

basICCs of color

basICColor®  
*Reference*

# basICColor *gHOST*

Reference manual

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Chapter 1

# Preface and manual structure

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## 1. Preface and manual structure

### 1.1. Preface

With basIColor *gHOST* you have purchased a basIColor module that gives you a hotfolder-based color server for optimizing image and PDF data with DeviceLink and standard ICC profiles..



The main field of use is the optimization and color conversion of CMYK printing data. The DeviceLink profiles used play a major role as regards the quality of the optimization and color conversion of CMYK printing data. For a number of standard tasks, basIColor has developed standard DeviceLink profiles that you can purchase in a bundle with basIColor *gHOST* as DLpack (*DeviceLink pack*).

During the 14-day tryout period you have all the available basIColor standard DeviceLink profiles at your disposal for color conversion, limiting the total amount of color, or saving ink.

Since automated color management often requires extensive configurations, especially for PDF files, we attached great importance to simple creation, duplication and modification of existing queues for standard tasks when designing basIColor *gHOST*.

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And now, it's time to make a start on testing, optimizing and converting colors. We hope you have fun and get some impressive results!

Your basIColor team.

## 1.2. Overview of the manual structure

### **Simplest possible operation for standard tasks**

We see the main application of basIColor *gHOST* as being the optimization of PDF printing data by means of Device-Link profiles. For the usual tasks, the creation and configuration of queues, basIColor *gHOST* makes this possible by means of three mouse clicks. This simple operating mode of basIColor *gHOST* - also known as „**Smart Queue**“ - is also the starting point of the Manual.

### **Flexible options for special requirements**

basIColor *gHOST* offers a host of special options for advanced color management users who also want to implement special requirements. However, these options presuppose extensive knowledge in the fields of color management and PDF.

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Consequently, they are explained after the description of how to work with „*Smart Queue*“. Please allow some time for reading in this context, since the material is so complex that the effect of the individual options in the workflow is not always instantly apparent.

### **Useful tips on the subject of PDF preflighting and basIColor *gHOST***

One customary configuration of basIColor *gHOST* is a combination with solutions for PDF preflighting. At the end of this Manual, you will find a number of tips on how to combine the two work steps to the greatest possible effect.

With basIColor *gHOST* version 1.0 and higher and [Enfocus PowerSwitch](#) or [FullSwitch](#) (Update 7 and higher) a basIColor *gHOST* configurator in Switch is realized. With the help of the Configurator, customers can build complete workflows optimized for their specific needs, from data acquisition, preflighting, and color conversion using basIColor *gHOST*, all the way to distribution to the final output channels.



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## **General Information:**

### **Knowledge requirements**

These instructions assume familiarity with the basic operation of the Mac OS X on Apple Macintoshes or Windows 2000, XP or Vista on PC operating systems.

### **Documentation:**

This documentation describes the use of basIColor *gHOST* on Mac OS X and Windows. Mostly the Mac OS X version will be covered here, where the screenshots come from as well.

If the usage differs to Windows, notes will point out this differences.

### **Conventions**

This documentation uses following conventions:

Input fields are marked with square brackets, e.g. **[TAN]**. Buttons are bordered with the characters <>, e.g. <Licensing...>.

## Chapter 2

# Installation and Licensing

## 2. Installation and Licensing

### 2.1. Minimum System Requirements

#### Apple Computer

- Apple<sup>®</sup> with G4 / G5 processors
  - Mac OS X (10.3.9 or higher)
  - minimum 1 GB available system memory (RAM)
- 
- Apple<sup>®</sup> with Intel processors
  - Mac OS X (10.4 or higher)
  - minimum 1 GB available system memory (RAM)

#### Windows<sup>®</sup>

- Intel<sup>®</sup> Pentium<sup>®</sup> III or 4 processors
- Windows<sup>®</sup> 2000 with SP4, Windows<sup>®</sup> XP with SP2 and SP3, Windows<sup>®</sup> Vista, Windows<sup>®</sup>7
- minimum 1 GB available system memory (RAM)

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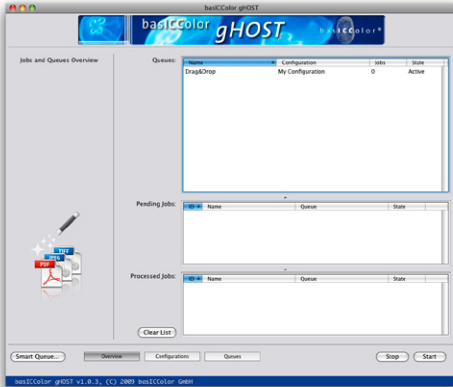
## 2.2. Installation

- 1.) Turn on the computer on which you wish to install and use the software.
- 2.) Put the basIColor CD into the CD-ROM drive.
  - **Mac:** The „basIColor“-volume with all basIColor products will appear on your desktop.
  - **PC:** If the basIColor CD-ROM does not appear automatically, go to „My Computer“ and select the CD-ROM drive.
- 3.) Begin the installation by double-clicking the basIColor *gHOST* Installer. Follow the instructions on screen.
- 4.) Once basIColor *gHOST* has been successfully installed, you can launch it for the first time.
- 5.) Start basIColor *gHOST* by double-clicking the program icon.

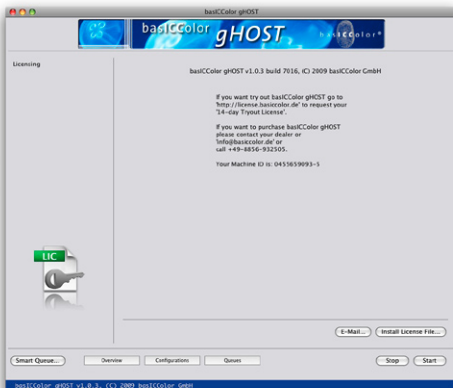
### Note - Licensing

Each computer has a unique machine ID which will be used to generate your individual license key. You can find the machine ID in the „Licensing“ window of the software under the „Help“ menu.

A 14-days demo license is available through the basIColor license server (<http://license.basicolor.de>) and is bound to one computer.



Main window with „Jobs and Queues Overview“



Licensing window with brief instruction

Your Machine ID is: 0455659093-5

**Machine ID:** Each computer has a unique Machine ID which will be used to generate your individual license key. You can find the Machine ID in the „Licensing“ window of the software under the <Help> menu.

## 2.3. Product registration and licensing

Licensing and unlocking the basICColor gHOST software is linked to an individual computer. You will receive an individual license file (.lic-file) that allows you to “unlock” and use the software on the computer on which it was installed – an USB dongle is also available.

The first time you start basICColor gHOST, the main window with the „Jobs and Queues Overview“ will appear. Please click now in the menu bar under <Help> and the <Licensing>. You have the option of testing the fully functional software without any obligation for **14 days** or of immediately requesting your **permanent** license file if you have purchased basICColor gHOST.

a) If your computer is directly connected to the internet, please open your web browser and type in following URL: <http://license.basicolor.de/> or simply click the <E-Mail...> button.

b) If your computer is not connected directly to the Internet, use a different computer to access [www.basicolor.de](http://www.basicolor.de) and click on <Licensing>. Follow the instructions on the screen.

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c) If you do not have an Internet connection at all, please contact your basICColor dealer or call +49-8856-932505.

If you have never registered on the basICColor web site, you will need to complete the registration information in order to open your personal basICColor account. Your registered **e-mail** address and **password** will allow you to log on to the basICColor web site to request license files and to download basICColor software updates.

Once you are logged in you still have the option of selecting either the **14-days demo license** file or the **permanent software license** file.

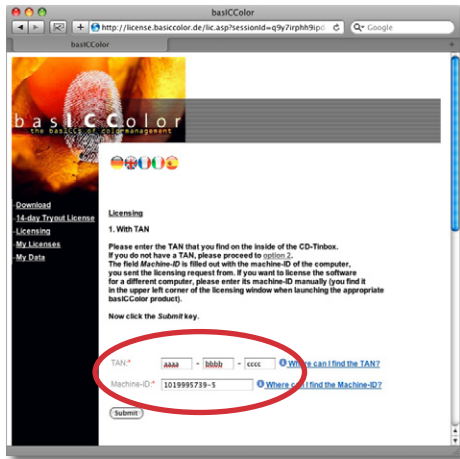


On the inside of the CD-box you can find the TAN.

