

Rendering resolutions

This document explains the rendering resolutions used by different RIPs (SAi, Onyx and Caldera) and how to change the parameters on these RIPs, in the event a customer needs to do so.

Original issue

Diagonal lines can, sometimes, appear jagged. Depending on the instance, increasing the rendering resolution from 300x300dpi to 600x600dpi from the RIP software may solve the problem. In the picture below you can see the output differences between the two rendering resolutions:



Poor text details have been observed when printing small white letters over a dark background. The most probable cause is insufficient printhead alignment and the advice is to align the printheads using self-adhesive vinyl. If this is not sufficient, then also increase the rendering resolution from 300x300dpi to 600x600dpi from the RIP software. The picture below shows one example of this defect:



Rendering resolutions available

In the current firmware rendering resolutions were set by default to the maximum available value for print modes equal to or greater than 6 passes (as shown in the table below), But for previous profiles, which were downloaded with the firmware NEXUS_0.2.9.4 or older, the rendering resolution was not modified and may not be set to the maximum available value. This document will show you how to change this resolution by changing the print modes through the RIP.

Passes	Printing resolution [dpi]	Allowed rendering resolution s (input) [dpi]	Old default resolution [dpi]	Current default resolution [dpi]
1	600x1200	150	150	150
2	600x1200	150, 300	150	150
4	600x1200	150, 300	150	150
6	600x1200	150, 300	150	300
8	600x1200	150, 300, 600	300	600
10	600x1200	150, 300, 600	300	600
12	600x1200	150, 300, 600	300	600
16	600x1200	150, 300, 600	300	600
18	1200x1200	150, 300, 600	300	600
20	600x1200	150, 300, 600	300	600

The table below shows the resolutions recommended according to the different passes used:

Explanation by column:

- **Passes:** shows the number of passes used by the print mode.
- **Printing resolution:** this column displays the output resolution used by the printer.
- Allowed rendering resolution s (input): indicates the rendering resolutions available from the RIP.
- **Old default resolution:** this column shows the default rendering resolution on the firmware version NEXUS_0.2.9.4 and older.
- **Current default resolution:** this column shows the default rendering resolution from the firmwares that followed the version Nexus_0.2.9.4 (not included).

It is possible to change default rendering resolutions via the RIP. The following steps show how to change this setting in SAi, Onyx and Caldera for a single job file and permanently for the media preset.

How to change the default rendering resolution with SAi

Single job file:

1. In "Job properties...", go to the "Color Management" tab and select the rendering resolution to be used:

1		
	Use color corre	ction 🔹
	Output profile:	Generic Self-Adhesive Vinyl_10p_CMYKcrr 💌
	Media:	Generic Self-Adhesive Vinyl
	Print mode:	Default
	Resolution:	600x600 - DPI 🔥
	Color mode:	600x600 300x300
	Dither:	150x150
		<u>A</u> dvanced

After changing the resolution, a warning message appears next to the selection (*"Your resolution selection does not match what is stored in the ICC Profile"*). This warning message does not prevent printing in the resolution selected. These settings will only apply to the current print job, after which the settings will return to default and the warning message will disappear.

Entire media preset:

To change the rendering resolution for all jobs printed from now on, follow the above process for a "single job file"; then go to the "Printer Options" tab and click on the "Download ICC" button. When this is done, return to the "Color Management" tab to check that the warning message has gone. The settings selected will now always apply to that media profile, unless changed manually again as above:

1	4 🕤 🕻		
		V Rea	d Media Automatically
	Media Manager	ment	
	Category:	PVC Banner 🔹	Media management
	Media:	Generic Backlit PVC Banner 🔹	Download ICC
	Print Mode:	20p_CMYKcm_185	Read Media from Printer
	Passes 20 Dire	ection bidir InkDensity 185 EfficiencyMode OFF	Get optimal results

Į	2 🕤 🚯								
	Color correction								
	Use color correc	ction 👻							
	Output profile:	Generic Self-Adhesive Vinyl_10p_CMYKcrr 🔻							
	Media:	Generic Self-Adhesive Vinyl							
	Print mode:	Default							
	Resolution:	€00x600 ▼ DPI							
	Color mode:	CMYK(8bits)							
	Dither:	▼ Edit							
		<u>A</u> dvanced							

How to change the default rendering resolution with Onyx

Single job file:

With the latest driver available from Onyx, it is possible to change the rendering resolution using "Job Editor".

