ONYX THRIVE

USER MANUAL

A Standardized Design, Print and Production Workflow

User Manual

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INTRODUCTION

Why is a standardized design-print-production workflow necessary?

Simply put, a standardized workflow will increase efficiency and allow for autonomous project management. Employees in a regular sign shop or production studio are assigned individual roles, and each employee has their own process of completing their tasks. This can bode an issue when an employee is either sick or unavailable, as efficiency in the work flow will suffer, ultimately leading to a loss in production. For this reason, while there is a benefit in having your own methods in completing a project or assignment based on your job description, it is important to have a basic understanding of all moving parts in a sign shop.

This user manual will explain the basic steps in performing a design setup for print, processing that print job, and completing it with lamination (if needed) or die cutting on the vinyl plotter. The goal is to maintain a level of ability across all departments to complete these tasks if the printing department is either under strain or not fully staffed due to illness and absence. It is important to understand that there are numerous steps that are in the process after your design is completed, the more complicated the design, the more intricate the procedure will be, and this manual will serve as a reference for future projects. Terms that are in **bold** will be defined in the glossary at the end of this manual.

tip

Keep an eye out for tips as they will help you learn tricks and key strokes that will improve your efficiency. Also, be aware that the icon in the top right of the page will help you know which software the current section is dealing with.

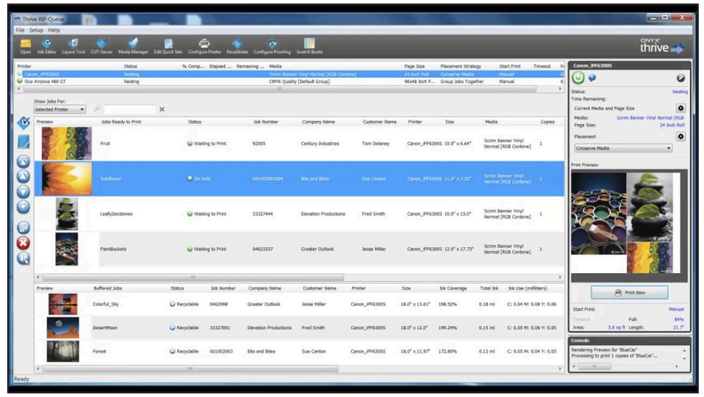

Figure 1.1, The dashboard of the ONYX Thrive RIP

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SETTING UP PRINT FILES

Proper print file setup and design completion is perhaps the most important part of this work-flow. Every section that follows will rely heavily on the original file being in the correct format, having proper **margins** and **bleed**, using correct **spot color naming**, or being the correct **dimensions**. Before sending a file to print, be sure to check the list below, if some of the terms are not familiar to you, continue reading the manual.

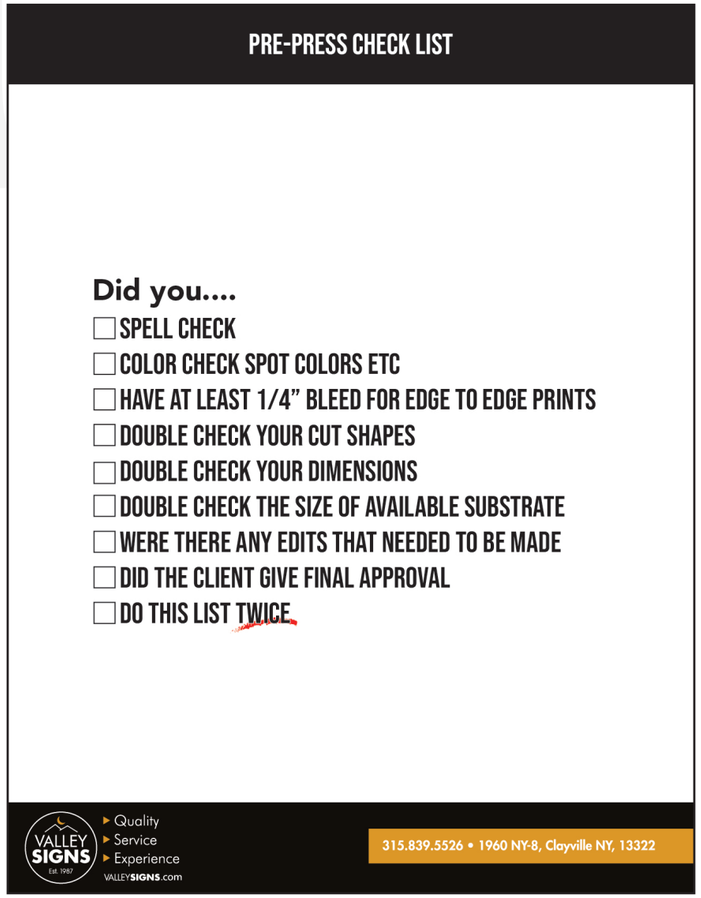

Figure 1.2, Pre-Press Check List

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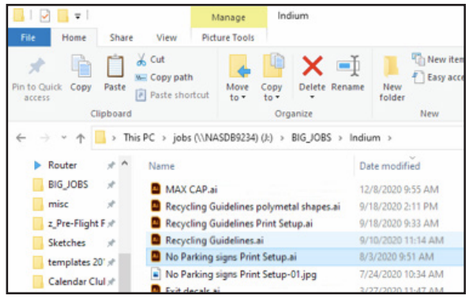
1.1 CHECKING COLORS

The first order of business is making sure that your colors are correct, in this manual and work-flow, **Adobe Illustrator** is used as the **graphic editing program**. Follow the steps below to insure **accurate color matching** from the previous projects for a client, and proper **print colors** for new projects. Start by opening your file that you would like to set up for print.



Step 1:
Navigate to a second file from the same client (Usually in the same folder) from a previous job, double click on it to open it in **Adobe Illustrator.**

Step 2:
Copy the artwork from the second file, in to the file you would like to set up for print.

tip

Use Ctrl+C to copy, and CTRL+V to paste the artwork into the first file.

Step 3:
Select the **magic wand tool** in the top right of the tool bar to select similar colors, (click on the green color), and then select the **color picker tool** to set the colors to match from the second file you pasted, (click on the green color again).