Before making your selection please note:

- **[TAN]** TransActionNumber. There should be a sticker on the basICColor CD-ROM cover with a TAN . Alternatively you will receive a TAN from your dealer. Once you have entered this number in the corresponding field and submitted the online form, you will be automatically directed to the area of the web site where you can download your individual license file. If your basICColor CD-ROM cover does not have a TAN or if you don't have a CD or don't have a TAN, then go to the <licensing without a TAN> section on the licensing web site. Your

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For licensing your copy of basICColor gHOST a TAN and the machine-ID of your computer will be required.

licensing request will be processed and after all technical and commercial requirements have been met, you will get access to your individual license file.

- **[Machine ID]** The number entered in this field must match the number displayed in the basICColor gHOST licensing window since this is the number that will be used in generating your individual license file (.lic-file).
- **[Product]** Please select basICColor gHOST from the pull-down menu if it is not selected already.

Fill out all the required information (indicated with an \*) and submit the form. You will either be linked directly to the web site where you can immediately download your individual license file, or you will receive a message indicating that your request requires further verification and that you will receive an e-mail notification when your individual license file (.lic-file) is available.

As soon as you have received your license file (.lic-file) click on the button <Install License File...> and install the license file to the application. Now the application is unlocked and ready to use.

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**Important:** Store your license file carefully! It is your key to unlock thebasIColor *gHOST* software. You will also need this file for future software updates. This security method replaces the need for a hardware dongle. If you should lose it, you can retrieve it from the licensing server at any time again by logging into our web-site <http://license.basicolor.de/> and going to the <My Licenses> section.



## 2.4. Demo-, Full-version and DLpack license

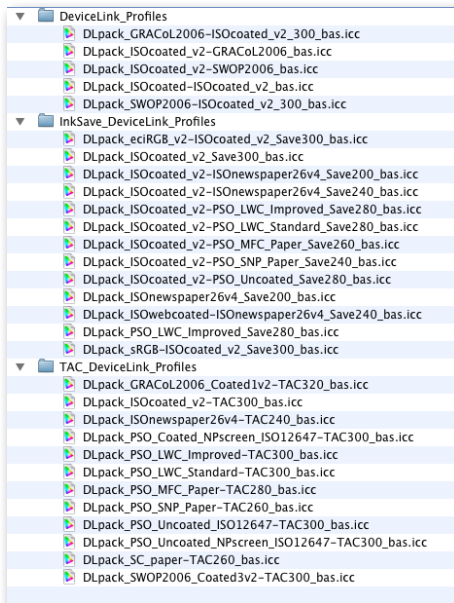
In basICColor *gHOST* we distinguish between a time-limited demo license (**14-day tryout license**), a permanent full-version license (**permanent license**) and a license for the Standard DeviceLink profiles (**DLpack license**)

### Demo license (14-day tryout license):

During the 14-day tryout license period printing data (image and PDF files) can be processed. When using a demo license, **NO** watermark (e.g. the word „DEMO“) appears on the output data and so basICColor *gHOST* can be implemented and tested in your real production workflow. In addition the demo license allows you to work with all Standard DeviceLink profiles from basICColor which are part of the *DLpack*. This enables you to test how basICColor *gHOST* optimizes your workflow with Standard DeviceLink profiles before actually purchasing the *DLpack*.

### Full-version license (permanent license) and license for the Standard DeviceLink profiles (DLpack license):

If you purchase a full license for basICColor *gHOST*, you cannot use the 30 Standard DeviceLink profiles of the *DLpack* nor will they be shown in the corresponding drop down menus. The corresponding profiles are available as a chargeable option: *DLpack*.



The 30 Standard DeviceLink profiles which are part of the *DLpack*.

Chapter 3

# Quick Start

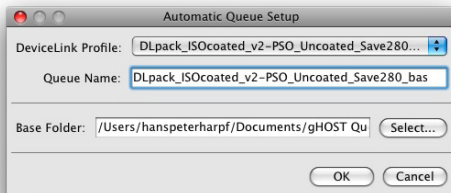
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## 3. Quick Start

### 3.1. Creating the first demo queue with Smart Queue

After starting the basIColor *gHOST* application, you will find <Smart Queue...> at the bottom left in the main window. Here, it takes just three mouse clicks to create a queue for optimizing PDF files by means of DeviceLink profiles. Under <DeviceLink Profile>, you can see which DeviceLink profiles are contained in the standard profile folder of your system and/or in the „basIColor *gHOST*/DLpack\_Profiles“ folder. After selecting a DeviceLink profile, the profile name is used as the default Queue Name, although you can also change it.

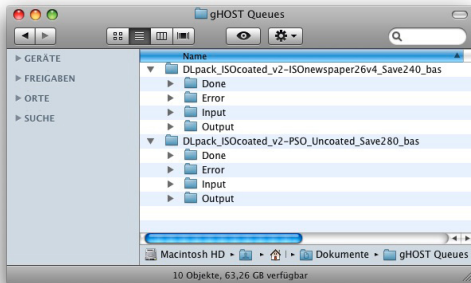
<Basic Folder> shows the path in which the hotfolders for the respective queues are generated. This example uses the DeviceLink profiles „DLpack\_ISOcoated\_v2-ISOnewspaper26v4\_Save240\_bas.icc“ and „DLpack\_ISOcoated\_v2-PSO\_Uncoated\_Save280\_bas.icc“, the purpose of which is to convert printing data from the ISOcoated\_v2 (FOGRA39) color space to PSO\_Uncoated (FOGRA47) or ISOnewspaper\_v2\_26 (IFRA26).



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## 3.2. First test run

In accordance with the DeviceLink profiles selected in the example, you will find that the Basic Folder contains two sub-folders. In turn, each of these folders contains the sub-folders „Input“ and „Output“. If you send a PDF file for coated paper to one of the two „Input“ folders, basICColor *gHOST* automatically converts it for uncoated paper or newspaper printing, then filing it in the respective „Output“ folder. You can use the queues immediately.



Chapter 4

# Standard DeviceLink-Profiles (*DLpack*)

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**Note**

*DLpack* = DeviceLink*pack* and this means:  
DeviceLink *package*

## 4. Overview of the Standard DeviceLink profiles from the *DLpack*

For many standard tasks, basIColor provides a set of Standard DeviceLink profiles, called *DLpack* that can be used for color conversion, limiting the total amount of color and saving ink.

If the profile name starts with „DLpack\_“, it is a coded version that only works with a demo license or DLpack license for basIColor *gHOST*. The normal, uncoded basIColor Standard DeviceLink profiles comply with the ICC Standard for DeviceLink profiles. They work both with the demo license and with the full-version license of basIColor *gHOST* and can be purchased separately.

The *DLpack* contains a large number of Standard DeviceLink profiles for various tasks. With the help of the <Smart Queue> feature explained in this manual, with just a few mouse clicks you can set up configurations and queues for either color conversion, save ink or TAC reduction.

In order to assist you in selecting the right profile from the large list of supported standard DeviceLink profiles, basIColor *gHOST* shows the profiles in a certain order in the drop down menus. The profiles available in the operating systems profiles folder are ordered according to

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the profile type, e.g. CMYK-to-CMYK, followed by CMYK-to-Gray, CMYK-to-Multicolor etc and are differentiated with a divider between them. In addition in case of a demo version of basIColor *gHOST* the profiles installed in the subfolders of the „DLpack\_Profiles“ folder are shown in the drop down menus according to the subfolders structure shown with a divider between the profiles. In the full licensed version of basIColor *gHOST* the provided *DLpack* profiles are not shown at all in the drop down menus.

With the basIColor *gHOST DLpack* version 30 Standard DeviceLink profiles for international printing standards are installed. These profiles are created for the following use cases:

- Color space conversion CMYK to CMYK
- Color space conversion RGB to CMYK and CMYK to CMYK in addition with Saving Ink and print process stabilization
- Limiting the total amount of color.

### **Support of international printing standards**

The Standard DeviceLink profiles of the *DLpack* are based on the ECI, IFRA, GRACoL / SWOP profiles as at March 2009. Detailed information on the field of application of the ECI profiles can be taken from the document “Media Standard Print 2008” of the German Printing and Media Industries Association (Bundesverband Druck und Medien) at [www.bvdm.org](http://www.bvdm.org), and from the documentation on the indivi-

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dual profiles in the download area of [www.eci.org](http://www.eci.org). Information on the GRACoL, SWOP and SNAP profiles can be found on the Web sites at [www.gracol.org](http://www.gracol.org), [www.swop.org](http://www.swop.org) and [www.snapquality.com](http://www.snapquality.com).

