Online help as PDF

Productionserver 6
Simply more productive

Publisher

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Rev. MM: 2/4/2010- Software Version 6

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1 Contents

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1.1 Welcome to the documentation for your Software

Many thanks for choosing our software. Depending on the configuration, you can modify your print jobs as required, carry out color management, and set various print modes. You can process jobs automatically via hotfolders or manually, collect them via the network or forward them for printing from your graphics application.

Productionserver/Plategate 6 is available to assist you in the production of the final print results in the LFP sector (Large Format Print) such as posters, outdoor advertising or billboards for advertising systems. The software is equipped with very efficient and reliable RIP technology and functions for professional color management.

Productionserver 6 is available in four different configurations: Select (basic configuration), Pro (advanced configuration), Ultimate (full configuration) and UXT (proofing and cutting devices support). For more information on the product see the homepage function overview.

Documentation is essential in order to use the software effectively. It accompanies the product and provides support as a reference work. This documentation contains the same information as the online help system that you access within the software by clicking F1.

We are wishing you every success while working with your new RIP application.

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2 Using documentation

2.1 Navigation

Here you can read about the various navigation options of the documentation.

Contents:

The table of contents at the beginning of the document is based both on the software and on your tasks. Consecutive working steps in the software are described together. This ensures that the relationship to the software is retained.

The content also has a linear structure based on the procedures in the program. From the topics of **Create Printer** to **Process Jobs** through to **Optimize Jobs**, the table of contents is used as a guide. Entries there are built up as links and therefore refer to the required topic in the document.

Index:

The index is located at the end of the document. It contains all terms of the software as well as special terms in alphabetical order. Look up the page number which is displayed next to the term.

Search:

The search function browses the entire PDF document on the monitor. Press the keys Ctrl + F and enter the search term in the next field.

1. Click on the `Search` tab in the online help.
2. Enter the required term into the text box.
- Choose terms of the software user interface to find a relevant description for.
- Set quotation marks (") before and after the terms which should be found in exactly the same order as entered.

Tip: You can also enter multiple search terms and link these using the logical operators AND, OR NEAR and NOT. You can also enter placeholders: The question mark (?) stands for a character, and the asterik (*) stands for multiple characters.

3. Press the Enter key. If there is more than one topic for a term, these are listed in the window.
4. Double-click or highlight the required topic and click `Display`.

Glossary:

The glossary can be found at the end of the document. It contains all used terms of software as well as special terms in alphabetical order including a description.

Use the `Previous` button if you want to display the previous page again.

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Click on the print symbol in the help window toolbar. A window will open where you can select:

- **`Print the selected topic (default selection):`** the help page currently displayed will be printed.
- **`Print the selected heading and all subtopics:`** prints an entire chapter, marked with a book, in the help system. This option is only available on the `Contents` tab.

2.2 Structure

Here you will find out more about the structure and layout of the documentation.

Introductory topic:

This is an overview page at the beginning of a chapter. It is used as the introductory page for multiple related topics.

Instruction topic:

This is a topic which describes a procedure in multiple steps. Here you will find instruction steps as well as notes, explanations and examples.

Headlines:

After the first headline you will see what the topic is about, what it describes and what the objective of the topic is.

2.3 Formatting

Here you will find a description of what the various formatted elements in the documentation mean and the best ways of using them.

The following Info symbols:

This is a module. marks modules

This is a function. marks optional functions

Here is some important information on the term. marks terms and descriptions

The following formatting types mean:

PRODUCT AND MODULE NAMES

`Program elements`

Important emphases in the text are:

- The **Prerequisite** at the start of a topic that lists requirements for the topic described.
- The **Tip** that provides helpful hints.
- The **Note** indicating important information.

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- The **Example** that refers to practical applications.

Elements of the software are:

Check Box: ☐ Preserve pure colors

Radio Button: ● MIM-Daten importieren
○ MIM-Daten exportieren

Edit Box: Trockenzeit (s) 0

Info Box: Oben: 35
Unten: 7

Drop Down Menu: Photographic ▾
Photographic
Relative colorimetric
Absolute colorimetric
Saturation
Absolute Perceptual
Black Compensation
Lightener Compensation

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3 Getting started

3.1 Requirements

These are the requirements on the operating system, which is used to install the software.

Possible operating systems:

- Windows XP Pro
- Windows 2003 Server
- Windows 2008 Server
- Windows Vista (Business, Ultimate)
- Windows 7 (Professional, Enterprise, Ultimate)
- (Apple Mac OS X 10.5.2 or later with Parallels Desktop 4.0 for Mac)

Hardware:

Minimum requirements:

- Processor: 3 GHz (AMD or Intel)
- RAM: 1 GB (or more)
- Free Hard Disk Space: 10 GB

Single-printer workstation recommended:

- Processor: Intel Core 2 Duo / AMD Athlon X2 Dual Core
- RAM: 1 GB (or more)
- Free Hard Disk Space: 40 GB

Multi-Printer/Multi-RIP workstation recommended:

- Processor: Intel Core 2 Quad / AMD Phenom X4
- RAM: 4 GB
- Free Hard Disk Space: 80 GB (use Raid 0 for higher performance)

Additional information:

- DVD Drive for installation is required
- USB Port for dongle is required

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3.2 Installation

The RIP software is included on the DVD. Additionally you can find printer drivers, MIM combinations and documentations.

How to install the product:

1. Insert the installation DVD into the DVD-ROM drive on your production computer.
2. In the autostart menu, select the product you want to install or which your dongle has been enabled for.

Note: If the autostart menu does not open automatically, you can start it by double-clicking "autostart.exe" in the DVD root directory.

3. In the next menu, select the `Install` option.

When using certain printers from Epson or Canon, you will need to install the "Canon PB Module" or the "Epson HTM Module", both of which you can also open via the menu.

If you are operating your printer via USB, you also need to install the manufacturer's printer driver to be able to access the printer from your RIP software.

4. Before you start the RIP software, insert the dongle into a free USB port on your production computer.

3.3 Program user interface

After starting the software, you will see an empty program interface. After setting up a printer, you will see the following program interface. The display can vary slightly depending on the presettings you have made and the product you have purchased. Choose the way of display in the **Program settings see page 21.**
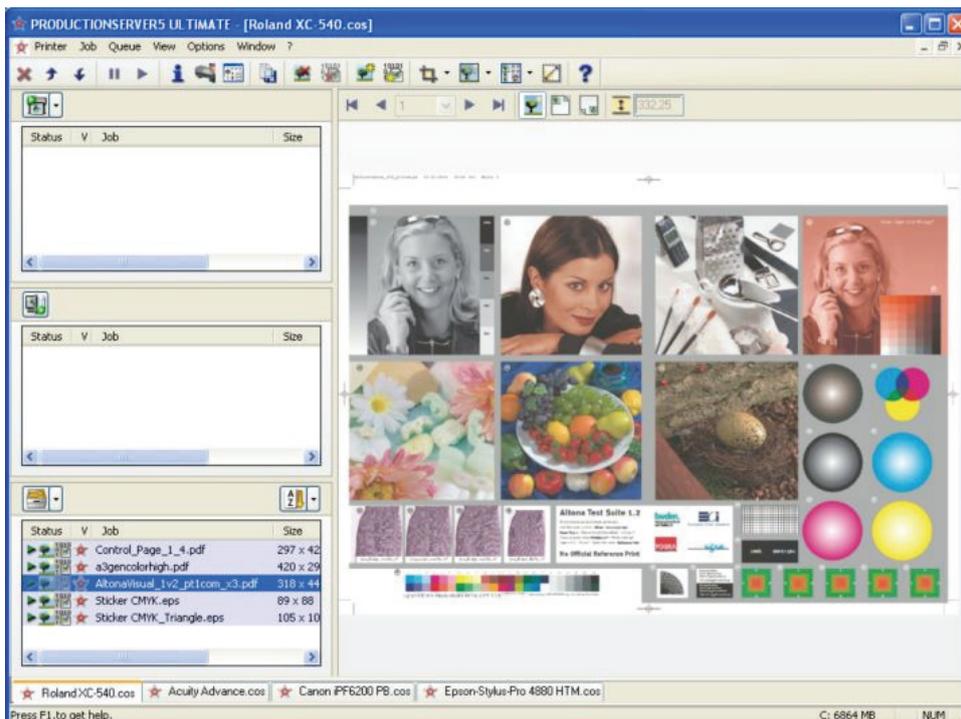
1 Menu bar

Here you will find all functions and options for editing jobs, setting up printers or determining the view.