1. Go to the "Printer and Media" tab and expand the "Print mode" section. Select from the list of all print modes available.

Printer and Media	Preview and Size	Tiling Setup	Co	olor
Printer:			cm	ılıı
HP Latex 360		-		Filt
Media Group:			•	
Self-Adhesive Vi	inyl	-	-	
Media Name:				
Generic Self-Ad	nesive Vinyl	-	Ĩ	
Print Mode:			•	
600 dpi, 10p_CM	MYKcm_110	-		
150 dpi, 10p_CN	4YKcm_110			
150 dpi, 6p_CM	YKcm_90		-	
300 dpi, 10p_CN	1YKcm_110			
300 dpi, 6p_CM	rk_80 YKcm 90		ω,	
600 dpi, 10p_CN	4YKcm_110			
600 dpi, 8p_CM	YKcm_90		M	
Char	ige Promes			

Entire media preset:

- 1. Open the "Media Manager" in Production House 11.
- 2. Select the printer model and click on "Media Library":

🎸 Produc	ProductionHouse Media Manager							
File Help				_				
Home	Create Profiles	Edit Profiles	Carlor Media Library	Configure Devices	Reports and Tools	Recalibrate	Measurement Tool	
HP Latex	🛋 310 HP Latex 33	30 HP Latex 3	360					

3. Select the profile and print mode to be changed by right-clicking and selecting "Edit...":



View media profiles and print modes available for your printer.

Import 🔻	🕀 💼 Paper		
Export	🗄 🗀 PET Film		
	🗄 🛅 PP & PE Film & Ba	nner	
Delete	🗄 🗀 PVC Banner		
Make Copy	📄 🛅 Self-Adhesive Vin	yl	
Denemo	🖶 📄 3M IJ 180 CLO	DNE	
Rename	🕀 📄 AIR SAV K		
	🕀 📄 Generic Back	it Self-Adhesive Vinyl	
	Generic Self-	Adhesive Vinyl	
New 🗸 🔻		Delete	1
	⊞ 🖬 6p_CMYk	Delete	
Edit	i±… 💼 8p_CMYk	Make Copy	
	🕀 🗋 HP Air Releas	Rename	
	HP One-view	Edit	w Vinyl
	🕀 🗋 HP Permaner	Import ICC	
	🗄 📄 HP Permaner	Disalay Dataila	
	🗄 🗀 Textile	Display Details	

4. In the "Choose Workflow" window, click OK:

Choose Workflow
Choose the workflow to use:
ICC Only
ОК

5. In the following window press "Next". No modification is required:

Git an existing Print Mode (ICC Only)			—X —
Progress Menu	Select the Print Mode		🔺 Hide Tips
 ✓ Select the Print Mode Basic Print Mode Settings ICC Profile Mode Edited 	 Media Group: Media Name: Mode Name: 	Self-Adhesive Vinyl Generic Self-Adhesive Vinyl I0p_CMYKcm_110 I0p_CMY	Media Group Select a Media Group from the drop-down menu. Media Name Select a Media Name from the drop-down menu. If the Media Name that you want does not appear, try changing your Media Group. Mode Name Select a Mode from the drop-down menu. If the Media that you want does not appear, try changing your Media Group or Media Name.
		OO	