Kindly note that we expand or adapt the *DLpack* set whenever new standard profiles for international printing standards are released.

All Standard DeviceLink profiles from the *DLpack* contain special internal identifiers that permit automatic setting of PDF/X color information in basIColor gHOST via <Smart Queue...>.

DeviceLink profiles have been created for the following international printing standards:

<i>ISOcoated_v2:</i>	<i>Offset, coated paper</i>	<i>FOGRA39</i>
<i>ISOcoated:</i>	<i>Offset, coated (obsolete)</i>	<i>FOGRA27</i>
<i>ISOwebcoated:</i>	<i>(Web) offset, LWC paper (obsolete)</i>	<i>FOGRA28</i>
<i>SC_paper:</i>	<i>Web offset, SC paper</i>	<i>FOGRA40</i>
<i>PSO_MFC_Paper:</i>	<i>Web offset, MFC paper</i>	<i>FOGRA41</i>
<i>PSO_SNP_Paper:</i>	<i>Web offset, standard newsprint</i>	<i>FOGRA42</i>



<i>PSO_Coated_NP:</i>	<i>Offset, coated FM with 28% dot gain</i> <i>FOGRA43</i>
<i>PSO_Uncoated_NP:</i>	<i>Offset, uncoated FM with 28% dot gain</i> <i>FOGRA44</i>
<i>PSO_LWC_Improved:</i>	<i>Web offset, LWC paper (improved)</i> <i>FOGRA45</i>
<i>PSO_LWC_Standard:</i>	<i>Web offset, LWC paper (standard)</i> <i>FOGRA46</i>
<i>PSO_Uncoated:</i>	<i>Offset, uncoated</i> <i>FOGRA47</i>
<i>ISOnewspaper26:</i>	<i>Newspaper, 26% dot gain</i> <i>IFRA26</i>
<i>GRACoL2006_Coated1:</i>	<i>US offset / gravure, Grade 1 (coated)</i> <i>CGATS TR006</i>
<i>SWOP2006_Coated3:</i>	<i>US offset / gravure, Grade 3 (LWC white)</i> <i>CGATS TR003</i>

### **DeviceLink profiles for color space conversion**

These conversion profiles are based on the ECI profiles for printing according to ISO 12647-2 / PSO, and the GRACoL and SWOP profiles of the IDEAlliance for printing according to G7 Guidelines. Profiles for color space conversion are structured according to the following system: *DLpack\_SourceColor-Space-TargetColorSpace\_TACxxx\_bas.icc*.

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### **DeviceLink profiles for limiting the total amount of color**

These profiles do not perform any color conversion whatsoever, but limit the total amount of color for a specific printing standard. They are structured according to the following system:

DLpack\_*PrintingStandard*-TACxxx\_bas.icc.

Example: DLpack\_ISOcoated\_v2-TAC300\_bas.icc limits the total amount of color to 300% for offset printing on coated paper.

### **DeviceLink profiles for saving ink**

The basIColor *DLpack* profiles for saving ink are based on advanced technology for increasing the black component of the printing data, while simultaneously reducing the CMY component. Advantages on the press include better printing properties on difficult papers, shorter makeready times, greater stability over the length of the run, and ink savings.

### **DeviceLink profiles for conversion including ink saving**

Even once a printshop has gathered positive experience with saving ink, there are still some applications where the printing data supplied do not comply exactly with the standard later to be used for printing. To get optimum color quality, printing data of this kind need a combination of color conversion and ink saving. With DeviceLink profiles from the *DLpack*, basIColor provides profiles that incorpo-

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rate both steps in a single DeviceLink profile. The general nomenclature of these profiles is structured according to the following system:

DLpack\_*SourceColorSpace-TargetColorSpace\_Savexxx*\_bas.icc

E.g.: DLpack\_ISOcoated\_v2-PSO\_Uncoated\_Save28o\_bas.icc performs conversion from coated to uncoated paper, saves ink in the process, and limits the total amount of color to 280%.

## Chapter 5

# 3 main windows in *gHOST*

## 5. The three main windows in *gHOST*

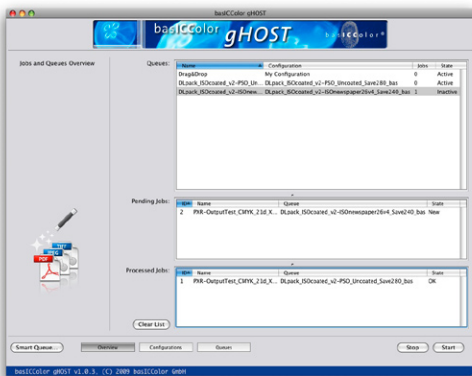
basICColor *gHOST* is essentially managed via three main windows, which are completely configured with settings for standard tasks via <Smart Queue...>. These three main windows also reflect the internal structure of basICColor *gHOST*. The configurations for a queue are always managed separately from the queues themselves in basICColor *gHOST*. The advantage of this is that the configuration assigned to a queue can be changed later on.

In the example shown using <Smart Queue...>, two configurations are first created internally. After that, <Smart Queue...> generates two queues, including the necessary folders, and assigns them to the configurations created.

### 5.1. The Jobs and Queues Overview main window

This window indicates which queues have been created in basICColor *gHOST* with which configurations. The screenshot shows the two queues for converting ISOcoated\_v2 data to the PSO\_Uncoated and ISOnewspaper26 printing standards. The queues created via <Smart Queue> have the same names as the associated configurations.

Furthermore, the overview shows which jobs are still outstanding, and which have already been processed.



Main window with „Jobs and Queues Overview“

A right mouse click on a job in the „Pending Jobs“ or „Processed Jobs“ list allows the user to generate a softproof or delete the job. More information on this subject can be found in the chapter „Special conversion options“.

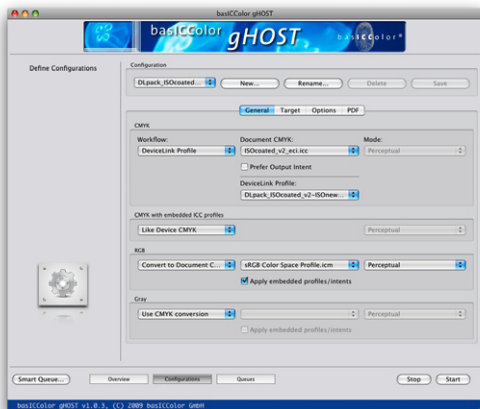
## 5.2. The Define Configurations main window

This is where all settings are made regarding the handling of colors and PDF-specific parameters. The individual items are explained in more detail in later sections of the Manual.

The topmost area is used to create, rename or delete individual configurations. If an existing configuration is to be duplicated, first select the existing configuration and next click on <New...>. Then, enter the new name, make any necessary changes to the settings, and click on <Save>. A configuration can be renamed at any time. To do so, select it in the drop-down list, click on the <Rename...> button, change the name, and confirm with <OK>. Queues using this configuration are automatically updated.

Please note that, for your safety, every modification you make on one of the tabs in the Configurations window is automatically saved when you switch to a different tab or to the Overview or Queues window.

basICColor *gHOST* focuses on the processing of PDF files for printing, this leading to the general structure of the window



Main window with „Define Configurations“

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and its tabs. However, the same configuration can equally be used to process TIFF and JPEG images.

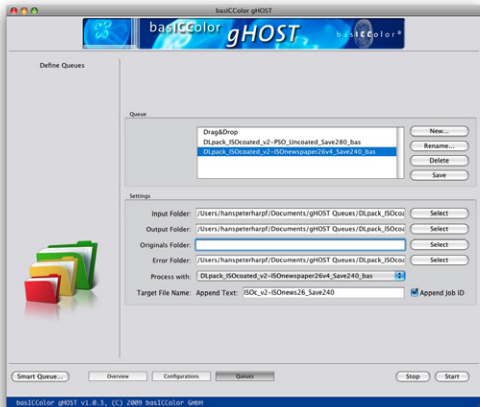
The tab „General“ is used to set the type of color transformation (ICC device profiles or DeviceLink profiles), and how color spaces and objects of a PDF file are handled that are not directly present in the document CMYK color space. „Target“ is used to specify the target profile of the color transformation. „Options“ permits, among other things, more specific handling of spot colors in the DeviceN color space, and „PDF“ allows you to make PDF-specific settings.