2 Main toolbar

This toolbar contains icons for the most important functions, which you will also find in the menus.

3 Printer queue

This window provides access to the print jobs at the end of the process. After ripping the data, it is sent to the printer from here and printed.

Via the printer queue icon in screen workflow and `Pause after each job` the printer queue can be stopped between two jobs.

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4 RIP queue

This window will take you to the print jobs so that they can be ripped and prepared for printing. This is carried out after the file setup has been completed.

5 Job archive

In this window you access the print jobs at the beginning of the process. Depending on the print workflow settings, the jobs are forwarded immediately to the RIP queue. If you have not set automatic processing, you can carry out settings on the print and job parameters before printing.

If you move the mouse over a loaded job in the job queue, a small window will be opened. This window contains a preview in small format (thumbnail) as well as other information for example to MIM, creation date, metamode settings and file size. This feature operates as a rough overview of job settings.

6 Printer list

Here you can see all set up open printers with their names.

7 Status bar

Here you can see additional information to the currently selected menu entries.

8 Toolbar preview

The icons in the toolbar can be used to set the preview display.

9 Preview window

You can display each print job in the preview by clicking in the job archive.

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3.4 Register product

Each time you start the software, a prompt for product registration and activation will be displayed within the 30-day demo period. After the demo period expires, the software switches to the test drive. This means you will only be able to produce printed products with a watermark in the printing process.

In the product registration you register on our website as a customer and user of the software. You can then also use the web support & download options such as MIM combinations or updates. With the product activation you activate your software using a keycode which we send you via email after registration.

How to register your product:

After starting the software you will see a window with the message that the product needs to be registered and activated.

1. Click `Online Activation`. This will take you to product registration on our website.

Note: Alternatively, the product registration can be called up via our website if you do not have any internet access on your production computer.

2. Follow the steps described there.

We then check your details and send you an email with the activation code/keycode within the next two days.

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3.5 Activate product

Prerequisite: You have received the keycode after the registration.

After you have completed the product registration, we will send you the activation code/keycode link via email. Given below is a description of how you activate your product for full use without a watermark in the print. In the email there will be a "Keyupdate.exe" file attached, zipped in ZIP format and the actual keycode itself with the extension *.cky.

In normal case the dongle driver is installed automatically with the software. In some cases of reinstalling or deletion/uninstalling it might be necessary to manually install the current dongle driver that can be found under: http://www.safenet-inc.com/support/tech/latestdriver.asp

How to activate your product:

1. Save both these files on your production computer.
2. Insert the dongle into a USB port on the production computer on which the software to be activated is installed.
3. Quit your RIP software, if applicable.
4. Start the "keyupdate.exe" file from the email link in the email.
5. Click `Open Keycode`. The opened dialog shows on the left the current content of the dongle.
6. Select the keycode previously stored (*.cky). The right area shows the content of the keycode file.
7. Click `Update Attached Key` to write the keycode to the dongle, and close the window. The left area now shows the new content of the dongle, the right area is emptied.
8. Re-start the RIP software.

TIP: If you encounter any problems in running the key update from the software, it might be helpful especially under MS Vista to run the program with right click on the desktop icon > 'Run in Administrator mode'.

Your software can now be used without restrictions.

3.6 Program settings

The presettings are used to configure the software globally: The layout of the windows and preview, and the use of the units of measurement.

Also there is a `Performance` tab to set up the parallel process manager. This is used to perform multiple RIP and print processes in parallel instead of after another.

How to carry out the basic settings:

In the `General` tab:

- **General:** `Confirm end of program`: If there is a checkmark here, a confirmation prompt will be displayed to check whether or not you want to close the program. If no checkmark is set, the program will be closed without a prompt.

   `Automatically cancel jobs in progress when ending the program`: If a checkmark is set, the program will be closed and RIP or print processes will be cancelled. If no checkmark is set, a prompt will be displayed to check whether or not you want the operation to be completed.

- **Path for temporary files:** This is the path and folder in which RIP data is stored during the ripping process. Make sure that there is sufficient memory space. After ripping, these files will be deleted.

- **Units:** Select the relevant unit of measurement here for all dimensions used in the program.

- **Additional Settings:** Set a check mark for the first option if you want to make screens available and visible which have been used in older software versions. They will be displayed in the advanced job settings in the `Screens` tab. If jobs are loaded from older versions, all screens will be displayed.

   Set a check mark for the option `Disable Printer Monitor` to switch off the Printer Status Monitor completely in the software in order not to check the printer status anymore. It will be used to eliminate the communication overhead between the user interface/software and the printer.

In the `View` tab:

- **Layout:** Select the relevant tiling for the job, RIP and printer queue here, as well as for the preview.

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- **Thumbnails:`Show job thumbnails in mouse over`**: A small image preview is shown next to the mouse if it moves over the job in the queue.

    `Show job thumbnails in drag and drop operations`: A small image preview is shown next to the mouse if the job(s) are dragged from queue to queue.

How to carry out the parallel process settings:

When to mainly use this feature:

- For high-speed flatbed printers like Acuity, HP Scitex or Keundo that use a DFE (Digital Front End). This is an own control station that processes files in a folder coming from the RIP software to print on the print device.
- Suited for high-production situations only. When using flatbed printers to achieve a high output, a constellation of two ore more concurrent RIP/print processes can be suggested.
- Optimal for MultiCore 4 or more kernels; the higher the hardware performance the better the feature efficiency which means production speed.

Note: In the Container there is no improvement in terms of time and speed. This means the Container behaves like one job which is processed with one RIP process.

This feature uses two types of licenses, when scheduling the RIP processes: fixed and floating licenses.

- **Fixed RIP licenses**: They are bound to a certain printer queue. This type of license will only be used to execute jobs for the queue it is associated with.
- **Floating RIP licenses**: They are not assigned to a specific printer queue. They are used in a round-robin fashion for whatever queue has jobs to be processed.

In the `Performance` tab:

- **RIP processes:`Number of licensed RIP processes`**: This is the RIP processes number licensed in the dongle.

    `Maximum number of RIP processes`: Under certain conditions it may be desirable to reduce the number of concurrent RIP processes. This applies for example if the RIP server hardware is not powerful enough.

- **Queue configuration:`Use vacant fixed RIP licenses as floating`**: When this option is enabled, fixed licenses that are normally bound to a specific queue are treated like floating licenses. This applies as long as the queue that owns the licenses has pending jobs. Default is enabled.

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A table overview allows entering the desired values to specify per queue the:

- number of fixed **RIP** licenses: Specifies the number of RIP processes that are reserved for a specific queue. The RIP will process all specified jobs at the same time. Default is 1.

- number of concurrent **Print** jobs: Specifies the number of concurrent jobs that can be sent to the output device. All of them will be printed (in folder/file) at the same time. The value can only be changed if the printer is configured for one of the following port types: file, path or printer driver. Default is 1.

- number of concurrent preview (**Prev**) jobs: Specifies the number of concurrent jobs that the preview can be calculated for. This applies when loading new jobs into the job queue with the same time preview generation. Default is 1.

- floating (**Float**) RIP licenses option: When this option is set, floating licenses are used for this specific queue. It means that they are not really assigned to that queue but will be processed in a round-robin fashion. Default is **Yes**.

- priority (**Prio**): Specifies the priority of a specific queue when scheduling floating licenses for new RIP processes. Per definition, licenses are assigned to queues with the same priority in a round-robin fashion. Jobs in queues with lower priority are only respected if all queues with higher priority are idle. Default is 1.

Total number of RIP licenses - fixed: The sum of fixed RIP licenses for all queues / **floating**: The number of floating RIP licenses, calculated as the difference between "maximum RIP licenses" and "total fixed RIP licenses".

Default Configuration: This button sets the default values for the scheduler settings.

4 Setting up printer

Here you can find out how to create a printer, specify settings for the printer and the print workflow, and set up a network.

- **Printer setup see page 25**: Here you create a printer together with the port type, the paths for archive data and the hotfolder.
- **Job settings see page 61**: Here you specify the details for the basic printer and job settings such as paper size, scaling and resolution of the preview.
- **Prepare network (for example Create PPD see page 32)**: Here you determine a virtual printer and the associated PPD.
- **Import MIM see page 187**: Here you import a CMP file in the RIP software, where the profile and linearization for the relevant printer setup are stored.

