Direct Color Systems®

Getting Started Guide

Direct Color Systems®
DIRECTJET 1024 UV

Direct Color Systems®
DIRECTJET 1014 UV

WITH
TEXTUR3D™
ON BOARD
www.DirectColorSystems.com

Technical Support   If you require technical assistance, contact a technical representative at 860-829-1027 or email techsupport@directcolorsystems.com

Technical information and downloads are available on our FTP site: ftp://ftp.directcolorsystems.com/.

The FTP site requires a Login and password.
You will be prompted to put in a user name and password. (If you are not prompted then double click on a file)

Passwords are as follows and are case sensitive:

Login: dcs
Password: dcsftp

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**Equipment
Certificate of
Compliance**

C E

This Equipment has been tested and found to be within compliance with

CE Compliance:
- Directive 2006/95/EC

**Printing
History**

Edition 2.1 – February 2013
Driver installation instructions updated
Printed in the USA

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Direct Jet 1024UV/1014UV Getting Started Guide

Thank You...

...for choosing a Direct Color Systems® Direct Jet UV printer. Your printer is designed to provide you with exceptional output quality on a variety of substrates. The Direct Jet's ability to print to many different materials without the need for surface pre-coating or undercoating represents a sound investment in time and productivity that will put you ahead of your competition.

Direct Jet printers have many distinct advantages that will help you produce high quality graphics in record time.
- The Direct Jet 1024UV accepts material up to 6" (152 mm) thick and the Direct Jet 1014UV model accepts material up to 4" (102mm) thick.
- The Direct Jet 1024UV model accepts substrates up to 13" (330 mm) x 24" (610 mm) in size and has a printable area of 10" (254mm) x 24" (610 mm). The Direct Jet 1014UV model accepts substrates up to 13" (330 mm) x 14" (356 mm) in size and has a printable area of 10" (254 mm) x 14" (356 mm).
- Innovative Multisolve™ UV-LED inks print and bond to plastic, wood, stone, etc. Using our adhesion promoter, the inks will bind to many difficult surfaces, such as glass or stainless steel.*
- Prints white ink.
- Prints clear ink.
- A print speed of 2.75 minutes to print an 8" x 10" image bi-directionally at 1440 x 720 dpi / High Speed.
- Exceptional print resolution of up to 5760 dpi.
- Direct Jet UV printers print from any IBM-PC® or compatible computer running Windows® 7 or 8, 32- and 64-bit versions using Direct Color Systems' exclusive Color Byte RIP (Raster Image Processing) software.

All substrates should be tested for image receptivity, adhesion and durability with final acceptance and suitability determined by the customer. Direct Color Systems® makes no warranty, expressed or implied.

SAFETY AND PRECAUTIONS

- Please read these guidelines before operating your Direct Jet printer.
- Keep all inks, solvents and lubricants out of the reach of children.
- Use only approved cleaning agents and solvents and then only for the purposes specified in this guide.
- Use only genuine Multisolve™ UV-LED inks.
- Keep inks in a cool, dark and dry location.
- Inks must be used in opaque cartridges only.
- This printer produces potentially harmful UV light. Protect eyes and skin from exposure.
- Avoid physical contact with the printer's table and print head while the printer is in operation.
- Avoid dropping items or spilling liquids in or on the printer.
- Keep hair, jewelry or loose clothing away from the moving parts of the printer.
- Lifting this printer by hand requires a minimum of two people.
- Do not attempt to repair this machine without prior DCS authorization. Unless specified in this guide, only qualified service personnel should attempt any disassembly, repair or access to internal components. If you need to make mechanical adjustments, turn off your printer and disconnect it from all power and data sources.
- Safety Glasses and gloves should be used whenever filling ink cartridges or manually cleaning the print head. These symbols will be used throughout this manual as a reminder to use safety glasses and gloves. Wear protective gear whenever there is exposure to the inks, regardless of whether a symbol is displayed.

    For prolonged exposure, DCS recommends Butyl Black or Ethylene Vinyl Alcohol Copolymer laminated gloves.

- The Adhesion Promoter should not be used in an enclosed area without adequate ventilation. RESPIRATORY PROTECTION: If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 occupational health guidelines for chemical hazards.
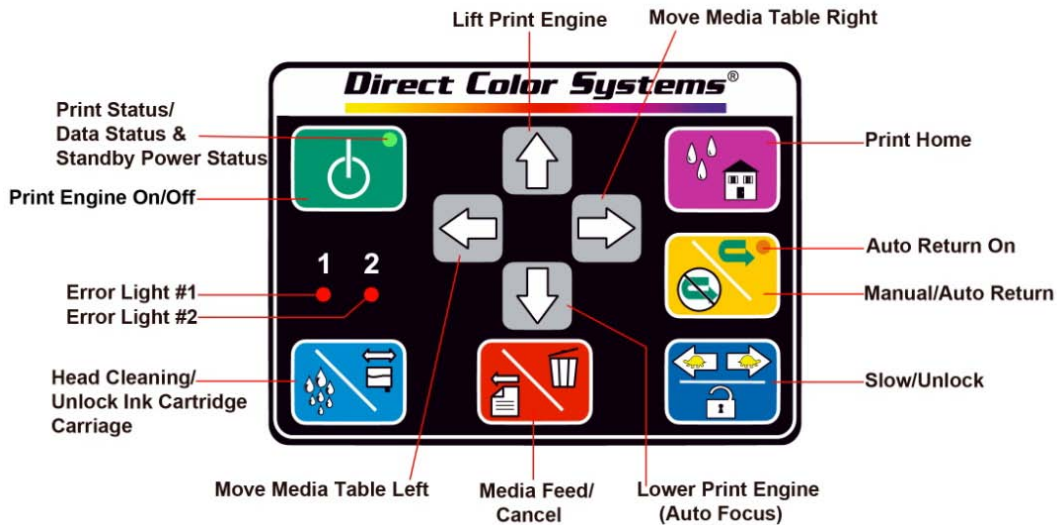
GETTING STARTED WITH THE HARDWARE