If you use the <Smart Queue...> function, it will create configurations that can generally be used directly, without any modifications.

### 5.3. The Define Queues main window

This window is used to define queues. To this end, you create folders, assign a configuration to the queue, and specify whether and how files are to be renamed after processing. Place the files to be converted in the „Input“ folder. The „Done“ folder contains the original files after processing. The processed and color converted files can be found in the „Output“ folder. Unrecognized and error files are saved in the „Error“ folder. Under [Target File Name: Append Text], you can append a suffix to the original file name. The <Append Job ID> option generates a unique, consecutive number

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Main window with „Define Queues“

## Note

By simply deleting the path to the **Originals Folder** (see screenshot) in the **Define Queues** dialog you can make sure that your original files are not saved? **basIColor gHOST** deletes your original files after conversion if no **Originals Folder** is specified. This might be of interest for such customers using workflow which already saves the original files at an other stage and to avoid that the hard drive are overfilled with unnecessary files especially in case of high data volume. However in a „normal“ queue the **Originals Folder** is always setup automatically to keep your original files.

and adds it to the original file name (with appended suffix, where applicable).

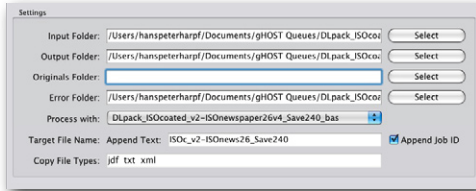
If the <Smart Queue...> function is used, the folders are created automatically, and the matching configuration assigned. The file name of the optimized PDF file contains both the Queue Name and the Job ID. When working with the *DLpack* Standard DeviceLink profiles, <Smart Queue...> automatically enters all the relevant PDF/X information.

One helpful feature is the possibility of assigning a configuration to the Drag&Drop Queue. This offers a very simple way of testing a configuration by moving the files to be converted into the **basIColor gHOST** Overview window by Drag&Drop.

The new feature [Copy File Types] in the Define Queues dialog is a handy workflow enabling tool: If you need to transport special coordination files (JDF, XML, TXT etc.) with your original artwork and images you now have that option in version 1.1. All you need to do is to type in the allowed file types - in case there are multiple files types, you can type in as many as you like separated by space bar or comma. Coordination files having the same name as your original artwork and image files will now be copied to the Output Folder and moved to the Originals Folder automatically accompanying your original files.



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## Note

In earlier versions of *basICColor gHOST* (before 1.1) unknown file types including coordination files like text files have been moved to the **Error Folder** automatically. This has led to unwanted additional manual work to associate the coordination files with the converted original files again for certain workflows requiring such files like data base publishing or MIS systems. In order to benefit from the new *basICColor gHOST* feature, the coordination file must have the same name as the original file because if not, the file will be moved to the **Error Folder**. If *basICColor gHOST* recognizes the accompanying file(s) it does not show them in the Jobs Overview window AND makes sure that the same text and Job ID will be added to the file name as with the converted original file. When typing in multiple file types in the Copy File Types section it is possible to process multiple coordination files with one original file if required.

The standard queues that can be created via <Smart Queue...> are suitable for all the usual tasks involved in optimizing PDF files. However, there are occasionally cases where it can make sense to modify a few details of the settings of a standard queue, or to duplicate a standard queue and then make a few changes. However, before getting to that stage, you first need a brief introduction to the automated color management of image and PDF files. This particularly applies when combining hotfolder-based PDF preflighting solutions with *basICColor gHOST*.

## Chapter 6

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# Configuring Smart Queues

## 6. Configuring Smart Queue queues

basIColor *gHOST* is capable of converting both image and PDF files in one queue. This section describes the impact of the configuration of Smart Queue queues on image files and PDF files. The following sections discuss alternative configuration options for basIColor *gHOST*.

### 6.1. PDF files in Smart Queue queues

The main purpose of „Smart Queue“ queues is to optimize PDF files for standardized offset, newspaper or gravure printing. The *DLpack* Standard DeviceLink profiles used for this purpose are designed in such a way as to safely circumnavigate the customary problems encountered in connection with color management of PDF files.

For example, all basIColor Standard DeviceLink profiles are optimized in such a way that both image and vector data can be reliably converted with them. Vignettes in vector graphics that consist of just one or two CMYK colors still contain only the original colors channels after application of the profile. The color values are adjusted in accordance with the purpose of optimization.

All basIColor Standard DeviceLink profiles have been checked both for smoothness and for visually attractive conversion, and have proven their worth in many months of practical use.

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All „Smart Queue“ queues process image and vector data identically, meaning that it is easily possible to optimize PDFs with flattened transparencies.

If a PDF file contains transparencies, individual PDF objects are processed in exactly the same way as in a PDF file without transparencies. The transparency information is preserved unchanged.

If necessary, the gradation of grayscale objects is automatically optimized in the standard queues without converting to 4 colors. If PDF objects are present in the RGB color space, the embedded profile converts them to the document color space. If a relative colorimetric intent is embedded in PDF RGB objects, a „Smart Queue“ queue automatically activates black point compensation to ensure clean reproduction of details in the shadows.

The output PDF file from a „Smart Queue“ queue is always a pure CMYK file without embedded profiles in individual objects. If data including additional spot colors are present, these colors are not changed in the standard queues.

In „Smart Queue“ queues with color conversion, all the color information necessary for PDF/X is set automatically, including use of the target profile as the Output Intent.

In practice, the „Smart Queue“ queues can be used as an automatic function without encountering any problems on almost every occasion.

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## 6.2. Pure image files in „Smart Queue“ queues

TIFF or JPEG image files in a „Smart Queue“ queue are handled in a similar way as the corresponding objects of a PDF file. As a rule, CMYK images with or without a profile are optimized via the DeviceLink profile of the CMYK settings. RGB files are first converted to the document CMYK color space and then optimized via the DeviceLink profile of the CMYK settings. For a number of applications, it is advisable to use different configurations, the possibilities of which are described on the following pages.

Chapter 7

*gHOST*

**configurations**

**in detail**

## 7. *gHOST* configurations in detail

The „Configurations“ window is designed to permit the structuring of color conversion with ICC device profiles and with ICC DeviceLink profiles, and also a mixed workflow in the case of PDF files. This results in a great variety of options. To understand them, it is first necessary to go into a little more detail regarding color spaces in PDF files.

### 1. Profiles in individual objects

Individual objects (images or graphic/text objects) in the PDF file may have embedded profiles and associated rendering intents which need to be honored.

### 2. Document color space

The document color space („Document CMYK“) serves as a reference when it comes to creating a standard reference for the colors of a PDF file. CMYK color spaces are almost always used as the document color space in print production, as CMYK colors are generally also used for printing.

If a PDF file contains individual RGB or CMYK objects with embedded profiles, they are usually converted from the object color space to the document color space for softproofing on the monitor or for output for proofing or printing.

PDF/X has the Output Intent to ensure that the document

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color space is unequivocally defined when exchanging PDF/X printing data.

### **3. Target color space**

The situation can arise where the document color space/ Output Intent of a PDF/X file does not match the color space of the ultimate printing process. In this case, the entire PDF file has to be converted from the document color space to the target color space. DeviceLink profiles are particularly suitable for this purpose.

#### **7.1. The role of Document CMYK in *gHOST***

The document color space of a PDF file can be defined in three ways when working with basIColor *gHOST*.

##### **1. Specification of an ICC profile in the *gHOST* „CMYK“ configuration window**

Manual selection of an ICC profile in cases where the PDF file does not have an Output Intent.

##### **2. Use of the Output Intent of a PDF file**

If the <Prefer Output Intent> option is activated in the *gHOST* configuration under „CMYK“, any existing Output Intent replaces the ICC profile defined for the document color space under 1. in the *gHOST* workflow.