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4.1 Adding a printer

Prerequisite: You specified your printer when ordering the RIP software.

Note: By using Canon and Epson printer models, the appropriate **Canon PB Module** or **Epson HTM Module** is required and needs to be installed. You will find these files on the installation DVD.

In this assistant you will set up your printer for the software. If you have created several printer definitions, you can rip and print on parallel installed printers ⓘ *Products and product categories differ in the possible number of printer queues and printers. The number of printers and printer queues can be expanded optionally..*

You will be specifying the following details on:

- the printer model which is used to produce your print jobs.
- the connection type of your printer. This window varies from printer model to model, because each printer can have different connection types.
- the folder for the archive data which will be produced during ripping and printing. Settings can be found in the printer workflow.
- the hotfolder for automatically loading your jobs.

Note: Only printers from category 1 are available.

Possible steps of processes after you set up a printer and imported a MIM for the printer set up with media and ink :

- Media Device Synchronization to adapt a printer to different production environments.
- Linearization Assistent to optimally adjust and calibrate the separate color channels.
- Profiler Module to relinearize and profile your printer if you use special metamodes or media.

In the following steps you set up the printer for your software:

- **Choose printer see page 25**
- **Select printer port see page 26**
- **Specify paths see page 28**
- **Set up hotfolder see page 29**
- **Further job settings see page 29**

Choosing printer

Prerequisite: By using Canon and Epson printer models, the appropriate **Canon PB Module** or **Epson HTM Module** is required and needs to be installed. You will find these files on the installation DVD.

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Here you select your printer and your printer model. The display may vary depending on the product. You will see a list of only the printers that you specified when ordering the software.

How to select your printer:

You are at `Printer > Settings` on the `Choose Printer` tab.

1. Choose your printer manufacturer in the left-hand list. > Explanation to *Others* driver see page 276.
2. Choose your printer model in the right-hand list. Compatible printers will be shown with a tooltipp.
3. To confirm, click `Next >` to make additional settings on the printer.

In the next `Import MIM` tab you have the option to import a MIM for the selected printer.

1. Choose `Import MIM....`
2. Click in the dialog box `MIM-File` at `Browse....`
3. Find in the following window the recently saved MIM package and enter.
4. Specify settings to the import of the MIM.
5. Click in the dialog box `MIM-File` at `Next >` to continue the assistant.

You have selected the printer and the appropriate MIM.

Select printer port

Here you select the port type of your printer. By default the local connection is created via the LPT1: port. Connection types are printer specific; some printers support Firewire or SCSI ports, others USB or VideoNet.

How to select the port type of your printer:

You are at `Printer` > `New...` or `Printer` > `Properties...` on the `Printer Port` tab.

Tip: If you make changes to the port settings again via `Printer` > `Properties...`, you will have to restart the program in order to take effect.

1. Select the relevant port type. This will depend on the printer model selected:

- **Locale:**
  1. If the printer is connected directly to the computer via a port (LPT,COM), click `Locale` and select the required printer in the dialog box displayed.

Note: If you have a printer which is connect via USB port, it can only be controlled by using `Driver`.

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- **TCP/IP:** This option applies to printers on the network with a network card.

  - If you know the IP address of the printer, click `TCP/IP` and enter it into the next dialog box.

    Tip: The standard port must not be changed.

  - To check if the printer connection is stable and functioning click `Test...`.
  - If you make changes to the port settings, you will have to restart the program in order to take effect.

  A window opens that logs the connection process to the printer. The latest entries will be added in the first row.

  - If it shows `Connection failed`, you should check the port parameters. After that click `Retry` to give it another try testing the connection.
  - If it shows `Connection OK`, a connection could be established. The printer will be ready for print.

- **Printer Driver: Prerequisite**: The printer manufacturer has provided the printer driver.

  All printers and Windows drivers installed locally under Windows are used for activation (IP address and port). The printer drivers support a port to the printer (USB, firewire).

  - To do this, click `Driver` and select the printer driver in the list.

  Note 1: The Windows driver is only used for communication to exchange data between software and printer device. Adjustments and changes to the driver in Windows will not have any affects to the print result.

  Note 2: Deactivate the Windows Spooler (in the Windows printer settings) to directly send print data to the printer. The Windows Spooler is a single program for navigation of print jobs. It is redundant when using a RIP software.

- **Network:** This connection type is suitable when a printer is set up local with a computer and should be enabled to users of other computers as network printer.

  - When the printer is connected and enabled on the Windows network, click `Network` and select the network printer in the structure.

- **IEEE 1394:** Here you can connect video and tv devices, cameras or camcorder over a distance of ca. 5 m using a 6-pin STP cable with the port. This technology was developed and patented by Apple. It is known as firewire.

- **Path:**
  - Select this option if you want to define a path to a directory. For **Others Drivers** it will be printed into a file within the set path.
  - In the manufacturer printer installation, this directory corresponds to a hotfolder function. It means that some printer drivers (for example: Vutek, NUR, Scitex) process files from a specific printer-hotfolder. For more information, read the documentation for the printer. Subfolders within the path and file names will be adjusted with this function:

2. To confirm, click `Next >` to make additional settings on the printer.

You have selected the printer port. If you make changes to the port settings again, you will have to restart the program in order to take effect.

Define paths

Here you create an archive folderfor the RIP data for your print jobs. The RIP data is generated by the program when a job is ripped. You also set the path for the first hotfolder here, that is used by default for all new jobs.

How to set the paths for archive data and hotfolders:

Note: The volume of print data is considerable. So make sure there is sufficient storage space. Create a separate archive folder for each printer. Do not change these settings later on as they will have negative effects on loaded jobs.

You are at `Printer` > `New...` or `Printer` > `Properties...` on the `Paths` tab. Three paths will be displayed:

- **Printer definition:** Here the path is automatically displayed and selected in the `Settings` folder within your software directory. The printer definition with ending COS will have the same name as the printer selected.
  - Click `...` to select a new path.
- **Archived jobs:** Within your software directory the folder `JobDir` is automatically created using the name of the printer for the RIP data.
  - Click `...` to select a new folder.
- **Hotfolder:** Within your software directory, a folder with the same name as the printer is automatically created in the folder `HotDir` for the print jobs.

    If you want to load jobs automatically by using a shared folder:

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- Click `...` to select a new or existing folder with a new path.
- To confirm, click `Next >` to make additional settings on the printer.

You have now set the paths for the printer definition, the archive data and the hotfolder.

Set up hotfolder

Here you create additional hotfolders. A hotfolder ⓘ *Products and product categories differ in the number of hotfolders.* automatically processes all the files contained in it. The advantage when loading new jobs automatically is that all settings applied to a hotfolder will determine the job as well.

How to create a hotfolder:

You are at `Printer > Settings` on the `Hotfolders` tab. By default the path of the first hotfolder is already listed. That folder you have determined in the previous tab.

Tip: You can access this dialog after creation of a printer definition. Click on the arrow next to the icon 📇 > `Properties > Printer...`.

- `Add`: To add further hotfolders for new jobs. Settings of a hotfolder will be applied to new incoming jobs.
- `Delete` or `Rename`: To remove highlighted listed hotfolders or to change their names.
1. Click `Settings` to modify the Job Settings for a highlighted hotfolder. These will then apply to all jobs placed in that hotfolder.
2. Select in the job settings in the `Color Management` or `Process Settings` tab the appropriate MIM.
3. Determine a **hotfolder as active** to have the incoming jobs in a hotfolder processed automatically.To have the incoming jobs in a hotfolder processed automatically, set a check mark in front of the hotfolder in the list.

    This option is useful when you operate over the network and provide a production computer with jobs. That computer will send jobs automatically for print.

One or more hotfolders were created and set up as required.

Determining advanced settings

Here you can determine how to organize and delete your jobs in the job queue automatically either by time period or by number (quantity).

How to delete jobs automatically:

You are at `Printer > Settings` on the `Advanced Settings` tab of the dialog created by the. Here you will find the settings for determining what happens to jobs after printing:

- Select `Delete printed jobs after X days`: If you want to delete jobs automatically after the set time. There will be **no warning**.
- Select `Delete printed jobs if more than X jobs are in archive`: If you want to delete jobs that are already printed but are still in the job queue as defined in the workflow tab settings. Use this option if you have lots of jobs already printed to clear out the oldest printed jobs up to the newer ones.

Printed jobs will be automatically deleted as defined here.

- Click `Finish` to confirm the assistant.