Below you will find diagrams of the printer and its parts. Be sure to familiarize yourself with all the individual parts and descriptions of printer as they will be referred to later in this guide.
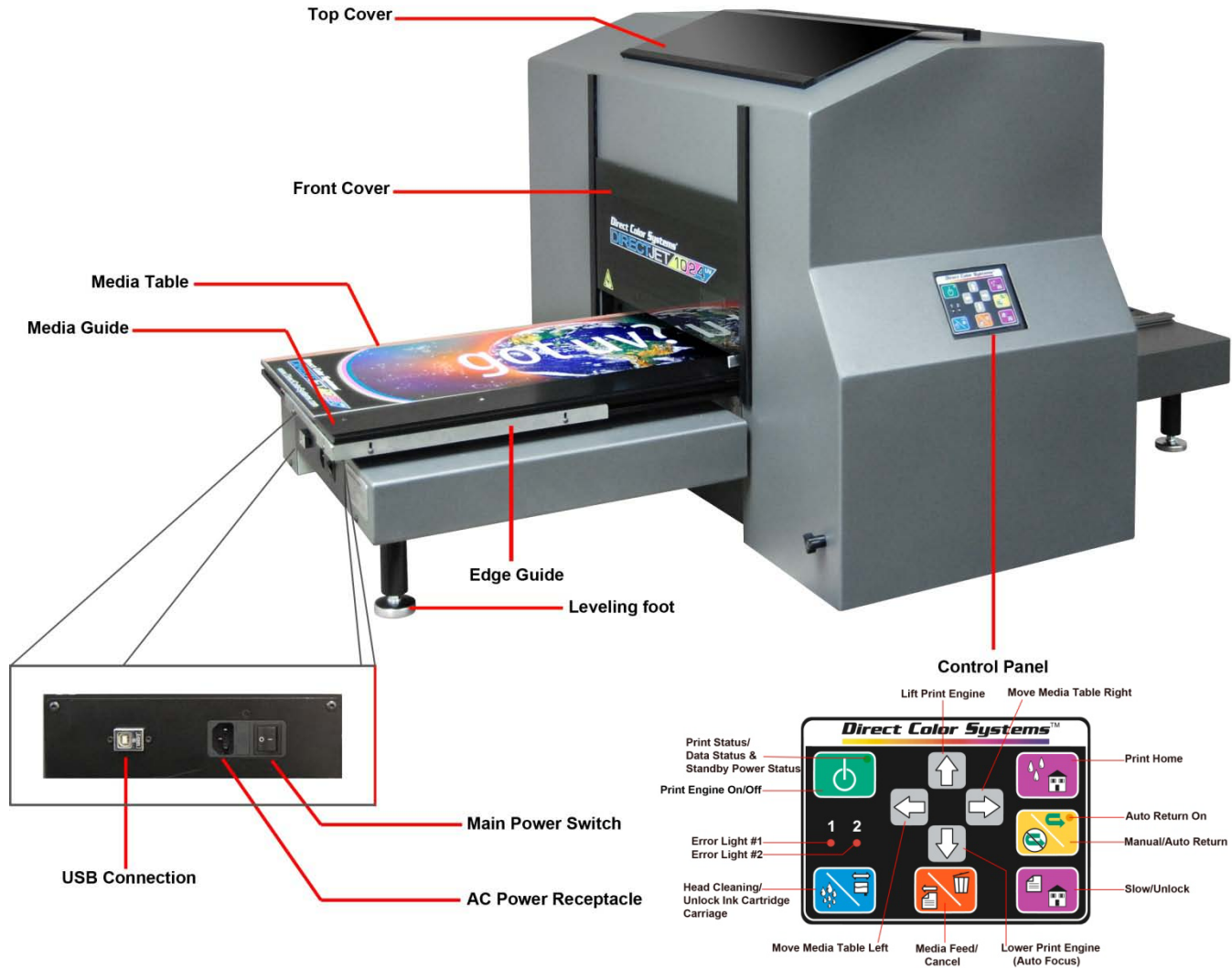
Control Panel for Direct Jet with Optional Direct Drive

Control Panel Button Descriptions

Print Engine On/Off & Print Status/Data Status. When the amber light (Standby Power) is on, there is power to the printer but not the print engine. You will not be able to print in this state but you can move the print engine up and down and the media table back and forth. With the amber light lit and by pressing the On/Off green button, the print engine will be lifted approximately 1" and the media table will move all the way to the right. The green light will light up or blink signifying that there is power to the print engine. When the green light is blinking, there is data being transferred from the PC to the printer or the printer is busy. See Turning the Printer On For the First Time. After turning on the main power, always **wait 5 seconds** before turning on the print engine.

Lift Print Engine (Up Arrow). Pressing this button when power is applied to the printer will lift the print engine up. This should be used to raise the print engine and height sensor so when new media is place on the media table, it will clear the sensor when the table moves forward.

Note

Damage may occur if the Print Engine and Height Sensor are not lifted high enough to allow the media placed on the media table to pass under without interference.

Move Media Table Right. Pressing this button when there is either a solid amber light or a solid green light on the green button will move the table in the right direction unless the button is locked out (see Print Home).

Lower Print Engine or Auto Focus (Down Arrow). Pressing this button will move the print engine down. When you have an object under the Z axis height sensor, the print engine will stop once the height sensor has detected the object. Then when you release the button, the print engine will automatically raise back up to a preset height position giving you the optimum in height for the object you are printing to.