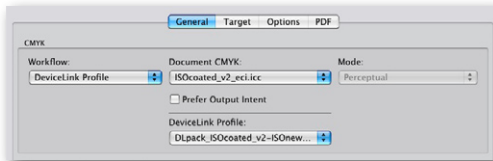
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### 3. Automatic setting of Document CMYK and Target profile by DeviceLink profile

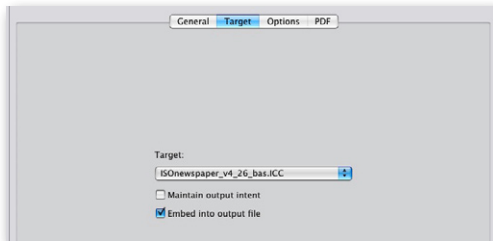
A DeviceLink profile represents a tailor-made color transformation from a defined source (e.g. document CMYK) to a target profile. Within the ICC Standard, there is the possibility of using the „Profile Sequence Identifier“ - PSID Tag for short - in the DeviceLink profile to indicate the source and the target color space for which a DeviceLink profile was calculated.

basICColor *gHOST* is capable of reading the PSID Tag, and thus of automatically setting the profiles under <Document CMYK> and <Target>.

All basICColor Standard DeviceLink profiles contain the PSID Tag, thus saving the user unnecessary configuration work. Incidentally, this is also how the Output Intent is set automatically in Smart Queue configuration.



Automatic setting of Document CMYK ....



.... and Target profile by DeviceLink profile!

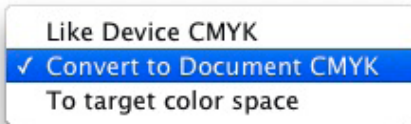
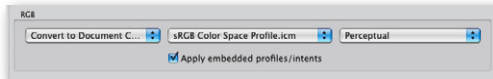
## 7.2. Handling of ICC-based PDF objects

Individual objects (images, graphics, text objects) within PDF files may have embedded profiles. This results in a number of different options in the workflow.

### Handling of ICC-based RGB objects

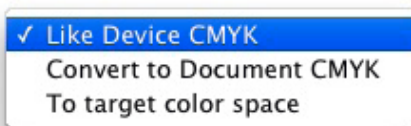
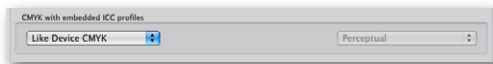
The most commonly used procedure for RGB objects is direct conversion to the target color space.

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However, if DeviceLink profiles are used for optimizing PDF printing data, it may well make sense to first convert such objects to the document color space in order to then optimize all the objects in the PDF file by means of the DeviceLink profile. This is the default setting when creating configurations with <Smart Queue>.

For example, the PSO\_Uncoated\_ISO12647\_bas.ICC profile has a maximum total area coverage of 300%, whereas all basIColor Standard DeviceLink profiles with PSO\_Uncoated as the target color space limit the total area coverage to a maximum of 280%. If the user wants to be certain that all the objects in the PDF file really do have a total area coverage of no more than 280% for printing on uncoated paper, it makes sense to first convert RGB objects to „Document CMYK“.



## Handling of ICC-based CMYK objects

For CMYK objects with embedded profiles, there is additionally the option of converting them directly with the settings for <Like Device CMYK>. If a DeviceLink profile is selected under „CMYK“, the embedded CMYK profile is ignored for the PDF object, and the DeviceLink profile is used directly for conversion instead. If the DeviceLink profile was calculated with the option of preserving pure primary and secondary colors, this option ensures that pure colors remain pure in CMYK objects with embedded profiles. If the <To Target>

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setting is selected, direct ICC-based conversion to the target profile is performed, circumventing the DeviceLink profile. Pure CMYK colors are then almost always contaminated.

### 7.3. Mode / Rendering Intent

When using ICC profiles for conversion, basIColor *gHOST* offers not only the standard rendering intents, but also additional options. However, this calls for a brief introduction to the structure of ICC profiles.

If you take a closer look at an ICC profile with suitable tools, you will see that the rendering intents, such as „perceptual“ or „relative colorimetric“ are large tables that, in the case of CMYK profiles, convert either CMYK color values to Lab, or Lab color values to CMYK.

Because of the different directions of color conversion, there are two tables for each intent. These tables are calculated when generating a color profile from colorimetric data. If different profiling software is used to calculate ICC profiles from the same colorimetric data, the tables generated in the process differ substantially in some color areas.

This is particularly true of the two tables for the perceptual intent, and also of the areas of very high color saturation in the two tables of the relative colorimetric intent - also known as „out-of-gamut“ colors.

To obtain optimum, harmonious color transformation, it is

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advisable to ensure that the source profile and the target profile were calculated using the same profiling software, particularly where CMYK-to-CMYK conversion is involved. However, this is frequently impossible in practice, due to the fact that profiles from different providers are often used, e.g. from Adobe or the ECI.

## 7.4. Extended *gHOST* modes

The extended modes of basIColor *gHOST* make it possible to avoid unharmonious color transformations that can result if the tables for the source and target profiles are calculated differently. This is done by basIColor *gHOST* completely recalculating the source and target profile tables *on-the-fly*. In doing so, basIColor *gHOST* uses the same algorithms as basIColor *print 3*, the high-end profiling software from basIColor GmbH. Three different modes are available for perceptual rendering:

- ✓ Perceptual
- Relative Colorimetric
- Saturation
- Absolute Colorimetric
- Default Compression**
- Blackpoint Compensation
- Absolute Compression

1. „**Default Compression**“ calculates a perceptual rendering for the source and target profiles that is highly suitable for all kinds of gamuts in the source and target profiles. In this context, the gray axis of the conversion is always relative to the paper white of the target profile. If RGB data are converted to a very yellowish paper, the gray balance of the transformed file is also slightly yellowish.

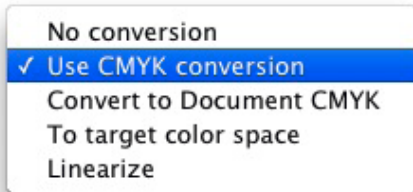
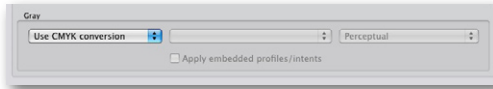
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2. „**Blackpoint Compensation**“ largely corresponds to the „relative colorimetric with black point compensation“ option in Adobe applications, with additionally improved rendering of out-of-gamut colors. This version is highly suitable if the gamut and contrast range of the source and the target are not too different, e.g. when converting RGB data with normal saturation to coated papers. As with Standard Compression, the gray axis of the conversion is relative to the paper white of the target profile.
3. „**Absolute Compression**“ is likewise best suited to data where the gamut and contrast range of the source and the target are not too different. In contrast to Default Compression and Blackpoint Compensation, the paper color is compensated for in the gray balance. In this way, it can be ensured that the color appearance of the original file is optimally preserved on a target medium with a different paper color.

## 7.5. Handling of gray objects

The handling of gray objects is no trivial matter when using ICC color management. They are often excluded from color management, or they are composed of four colors after conversion. basIColor *gHOST* offers options both for adapting gray objects by color management and leaving them gray, and for performing explicit color space conversion to the target profile (RGB or CMYK).

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## Options that preserve gray

The <Use CMYK Conversion> option treats gray objects in accordance with the CMYK settings. This only makes sense if the DeviceLink profile selected there maps pure CMYK gray of the source to pure CMYK gray of the target.

This is the case with all basIColor Standard DeviceLink profiles, for example.

It should be noted in this context that embedded profiles in gray objects are always ignored and removed.

The <Linearize> option uses the black channel of the CMYK target profile to perform an on-the-fly calculation of a grayscale profile, then transforming gray objects from their source profile to the target. Note that, to use the <Linearize> function, grayscale objects without a profile must first be assigned a suitable profile. This should ideally match the black channel of the profile under „Document CMYK“.

## Options that convert gray to CMYK or RGB

If gray objects are converted directly to „Document CMYK“ or the „target color space“, they are afterwards composed of four colors, or as RGB. The latter is the case if an RGB profile is specified as the Target Profile.

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## 7.6. Image files in *gHOST* queues

One queue in basIColor *gHOST* can process both PDF files and TIFF or JPEG images. In each case, the same settings are used as for the corresponding PDF objects. CMYK images without a profile are converted in accordance with the CMYK settings. The settings for CMYK with embedded profiles are used for CMYK images that have a profile. If RGB images have an embedded profile, this profile is always used. In the case of RGB images without a profile, the profile specified in the RGB settings is used. While the intent specified in basIColor *gHOST* is used for image files, the embedded intents have priority in the case of RGB objects in PDF files. The settings on the „Target Profile“ tab determine whether the target profile is also embedded at the end of conversion. RGB-CMYK DeviceLink profiles can also be selected in the RGB settings to deal with special applications.