6. Then, select the resolution required in box 2 and press "Next":

Get an existing Print Mode (ICC Only)				
Progress Menu	Basic Print Mode Settings	V	0	🔺 Hide Tips
 Select the Print Mode Basic Print Mode Settings ICC Profile 	Select the Print Mode	10p_CMYKcm_110 •		Mode Name Enter a name for your Mode. This should be a name that will help you identify your Mode easily. A typical Mode Name format is Resolution. Dot Pattern (e.g., 600, Stochastic).
Mode Edited	Type a name for this print mode	10p_CMYKcm_110		Resolution
	2 Select the print mode's resolution	300	-	Resolution. Resolution determines the quality or speed of the image output (e.g. higher resolution means higher quality, lower resolution means higher speed).
	Select the print mode's dot pattern	Solo Contone	#	Use Legacy Ink Restrictions Click this box to use the legacy method of setting Ink Restrictions
	Define the printer specific settings for this	s print mode Mode Options		Dot Pattern Click the down arrow to select from the available Dot Patterns.
	Scale the print width or height	Scale Adjust]	Click the gear icon button to enable/disable additional Dot Patterns. The available dot patterns may vary depending updon Ink Configuration and Resolution.
				Mode Options Click Mode Options to view the printer specific options for the selected resolution.
	Print a Test Image	Print	-	Scale Adjust Click Scale Adjust to adjust your print width or height. If your measured output is different from your desired output, you can use the scale adjust tool to scale your print to the calculated scale factor. Type in the desired width or height for the test image then enter the measured
) Self-Adhesive Vinyl 📄 Generic Self-Adhesive	Vinyl 10p_CMYKcm_110		values to calculate the scale factor.

7. In the "Measurement Devices" window, press "Close":



8. Finally, press "Next" and "Finish" respectively in the last two windows:

🎸 Edit an existing Print Mode (ICC Only)		
Progress Menu	ICC Profile 🛛 🚩 💽	🔺 Hide Tips
Select the Print Mode Basic Print Mode Settings ICC Profile Mode Edited	Select an existing ICC profile or HP_10p_CMYXcm_110 Import ICC	ICC Select the ICC Profile you would like to use or create a new ICC by clicking the +. Click Import ICC to add a different ICC Profile. Print Swatch
	The ICC swatch has been printed. Print Swatch	Click the Print Swatch button to configure and print the ICC Swatch. If multiple color engines are available, click the down arrow to select one of the color engines.
	The ICC swatch has been successfully read Read Swatch	Read Swatch After the swatch has dried, click Read Swatch to measure the ICC Swatch. Click the down arrow to inport external readings or view the
	Modify and manage advanced ICC build settings	measurement data.
	Build an ICC profile using the selected ICC build options Build ICC Profile	An appropriate set of options is generally preselected automatically based on your ink setup for the media. For most users it is recommended that you simply click Build to
	Create a Spot Color Extensi [HP Professional PANTONE Emulation -] Build Table	complete the profiling process. Advanced users can access the Build Options by clicking Edit. The down arrow on the Edit button allows users to configure and save custom setups. These will
	Print a Test Image	appear in the Predefined Build Options drop-down menu. NOTE: Custom built option presets are not auto-selected based on the ink cature of your media
		seup or your means.
Git an existing Print Mode	e (ICC Only)	
Progress Menu	Mode Edited 🛛 🚩 💽 🖃 Hide Ti	ps
 ✓ Select the Print Mode ✓ Basic Print Mode Settin 	You have successfully edited this mode. Finish Select 'Finish' Manager scree	to return to the main Media en.
ICC Protile	Edit another mode Edit another mode Edit action	r mode nother mode' to return to the creen and edit another mode.
	CO D	
	🗀 Self-Adhesive Vinyl 📔 🗋 Generic Self-Adhesiv	

The resolution has now been changed permanently for this print mode. These settings will be applied each time this print mode is used, unless changed again as above.