Move Media Table Left. Pressing this button when there is either a solid amber or a solid green light on the green button will move the table to the left unless the button is locked out (see Print Home).

Print Home. Pressing this button will move the table to the Print Home position, which is the position that the table **must** be in prior to printing or sending a print job. After the table has been sent to the Print Home position, the media table controls are "locked out". See Slow/Unlock.

Manual/Auto Return. Pressing the button causes the printer to toggle between Manual and Auto Return. When the amber light is lit on the button, the Auto Return function is enabled. With the Auto Return enabled, after the printer has finished a print job, the printer will move the table from under the print engine to the exit position (toward the Main Power Switch). It will stay there for 8 seconds then it will automatically return to the Print Home position where it will be ready to accept another print job or another portion of a print job. When in manual mode, after a print job is completed, the table will exit the print station and stay at the exit position until the user moves the table back by pressing the appropriate button.

Slow/Unlock. *Found with optional direct drive module only.* Press and hold this key before using the left and right arrow keys in order to use the slow movement feature of the table. To unlock after the table has been sent to the Print Home position, press this key.

Media Home. Pressing this button will move the table to the Media Home position which is all the way to the far right of the printer unless the button is locked out (see Print Home). This position is clear of the printer and allows the user to position a substrate on the table for printing.

Media Feed/Cancel. This should only be used when a print job has been sent to the printer and the table wasn't in Print Home Position. When this occurs, the red light on Error Light #1 will be solid and the green Data Light will be blinking. Press the Print Home button. After the table moves to the Print Home position, then press the Media Feed/Cancel button briefly to allow the printer to restart the print process. By holding down the Media Feed/Cancel button for five seconds or more, you will cancel or abort a print job.

Head Cleaning/Move Ink Cartridge Carriage. *This button is only active when the print engine is powered on and ready.* Press the right arrow button and make sure the media table is all the way to the right. Press the up arrow and raise Print Engine approximately 1" above the table (substrate). Pressing briefly will cause the Ink Cartridge Carriage to move away from the home capping position approximately 2-3 inches. This is the position from which cartridges should be installed or removed. Once cartridges are installed, then press this button again briefly. The Carriage will then return to the home capping position and the printer will automatically perform an ink cleaning/purging cycle.

To perform a head cleaning from the printer, move the table all the way to the right. Then press for 5 seconds or more, and the printer will perform a head cleaning cycle automatically.

Error Light #1 & Error Light #2. These lights designate an error condition. Refer to the Maintenance and Trouble Shooting Guide for more details.

Choosing a Location

Position the Direct Jet printer on a stable, level surface platform that doesn't move when the printer is in operation. It is critical that the platform be stable. A way to test for this is to set a box of tissues on the top of the printer (not the media table) with a tissue extended upward from the box. When the printer is printing, the tissue should not move. An unstable platform will significantly impact the graphic printing capability of the printer. The printer itself should also be level, both lengthwise and widthwise. Make sure that it is in a well ventilated, dust-free room. Provide enough room around the unit to provide access to the front, back, left and right sides of the unit.

Applying Power

Plug the printer into an AC outlet. If an extension cord is required, ensure the cord is as short as possible. To protect your printer against damaging voltage spikes, a surge suppressor is strongly recommended. Operate the unit only on 100-240 VAC, 50/60Hz. The power supply on the Direct Jet is auto-switching. However, if you have any questions about whether or not you have the correct voltage rating for the power supply DO NOT attempt to use the unit. Contact your dealer/representative or Direct Color Systems directly. At this time, do not plug in the USB cable. You will be directed to plug in the cable later in this manual.

Turning the Printer On For the First Time

Before turning on the printer for the first time, follow the instructions in the Quick Reference Guide for removing shipping brackets and tape.

Turn on the Main Power switch first. Verify that the amber light on on the Control Panel is lit.

Wait 5 seconds. Press on the Control Panel, the print engine will be lifted approximately 1" and the media table will move all the way to the right. After a portion of the boot up process has been completed, all lights on the ink cartridge panel will flash red, indicating that power is on, but there are no ink cartridges.

Move the table all the way to the right before pressing and the print station will move to an accessible position for ink cartridge installation. Open the cover. Now you are ready to install the ink cartridges. Follow the procedure outlined in the next section.

Note

When shutting the printer down, always be sure to power off the print engine by pressing and allowing the light to change from green to solid amber. Be sure that the media table is **ALL THE WAY TO THE RIGHT** and the print head has stopped moving before turning off the main power switch. Failure to do so may result in the printer not properly capping the print head and this could clog the nozzles in the print head permanently.

Filling Ink Cartridges

When you receive your printer, locate a set of empty refillable cartridges. If you are refilling your cartridges, you can access them by following these steps:

- Move the table all the way to the right.
- Press [icon]. The print station will move to an accessible position.
- Open the cover and remove the cartridges.

Ink Cartridge Order

(Colors correspond to the ink color to be filled in the cartridge for that channel in print head)

Channel	#1	#2	#3	#4	#5	#6	#7	#8
	I-7114 Y Yellow AC-T0874-BL	I-7115 M Magenta AC-T0873-BL	I-7116 C Cyan AC-T0878-BL	I-7102 K Black AC-T0877-BL	I-7113 CL Clear AC-T0879-BL	I-7113 CL Clear AC-T0871-BL	I-7104 W White AC-T0870-BL	I-7104 W White AC-T0872-BL
Code on Cart	AC-T0874-BL	AC-T0873-BL	AC-T0878-BL	AC-T0877-BL	AC-T0879-BL	AC-T0871-BL	AC-T0870-BL	AC-T0872-BL

Channel #	Ink Color to Fill	Code on Cartridge
1	Y- Yellow (I-7114)	AC-T0874-BL
2	M- Magenta (I-7115)	AC-T0873-BL
3	C- Cyan (I-7102)	AC-T0878-BL
4	K- Black (I-7102)	AC-T0877-BL
5	Cl- Clear (I-7113)	AC-T0879-BL
6	Cl- Clear (I-7113)	AC-T0871-BL
7	W- White (I-7104)	AC-T0870-BL
8	W- White (I-7104)	AC-T0872-BL

Important Note on refilling and resetting

Although you may be alerted to only one cartridge needing to be refilled, Direct Color Systems recommends that you refill all cartridges at once, in order to minimize downtime on your printer. Follow the same steps regardless of how many cartridges you are refilling.