If all colors match, your setup is complete.

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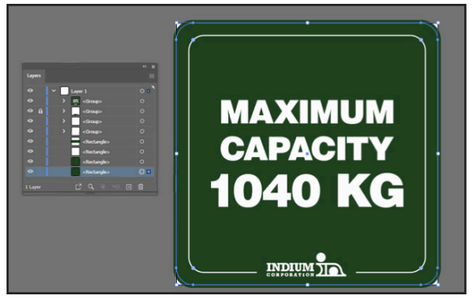
1.2 SETTING UP CUT SHAPES

Cut shapes allow the ONYX and Summa software to know where to die cut on the **vinyl plotter,** an important part of the printing process, be aware that there are **custom scripts** written to simplify these steps with a two-key-stroke, mentioned in the tips below.



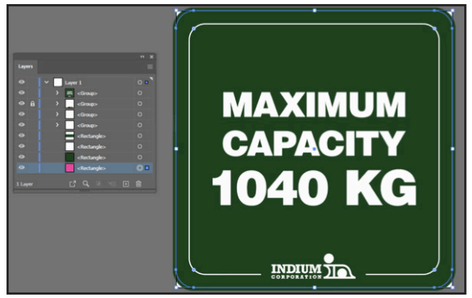
Step 1:
Select your rear most shape and copy/ paste it behind itself, using the keyboard commands CTRL+C, CTRL+B.

tip

Add a stroke of the same color to your top shape before you do copy and paste it behind itself

Step 2:
Make sure you have your swatch window open, if you do not see it open navigate to the top bar and click Window>Swatches.

Click on the button to add a new swatch, name it **CutContour** and set its **Color Type** as a **Spot Color**, it can be any color but we generally use 100% magenta.



Step 3:
Your cut shape is now set up, make sure that it does not have a stroke color and that the fill color is the **CutContour Spot Color** we just created.

tip

You can use the custom script key stroke of F2 to create a cut shape instantly after selecting the rear most shape, SHIFT+F2 will create a cut shape with new art board.

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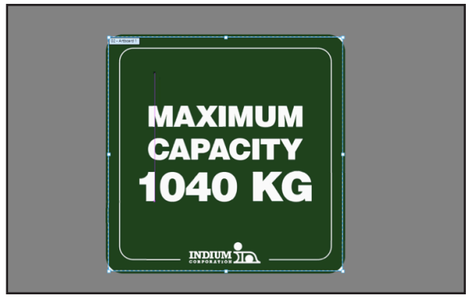
1.3 FINALIZING FILE SETUP

It is important to double check your work to make sure that you have the correct colors and cut shapes necessary for the project, but remember that margins and placement also play a key part in the printing process. Make sure you have adequate room around your artwork and do not crop it with the art board.



Step 1:
Click on the **art board tool** to make sure that your artwork is within the art board bounds. If you see that there is no white-space around your artwork, it will most likely need a larger art board.

Step 2:
Use the corner points to extend the art board so it is larger than you artwork, make sure to do this on all four sides.

tip

Holding the ALT key when moving the corner points will also move the opposite set of points

Step 3:
Your file is ready to send, save your file in the proper folder and make sure to add "Print Setup" to the end of the file name, continue onto the next section to start the printing process.

tip

Make sure your file name is easy to read and understand, include project and client names.

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COMMUNICATING WITH THE PRINT SERVER

ONYX has several powerful features that can be expanded upon through custom scripting in illustrator, the use of **Hot Folders** and **Quick Sets** allows us to save files with preset settings and parameters instantly without having to facilitate changes in the RIP program. This saves on time adding to efficiency, and allows multiple users to send files to the **Print Server** simultaneously.

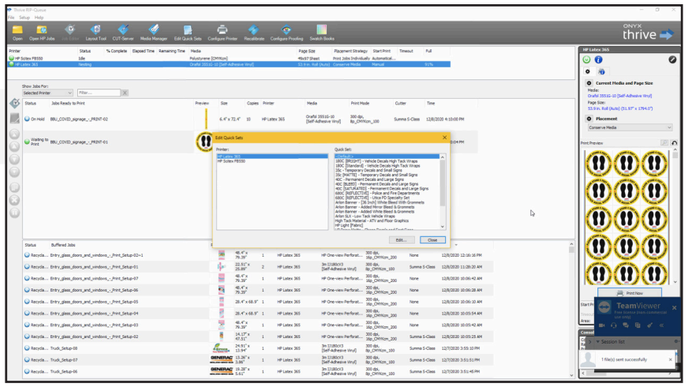

Figure 2.1, ONYX Quick Set Window

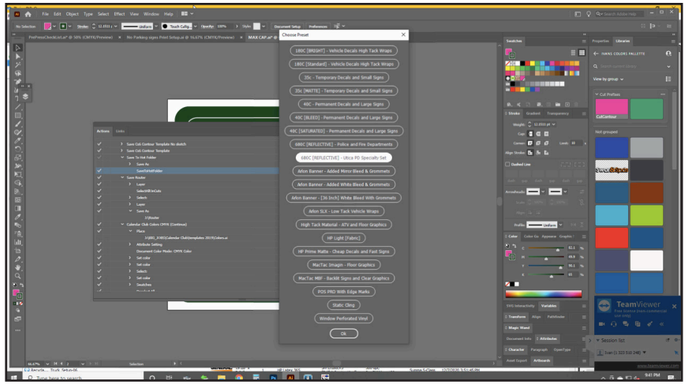

Figure 2.2, Adobe Illustrator Hot Folder Dialog

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2.1 UNDERSTANDING ACTIONS

Actions are an important part of **Adobe Illustrator** as they can automate repetitive tasks. By automating tasks we can eliminate user error in the process of file setup as seen in the previous section, actions can be accessed by **Hot Keys** or **Key Combinations**, as well as the actions window.

