Detect

OK

If at anytime during the printing process you see that it is not printing properly you can pause it.

Or if you need to stop quickly to avoid head strike or other major error hit the red stop button on the front of the carriage. You can then manually move it back to the home position or the opposite direction if you need to clear whatever may be causing the crash detector to trip.

SHUT DOWN

Make sure to turn the white ink heaters off at the end of the day. Also turn off one or both of the vacuums.
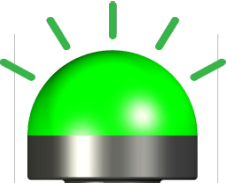

If you are not printing soon or you are shutting down for the weekend or an extended period of time you can also close the ink lines to avoid the heads dripping continuously and wasting ink. Use the silver "T" tool and turn the inks to their OFF position. The white inks are marked for the open and close position but for the color and clear inks the closed position is at the 45° location.
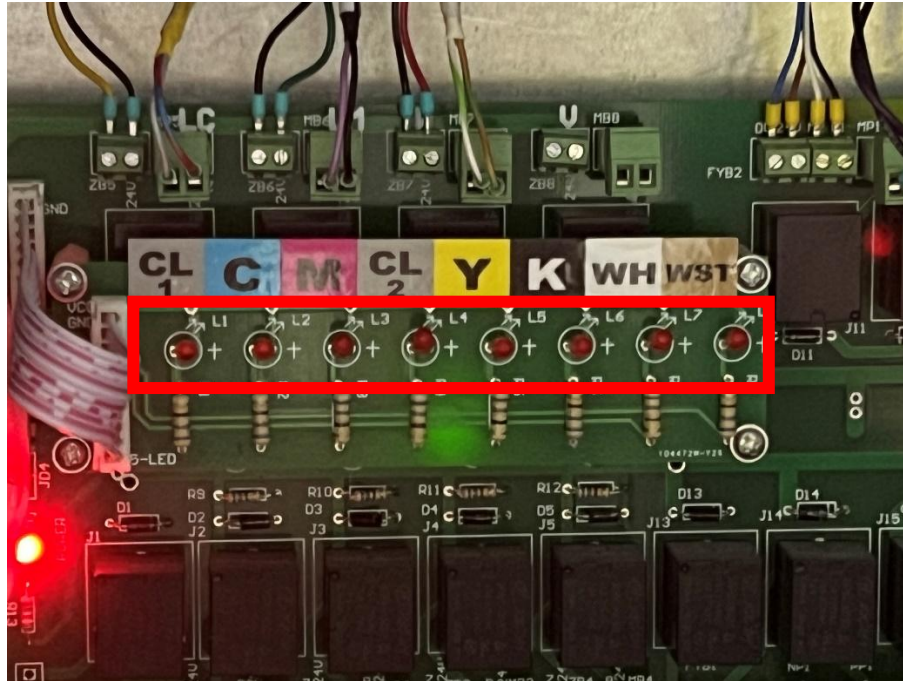
TROUBLESHOOTING

The indicator light changes based on the condition of the machine. Here are some examples of what to look for.

INDICATOR LIGHT

FLASHING RED	Printer is powered ON but XY Motion and UV Lamps are disabled.	If an E-Stop was pressed, release the E-Stop then press the Blue E-Stop Reset Button.
SOLID AMBER	Printer is powered ON, XY Motion and UV Lamps are enabled, but the printer may still be initialized to print.	Ensure the Printer is initialized prior to sending a print job.
FLASHING AMBER	White Sub Tanks are not full of ink.	Press the White Reset Button. This will activate the White Ink Pump. White Sub Tanks are full when Dome light is no longer flashing Amber.
FLASHING GREEN	Printer is Busy/Printing. *NOTE: PRINT CONTROL SOFTWARE MAY NEED TO BE UPDATED TO SUPPORT THIS FEATURE.	Printer is printing and there are no errors.

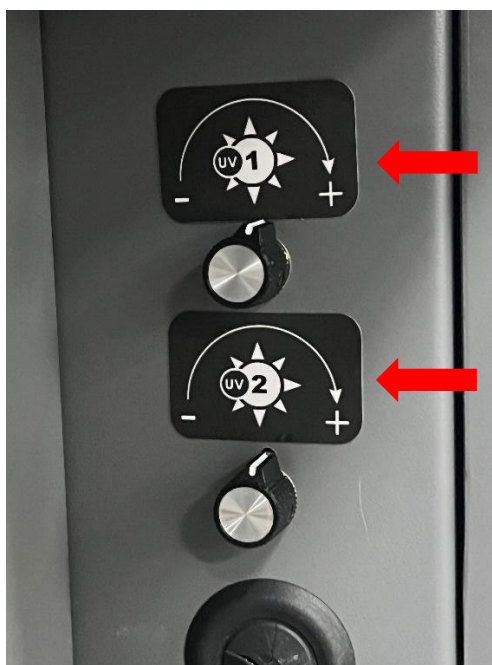If any of the bulk ink tanks runs low you will here an audible alarm.

Go to the back of the machine and open the double doors. To the right you will see a pc board with each color labeled. Look for the solid red light below it to see which tank(s) need to be refilled.

Take the corresponding ink bottle on the side of the printer and shake it, especially the white ink since it has more pigment. Confirm you have the correct ink before opening the bulk tank and slowly pouring in. The alarm should stop once the level begins to rise. It's a good idea to check all the other tanks and fill up at that time too.

If you need to adjust the intensity of the UV lamps there are 2 knobs located just above the yellow push button for Vac 1 to the front right side of the printer.

The normal operating range is between 25%-35%. You can verify current settings by opening the right access door on the back side of the machine where you will see the display box.

For other more in depth troubleshooting steps you can also access instructions and youtube videos through the Direct Color Systems website.