By default the new printer definition will be saved within a directory in the `settings` folder under the printer name. The assistant will be closed and you can now load print jobs.

4.2 Using MIM administration

For high quality printing, you need the answers to the following three questions:

- Which media (paper, material) is being printed?
- Which ink combination should be used in the printer?
- Which technical properties, such as the print resolution, should be used?

These three components are described together in what is known as an MIM combination (MIM = Media-Ink-Metamode).

Note: An MIM combination is created taking into account the physical properties of a media in combination with the ink. It is therefore advisable to use a combination of this nature only for the relevant paper and the relevant ink.

A CMP file is the exchange format for MIM combinations. When a CMP file is imported, its content is distributed into the existing directory system. **Three critical parts are included in one MIM package:**

- Advanced settings in color mangement
- An ICC profile whose properties have been adapted for a special media
- A linearization file that controls the ink application with precision

The following steps clarify the MIM administration:
- Import MIM see page 187
- Create new MIM see page 189
- Edit MIM see page 190
- Export MIM see page 191

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4.3 Printing in network using PPD and Virtual Printer

- **Create PPD see page 32**
- **Update PPD see page 33**
- **Export PPD see page 33**
- **Create a Virtual Printer see page 34**
- **Create a Virtual Printer for Mac OS see page 34**

Install printer services for PPD

You would like to print over the network by using a Virtual Printer. For that you need to create a Dynamic PPD and a Virtual Printer. Before that the printer service for the network must be installed on the Windows XP/2000/2003 computer with the RIP software installed.

How to install the `TCP/IP print services`:

1. Start the computer with administrative rights.
2. Click `Start > Settings > Control Panel`.
3. Double-click `Add/Remove Programs`.
4. Click `Add or remove Windows components` on the left-hand side.
5. Select `Other Network File and Print Services` and click `Details`.
6. Select `Print Services for Unix`.
7. Click `OK`, then `Next`. The computer will ask you for the Windows installation CD.
8. Insert the CD. The installation will be carried out automatically.
9. Click `Finish`.
10. Close the `Add/Remove Programs` window.

How to start the print service automatically:

1. Click `Start > Settings > Control Panel`.
2. Double-click `Administrative Tools`.
3. Double-click `Services`.
4. Double-click `TCP/IP Print Server`.
5. Set the `start type` to `Automatic`.
6. Click `OK` and close the open windows.

Your system is ready for the creation of a Dynamic PPD and a Virtual Printer.

Create PPD

A Dynamic PPD saves the range of functions of a printer in a text file using a PostScript interpreter to send print jobs to the production computer from a graphics application on the general network. If you want to print from another application via your RIP software, create a PPD on the local system and then a Virtual Printer.

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How to create a PPD on the local system:

1. Click `Printer > Create PPD...`.
2. Click the option `Create PPD in local system`.
3. Give it a name and note that name down.
4. Confirm with `OK`.

You have created a PPD in the local system. It can be used for a Virtual Printer.

Update PPD

Prerequisite: You have created a PPD and you want add a new MIM combination in the print-dialog as well.

This function updates the PPD if **MIM combinations** have been added or imported.

Tip: All other settings to existing MIM combination or job settings will be sent via the PPD to the Virtual Printer. The PPD does not need to be updated in this case.

How to update an existing PPD:

1. Click `Printer > Create PPD...`.
2. Click the option `Update PPD in local system`.
3. In field `Filename`, select `ColorGATE English`.
4. In filed `Printer driver` select the PPD you want to change.
5. In the `Create PPD` dialog, confirm with `OK`. The required PPD has been updated.

You have updated a PPD in the local system. It can be used for a Virtual Printer.

Export PPD

If you want to print on another system from an application via your RIP software, export a PPD onto the production computer.

How to export a PPD for another system:

1. Click `Printer > Create PPD...`.
2. Click the option `Export PPD for other systems`.
3. After clicking on the … field after `Filename`, a new window will be opened.
4. Give the PPD the same name as the printer and save it in a directory available on the network.
5. In the `Create PPD` dialog, confirm with `OK`.

You can then use this PPD on the Macintosh to add the Virtual printer for the production computer.

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Create a Virtual Printer

Prerequisite: You have created a printer definition such as for the Epson Stylus Pro 7600 HTM. You have added a PPD for the required printer definition, if you do not want to use the ColorGATE PPD.

This topic is relevant for you, if you want to print from another application via your RIP software. Then you add a virtual printer, as explained here.

How to create a virtual printer:

1. Click `Printer > Settings`.
2. Click the `Hotfolders` tab.
3. Select the set path to the hotfolder .
4. Click `Virt. printer`.
5. In the new window, click `Add`.
6. Assign a printer name (less than 12 characters, no special characters) and also insert the same name under `Port`.

Note: If you do not want to make changes to the hotfolder settings in the print-dialog: Select the `ColorGATE Sign` or in the Screen workflow the `ColorGATE Screen` from the list under `Driver` (PPD).

7. Under `Driver` (PPD), select the PPD previously created from the list.
8. Confirm with `OK`.
9. The virtual printer will appear in the list; click `Close`, and in the next window, click `OK`.
10. Check in Windows under `Start > Settings > Printers and Faxes` that the printer you have just created is listed there and enabled for the network.

Note: Do you have added or imported further MIM combinations for the current printer definition, the underlying PPD must be updated.

You have used the Dynamic PPD or the ColorGATE PPD to create a virtual printer and you can print to your RIP software from any application using the print dialog.

Create a Virtual Printer for Mac OS X

Prerequisite: You have exported a PPD for the required printer definition on the printing computer.

This topic is relevant for you, if you want to print on another system from an application via your RIP software. Here is a description of how to use this PPD on the Macintosh to add the virtual printer of the printing computer.

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How to add a virtual printer:

1. Copy the PPD created in Windows to the following folder: `Macintosh HD/ Library/ Printers/ PPDs/ Contents/Resources/ en.lproj`

2. The newly installed PPD does not require a restart as the system will detect it straight away.

3. Then start the printer utility program and select `Add Printer`.

4. Set the protocol to `LPD`.

5. The `Address` field is used to insert the IP address of the Windows computer.

6. The IP address can be found under `Start > Run > Enter cmd` > Write `ipconfig` > Read IP address.

7. It is essential that the Printer Name of the virtual printer is given in the `Queued list` field (noted down in the Windows section).

8. Under `Print`, select `Other`… and search for the copied PPD: `Macintosh HD/ Library/ Printers/ PPDs/ Contents/Resources/ en.lproj / 7600HTM.ppd`

9. Confirm this and close all the windows. The printer is now installed and can be used.

Note: Make sure that the Windows firewall is deactivated as this may prevent access to the virtual printer.

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4.4 Defining the job and printer settings

The dialog window for the job settings contains more tabs on which you can specify settings for the job and for the print workflow as well as for cut jobs and RIP properties. The name of the job to which the job settings apply, is in the title of the dialog box.

The window is accessible to you via the printer settings for the hotfolder (s) (**Access to hotfolder settings see page 97**). You can also access the job settings after you have loaded jobs (**Access to job settings see page 97**).

The dialogs for hotfolder and job settings vary only slightly. The workflow and the JDF settings can be selected in the hotfolder. The tiling and cropping functions for the individual job are available instead.

The RIP software permits the **saving and loading of settings** 🛈 *This function is only available as an option in some product categories*:

🖫 Save the settings from all tabs as a CSEX file.

🗁 Load the CSEX file.

🖫 Save the settings from the current tab in a file.

🗁 Load the file with the settings from the current tab.

Settings on the printer and job are made in the following steps:

- **Define print workflow see page 63**: Settings on the print workflow such as ripping, printing and archiving.
- **Select planes see page 65**: Settings on planes and separations in screen workflow.
- **Create contact sheet see page 67**: Settings and total size for an index or thumbnails of images contained in a folder.
- **Define printer setup see page 68**: Settings on the printer margins, for cutting and for header/trailer.
- **Set frame options see page 81**: Settings for canvas printing like frame mode, frame size and multiple output. 🛈 *This function is only available within the You Frame Module (YFM).*
- **Set up job see page 73**: Settings for turning, scaling as well as for cropping and for tiling.
- **Define color management see page 83** and **Define process settings see page 85**: Settings on MIM , spot colors and the advanced color settings such as color correction and print mode.
- **Control RIP see page 86**: Settings for the RIP process, the RIP quality and for font management.
- **Prepare JDF function see page 88**: Settings for the integration in a JDF workflow to prepare jobs for other applications.