Ink Cartridge

Breather Hole

Filler Plug

Locking Mechanism

Ink Cartridge Chip

Wear Gloves

Remove the yellow breathing strip from the side/top of the cartridge. Make sure all the tape has been removed and the breather hole is exposed and clear of any residue.

Never fill the ink cartridges while they are installed in the printer.

Remove the filler plug from the top (towards the center) of the cartridge. Only remove one filler plug at a time.

Make sure the correct color ink is put into the correct cartridge.

Place the filling tip (blunt needle with brown base) on a syringe and proceed to fill cartridges with ink. Because of the opacity of the cartridges, you must fill the cartridge slowly while looking down the filling hole. A fully empty cartridge will not accept more than 14ml of ink, so never have more than that in the syringe. Do not fill with less than 13.5ml of ink. You will see the ink when it gets close to the top of the cartridge. In the case of a spill, wipe it up immediately. The cartridge color order will be: YELLOW, MAGENTA, CYAN, BLACK, CLEAR, CLEAR, WHITE AND WHITE.

Re-insert the filler plug into each cartridge after each is filled with ink. Be certain filler plugs are seated tightly in the filler hole. Failure to have a tight seal can result in ink dripping from the bottom of the head and cause poor print quality.

Syringe and needle storage

Plunge the syringe 2 – 3 times to purge any leftover ink from the syringe into a waste basket then pull the plunger back about 1 inch (2.54cm) before storing.

Store syringes vertically in the foam holder so that the needle is pointing down, suspended in the air, and not in contact with anything.

Syringes should be stored in a dark location to prevent premature curing of the ink. Put them in the cardboard ink box provided and store them in a cabinet. Close the cover fully by inserting the flap into the box. This makes the box light-tight but not air-tight. The cabinet should also be light-tight but not air-tight.

Use of the provided ink box is required for best results.

Note

To prevent ink contamination, use a separate syringe and filling tip for each color. Do not use any other type of syringe. Other syringes contain latex or other lubricants that will contaminate the inks. Replace syringes and filling needles every 28 days.

Inks should be stored tightly capped at a temperature of 65°F – 85°F (18°C – 27°C). Factory sealed inks have a shelf life of 1 year. Once opened, shelf life is 6 months.
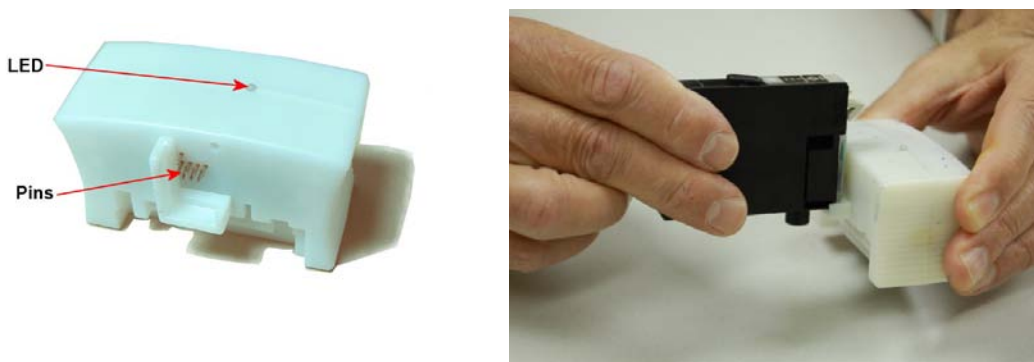
Resetting Cartridge Chips

Each ink cartridge has a chip on it that relays information to the Color Byte software regarding ink level. When you receive a new cartridge, its setting is full. As ink is used, the setting changes and so the chip must be reset when you refill the cartridge. Instructions on how to view ink levels are included in this chapter for organizational purposes, however, it is necessary to have the software installed in order to view these screens. For Color Byte installation instructions, refer to the Color Byte Rip 9 User Guide.

You do not need to have your software installed to fill or install the cartridges.

Reset the cartridges to a full status. Because of the opacity of the cartridges you will not be able to see ink levels and must rely on the software to tell you when you have low ink. **It is critical** that the resetting step not be skipped. Cartridges should be filled with the maximum amount of ink and reset every time. Do not reset if you have less than 13.5ml of ink in the cartridge.

Locate the cartridge chip resetter. See picture below.

Hold the cartridge so the pins of the resetter are touching the pads of the chip. The cartridge chip resetter LED will flash red/green. When the light turns solid green, the chip status has been set to full. Repeat this for all cartridges.

Installing Cartridges

Install the filled cartridges into the printer so that the cartridge chips will meet the contacts. Push each cartridge straight down until it clicks.

Close the cartridge carriage cover.

Press to return the print head to its proper location.

Checking Ink Levels

The ink status can be viewed using the Color Byte Queue when the printer has a solid green light on of the control panel. If the light is blinking, wait until it is solid.

Accessing the printer properties when you have a blinking light will lock up the software.