## 7.7. Use of multicolor profiles

With basIColor *gHOST* it is possible to use either multicolor printer profiles as target profile or DeviceLink profiles which are able to handle an RGB-to-Multicolor or a CMYK-to-Multicolor color transformation.

### Use of multicolor target profiles in the PDF workflow

A special feature of basIColor *gHOST* is the possibility of using multicolor profiles as target profiles. This is, for example, an option in prepress work for packaging printing if image data are present in the form of an RGB file. They can then be positioned directly in the finished document, which is then used to produce a PDF file with RGB images before converting the complete document in basIColor *gHOST*.

Another field of application would be, for example, the printing of photo books by so-called HiFi color printing processes using 6 or 7 inks.

In this case, you get what is known as a DeviceN PDF file, where every single channel is named like the channel name of the multicolor profile. DeviceN has for many years been the standard color space in PDF for describing spot colors for print production. It offers a high degree of compatibility with the time-proven spot color processing functions in common application programs.



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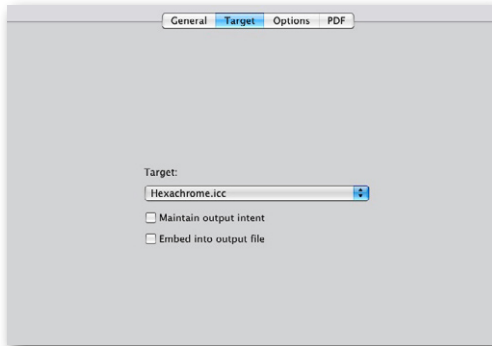
The PDF files generated can usually be assessed in the Separation Preview of the current version of Adobe Acrobat Professional. As a rule, they can be processed with current PDF workflow systems, and can be positioned in current Adobe InDesign documents in order to again export a PDF file from there.

However, depending on the multicolor profile used, the channel designations used there, and the subsequent workflow outside basIColor *gHOST*, the complete workflow needs to be tested beforehand to make sure that everything runs smoothly.

If pure image data are to be converted, please note that basIColor *gHOST* does only support TIFF files when using multicolor profiles for conversion. basIColor *gHOST* will create CMYK+alpha channel TIFF files. Needless to say, however, you can convert image files in PDF format by means of multicolor target profiles and position them in InDesign. Importing multicolor PDF files to Adobe Photoshop was not possible at the time of the editorial deadline for the 1st edition of the basIColor *gHOST* Manual, since the PDF Import function in Photoshop does not recognize spot color channels.

To generate correct multicolor PDF files with basIColor

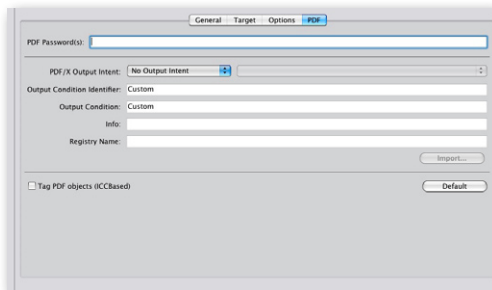
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*gHOST*, you must pay attention to the following (the example shows use of a multicolor printer profile):

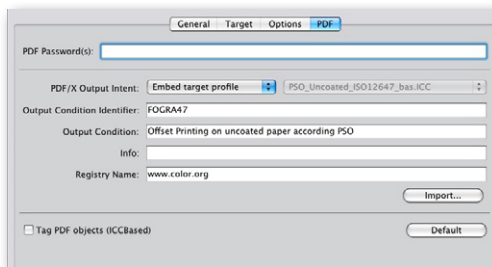
The „Embed into output file“ option under „Configuration / Target“ must not be active.

Under „Configuration / PDF“, the „PDF/X Output Intent“ item must be set to <No Output Intent>, and <Tag PDF objects (ICCBased)> must not be active.



## 7.8. Setting PDF/X information

The „Configuration / PDF“ tab offers the option of including PDF/X-specific information with the optimized or color-converted PDF file. This particularly makes sense when basICColor *gHOST* is used for generating printing data. Based on the PDF/X entries, the printer receiving the PDF/X data can then identify the printing standard for which the PDF/X files supplied were optimized. The following are important PDF/X entries:



### PDF/X Output Intent:

The color profile that describes the printing color space for which the PDF file was generated. The <Embed target profile> option can be used to automatically embed the target profile of the configuration as the Output Intent. Alternatively, a different profile can be defined manually, or

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the Output Intent of a configuration can remain unchanged in general.

**Output Condition Identifier:**

The colorimetric data on which the color profile of the Output Intent is based. This information is important because different vendors offer profiles with occasionally widely varying names, e.g. for the printing standards FOGRA39 / ISOcoated\_v2 or FOGRA47 / PSO\_Uncoated. If a printer receives PDF/X data from users who work with different profiles, the Output Condition Identifier tells him whether the profile is for an industry standard or a highly individual profile.

**Output Condition:**

Simple term for the printing standard for which the PDF/X data were optimized.

**Registry Name:**

At [www.color.org](http://www.color.org), the ICC keeps a registry of colorimetric data / Output Conditions that represent international printing standards. If a printer works with numerous different suppliers, it makes sense to agree on a name / Output Condition Identifier registered with the ICC.

**Automatic control of PDF/X information**

If the basIColor Standard DeviceLink profiles from the

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*DLpack* are used, they contain information that is automatically entered in the corresponding fields for PDF/X information in basIColor *gHOST*. When creating queues via the <Smart Queue...> option and using the basIColor Standard DeviceLinks, there is no need to make any manual entries in the PDF/X information.

## **7.9. Importing PDF/X information**

If a PDF/X file is loaded via the <Import...> button, basIColor *gHOST* automatically extracts the PDF/X information, eliminating the need for manual input.

## Chapter 8

# Special conversion options

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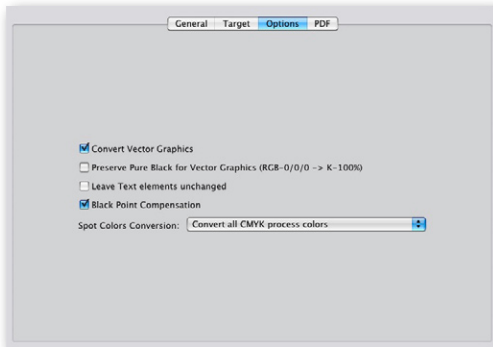
## 8. Special conversion options

### 8.1. Handling of vector graphics

If, for example, PDF files contain flattened transparencies, it is frequently the case that pixel and vector data of the same color are contiguous. Consequently, the basic setting in basIColor *gHOST* always converts pixel images and vector graphics in the same way. This reliably avoids color breaks between contiguous pixels and vector objects of the same color.

To achieve high-quality color conversion, it therefore makes sense to use DeviceLink profiles that preserve the purity of components composed of one and two colors. However, in special cases where CMYK conversions in basIColor *gHOST* are performed by converting with ICC source and target profiles, it is also possible to exclude vector graphics entirely from color management by deactivating the <Convert Vector Graphics> option.

Text and vector graphics are independent objects within the PDF format. For both types of object, the basIColor *gHOST* options offer possibilities for preventing black vector graphics or black text being converted into four colors by an ICC transformation. These options are not necessary if the basIColor Standard DeviceLink profiles are used, since they are calculated in such a way that pure black always remains pure.

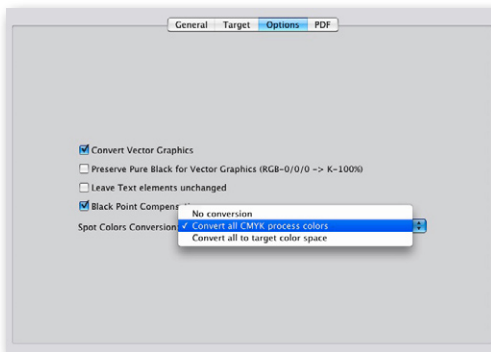


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When dealing with RGB PDF files originating from Office programs, for example, <Preserve Pure Black for Vector Graphics> converts RGB black to pure CMYK black (RGB-0/0/0 -> CMYK-0/0/0/100).