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- **Enter job data CCM see page 89**: Additional information on the job which is used to filter objects for cost reports.
- **Prepare cut function see page 89**: Settings on the workflow for cut jobs. These jobs are cut as a motif. They contain a spot color which is used as a cutter mark.

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5 Loading and printing jobs

Prerequisite: You have created a printer.

Here you can find out how jobs enter the RIP software, how to use the preview, and how to navigate around in the software. The layout of the program interface is determined in the presettings.

- **Loading jobs see page 39: To load print jobs into the RIP software** either manually, via the hotfolder or a virtual printer and a dynamic PPD .
- **Preview (for example Preview & toolbar see page 46)**: To display jobs or media or display color information in the enhanced preview.
- **Navigation (for example Use main toolbar see page 51)**, rip and print: To rip and print jobs, where the job queue with the sort function and the status display are covered in particular detail.

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5.1 Loading jobs

Your PC with the RIP software installation is normally included on an **existing network** to receive print data from multiple PCs. If you want to print a job, that job first needs to be placed in the required **hotfolder**.
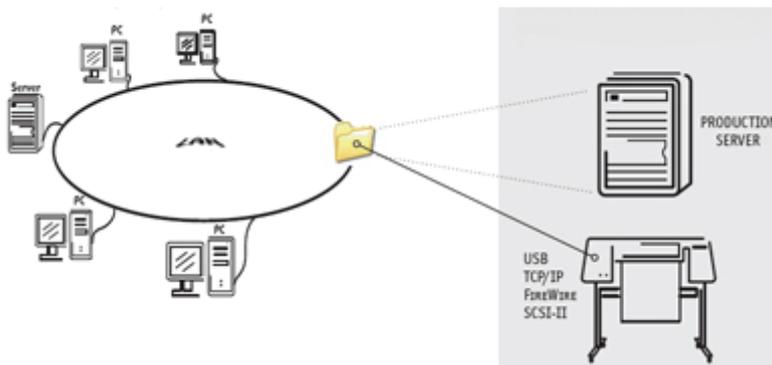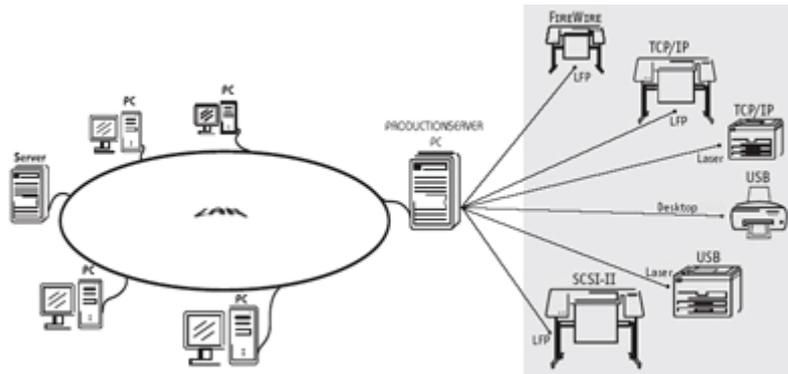
You can use three methods to load the jobs:

- **Manual via hotfolder**: You can load one or more files in the work interface of the RIP software into the job queue for the hotfolder required.
- **Automatic via hotfolder**: For example, you copy one or more files via Windows Explorer into the required hotfolder of the RIP software.
- **Via virtual printer**: You print your job from an application on a virtual printer which is linked to a specific hotfolder in the RIP software and which starts the print process. You can configure paper and workflow settings via the Dynamic PPD directly into the application.
- **Via contact sheet**: You create with this function after choosing an image folder an index or thumbnails from the images within that folder with a specific size.

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Tip: The hotfolder is used as a template that automatically forwards its properties to the jobs. We therefore recommend setting the job and print parameters for each hotfolder, before the jobs are processed. Changes to these settings can be carried out at any time in the job queue, however.

Load manually

Prerequisite: The relevant printer must be set up in the RIP software.

This option is used if your work computer is also the production computer. This means that your PC is not currently integrated on the network and you activate the printer for the print out directly from the PC (via a hotfolder).

How to load your jobs manually:

Via the minimized program icon in the task bar:
1. Drag your job (the file/s) via drag & drop from Windows Explorer to the minimized program icon on the Windows taskbar.
2. Once the program has been automatically restored, drag the file into the job queue.
3. A small window will be displayed for choosing the required hotfolder to import the job(s).

Via Windows Explorer:
- Drag your job (the file/s) via drag & drop from Windows Explorer into the job queue for the opened RIP software.

Via the archive button :
1. Click the button.
2. Select the job or jobs using Crtl + held down left mouse button in Windows Explorer which will be opened.

Via the archive menu :
1. Click the arrow next to the button to select the required hotfolder.
2. Search for the job in the open Windows Explorer.

If you move the mouse over a loaded job in the job queue, a small window will be opened. This window contains a preview in small format (thumbnail) as well as other information for example to MIM, creation date, metamode settings and file size. This feature operates as a rough overview of job settings.

Load via hotfolder

Prerequisite: The original printer driver of your printer must be installed and the corresponding printer set up in the RIP software.

Here you can find out which options are available for loading the jobs via a hotfolder . If you set up a new printer in the RIP software, you need to assign at least one hotfolder to that printer. This hotfolder is used to activate the printer.

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You use this option if your work computer is part of a network and you want to automatically supply a production computer with jobs. The production computer can also be the work computer.

Visual demonstrations:

- **Hotfolder for all jobs:**
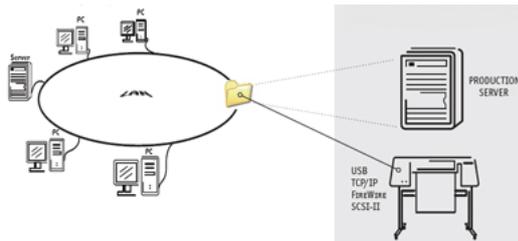
- **Hotfolder:** for media-dependent jobs
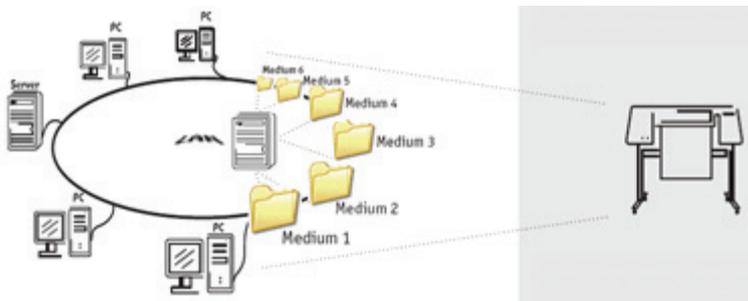
- **Hotfolder:** for printer-dependent jobs
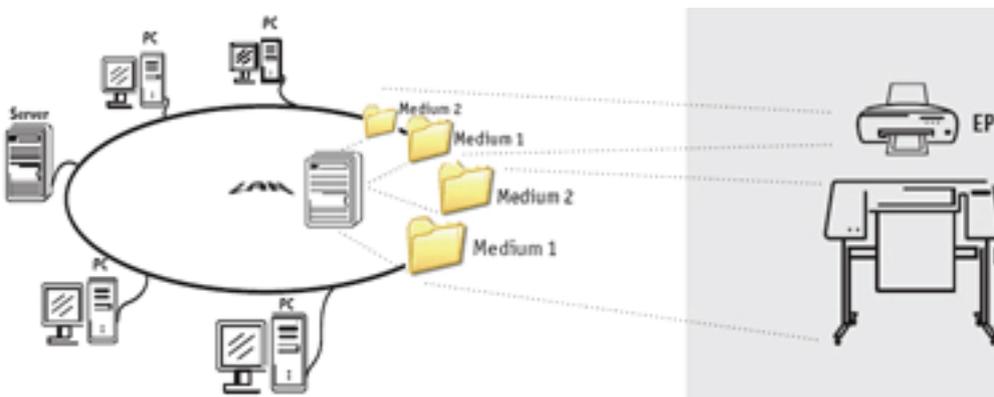
How to load your job via a hotfolder:

Note: A job file is moved into the hotfolder in the archive folder during loading. For this reason, always use a copy of the job file in the active hotfolder.

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> **Prerequisite**: The hotfolder must be set to active in the printer setup with a checkmark. The files within the hotfolder are then automatically loaded into the job queue for the RIP software.