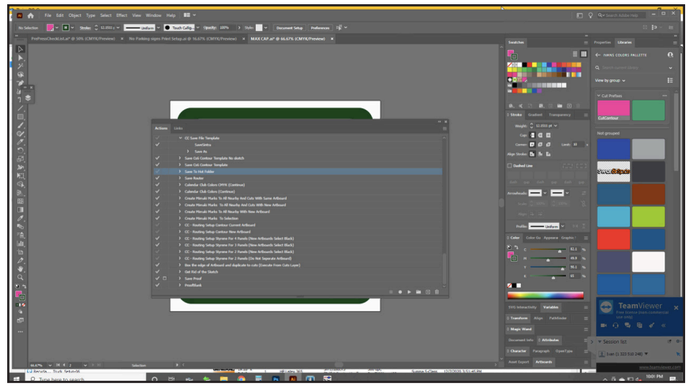

Figure 2.3, Adobe Illustrator Actions Window

tip

Access the actions window by navigating to the top menu and clicking Window>Actions

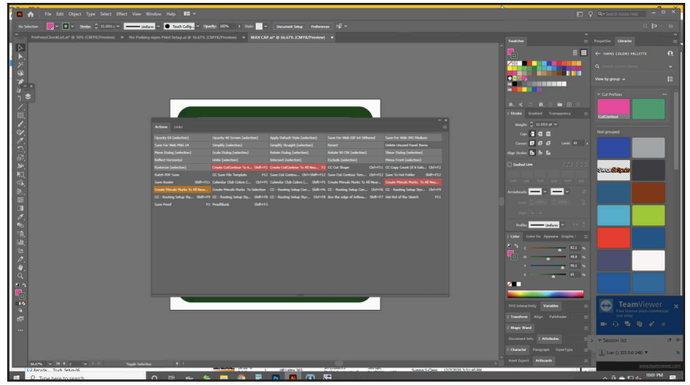

Figure 2.4, Adobe Illustrator Hot Key View

tip

Access the actions Hot Key view by clicking the stack menu ☰ and selecting **Button Mode**

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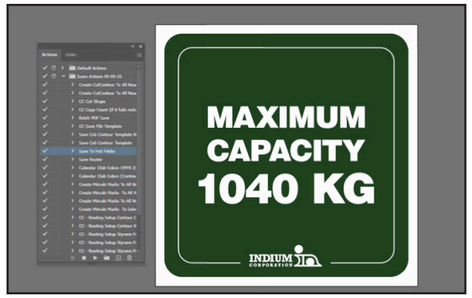
2.2 CHOOSING YOUR PRINTER

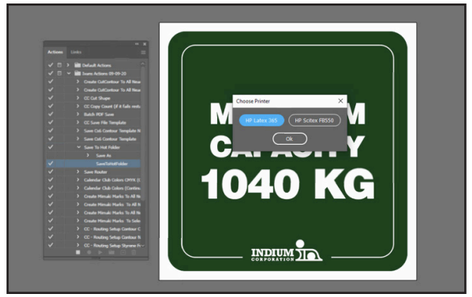
Choosing your printer is an automated action with a dialog box or window that pops up for selection, the window has multiple steps, the first of which is selecting the printer you want to send files to for printing.



Step 1:
In the actions window select the **Save to Hot Folder** action and either double click it, or press the play ▶ key

tip

The key stroke or hot key for this action is SHIFT+F12



Step 2:
After initializing the action, a pop up window will appear titled “Choose Printer” For the purpose of this example select “HP Latex 365” and press “Ok”

Move on to the next section to complete the communication process.

tip

You can interrupt any action at any time by pressing the escape key repeatedly until all action windows close.

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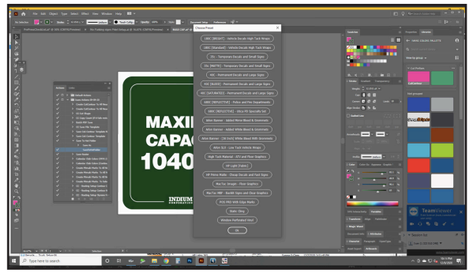
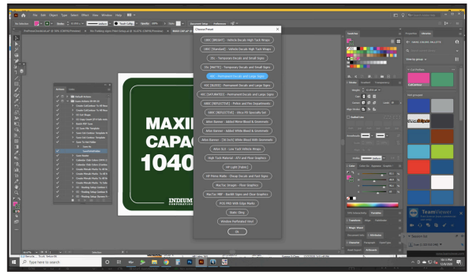
2.3 CHOOSING YOUR PRESET

Choosing your preset is also an automated action with a dialog box or window that pops up for selection, the window is the second in the **Save to Hot Folder** action set.



Step 1:
Wait for the window to pop up, notice that there are multiple selections available for multiple different types of media, pay particular attention to the names since different options will yield different results.

Double check your requested print media.



Step 2:
For the purpose of this example select “40C - Permanent Decals and Large Signs” This media is a 3M Material with a 7 year rating used for most of our out-door signs.

After you have selected the correct 40c Media click “Okay”

tip

You can interrupt any action at any time by pressing the escape key repeatedly until all action windows close.

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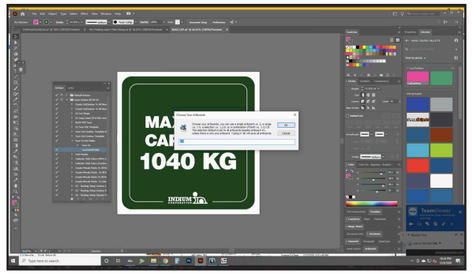
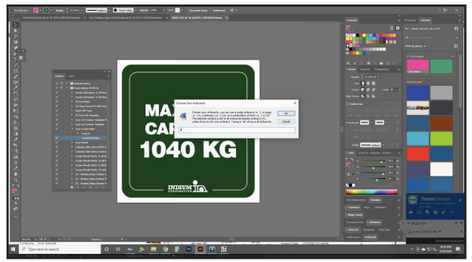
2.4 SELECTING AN ART BOARD RANGE

Choosing your art board range is also an automated action with a dialog box or window that pops up for selection, the window is the third and last in the **Save to Hot Folder** action set.