Select Printers and Manage Printers. Click on the DCS Direct Jet printer to select it. Click on the printer icon in the tool bar.
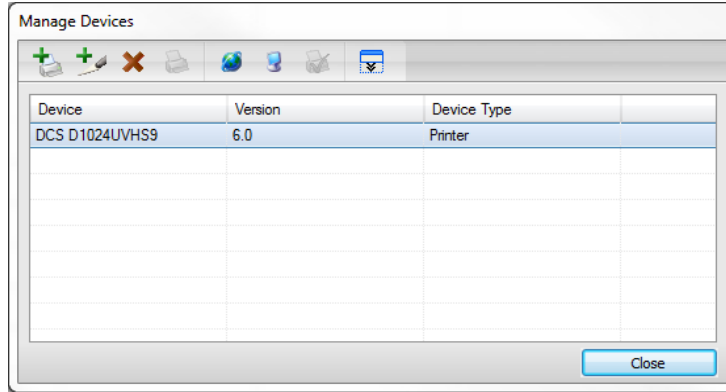
This will bring up the Device properties screen that shows the ink status.
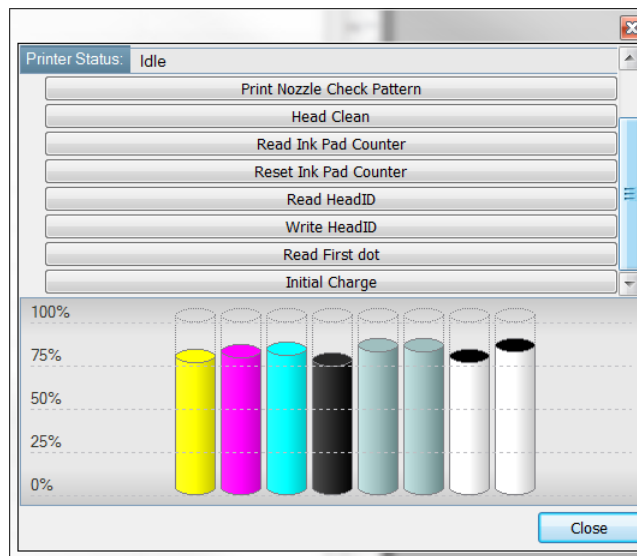
DRIVER INSTALLATION

Insert the orange USB security device (dongle). You should connect it directly to your computer and not to a hub. The dongle is required to run Color Byte. It must remain in the computer at all times. It also contains documentation, software and driver files necessary to use your printer.

EIB

On the dongle, navigate to Data Disk 2>Direct Jet USB Drivers>EIB_5_2_2.

Run (double click on) DJ1320_EIB_VCPInstaller.exe and click Install. Click Continue Anyway when you see the alert about the Windows Logo testing. **Do not restart** at this time.

YACB

Navigate to Data Disk 2>Direct Jet USB Drivers>YACB_5_2_2.

Run (double click on) DJ1320_YACB_VCPInstaller.exe. Click Continue Anyway when you see the alert about the Windows Logo testing. Choose **Yes** to restart when finished.

Printer Drivers

Navigate to Epson Printer Drivers and choose the file associated with your operating system. Do not rely on or use the Generic ESC default driver that Windows 7 may install on its own. You must install the drivers provided on the dongle.

When the Security Warning screen appears, click on **RUN**. When the Self-Extractor window appears, click **OK**. The Self-Extractor will automatically start to unzip the files into a temporary buffer area. The setup utility will automatically start copying files.

If you get to this screen, click the **MANUAL** button. If your printer is connected and your print engine is on ([⏻] solid green light), you won't see this screen and it will automatically be assigned to the default Epson port.
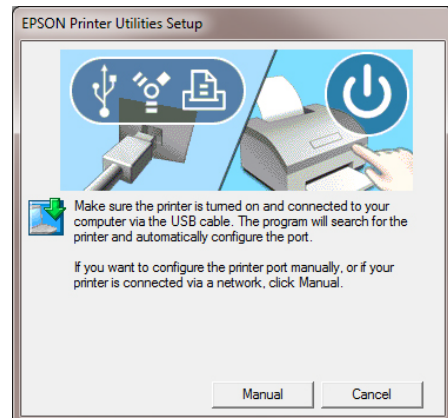
Select **FILE** for now and later in this manual the EPSON Stylus Photo 1900 printer port will be selected. After the port is selected, click OK.
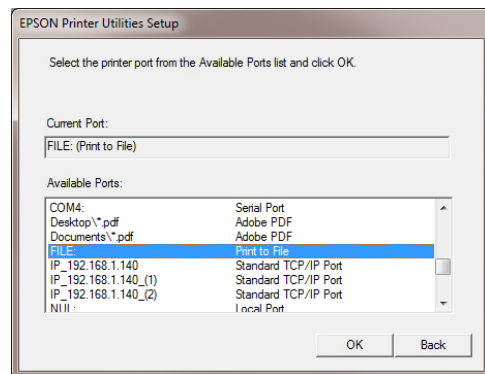
Click **OK** at the successful installation screen.

For Instructions on installing Color Byte RIP 9, please refer to the Color Byte RIP 9 User Guide. If you have Color Byte RIP 8, please contact DCS Tech Support.

USING THE DIRECT JET PRINTER

Connect the USB Cable and Verify Communication.

Your Direct Jet printer ships with a USB cable for connection between your printer and computer. Connect one end of the USB cable to the USB Port connector on the back of the printer. Connect the other end of the cable to any available USB port on the computer. Power on the printer.

Verify by using [↑] & [↓] that the print engine can move up and down then set the height of the print engine so the media table can slide under the print engine without any obstruction. Verify by using [→] & [←] that the media table can move right and Left. Set the media table to all the way to the right.

Press [⏻]. This will start the print engine through its power on and self test routines. After completing the self test the green LED on the button will go from blinking to solid.