- For example, create one or more jobs (files) in the folder defined as the hotfolder in Windows Explorer. This folder must be enabled on the network. The jobs are automatically assigned the settings of the hotfolder in question.
- From the graphics application, save your files to be printed in this enabled hotfolder. The RIP software detects the new jobs and forwards the print process to the specified printer.

> **Tip**: If you have defined in the print workflow settings the hotfolder as a `hot container`, a container is automatically created from the selected jobs.

If you move the mouse over a loaded job in the job queue, a small window will be opened. This window contains a preview in small format (thumbnail) as well as other information for example to MIM, creation date, metamode settings and file size. This feature operates as a rough overview of job settings.

Load job via Virtual Printer

> **Prerequisite**: The original printer driver of your printer must be installed and the corresponding printer must be set up in the RIP software.

If you set up a new printer in the RIP software, you can then set up a virtual printer as well. The virtual printer is an enabled printer on the network that is linked to a hotfolder. The advantage of this compared to loading via hotfolder is that you can send your jobs **directly from the graphics application** to the production computer on the network.

A port monitor undertakes the task of establishing a link between a virtual printer and the associated hotfolder. It is automatically installed as well during the installation of the RIP software.

How to load your job:

Via the graphics application:

A virtual printer for only one media

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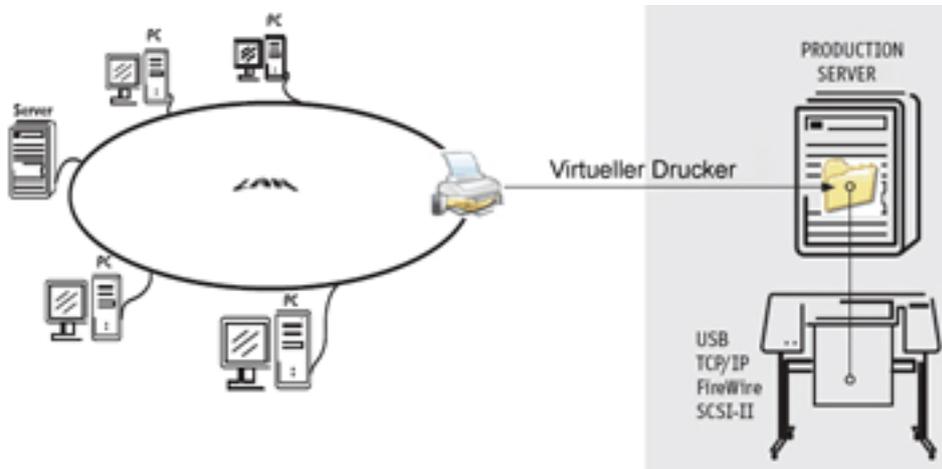
Multiple virtual printers depending on media
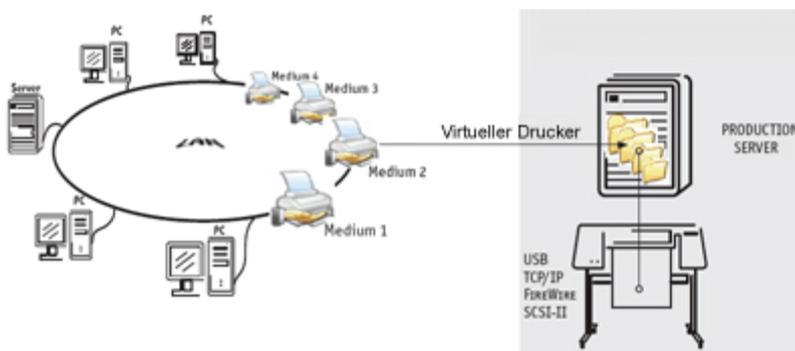
You open the Print dialog as normal from your application. Then select as the printer your virtual printer that forwards the document to a hotfolder and starts the print process according to the print workflow setting. In this process, the print jobs sent enter the job queue in the RIP software and are processed there.
> **Sequence of working steps:**

Via the print dialog in the graphics application:

For one printer and all possible media

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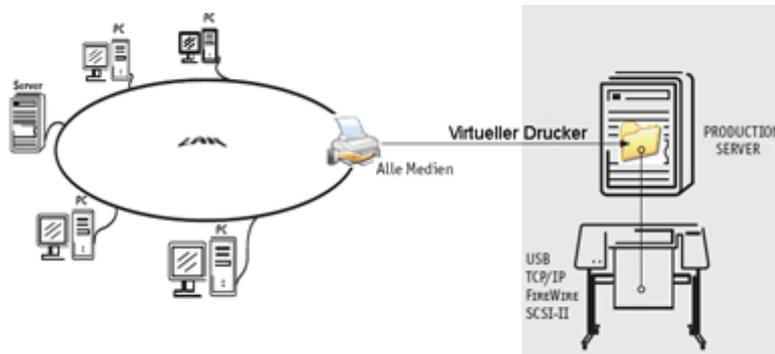
For multiple printers and all their possible media
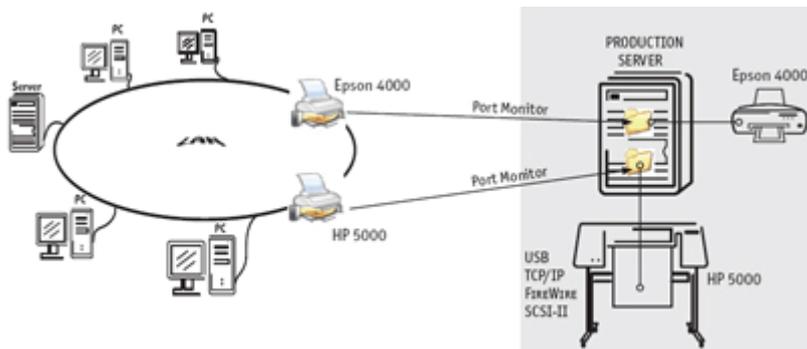
You open the print dialog as normal in your RIP software from your graphics application. Then carry out the settings for the printer properties there. You can easily set your MIM combinations and many **other properties**(such as Media , ink, metamode, media size, rotate, rip and print simultaneously, RIP direct, print directly, archive, print info, cut marks, registration markings, mirror, center, adjust to sheet size, roller media, cut, borderless) required for the current job. The job is then processed by the RIP software using the settings. > **Sequence of working steps:**

Install printer services for PPD see page 32

Create PPD see page 32

Create a Virtual Printer see page 34

Via the MacIntosh graphics application using the print dialog:

For multiple printers and all their possible media from MacIntosh
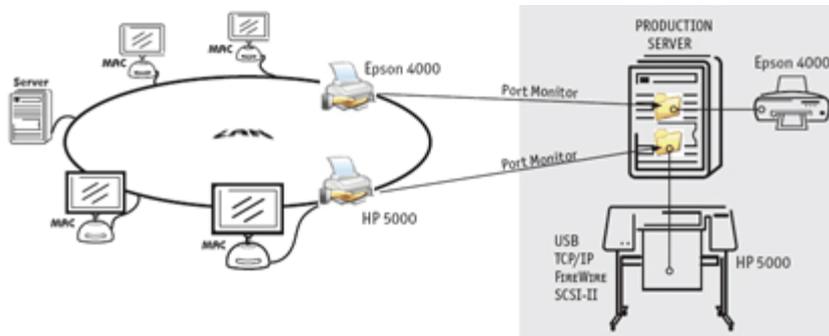
A link to a network with Apple MacIntosh computer is also possible thanks to the virtual printer technology. You generate the required number of virtual printers with a PPD for the appropriate print settings that you store for the other operating system.

This means that after the installation of the PPD you can open the print dialog on the Mac as normal from your graphics application and carry out the advanced print settings there for the MIM and print mode. > **Sequence of working steps:**

Install printer services for PPD

Create PPD see page 32

Create a Virtual Printer see page 34

Export PPD see page 33

Create a Virtual Printer for Mac OS see page 34

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5.2 Using preview and JobInfo Log

Preview & toolbar

Prerequisite: In the print workflow settings you have selected the option `Calculate preview`.

The functions of the icons and buttons in the preview toolbar are explained here. You can use these icons to determine the display of the preview in the window below.

How to use the preview functions:

Information on the icon in question is displayed when you move the mouse over the icons in the software. The icons in the toolbar depend on the selected workflow of the loaded job.