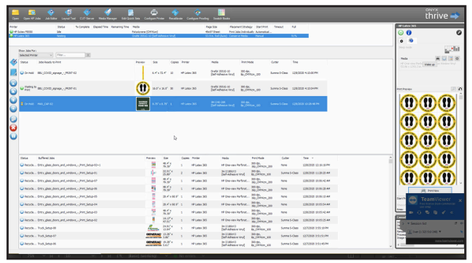


Step 1:
You will notice that a window with a different color has popped up, this is an input box for an art board range. Be sure to read the instructions here carefully. The default value if you have multiple art boards will be 2-X with X being the total number of art boards, or if you have 1 art board the default will be 1.



Step 2:
Enter your desired range, for the purpose of this example the range can stay a default of 2-2 or be set to 2, since we want the second art board. If you only have 1 art board leave it at the default of 1.

Press “Okay” and switch to your **Print Server** view.



Step 3:
Verify that the file has transfered over correctly by it being present in the **RIP Queue** and that the media setting are set to “3M IJ40-20R” or 40C as we had chosen.

Your file has been successfully sent to the **Print Server**, proceed to the next section.

Communicating with the print server: Selecting an art board range

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PRINT SERVER OPERATIONS

Print server operations can sound like a daunting task, but for the purpose of this manual only two advanced operations will be discussed. Firstly, **Color Certification** of spot colors, this is a process that is a simple dive into the file properties that ensures the correct **Spot Colors** if any are present in the file. Secondly, **Spot Color Creation** will be briefly explained and demonstrated –without the use of a spectrophotometer– for a basic understanding of making custom **Printer Controlled Colors.**

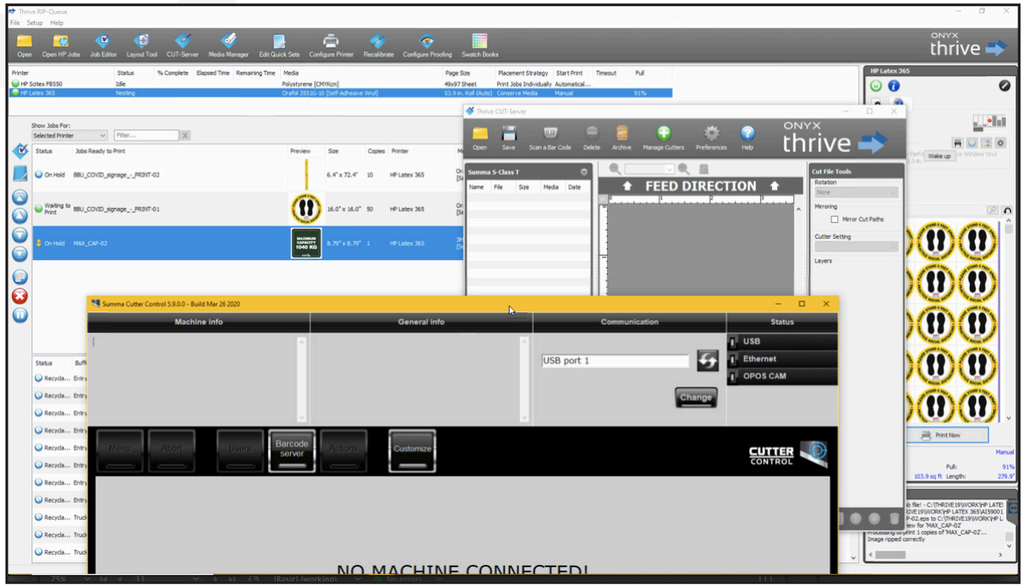

Figure 3.1, The dashboard of the ONYX Thrive RIP, Cut Server, and partial Summa Cutter Control dashboard

Print Server Operations: Overview

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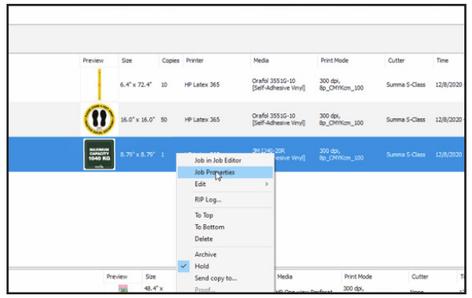
3.1 HOW TO CERTIFY COLORS

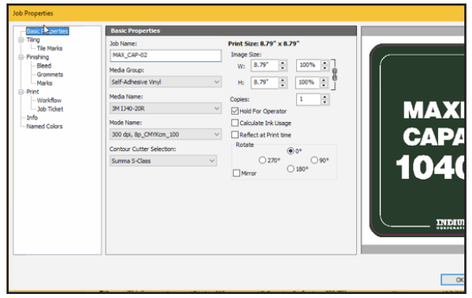
An important part of the work-flow is making sure colors are accurately matched, when using spot colors this operation is simplified in ONYX through a properties pane located in each file sent or **Job**.



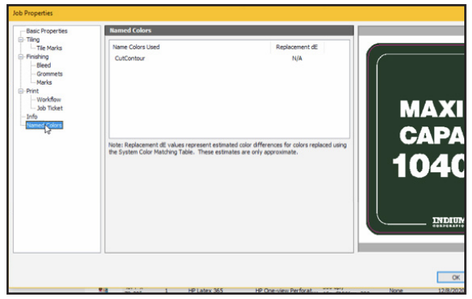
Step 1:
Find the job you with to certify and right click on it in the RIP Queue, select "Job Properties" to access the properties window.

tip

Double clicking on a job will also bring up its "Job Properties"



Step 2:
Once the job properties window is open, you will see several options and setting in the "Basic Properties" area, these settings can be modified here if you needed to change the scale of a job, the material, or just check that the **Cut Shape** is present.



Step 3:
Navigate to the "**Named Colors**" option, this will bring up a screen with all **Spot Colors** used in the job, for the purpose of this example only CutContour, our cut shape, was used.

If all correct spot colors are present, you have certified the job colors.