When you power on the print engine, it will be lifted approximately 1" and the media table may move all the way to the right.

If the Epson R1900 driver isn't installed or this is the first time the printer has been connected to the computer, a **Found New Hardware** notice may appear followed by an **Add New Hardware Wizard**. You will be using the proprietary driver software (shipped with your Color Byte RIP software) rather than a Windows driver to operate your Direct Jet printer. Nonetheless the Epson R1900 printer driver is used to communicate with a portion of the printer. If you did not install an Epson R1900 printer driver refer back to **Installing the Printer Drivers** section. Otherwise allow Windows to install the driver; it will install automatically. If the Epson printer driver is not installed, intermittent communication errors can crop up.

Initial setup after install or moving the printer

Ensure that the printer is properly adjusted and aligned after shipment.
- Adjust all 6 leveling feet so the printer is stable and level, both lengthwise and widthwise.
- Perform the Head Height Adjustment (refer to Maintenance and Troubleshooting Guide).
- Perform LED lamp Height Adjustment (refer to Maintenance and Troubleshooting Guide).
- Perform the X & Y "0" Calibration (refer to Maintenance and Troubleshooting Guide).

Preparing the Table

Before you can place any materials onto the media table, you will need to prepare the table with an appropriate hold-down device. DCS recommends a tacky mat available through a DCS authorized distributor.

Use the following guidelines to help you prepare the printer's table:
- If you are using a mat, be sure that the mat is level and flat.
- To avoid bubbling of your substrate, use hold-down material that is of sufficient length, position and quantity to ensure that the substrate lies flat on the table.
- Replace any hold-down device that has lost its tack or is no longer flat.

Note

Whatever hold-down method you use, no part of the hold-down system should protrude above the surface of the substrate.

Loading Substrates onto the Table

When loading substrates onto the table, you can ensure consistent and predictable output by following these steps:

Bring the media table all the way to the left, if it isn't already in that position.

Press and hold ⬆ until there is sufficient space between the table and the print head to accommodate the thickness of the substrate being loaded.

Place the top left edge of the substrate flush with the top left corner of the table using the guides to assure proper placement. Flexible substrates must be placed so that they are completely flat on the table. Any bubbles or raised areas will cause the print heads to contact the material and will cause inconsistent output.

Note

The front media table guide (the stainless steel bar at the front of the table) can be raised by sliding it above the surface of the media table/tacky mat to align the substrate. **Make sure to slide it below the substrate before printing.** Adjust the screws on the table guide so that the guide stays in place, but also slides without requiring tools.

Press the material down firmly so that it makes contact with the tacky mat or other hold-down device. If the substrate requires cleaning, DCS recommends an alcohol wipe.

When using the DCS tacky mat with photo paper DO NOT allow the photo paper print side to come in contact with the tacky mat. This will permanently adhere to the tacky mat, ruining both the paper and the mat.

Difficult to Print to Substrates

For difficult to print to surfaces such as glass and stainless steel, use our adhesion promoter (I-UV-ADHPR-200). Apply the promoter to the part of the substrate to be printed to and in normal use, immediately wipe off. Printing can be done with adhesion promoter wet or dry. Always test the adhesion promoter on any new substrates before printing.

To determine the proper print height for the material you are using, start with the table to the far right and move the media table with the substrate toward the print engine at SLOW TABLE SPEED. Achieve slow table speed by pressing and holding ⬅🔒➡ and then using the left and right arrow keys. *If you have a standard drive, you can push the table with your hand at a slow speed. Do not manually push the table if you have a direct drive.* Make sure the top of the substrate clears the bottom edge of print engine cover. Move the media table at slow speed until it is approximately 2" beyond the bottom edge of the print engine cover. The height sensor should detect the height of the substrate and adjust the print engine up to the proper print height. DCS recommends when printing to non-uniform materials or soft goods, always move the entire surface to be printed under/through the LED head height sensor lights. Failure to do so can result in head strikes and permanent head damage not covered under warranty.

If the print engine did not move up, it means the print engine was set too high to detect the substrate. Press and hold ⬇ until the print engine stops moving down, then release (the print engine will raise slightly). This will set the proper print height for the substrate.

Press 🔲. You are now ready to print.

After pressing ![icon], all buttons that control table movement are locked. ![up arrow] & ![down arrow] can still be used to adjust the print head height. To escape the locked state, press ![lock icon] then move the table all the way to the right. *To unlock a standard drive printer, simultaneously press* ![icon] *and* ![arrow].

Note

If you are attaching irregular-shaped substrates, you may need to construct and use simple jigs or fixtures to ensure that the material is positioned correctly. Any additional device used to position or hold the substrate must not protrude above the surface of the substrate.

Printing onto Reflective, Shiny and/or Mirrored Surfaces

There are many reflective, shiny and/or mirrored (RSM substrates) surfaces that require a UV print for personalization and/or decoration. These RSM substrates also include glass and crystal products. While there is always some risk involved with printing to these surfaces, the risk can be minimized and controlled when utilizing the following procedures. Failure to follow these guidelines could result in UV light reflecting or refracting towards the print head. This increases the risk of curing the inks in the nozzles and on the nozzle plate which could damage the print head. This damage would not be covered by warranty.