How to change the default rendering resolution with Caldera

Single job file:

It is more obvious where to change the rendering resolution than the previous RIPs. The following screenshot shows the location of this setting:

(6	H	P-Latex-360 🔶 🗕 🗆 🗙				
	R /	QuickCal.tif CMYK 8 bits 203.2 x 279.4 mm				
Copies	:	1				
Resolution	:	300 🗵				
Loading	÷	R01160 💆				
Media	:	Generic Self-Adhesive Vinyl 🗾				
Mode	:	СМҮК8				
Quality	:	10p_CMYKcm_110				
Action	:	Print 🗹				
		☐ Keep Ripped file				
Default cor	Default configuration					
🔮 🦨 🖉 Ď						
Ready		Print Quit				

Entire media preset:

1. Double-click the "Easy Media" menu inside the Caldera RIP:



2. Then, double-click the printer icon:



3. Select the printer on which the settings are to be changed and press "Next":

(a EasyMedia		•	- 0	×
	EasyMedia			
Server	Model			7
HP-Latex-360	HP-Latex-360			
Designjet-1.25500 Designjet-26200 Designjet-1.28500 Designjet-26100 Designjet-1.26500	Designjet-L25500 Designjet-Z6200 Designjet-L28500 HpDjZ6100 Designjet-L26500			
Host : localhost				Z
Select the printer				
Menu	Previous Next		Quit	

4. Then, select the media profile to be modified and press "Next":

EasyMedia	↑ _ □ >		
HP-Latex-360			
Categories : All	<u>×</u> 🗃 🖾		
Name	Projects		
Generic PVC Banner HP Durable Frontlit Scrim Banner Generic Backlit PVC Banner Generic Backlit Self-Adhesive Vinyl HP Air Release Adhesive Gloss Cast Vinyl HP Permanent Gloss Adhesive Vinyl HP Permanent Matte Adhesive Vinyl HP Derview Perforated Adhesive Window Vinyl Generic Pager	3 2 2 3 3 1 1 1 1 2 2 3		
Generic Coated Paper HP PVC-free Wall Paper HP White Satin Poster Paper HP Photo-realistic Poster Paper HP Blue Back Billboard Paper HP Universal Coated Paper 3 in-Core HP Coated Paper 3 in Core HP Universal Heavyweight Coated Paper 3 in-Core	2 2 1 2 1 2 2 2 2 2 2 2		
New. Dup. Delete Edit. AutoSync	HP Media Finder. Profile Library		
Statistics	Install Patch Build Patch		
Select the media you want to profile Click the "New" button to create a new Media			
Menu Previous Nex	xt Quit		

5. Now, select the media preset to be modified and press "Edit...":



6. In this window, choose the resolution and the quality, then press "OK":

	Media Project	↑ □ ×
Main Settings	Parameters	
Mode :	СМҮК8	V
Resolution :	600	Y
Quality :	10p_CMYKcm_110	V
Description :	10 passes, 6-CMYKcm, 110% ink	
	Cancel	ОК

7. In the following window, rename the quality name, if required, then press "OK":

Modify	Quality 1	> • ×	
Quality name : 10p_CMYKcm_110			
	Cancel	ОК	

8. The enter the administration password on localhost:

📃 easymedia	• • • ×	
Administration pass	word on localhost	

ок	Cancel	

9. Confirm the change, by clicking "Yes":



10. The screen returns to the "EasyMedia" window. The resolution change for the specific media preset can be seen. Finally, press "Quit" to complete the rendering resolution modification:

(*		Eas	yMedia	↑ _ □ X	
	HP-Latex-360 / Generic Self-Adhesive Vinyl				
Mode	Resolution	Quality	Status		
СМҮКВ СМҮКВ СМҮКВ СМҮКВ	600 300 300	10p_CMYKcm_110 8p_CMYKcm_90 6p_CMYK_80	Completed Completed Completed		
New	New Dup Delete Edit.				
	Select the Media Project you want to edit To create a new Media Project, use the "New" button				
Men	u	Pre	vious Next	Quit	