



## Technical Newsletter: Working with custom media

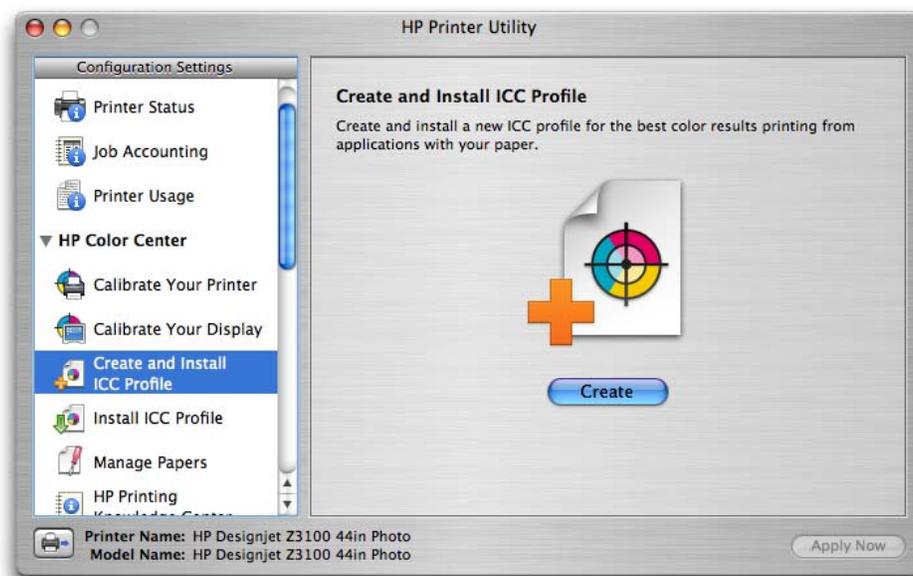
March 26<sup>th</sup>, 2007



When working with custom media (meaning non-hp branded media) you maybe wondering how to properly use it in your HP Designjet Z2100 and Z3100 Photo Printer series.

As there are many different papers from different brands available in the market, the best is to know what is behind of your selections when following the process to create a “custom paper”.

As you know, you can add or modify papers through **the HP Color Center** (part of the HP Easy Printer Care –Windows- or HP Printer Utility – Mac -).



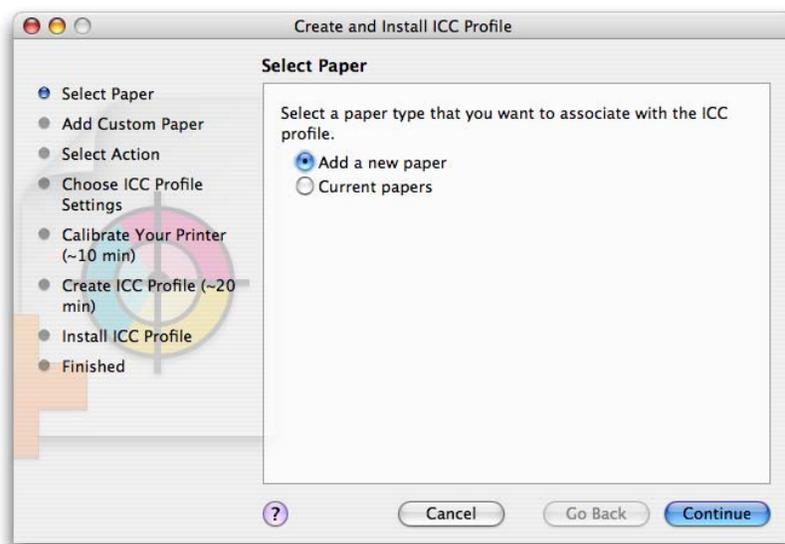
*Screenshot from Windows XP version – HP Print Utility*



Screenshot for Windows XP version - HP Easy Printer Care

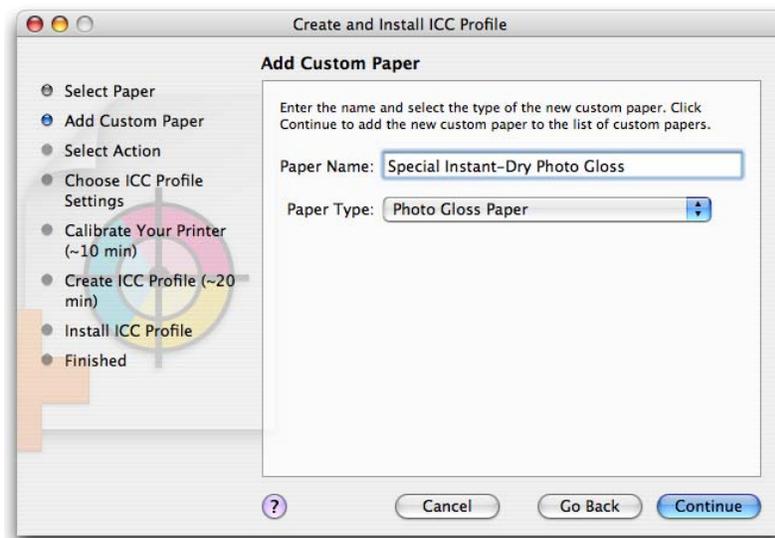
Creating a custom paper type is a very easy and straightforward process. In a nutshell follow the next steps:

1. Go and select "Create and Install ICC profile". In there, you will find the following options



Screenshot from HP Print Utility - MAC OS X version

2. Then, press “Add New Paper”. You can also work with an already created paper by choosing “Current Papers”. In that case, you won’t be able to change the name next step and you should jump to step #4
3. Next step will be to give a name for your paper (which will appear both in the driver and in the front panel) and to select a paper category which is related to your paper type.



*Screenshot from HP Print Utility - MAC OS X version*

4. Next step is **selecting the according Paper Preset**, which **is the most important step**, since, in doing so; you are in fact determining a number of basic printing parameters for printer-paper interaction. Among others, they are Ink limiting, Maximum density and linearity goals for each in and Carriage height and others
5. Next steps it will perform color calibration (maximum density and linearity for each ink) and color profiling (creating an ICC profile) that ensures the best possible output quality.

6. The HP Color Center will automatically install the profile in the computer that launches the “Add new paper” process. If you are using your printer from another computer, remember to synchronize papers before moving forward. Process is finished

## Selecting the right Paper Preset that best matches your needs

As you have seen, the key step is to select the most appropriate paper type that matches your needs/your custom paper. In general the paper category to use will be easily identified, but some experimentation may be necessary to obtain the best possible result. To help you to choose the right category we have assembled the following tables.

|   |   |   |
|---|---|---|
| <b>Paper Type</b>   | Name that appears in driver & front panel (English version). Some of these papers are available through “ <a href="#">Custom Paper</a> ”, others through “ <a href="#">Add new paper</a> ”  |   |
| <b>Gloss Enhancer</b>   | Yes (Y)/ No(N): Whether HP Gloss Enhancer can be used or not(Glossy & Semi-gloss/satin finishing)   |   |
| <b>Borderless</b>   | Yes (Y)/ No(N): Whether you can print on without margins  |   |
| <b>Carriage Height</b>  | High (H)/Low (L): Carriage height has 2 positions. It is recommended that for paper weights over 250gr, you select a paper type with “High” to avoid print head crashed with paper  |   |
| <b>Printing Black</b>   | Photo Black (P)/ Matte Black (M)/ HP Quad-black (Q): Let you know which inks are used when printing black. It could be the photo black + grays inks, matte black + grays inks or the whole HP Quad-black system   |   |
| <b>Ink Limit</b>  | Total amount of ink that the papers can absorb without image quality problems. Expressed in pico-liters (or nano-grams) per 1/600 <sup>th</sup> x 1/600 <sup>th</sup> inch paper area (divide by 4 for 1/1200 <sup>th</sup> by 1/1200 <sup>th</sup> inch area). As higher the number as higher gamut. |   |
| <b>Print mode</b><br><br><i>Best Quality <sup>1</sup> or slider in the right position</i> | Rendering resolution (RR)   | At which resolution the image is rasterized/processed (in pixels per printed inch, or <i>pppi</i> )   |
|   | Printing Resolution (PR)  | At which resolution the image is printed (in dots per inch, or dpi)   |
|   | Other info (OI)   | Higher number of passes typically give better IQ but at less speed. Also, papers like glossies that need more dry time will in general require a higher number of passes. |
|   | Bidirectional   | Whether printing from right to left only (Unidirectional) or also left to right (Bi-directional). Unidirectional modes typically give better IQ but at less speed.        |
| <b>Automatic Cutter</b>   | Yes (Y) / No (N): When cutting is going to be performed. Even if Yes, the user can still disable actual cutting through driver, but not the other way around.   |   |

<sup>1</sup> For further information on print modes apart of Best quality, please refer to document “Print Modes for information HP Designjet Z3100” that you can find at HP Knowledge Center