1. NEVER mount the RSM substrates onto the bed except to send the table to print home, adjust head height, and print. NEVER have the RSM substrate mounted on the table with the head above the recommended printing height, including during nozzle checks and/or filling of cartridges, etc. Exposing the head at any time to an RSM substrate mounted on the bed when the head is raised above the default head printing height allows the refracted light from the UV LED lamp to reflect back towards the head. This can cause curing of the inks in the nozzles and on the nozzle plate, causing damage to the print head.
2. Never print onto highly reflective materials that are not flat sheets. As an example, if attempting to print to mirrored vinyl, you first must attach the mirrored vinyl to a flat piece of material. If the mirrored vinyl is not flat, it will refract light in all directions and you risk curing the inks in the nozzles and on the nozzle plate, which could damage the print head.
3. Angle your RSM substrate slightly so that it slopes downhill away from the capping station as described below. This will cause any refracted light to be directed away from the head.
4. When printing to an RSM substrate that has a multi-faceted face (similar to many crystal awards or like the cut on a diamond) mask all non printing area with a masking or light blocking tape. The planes on the multi-faceted face will refract light in all directions and you risk curing the inks in the nozzles and on the nozzle plate, which could damage the print head.
5. When printing onto RSM substrates, perform regular nozzle checks to ensure nozzle health is correct. If nozzles are missing, perform head cleans to correct missing nozzles. If ink is curing on the nozzle plate or in the nozzles, it is important to clear it out of the nozzles or off the plate so it doesn't continue to attract other stray ink droplets and compound the problem of nozzle health.
6. When printing onto RSM substrates or when printing more than 4 hours in a day, always end the day/shift with a nozzle check to ensure all nozzles are correct before powering down printer. If nozzles are missing, perform head cleans to correct missing nozzles.

Never manufacture jigs and or fixtures out of RSM materials. When using acrylic, DCS recommends colored acrylic. When metal or aluminum is used, DCS recommends painting and/or black anodizing any reflective areas including the cavities.

Angle your RSM substrate slightly so that it slopes downhill away from the capping station.
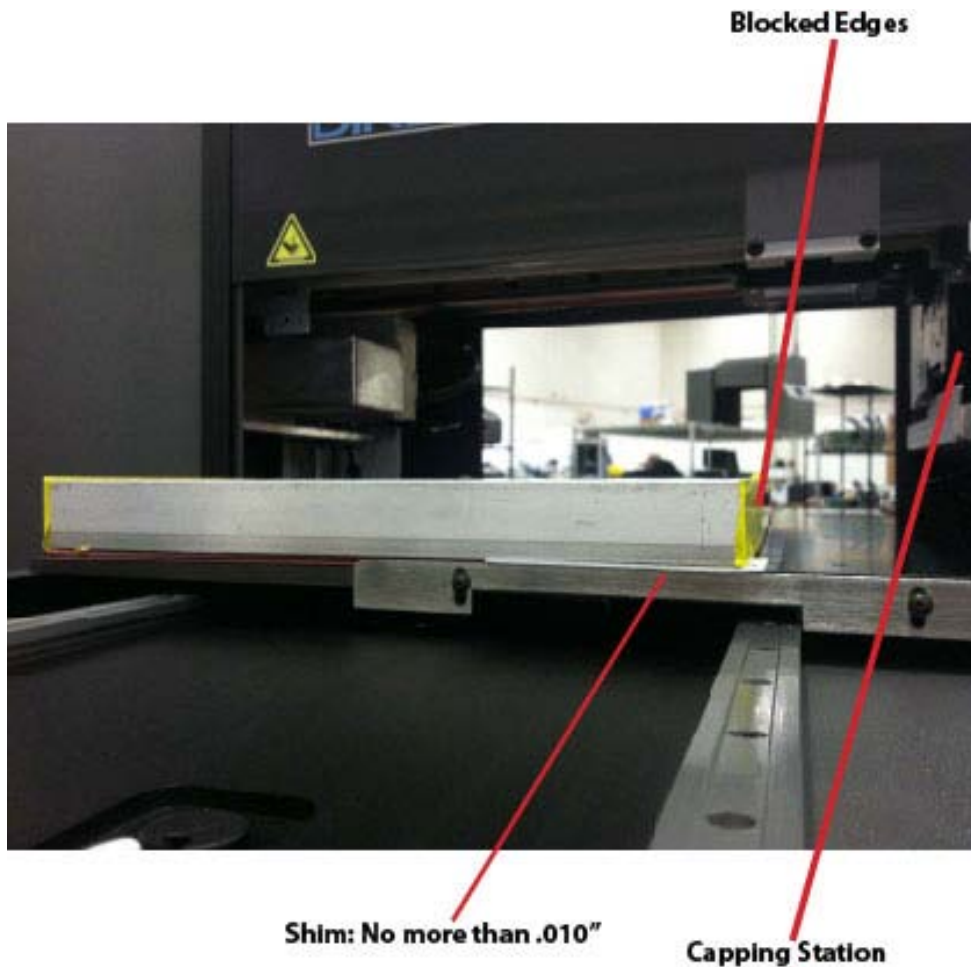
Printing onto thin or low melt-point plastics (e.g. PVC)

If you are using a thin material, the UV Lamp intensity may need to be adjusted so that the material does not warp and scrape against the print head.

There is a dial which can be used to adjust the intensity of the lamp to accommodate varying substrates.

Turn the dial counter-clockwise to lower the intensity. The knob has 10 detents/clicks for easier adjusting. DCS suggests a level of between 6 and 8 when printing to thin plastics or low-melt plastics (such as PVC).

Some testing may be necessary to determine the correct combination of resolution/print mode and UV lamp intensity. All substrates should be tested and confirmed by end users as suitable with regard to print quality and adhesion of the inks to the substrates.

Nozzle Check

The last step of the printer setup is to perform a nozzle check. Printing a nozzle check file is very important to verifying the health of the print head's nozzles. This file will be the indicator of whether or not the printed output will be acceptable. Printing other files from the RIP software will be covered in greater detail in the software guide.

To perform a nozzle check:

Open the queue and click OK when asked, "Have you performed your weekly Ink Pad Reset?"

Note

The waste ink pad counter should be reset at least once per week during normal operations. See Reset Waste Ink Pad Counter in your Maintenance and Troubleshooting Guide. Failure to do so may result in downtime and the need to contact DCS Technical Support for resolution.