In screen workflow:
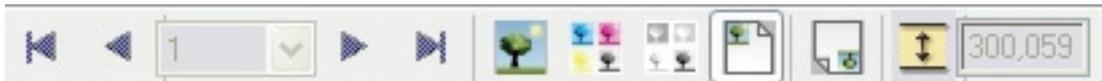
In production workflow:

- **Page number:** ℹ️ *The optional function "Multipage PDF and PostScript files" is necessary for that.* If you have load a multi-page PDF or PostScript file ℹ️ *PDF and Postscript files can only be loaded in some product categories.*, you can switch between the display of the various pages.

  Either the text selection box or the forward and back arrows are available to you.

  Note: This function is only available in the document preview 🌳.

- 🌳 **Document Preview:** Displays the job.

- **Document Preview with Special Colors:** ℹ️ *This function is only provided by some printers that offer special ink support.*

  Displays a blue hatch for varnish and a red hatch for special or white ink.

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- **Colored Separations:** *This function is available in production workflow when using the film module.* Displays the separated colors of a job in the screen workflow.

- **Separations:** *This function is available in production workflow when using the film module.* Displays the separated colors of a job in the screen workflow in grayscale.

- **Media Preview:** Displays the job on the media. Here only the pure print area is taken into account without unprintable margins.

- **Printer Output:** Displays the **document preview** and the **print area** with job rotated by 180˚. This has the advantage that the print preview matches the print direction.

- **Output Length:** The value in the grayed out text box displays the height of the output including the space for additional information such as control wedge or text. If a cropping section is active, the height of the cropping section is displayed here.

  If the preview of a container is active, the value displayed in `output length` contains all jobs within the container including additional information such as infotext or cut marks.

Advanced preview & color info

Prerequisite: In the print workflow settings you have selected the option `Preview.`

Here you can make changes to the job settings and display them. There are multiple color backgrounds available to you so that you can evaluate the output. You can enlarge and reduce the size of the display, and display the color composition of the image.

How to use the advanced preview:

Note: Advanced print information such as free text, control wedge or info are not displayed in the preview.

You are in the work interface for the RIP software.

- Double-click on the preview. The advanced preview will be opened. The job settings will also be displayed. The following toolbar and more will be displayed:

Note 1: In the job settings dialog, when clicking `OK`, all the changes will be transferred and the enhanced preview closed.

Note 2: In the advanced job settings dialog, when clicking `Apply` or `OK` after changes to the color management have been made. A message will show up to remind that changes will be applied after a preview regeneration. The enhanced preview will close and preview data will be regenerated.

- **Settings:** Enlarges or reduces the size of the dialog for the Job settings, where you can carry out the settings on the MIM and spot colors. When reduced in size, the top bar of the dialog is displayed.

- **Hide settings dialog:** Move the mouse across the top bar of the job settings dialog; the dialog reduces in size down to the top bar. When you move the mouse over it again, it will be enlarged.

    This function is comparable to the automatic switching on and off of the settings dialog.

- **Show color information:**   or **use color picker:** If you move the mouse across the job, you will see in a small window a list of the color data. These include:

    - The position data from 0 to 1000 (depending on the `Preview` in print workflow settings). The zero point is located on the top left corner, and the highest point in the bottom right corner.
    - The color information for CMYK is given in percent. In the before and after preview, the left-hand column displays the original values and the right-hand column displays values after changing the MIM.

- **Before and after preview:** The before and after preview is ideal for visualizing changes to the MIM, metamode or color settings immediately.

    To do this, carry out the changes in the job settings and click `Apply` in the 'before' preview.

    Note 1: In the job settings dialog, click `OK`, and all the changes will be transferred and the enhanced preview closed.

    Note 2: In the advanced job settings dialog, when clicking `Apply` or `OK` after changes to the color management, a message will show up that says: `After applying the changes to the color management settings, the preview has to be regenerated`. The enhanced preview will close and preview data generated new.

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- ![icon] **Complete preview:** With the entire preview you have the option of finding out more details on the job.

- ![icon] **Full screen with black background:** This option gives you a full-screen image of the job with a black frame for a neutral display.

  To close the display, click the mouse or press the Esc key.

- ![icon] **Full screen with gray background:** This option gives you a full-screen image of the job with a gray frame for a neutral display.

  To close the display, click the mouse or press the Esc key.

- **Multi-page document:** If you have loaded a multi-page PDF file ![icon] *The optional function Multipage PDF is required for this.*, you can switch between the display of different pages.
  1. Use either the text selection box or the forward and backward arrows in the toolbar for the navigation.

  > **Note:** This function is only available in the document preview ![icon] .

  2. Confirm the job settings dialog with `OK`. The changes will be applied to all pages.

Display job information

This function provides information on jobs. These can be error messages or even simply process explanations. Examples of this are print and RIP workflows, missing fonts which are not embedded or spot colors for which no replacement color has yet been defined.

How to display the job information:
1. Highlight the required job in the job queue.
2. Click on the info icon ![icon] in the main toolbar.

- OR -

2. Go via the context menu or the main menu to `Job` and then `Info`.

You will see the dialog for the job information. The file name will be displayed in the caption of the dialog.

- The importance of the message is shown using icons in the first column of the table. The icons have **the following meanings:** ![icon] This icon simply indicates standard information on the job, for instance the print and rip time or the usage data for material when cost calculation is enabled.

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 This icon is a warning. The RIP and print process can still be continued, however.

 This icon indicates an error in the job, which is preventing an RIP or print process.

- The time of the event is given in the `Time` column.
- The origin of the message is given in the `Source` column.
- The message text is given in the `Description` column.
- can be used to save the content in a file to be able to track it later on.
- can be used to load a previously saved message. This is useful if you want to trace message with jobs that have already been deleted.
- can be used to clear the message for the job if you no longer require it.

5.3 Job navigation, ripping and printing

Using the main toolbar

This toolbar contains icons for the most important functions, which you will also find in the menus. These include the job settings, the preview as well as the cropping and the container. They are intended to speed up working time with fast access.

Note: Several of the icons in the toolbar are only included in the optional modules.

The meanings of the icons:

Information on the icon in question is displayed when you move the mouse over the icons in the software.

- **Abort:** Here you can cancel the ripping or printing of a highlighted job completely. The RIP data will be deleted. The job remains in the particular queue and shows the ‖ symbol in front. It can be restarted by clicking ▶.

- **Up:** The job is moved up one job in the job queue.

- **Down:** The job is moved down one job in the job queue.

- **Pause:** Here you can pause both the ripping and the printing process of the job as required.

- **Continue:** This is used to continue both the ripping and the printing process for a paused job.

- **Job information:** Display the job information to look up errors.

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- **Control wedge evaluation:** *This function is module-dependent or product-dependent.* Perform the control wedge evaluation to observe minimum tolerances in the proof workflow.

- **Job settings:** Open the dialog for the job settings.

- **Export original data:** Export the original data for the selected job to load it into another workflow if the original file has been moved with the automatic load process.

- **Delete preview:** Clear the preview to minimize the hard disk space. After changing the job settings, the preview is re-calculated and displayed again. Short key: Ctrl + Alt + R

- **Delete print data:** Clear the print data to save memory space and print after changes with new RIP data. Short key: Ctrl + Alt + P

- **New preview:** Generate the preview again to make the changes visible. Short key: Ctrl + Shift + R

- **New print data:** Generate the print data after changes again to then print a job. Short key: Ctrl + Shift + P

- **Cropping:** Define cropping to print just a part of the image, for example for test purposes.

- **Tiling:** *This is an optional function in some product categories.* Tile job because for example the media is too small or a job can only be used once tiled.

- **Container:** Create a container with multiple jobs for space-optimized printing.

- **Visual scaling:** *This is an optional function in some product categories.* Perform the visual scaling to assign a fixed value to an element of the image and then scale the entire image.

- **Help topics:** Open the Help for the software product.

Configure job queue

Prerequisite: A printer has been created.

The columns shown in the job queue can be configured. This means you can determine what information on the job is displayed.

How to show or hide columns in the job queue:

1. Click the arrow next to the ![icon] icon and select `Configure list...`.
2. In the next dialog box on the `Displayed columns` tab under `Available columns` select the ones you want to display in the job queue. Available are the filename, workflow, file size and loading date timestamps of file as well as other information.

Tip: The `Printed` timestamp is reset as soon as any settings of the job have changed. That could be invalid print data or when the print data is recreated manually. The timestamp is only shown as long as the job has the green check mark.