|                       | <b>Paper Type</b><br>(Generic name or HP name)     | <b>Gloss Enhancer</b> | <b>Borderless</b> | <b>Carriage Height</b> | <b>Printing Black</b> | <b>Ink Limiting</b> | <b>Print Mode (Best)</b> |           |              | <b>Auto Cutter</b> |
|-----------------------|--|-----------------------|-------------------|------------------------|-----------------------|---------------------|--------------------------|-----------|--------------|--------------------|
|                       |  |                       |                   |                        |                       |                     | <b>RR</b>                | <b>PR</b> | <b>OI</b>    |                    |
|                       |  |                       |                   |                        |                       |                     |                          |           |              |                    |
| <b>Photo Paper</b>    | HP Premium Instant-Dry Photo Gloss                 | Y                     | Y                 | L                      | P                     | 46                  | 600                      | 1200x1200 | 16ps<br>Bidi | Y                  |
|                       | HP Premium Instant-Dry Photo Satin                 | Y                     | Y                 | L                      | P                     | 46                  |                          |           |              | Y                  |
|                       | HP Professional Satin Photo Paper                  | Y                     | Y                 | L                      | P                     | 46                  |                          |           |              | Y                  |
|                       | HP Photo Matte                                     | N                     | N                 | H                      | M                     | 30                  |                          |           |              | Y                  |
|                       | Photo Gloss Paper                                  | Y                     | Y                 | L                      | P                     | 36                  |                          |           |              | Y                  |
|                       | Photo Semi-gloss/Satin paper                       | Y                     | Y                 | L                      | P                     | 36                  |                          |           |              | Y                  |
|                       | Glossy Paper High Ink Capacity                     | Y                     | Y                 | L                      | P                     | 46                  |                          |           |              | Y                  |
|                       | Photo Matte Paper                                  | N                     | N                 | H                      | M                     | 30                  |                          |           |              | Y                  |
| <b>Proofing Paper</b> | HP Professional High-Gloss Contract Proofing paper | Y                     | Y                 | L                      | P                     | 46                  | 600                      | 1200x1200 | 8ps<br>Uni   | Y                  |
|                       | HP Professional Semi-Gloss Contract Proofing paper | Y                     | Y                 | L                      | P                     | 46                  |                          |           |              | Y                  |
|                       | HP Proofing Matte                                  | N                     | N                 | H                      | M                     | 30                  |                          |           |              | Y                  |
|                       | Proofing gloss paper                               | Y                     | Y                 | H                      | P                     | 36                  |                          |           |              | Y                  |
|                       | Proofing Semi-Gloss/Satin Paper                    | Y                     | Y                 | H                      | P                     | 36                  |                          |           |              | Y                  |
|                       | Glossy Paper High Ink Capacity <sup>2</sup>        | Y                     | Y                 | L                      | P                     | 46                  |                          |           |              | Y                  |
|                       | Proofing Matte Paper                               | N                     | N                 | H                      | M                     | 30                  |                          |           |              | Y                  |

<sup>2</sup> New Paper type since firmware 4.2.0.2. You can download it from HP Knowledge Center

| Paper Type<br>(Generic name or HP official name) |                                       | Gloss Enhancer | Borderless | Carriage Height | Black Usage | Ink Limiting | Print Mode (Best) |               |              | Auto cutter |
|--|---------------------------------------|----------------|------------|-----------------|-------------|--------------|-------------------|---------------|--------------|-------------|
|  |                                       |                |            |                 |             |              | RR                | PR            | OI           |             |
| Fine Art paper                                   | HP Collector Satin Canvas             | N              | N          | H               | M           | 30           | 600               | 1200x<br>1200 | 16ps<br>Bidi | N           |
|  | HP Professional Matte Canvas          | N              | N          | H               | M           | 42           |                   |               |              | N           |
|  | HP Artists Matte Canvas               | N              | N          | H               | M           | 42           |                   |               |              | N           |
|  | HP Hahnemühle Smooth Fine Art         | N              | N          | H               | M           | 42           |                   |               |              | Y           |
|  | HP Matte Litho-Realistic paper        | N              | N          | H               | M           | 42           |                   |               |              | Y           |
|  | HP Hahnemühle Textured Fine Art       | N              | N          | H               | M           | 42           |                   |               |              | Y           |
|  | Canvas                                | N              | N          | H               | M           | 42           |                   |               |              | N           |
|  | Fine Art paper                        | N              | N          | H               | M           | 42           |                   |               |              | Y           |
|  | Fine Art paper >250 g/m <sup>2</sup>  | N              | N          | H               | Q           | 60           |                   |               |              | Y           |
|  | Fine Art Media Pearl <sup>3</sup>     | Y              | Y          | H               | P           | 46           |                   |               |              | Y           |
| Coated   | Super Heavyweight Coated <sup>4</sup> | N              | N          | H               | P           | 48           | 600               | 1200x<br>1200 | 8ps<br>Uni   | Y           |
|  | Heavyweight Coated                    | N              | N          | H               | M           | 30           |                   |               |              | Y           |
|  | Coated                                | N              | N          | H               | M           | 22           |                   |               |              | Y           |
|  | Plain                                 | N              | N          | H               | M           | 20           |                   |               |              | Y           |

© 2007 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.



<sup>3</sup> New paper type since firmware 4.2.0.2. You can download it from HP Knowledge Center

<sup>4</sup> From firmware version 4.2.0.2 we apply Photo black. Before that version, we used Matte black