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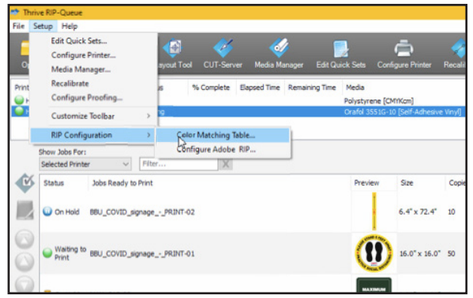
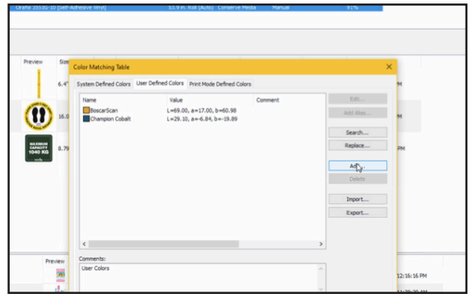
3.2 DESIGNATING NEW SPOT COLORS

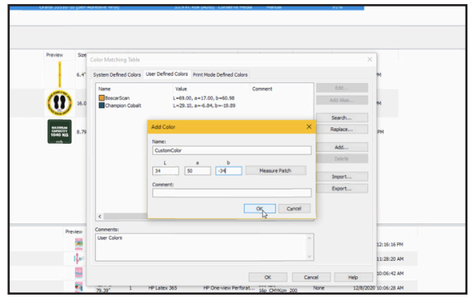
When running a job, it is important to have consistent colors with accurate results across different types of printer. For the most part, **PANTONE** colors are used as an industry standard, but at times custom colors must be made for certain effects or paint matching.



Step 1:
Navigate to the Setup>Rip Configuration> Color Matching Table top menu option, this will open up several color matching options including Pantone, LAB, and Profiled CMYK.



Step 2:
Navigate to the second tab "User Defined Colors", in this tab you can see previously created custom colors and their values. Select "Add" in the right most menu area to open the color adding window.



Step 3:
In the color adding window, you can name a custom color and set its LAB values, for the purpose of this example we set our LAB values to 34, 50, -34, which gives us an "Orient Blue" result. Click "OK" to add the color and OK again to exit the color adding window.

When creating files, you can now use this color name as a spot color to get a true "Orient Blue" color result.

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PRINT OPERATIONS

Although this is not the final operation in the design-print-production work-flow, it is perhaps the most technical. Proper settings must be given to ensure correct data transfer, color consistency and saturation across the entire print, spacing, and even timing variables are all accounted for. All of these variables take some time to master but this section will give you a basic understanding from which to build a solid foundation in your print operations education.

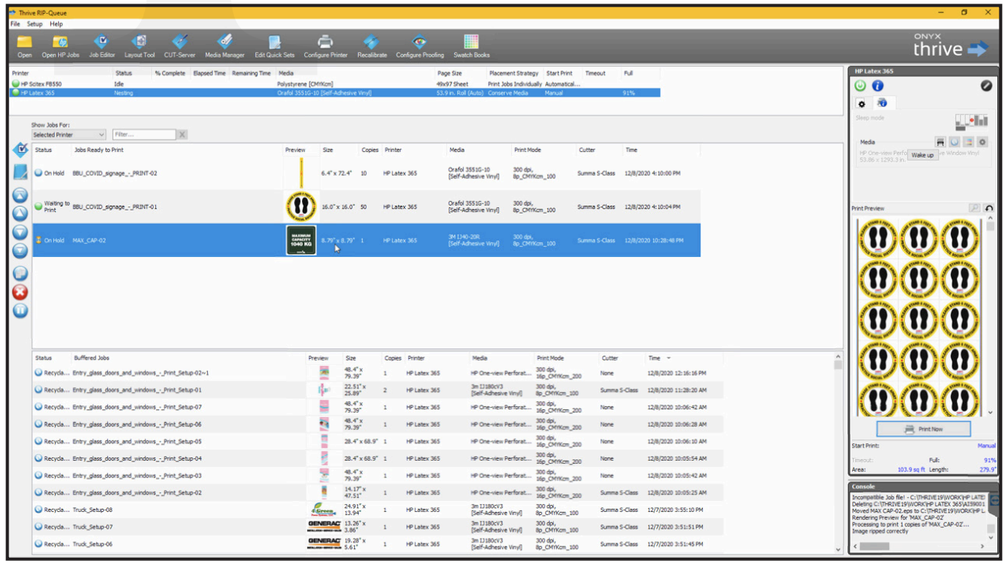

Figure 4.1, ONYX Pre-Print Dashboard, Ready To Print

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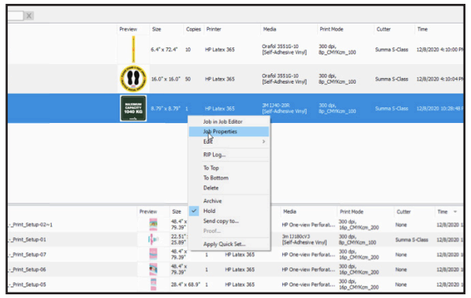
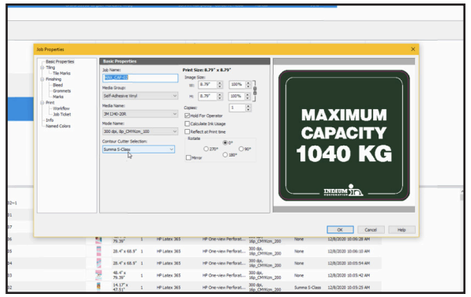
4.1 SELECTING A PLOTTER

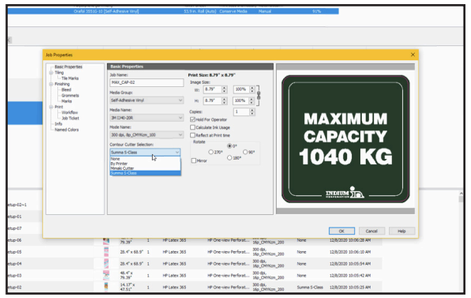
The vinyl plotter is the first machine that will receive information after printing has begun. **Cut Shape Contours** will be sent via the network to the **Cut Server** that will parse the information and send it to the **Barcode Server** which will then be stored to be read by the **Summa Plotter** for vinyl die-cutting.



Step 1:
Double click on a job to open its Job Properties window. Or right click on the job and select “Job Properties” from the drop down menu.



Step 2:
Navigate to the drop down menu at the bottom of the list of options in the center of the window, here you will see a default “Summa S-Class” but you have several options to choose from.