Once the proper port is selected, click on the Nozzle Check tab (queue). To print, either right-click on the file name and choose print or press the Print Button (indicated below in red).
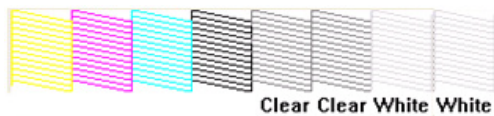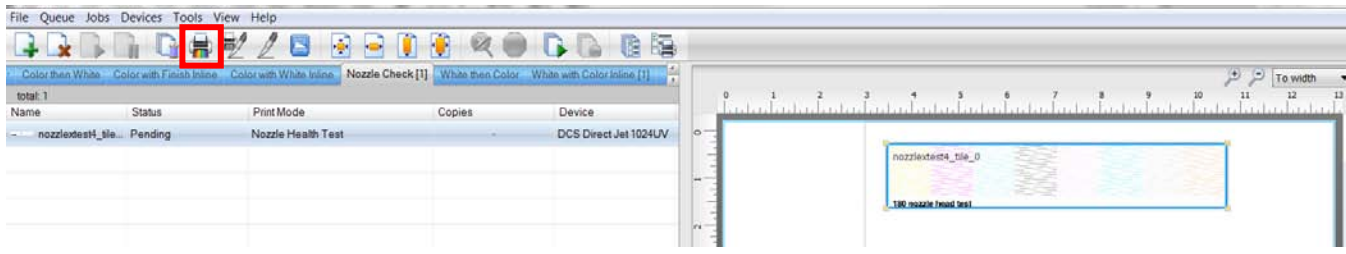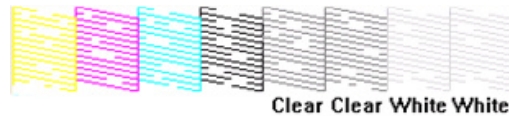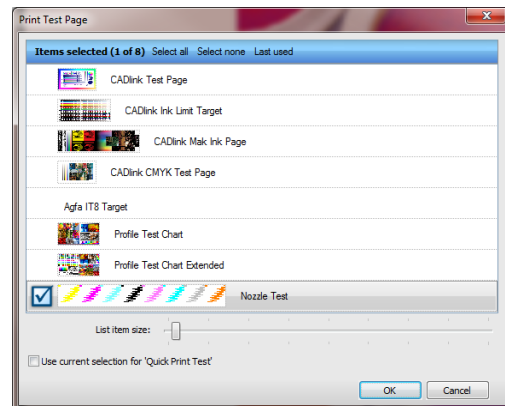

Good Nozzle Check   Bad Nozzle Check

The test page will output the color in the following order from left to right: Yellow, Magenta, Cyan, Black, Clear, Clear, White, White. In order to view the white and/or clear ink in a nozzle check pattern, you may need to use shiny plastic or a dark colored substrate.

If you remove the Nozzle Check file from the Nozzle Check queue it can be found, along with other test pages, in the test pages dialog box.

Select **Devices>Print Test Page** to see the selections.

If the output indicates that another head cleaning is required, perform the head cleaning procedure from the Device Properties screen where you selected the nozzle check option. If the nozzle continues to be bad, use the Device Properties screen and scroll down, select Initial Charge. When that is completed, do another Nozzle Check. If still dissatisfied with the results, go to Correcting a Bad Nozzle Check Condition in your Maintenance and Troubleshooting Guide.
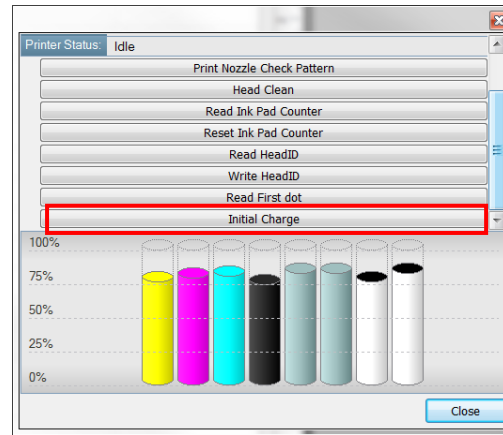
Cleaning the Print Head

Before using the Direct Jet printer for the first time or if any of the nozzles in the print head are not spraying, it is necessary to perform a head cleaning operation. You can do this in the same Device Properties screen you used to perform the nozzle check above.

Alternately, you can clean the heads from the printer itself.

Make sure the print engine is powered up and is ready (with a solid green LED). Raise the print engine to approximately 1" above the substrate. Move the table all the way to the right.

Press and hold [icon] until the green LED in [icon] starts flashing.

The printer will perform its head cleaning procedure. Wait until the green LED is lit solid before doing anything else with the printer.
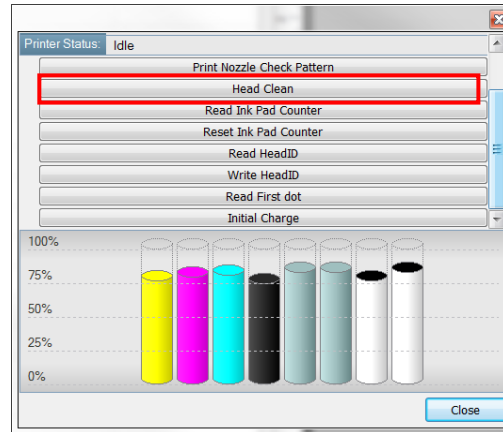
See the Quick Reference Guide for information about unpacking your printer and readying it for setup.

See the Software Guide for information and tips on designing, print modes and printing.

See the Maintenance and Troubleshooting Guide for help in diagnosing problems.