## 8.2. Black point compensation

If embedded profiles for RGB, gray or CMYK are activated in basIColor gHOST, the consequence of this for PDF files is that the embedded rendering intents are also activated. In this case, the intents defined in the GUI are ignored. Numerous scenarios are conceivable where the relative colorimetric intent is embedded when generating PDF files with embedded profiles and intents. To permit high-quality color conversions with the relative colorimetric intent, <Black Point Compensation> should always be activated under „Configurations / Options“, so as to avoid unnecessary clipping during output.

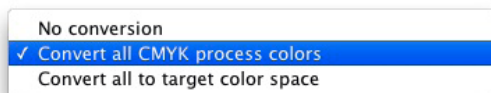


## 8.3. Handling of spot colors

basIColor gHOST offers various options for handling spot colors:

„**No conversion**“ means that all objects defined as spot colors are left unchanged.

„**Convert all CMYK process colors**“ relates to spot-color objects bearing the names „Cyan, Magenta, Yellow, Gray



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### Special case !!!

In version 1.0.4 the behavior of spot color conversion has been changed „Convert all CMYK process colors“: **CMY color spaces defined as DeviceN** in PDF are now converted to CMYK Device color space.

and Black“. These are in fact CMYK objects, but have been created as individual spot-color separations in the DeviceN color space. The „Convert all CMYK process colors“ option temporarily converts PDF objects of this kind into CMYK objects, optimizes them in accordance with the basIColor *gHOST* CMYK settings, and then converts the optimized PDF objects back into spot-color objects bearing the names „Cyan, Magenta, Yellow, Gray, and Black“.

The final step of back-conversion is necessary because, within the PDF format, spot colors in the DeviceN color space have different overprinting properties than classical CMYK objects. For this reason, it is advisable to have this option activated as standard, this also being the case for queues created using <Smart Queue...>.

„**Convert all to target color space**“ turns spot-color objects into CMYK objects. The details of what happens in the process very much depend on the so-called Alternate ColorSpace of the spot-color object. The Alternate ColorSpace is a substitute color space for spot-color objects that is stored in the PDF file and can take the form of CMYK, RGB or Lab color definitions. Depending on the color space of the Alternate ColorSpace, the colors go through the CMYK or RGB settings of basIColor *gHOST*, or are converted directly from Lab to the target color space.



#### 8.4. Conversion of PDF files with transparencies

basIColor *gHOST* can be used for the color management of PDF files containing transparencies. Please note in this context that the transparency color spaces of all objects should generally be based on the color model of the target profile. The default setting for the transparency color space in Adobe Creative Suite is CMYK, meaning that there are usually no problems whatsoever with print-related workflows in basIColor *gHOST*.

Anyone who wants to be on the safe side should run a preflight before using basIColor *gHOST*, and harmonize the transparency color spaces of a PDF file by means of the preflighting program.

#### 8.5. Compatibility with GWG patches

At [www.gwg.org](http://www.gwg.org), the Ghent Working Group provides a number of PDF test files for assessing the behavior of PDF workflow applications. All GWG patches are rendered visually correctly thanks to the special functions of basIColor *gHOST* for handling spot colors and preserving transparency and overprint information.

## Chapter 9

# Special workflow options

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## 9. Special workflow options

### 9.1. Softproofing of PDF, TIFF and JPEG files

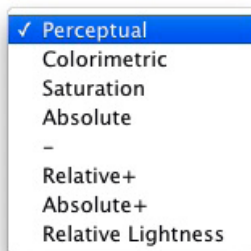
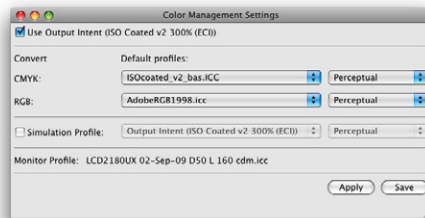
In the Overview window, a double click on a job in „Pending Jobs“ or „Processed Jobs“ opens a softproof preview. The softproof color space is governed by the color settings to be defined by the user. Embedded profiles or Output Intents in image data or PDF files are taken into consideration.

The rendering intents include not only the normal ICC intents, but also three special basICColor intents.

**<Relative+>** and **<Absolute+>** only have an impact if the black point information contained in a matrix-type Monitor Profile indicates that the black point is lighter than  $L^* = 0$ . The softproof becomes a little darker as a result of this, especially in the shadows. This usually leads to a visually better match with a reference proof.

**<Relative Lightness>** is based on the absolute colorimetric intent with paper tone simulation. The lightness of the paper tone simulation is scaled to the maximum displayable lightness of the monitor, the color of the paper tone simulation and the gray balance of the softproof as a whole being preserved. This setting makes sense if the absolute colorimetric softproof is visually too dark, as is often the case in newspaper printing, for example.

In order to select the right softproof intent, it is generally advisable to use not only the monitor, but also a dimma-



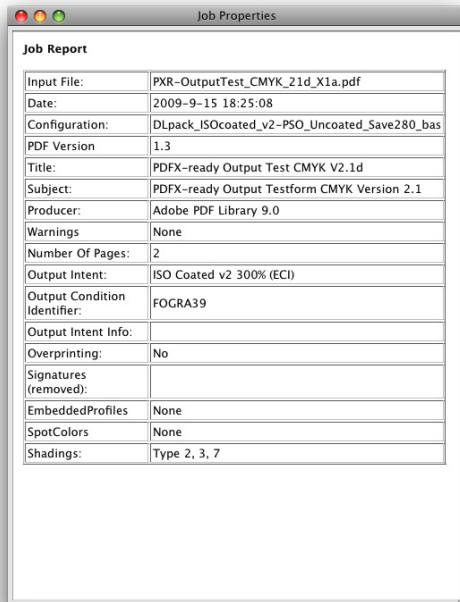
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ble standardized light box (e.g. basICColor *diLIGHT*) with a reference proof for visual comparison.

## 9.2. Job properties

After clicking once on a job in the „Job Overview“ window, you can call up more detailed information on the job properties - either in the menu under „Tools – Job Properties“ or via the context-sensitive menu (right mouse button / Properties).

Under „Spot Colors“, for example, you can get information about the spot colors used in the PDF document. You are shown the PDF version of the file in question, the program used to generate the file, and whether an Output Intent (Output Condition Identifier) is present. If, on very rare occasions, an error occurs during conversion in basICColor *gHOST*, you will find the corresponding information under „Warnings“.



## Chapter 10

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# *gHOST* in combination with PDF preflighting

## 10. basIColor *gHOST* in combination with PDF preflighting

Even for highly advanced and efficiently configured applications like basIColor *gHOST*, there are still occasionally application scenarios where special file treatment and an additional approval step for the optimized PDF file may be necessary. This particularly applies to printers who receive PDF data from a very large number of customers that have been produced in a variety of different ways.

In cases of this kind, we recommend users to combine basIColor *gHOST* with a hotfolder-based preflighting solution. The following points relating to color should be checked there:

### 10.1. Number and type of color channels in the PDF file

Depending on the print job, additional spot colors are either necessary or wrong. In this case, the task of preflighting is to determine whether the number and naming of the color channels match the print job. If you are using basIColor *gHOST* „Smart Queue“ queues and the PDF preflight indicates unwanted spot colors, the problem must be remedied in the preflighting program before sending the data to basIColor *gHOST*. Alternatively, you can duplicate an „Smart Queue“ queue and use it to convert all spot colors to CMYK. Special

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treatment of specific spot colors is not possible in basIColor *gHOST* Version 1.0.

After processing the job, you can inspect the spot colors occurring in the PDF file in basIColor *gHOST* by opening the Job Report for the processed file via the „Job Properties“ menu item. This is particularly useful if you do not use an additional preflighting program.

## **10.2. Check for RGB objects and CMYK objects with embedded profiles**

For fully automatic workflows in printshops without additional approval by the customer, we recommend that only pure CMYK PDF files be accepted from the customer. If the files are not pure CMYK PDF files, we advise you to optimize the data by means of basIColor *gHOST* and then send them to the customer, at least in a CMYK LowRes version, for renewed approval. In this context, please note that the standard queues in basIColor *gHOST* optimize all CMYK objects in a PDF file by means of DeviceLink profiles and remove any embedded profiles. Alternatively, you can duplicate a standard queue and use it to change the way embedded profiles are handled.

After processing the job, you can inspect the profiles embedded in the PDF file in basIColor *gHOST* by opening the Job Report for the processed file via the „Job Properties“ menu item.