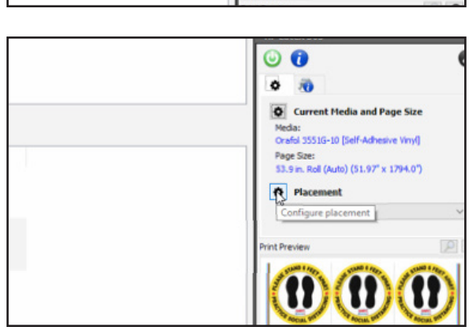
Step 3:
For the purpose of this example, select (or leave) the default value “Summa S-Class”, once sent, with a cutter selected and a **Cut Contour** cut shape created in the file for this job, the ONYX software will relay the cut information to the **Cut Server** to process accordingly. Press “OK” Once ready

Your job will now print with the correct marks for vinyl die cutting.

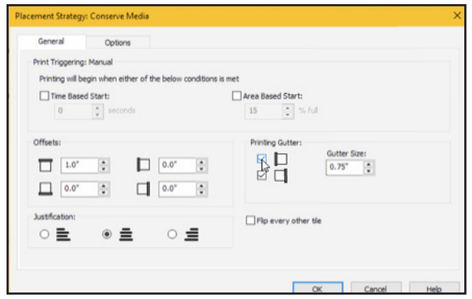
4.2 SETTING UP GUTTER MARKS

Gutter Marks ensure that the **Print Heads** are firing evenly across all sections of the media, this ensure solid colors and gradient consistency, as well as a certain level of alignment in complicated artwork. It is generally recommended to enable and use **Gutter Marks** in a print work-flow.

Step 1:
Locate the “Set up the media and nest options” button tab in the upper right side of the dashboard and click it.



Step 2:
Locate the **Placement** button on the media and nesting page and click it, this will open up the “Placement Strategy” dialog window.

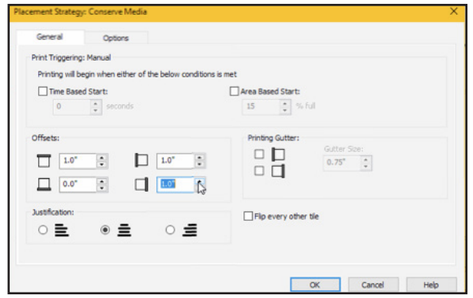


Step 3:
In the lower right section of the “Placement Strategy” window, check mark both “Printing Gutter” boxes for a left and right gutter generation. You can set the width to any number required, but a general width of 1/2” or 0.50” is recommended.

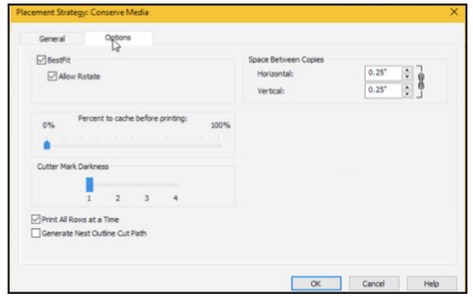
After checking and setting the width, your gutter is active.

4.3 SPACING YOUR PRINTS AND DEFINING MARGINS

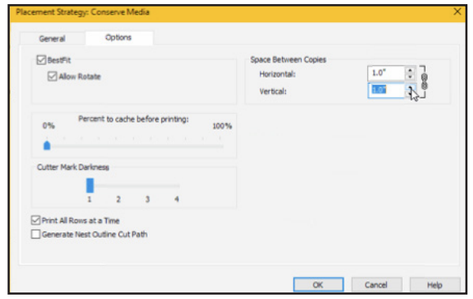
Gutter Marks are at times unnecessary if there is a small print run or a low quality fast run to complete. If gutter marks are not necessary but you still would like to add a space or margins from the edge of the media, use the same window as in the previous section to define them.



Step 1:
In the “Placement Strategy” dialog window, turn off gutters and increase the left and right **Offsets** to create an edge margin for the print.



Step 2:
Navigate to the “Options” button tab to reveal the “Space Between Copies” option. This option will add additional margins between each individual job for easier weeding and trimming by the production table crew.



Step 3:
For the purpose of this example, set the space between copies to 1.0”, and make sure the rest of the options such as “Best Fit” and “Allow Rotate” remain the same. Press “OK” and exit this window.

Your job is now spaced properly with a gutter free margin.

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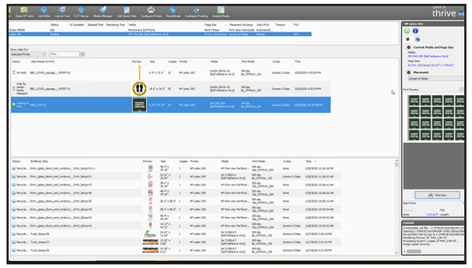
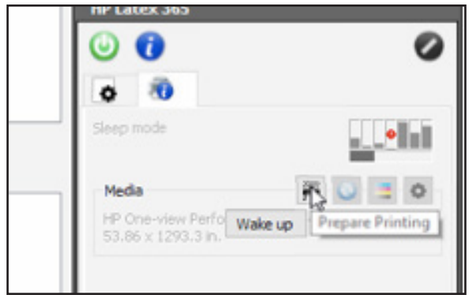
4.4 SENDING THE FINAL PRINT

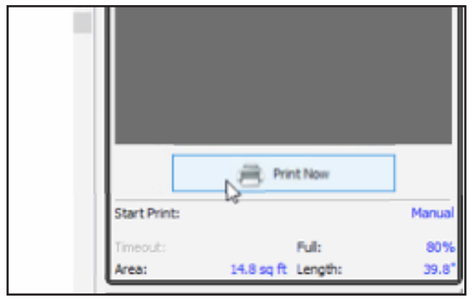
With all pre-press, setup, and certification complete, it is time to send the file to print. Make sure that the printer has the correct media loaded, inspect the print preview, and begin the print.



Step 1:
Inspect the print preview area to the right side of the dashboard, make sure that you are happy with the spacing, grouping and orientation of each copy.



Step 2:
Locate the **Prepare Printing** button on the printer information page, it is very important to warm up the printer before printing on a cold day, or for the first time in a day.



Step 3:
After the printer has warmed up (10-15 minutes) you will be ready for a full day of printing. Locate the **Print Now** button on the main dashboard under the printing preview, make sure you media is not curled on the printer, and press **Print Now.**

Your job is now printing.

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POST PRINT OPERATIONS

After the print has started and completed there is a sequence of tasks that needs to be completed, in order for the print to become usable for production. These tasks are **Take Up Reel Setting**, **Lamination**, and **Plotting**. The take up reel ensures that long prints do not drag across a dusty or dirty floor, lamination protects the print from UV rays and scratch damage, and plotting die cuts the print into usable shapes.

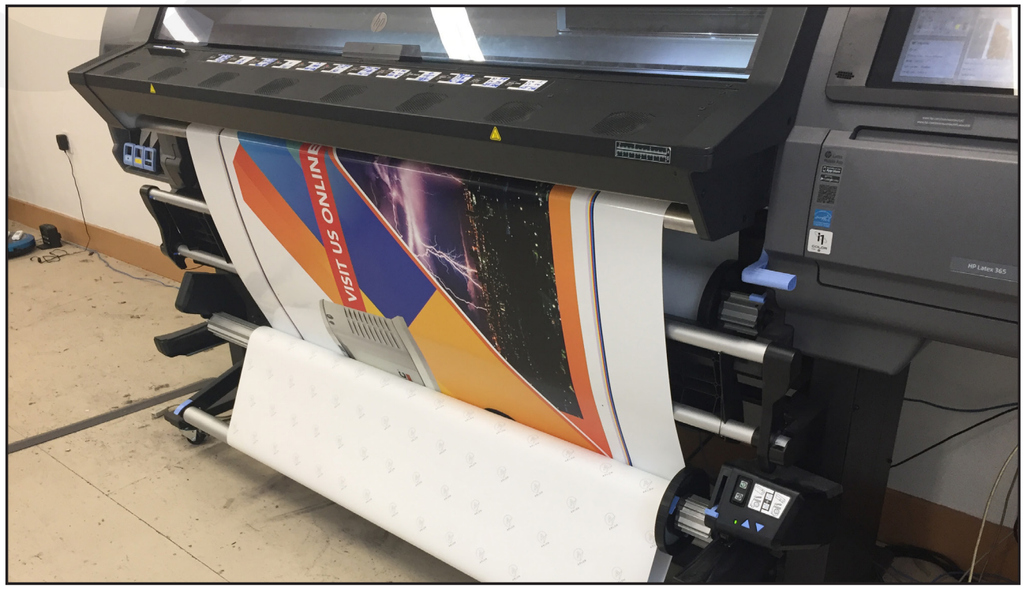

Figure 5.1, A completed print on the HP Latex 365 Printer

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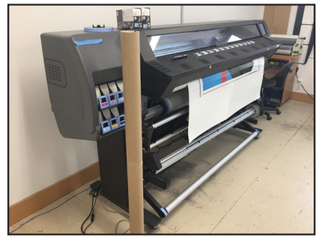
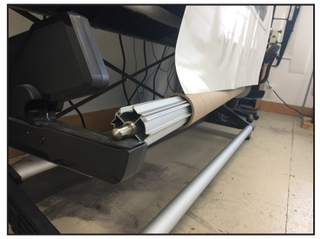
5.1 SETTING UP THE TAKE UP REEL

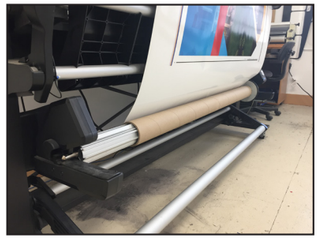
During the print cycle, it is important to keep an eye on the material periodically to ensure it does not start to crumple up from floor contact. For this reason the **HP 365** printer comes equipped with a **Take Up Reel** to keep tension on the material, and keep it rolled tightly, suspended, free from dust and debris that may be on the floor.



Step 1:
Obtain a cardboard tube or "reel core" of equal width.

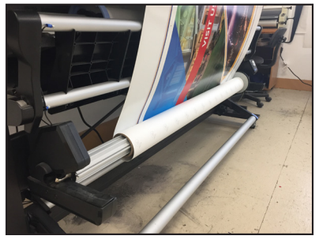


Step 2:
Insert the core from the service side and lock the reel.



Step 3:
Allow the print to progress until it touches the core.

Step 4:
Tape the print to the reel as shown in the picture.



Step 5:
Once there is enough slack, roll the reel back one rotation.

Step 6:
Look at the control panel, the up arrow will roll it backward.

Step 7:
Remove the tension bar, notice how it clips in.

Step 8:
Slide the tension bar through the loop in the print and clip it.

Step 9:
Press the reverse auto-reel button, your reel is ready.

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5.2 LAMINATING

In order to protect the print from scratch damage or harmful UV rays, a UV protecting laminate is applied to all prints after completion. The **laminator** is a powerful machine, but has several safe guards including a laser break beam eye, to ensure print damage or personal injury is avoided during the laminating procedure.

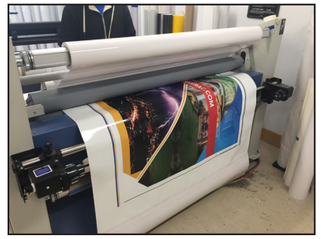
Step 1:
Remove the print from the take up reel.

Step 2:
Ensure the print is square on the laminator under the tail.

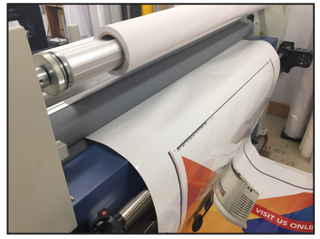
Step 3:
Set the pressure to 80% and turn on heat if needed.

Step 4:
Notice the foot pedal, this allows for easy on/off control.

Step 5:
Start the laminator slowly, then turn the speed up.

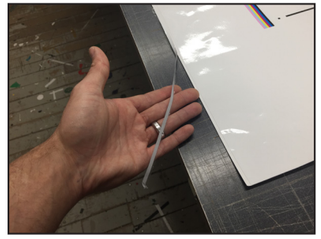


Step 6:
Make sure the print does not curl upwards off the rear.



Step 7:
Ensure you have extra room at the print end to cut.