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### 10.3. Check of the total amount of color

For printers, it is important that the data delivery specifications and the order confirmation clearly indicate the total amount of color expected for the type of paper to be printed, and also the printing standard for which the data supplier should ideally prepare the printing data.

When printing on uncoated paper or newsprint, any marked transgression of the total amount of color is a sign that the image data were not optimized for the respective printing standard. This is usually a case of image data for coated paper for offset printing.

When optimizing PDF files by means of standard queues in basIColor *gHOST*, you now have the following alternatives:

- a.) Limitation of the total amount of color without changing the color appearance
- b.) Conversion of the data from coated to uncoated/newspaper, including optimization of the color appearance.

It is sensible to view the results of optimization on a softproof. If the result is better, you can offer it to the customer as chargeable data optimization, including renewed approval..

### 10.4. Check for overprinting objects composed only of CMY without K

This tends to be quite a rare special case. With a view to



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maximum color stability in production printing, rapid drying, and ink savings, it makes sense for the printshop to use the basIColor „InkSave\_DeviceLink\_Profiles“ from the *DLpack* as often as possible.

However, if the rare case arises that an overprinting object in the PDF file is composed of all CMY colors without black, the color impression resulting from the overprinting object and the background may change following ink optimization. The root of the problem lies in the way that the overprinting of CMYK on CMYK is handled in the PDF standard. Only if there is no color in one channel in an overprinting object can you completely „see“ the color of the same channel in the underlying object. As soon as there is just a minimal amount of color in a channel in the overprinting object, only the color component of the upper (overprinting) object is displayed and put onto the paper.

Chapter 11

# Optimizing mixed-color PDF files

## 11. Optimizing mixed-color PDF files

The „Smart Queue“ queues are optimized for the situation where the PDF files contain pure CMYK data. However, there are also useful presets for processing other color spaces, and these can be adapted if necessary.

### 11.1. Handling of embedded profiles in RGB objects

As standard, RGB objects are converted to the CMYK color space of the document and then processed further via the DeviceLink profile. Embedded profiles and rendering intents are taken into consideration in this context. This guarantees consistent conversion and optimization of even these data by the DeviceLink profile. It is assumed as standard that RGB data without embedded profiles are in the sRGB color space.

### 11.2. Handling of embedded profiles in CMYK objects

For CMYK objects, the <Like Device CMYK> conversion option is generally active in the standard configurations of basIColor *gHOST*. If an individual PDF object (image, graphic, text segment) has an embedded profile, this setting results in the profile being REMOVED, and the object optimized via the DeviceLink profile. This strategy may possibly lead to the rendering of the colors of these CMYK objects in a softproof

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or hardcopy proof changing after optimization. For this reason, it is essential that you obtain approval from the data supplier after optimization.

If the <Convert to target color space> option is activated for CMYK objects, they are NOT optimized via the DeviceLink profile. Instead, they are converted to the output profile by the embedded profile. Particularly in the case of vector or text objects, this can lead to uneven vignettes or to black lines or text being composed of four colors. If you want to use this option, you should always perform PDF preflighting to check whether vector or text objects have embedded profiles. For special cases, basIColor *gHOST* offers the possibility of creating queues where color management is deactivated for vector/text objects. In this way, you could, for example, only take the embedded profile into account for images and leave vector graphics unchanged.

However, this strategy entails a risk of unwanted color breaks in the case of flattened transparencies. Flattening transparencies can easily result in pixel images and vector graphics of the same color being contiguous. Differing color management for pixel images and vector graphics can then cause color breaks of this kind.

The <Convert to Document CMYK> option yields the most consistent results, since the CMYK objects are first conver-

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ted to the document CMYK using the embedded profile before then being further processed via the DeviceLink profile.

### 11.3. Black point compensation

If a relative colorimetric rendering intent is active in the PDF object, basIColor *gHOST* performs conversion with black point compensation as standard.

This ensures that all shadow details are preserved. If the PDF preflighting program does NOT offer the option of RGB to CMYK conversion with black point compensation, you should always leave basIColor *gHOST* to do the conversion.

### 11.4. Conversion of spot colors to CMYK

„Smart Queue“ queues do not change any objects containing additional spot colors. If basIColor *gHOST* is to be used, instead of the PDF preflighting program, to convert spot colors to the output profile, you need to activate <Convert all to target color space> under „Configuration / Option / Spot Color Conversions“. Spot colors are then converted to the target in accordance with the „Alternate ColorSpace“ and the basIColor *gHOST* CMYK and RGB settings. Further details can be found in Chapter 8.3.

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### 11.5. Using your own generated DeviceLink profiles

There are some tasks for which no standard profiles can be provided, e.g. conversion of ISOcoated\_v2 data to the in-house standard of a digital printing press. Since basIColor *gHOST* works with DeviceLink profiles according to the ICC Standard, profiles can generally be created using all software solutions that are capable of generating ICC-compatible DeviceLink profiles.

For high-quality CMYK->CMYK color transformations, the software used for calculating the DeviceLink profile should have functions for preserving separations, limiting the total amount of color, and preserving the purity of primary and secondary colors.

It is additionally useful if this software can calculate the color space compression (gamut mapping) individually from the source to the target profile.

The basIColor product basIColor *DevIL* offers all these capabilities and it is also available in a bundle with basIColor *gHOST*. You can find more information on creating DeviceLink profiles in the Manual for basIColor *DevIL*.

### 11.6. Applying Photoshop color corrections to PDF files

In some cases it is not possible to use DeviceLink profiles. This is the case, for example, when the customer provides

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printing data and an undefined print or proof that needs to be matched as accurately as possible in production printing. Noticable differences can occur if the printing data are opened on a monitor with softproofing based on the printing standard for production printing.

The options for solving the problem are either to print outside the standard, in order to try to match the original using the means available on the press, or to apply Photoshop corrections to the PDF file.

The latter approach has the advantage that you can create a proof print according to a defined printing standards to proof the color-corrected data and have them approved by the customer.

For this method, you need an experienced Photoshop operator and the Edit module of basICColor *DevIL*. You can also use the demo version of the programs for a single test run with production data.

Color-relevant pages, taken from the PDF data to be corrected, are compiled in a file in Photoshop, combined with the basICColor *DevIL* Edit Chart, and color-corrected on the monitor under softproofing conditions.

The edited image is loaded into basICColor *DevIL*, and the corrections are saved as a DeviceLink profile.

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The DeviceLink profile can subsequently be used in basIColor *gHOST* to correct the colors of the original PDF data. If necessary, these data can be approved by the customer on a proof print before final printing, and the printer can work according to a printing standard in the accustomed manner and reliably match the proof.

The individual steps for converting Photoshop corrections into DeviceLink profiles are described in the Manual for basIColor *DevIL*.



## Chapter 12

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# Testing *Devil* in combination with *gHOST*

## 12. Testing basIColor *DevIL* in combination with basIColor *gHOST*

If, as a basIColor *gHOST* user, you have to deal with one of the applications described above that require use of your own DeviceLink profiles, you can use your own production data to test basIColor *DevIL* without having to make an immediate purchase.

To do so, you have to temporarily switch basIColor *gHOST* to the Demo mode, which can manage not only all queues with normal ICC DeviceLink profiles, but also queues with demo profiles from basIColor *DevIL*.

To do so, you have to go to „Help – Licensing“ in basIColor *gHOST* and load a demo license that you can request from your basIColor dealer. BEFORE you load the demo license, please make sure that you have your normal basIColor *gHOST* license at hand.

For the duration of the demo license, you have all the capabilities of the full version, plus the option of working with demo DeviceLink profiles from basIColor *DevIL*.

At the end of the test period, you once more have to load the original basIColor *gHOST* license again under „Help – Licensing“ in order to be able to continue to work as usual.

Kindly also note that DeviceLink profiles of the basIColor

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*Devil* demo version cannot be decoded in order to be able to use them as standard DeviceLink profiles in compatible programs, such as the full version of basIColor *gHOST*. It is therefore advisable to save the settings for profile generation in basIColor *Devil*. If a demo profile from basIColor *Devil* works well in the demo version of basIColor *gHOST*, you can use the full version of basIColor *Devil* to generate a profile with the saved settings, and then apply this profile in basIColor *gHOST* or other programs that support ICC DeviceLink profiles.

Addendum A

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**Product**

**information**

**basICColor *gHOST***

## Addendum A - Product information basIColor gHOST

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