Step 8:
Cut the print and bring it to the production table to trim.



Step 9:
Remove excess laminate along the edge, and you are done.

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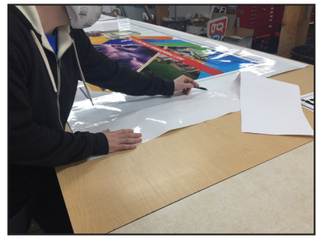
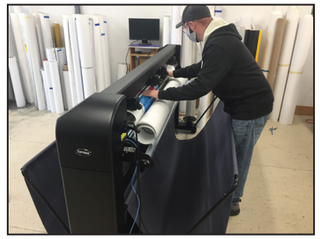
5.3 PLOTTING

The final step in the design-print-production work-flow is **Plotting**. Plotting is the process of die cutting material, in this case with an **automated tangential knife**, so that useable shapes along the edge of specific designs can be produced for installation or production of products.

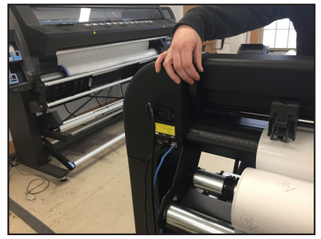


Step 1:
Ensure your print does not have a tail, trim any if so.



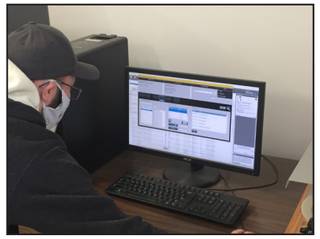
Step 2:
Load the print into the rear of the plotter.

Step 3:
Square the print to the wheels by using the cut line as a guide.



Step 4:
Raise the hammer bar to drop the wheels and hold the print.

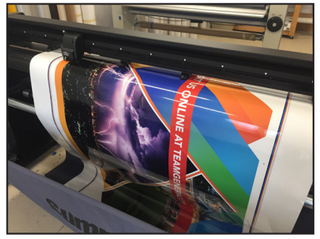
Step 5:
Set the origin point above the bar code.



Step 6:
Ensure the bar code server is turned on and working.

Step 7:
Press “Scan Bar Code” in the server and align the tool.

Step 8:
Press “Okay” once the tool is aligned above the barcode.



Step 9:
The plotter will automatically complete the process now.

User Manual

ADDITIONAL SUPPORT AND ASSISTANCE

Congratulations! You have completed the entire design-print-production work-flow in this manual. In some instances additional clarification shall be needed, and several resources are available. First, check with the printing department about any issues you may be having. Since this manual was written by them, there is a good chance they will have answers to any questions you may have.

If the print department is not available for resolving your issues, consider a forum, in particular **Signs101.com**. Signs101.com has been around for a very long time and has a large library of tips and tricks for the machines used as examples in this manual. There are also several other sections that will help you become a better sign producer, that you may find interesting to browse.

Thank you for reading this manual, and we hope it has helped your education in the design-print-production work-flow!

Figure 5.2, Signs101.com Logo

GLOSSARY OF TERMS

Accurate Color Matching
The process of maintaining color consistency.
Adobe Illustrator
A graphic publishing tool.
Art Board Tool
A tool in Adobe Illustrator that sizes and creates art boards.
Barcode Server
A Summa cutter control tool that stores and scans bar codes for print and cut files.
Button Mode
A visible button view for actions in Adobe Illustrator.
Color Certification
The process of double checkin colors in the ONYX RIP.
Color Picker
And Adobe Illustrator tool to choose colors from visible artwork.
Color Type
A type of graphic determination, spot colors are named in other applications like ONYX, while process colors are normal color mixes that can be read but not changed dynamically.
Custom Scripts
A series of lines of code that produce custom functions, normall in Adobe Illustrator.
Cut Contour
The exterior shape of a cut.
CutContour
The name of the cut shape spot color.
CutContour Spot Color
A color that is named and defined as the fill of a shape that produces a cut shape.
Cut Server
The ONYX RIP tool that stores and forwards Cut Contour info to the Barcode Server.
Cut Shape
The shape of cut path.
Cut Shape Contours
The outer edge of the shape of the cut path.
Graphic Editing Program
A program used to edit graphics, such as Adobe Indesign.
Gutter Marks
Color marks that ensure color accuracy and consistent print-head firing of ink.
Hot Folders
A folder that is assigned a series of preferences for fast printing setup.

GLOSSARY OF TERMS (CONT)

Hot Key
A key that is assigned an action.
HP 365
A latex DesignJet printer.
Job
A file that may have multiple copies or be a single piece of artwork to print.
Key Combinations
A series of key stroke that will produce an action.
Lamination
The process of protecting material from UV rays.
Laminator
The machine that allows for lamination.
Magic Wand Tool
A tool used to select all colors similar to the one selected.
Margins And Bleed
Spacing between and around a print Job
Named Colors
Colors that are set and known in the ONYX RIP to print a certain way.
Offsets
Margins without gutters or color marks.
PANTONE
A standard of color.
Placement
The location and organization of several Jobs.
Plotting
The process of die cutting vinyl.
Prepare Printing
The action of warming up a printer before printing.
Print Colors
The colors that a print will consist of.
Printer Controlled Colors
Spot colors or color replacements.
Print Heads
The main operating part of a printer that distributes ink.
Print Now
The action button that starts the printing process.
Print Server
The server that handles most of the design-print-production work-flow.

GLOSSARY OF TERMS (CONT)

Quick Sets
A series of pre-determined settings for printing.
RIP Queue
The main ONYX dashboard.
Save To Hot Folder
The action in Adobe Illustrator that forwards the artwork to a quick set folder for automatic processing of colors and cut paths.
Spot Color Creation
The process of creating a spot color via the ONYX RIP software.
Spot Color Naming
The process of setting a known name or a custom name to a spot color.
Spot Colors
Named colors that can be modified on the fly or used as a cut shape contour.
Summa Plotter
A vinyl die cutter with a tangential blade
Take Up Reel
The reel that takes up media.
Take Up Reel Setting
The process of getting the take up reel ready to roll up material.
Vinyl Plotter
A die cutting machine used to create decals or other shapes from vinyl.

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