---

1. Then click `Add`. The required columns are listed under `Selected columns`. Click ![icon] to restore the standard status.
2. Click `OK`. The job queue is configured.

Tip: Use the save function ![icon] to save the current configuration and re-open it for another printer definition ![icon].

Display job status

Prerequisite: A printer has been created and jobs have been loaded.

A job in the job queue is marked in the `Status` column with different icons. These provide information on the print data, the preview and the editing status of the job.

Here's what the icons mean:

Tip: Standard settings for all new jobs in a hotfolder can be made in the print workflow settings.

- ![icon] **Archive information:** Here you can open the hotfolder settings, the printer properties and you can see, if a hotfolder is active or not.

- ![icon] Job can be processed.

- ![icon] **Job has a minor problem:** It can still be processed, however.

    To find out more on this problem in the job information:

    - Double-click the warning icon by the job in the job queue.

    - Select the job and click in the main toolbar on ![icon].

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- **Job has been paused during ripping or printing:** If you have clicked on in the main toolbar. is used to continue the operation.
- **Job has been paused manually:** The note icon refers to a special feature.

   To find out more on this problem in the job information:
   - Double-click the warning icon by the job in the job queue.
   - Select the job and click in the main toolbar on .

- **Job has an error and has been paused for that reason:** It cannot be processed further.

   To find out more on this problem in the job information:
   - Double-click the warning icon by the job in the job queue.
   - Select the job and click in the main toolbar on .

- **Preview is not present:** can be used to switch on the preview.
- **Preview will be (re-)generated:** This occurs when loading jobs or after changes to the color management.
- Preview will be displayed.
- **Print data is not (yet) available:** Before printing, you need to generate RIP data.
- **Print data is present:** You can print the job without ripping it again.
- **Job has been printed and print data is present:** You can print the job without ripping it again.
- **Job has been printed but print data has been deleted:** You need to rip the job again to be able to print it.
- **Workflow:** Here you can see the workflow which is applied in the hotfolder settings.

Sort jobs in the job queue

Prerequisite: A printer has been created and jobs have been loaded.

The columns shown in the job queue can be configured. This means you can specify how the jobs are sorted.

How to sort existing jobs:

- Click the arrow next to the icon and select `Configure list....`

- In the next dialog box on the `Sorted columns` tab under `Available columns` select the ones you want to sort in the job queue.
- Then click `Add`. `Selected columns` lists the required column according to which the jobs are to be sorted. Click [icon] to restore the standard status.
- Click `OK`. The job queue is configured.

Tip: Use the save function [icon] to save the current configuration and re-open it for another printer definition [icon].

How to use the sort function:

- Select the arrow next to the [icon] > `Sort automatically` icon to apply the sorting order to new jobs **automatically**.
- Select the arrow next to the [icon] > `Sort now` icon to apply the sorting order to existing jobs **afterwards**.

Use Printer Status Monitor

Prerequisite: A printer definition - such as for HP-DesignJet-Z2100/3100 or 6100 - has been created. The relevant printer is connected.

The Printer Status Monitor is a print and printer status display for devices in the HP-Z series: HP-DesignJet-Z2100/3100/6100 as well as other printer types. Updated information on the printer configuration and the print status will be shown every few seconds.

Depending on requirements, the Printer Status Monitor can be switched on or off. For some printer types a color calibration can be called up, or jobs can be cancelled using the Printer Status Monitor.

You can also switch off the Printer Status Monitor completely in the program settings.

How to work with the Printer Status Monitor:

You are in the software main user interface.

Display Printer Status Monitor

You have the following options:

Do not display Printer Status Monitor: Default setting when creating a new printer definition or close the open Printer Status Monitor by clicking "X" or using the Esc key. Resize the window by dragging the frame. Move the window within the user interface as required.

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Always display Printer Status Monitor: Click the icon above the printer queue

. The Printer Status Monitor will be displayed and the icon will be active.

Display Printer Status Monitor only in the event of errors or warning messages: Click the arrow next to the icon . Select `open on error or warnings` to open the Printer Status Monitor in these situations. The Printer Status Monitor will be switched off once the cause of the message has been resolved.

Display Printer Status Monitor transparent: Click the arrow next to the icon

. Select `Transparent` to open the Printer Status Monitor in transparent mode. This transparent effect means that you still can see both the preview and get information on the printer.

Information on the printer

These messages and specifications will be automatically sent to the Printer Status Monitor and displayed. If there is an error, a red circle symbol will be shown in front. The following messages apply to HP-Z series printers in production workflow, the messages might differ for other printers:

Status: For example, a message regarding insufficient ink in the cartridge. A circle symbol in the according ink color will be displayed in front.

Source: Information on the paper (or media) type, such as roll or sheet paper.

Media: Information on the paper (or media) media type.

MStatus: Information on correctly or incorrectly inserted media (for example: `OK`).

Tip: A tooltip also shows additional information here when the mouse is moved over it.

Cartridges display

At the top left of the dialog you will see a visual representation of the available cartridges with an ink status display. Above this display you will see the relevant values of the remaining ink as percentages. Below the display are the color designations, for example for the HP-DesignJet-Z6100:

M - Magenta

LM - Light Magenta

PK - Photo Black

MK - Matte Black

Y - Yellow

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LC - Light Cyan

LG - Light Gray

C - Cyan

If you move the mouse over this cartridges display, you will see a small window with information on the following:

- ink designation
- remaining ink in % (`level`),
- remaining ink in ml (`amount`),
- capacity of the cartridge in ml (`capacity`),
- cartridge status (`OK` or `very low`).

Message window

The lower section of the Printer Status Monitor displays messages and warnings relating to the printing process.

The meanings of the icons are the same as those described in JobInfo Log.

- `Clear Messages` is used to remove existing messages from the window.
- `Cancel Job` is used to abort and remove the current job completely.
- `Color Calibration` opens the internal printer color calibration for various printer models. The messages relating to this are displayed in the message window. Read the printer documentation for more information on the color calibration.

Rip job

When a job is loaded, the job data are rastered for the printer using the RIP process. The job can then be printed. The jobs can be collected here and ripped and then printed as collective jobs. Depending on the settings for the hotfolder, the jobs are forwarded to the RIP queue immediately.

Tip: Depending on the print workflow settings for a job, the job can be automatically sent for printing or remain in the RIP queue.

How to rip a job:

You are in the program interface.

1. Define the print and job settings of a job within the job queue.
2. Drag the file with the left mouse button held down to the RIP queue. You can select several jobs when clicking the Ctrl button and the left mouse button to drag them per Drag&Drop as well.

- OR -

2. Select the job and click to start the RIP process.

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3. To configure a multiple RIP and/or Print process, go to the program set-
   tings dialog. To use this feature, your software must be equipped with at
   least two defined RIP licenses (depending on the product configuration you
   have purchased).

The file is displayed in the RIP queue. In addition, you will see the display of
progress as well as the time elapsed and the time remaining.

4. To cancel or pause individual jobs, use the main toolbar.

Tip: You can move waiting documents from the RIP queue via drag & drop back
into the job queue if you want to edit them further.

By default the job goes back to the job queue after ripping. This is indicated by
the icon 🖼 in the **Status** column. This means that print data is present.

The icon above the RIP queue has the **following functions**:

🔲 **Stop** to pause **all** jobs in the RIP queue. Before jobs are sent to the queue,
they can be paused. This is useful to rip several jobs in batches.

🔲 **Continue** to re-start the RIP process for **all** jobs in the queue.

Print job

Prerequisite: Job has been ripped.

When a job is ripped, the job data is sent to the printer with the print process. It
is then transferred back into the job queue. The jobs can be collected here and
printed as collective jobs. Depending on the settings for the hotfolder, the jobs
are forwarded to the print queue immediately.

Tip: Depending on the print workflow settings for a job, the job can be automa-
tically sent for printing or remain in the print queue.

How to print a job:

You are in the program interface.

1. Define the print settings of a job within the job queue.
2. Drag the file with the left mouse button held down to the print queue. You
   can select several jobs when clicking the Ctrl button and the left mouse
   button and drag them per Drag&Drop as well.
3. To configure a multiple RIP and/or Print process, go to the program set-
   tings dialog. To use this feature, your software must be equipped with at
   least two defined RIP licenses (depending on the product configuration you
   have purchased).

If there is not yet any RIP data present, it will be automatically generated first. The file is then displayed in the print queue with the progress bar along with the time elapsed/remaining time. With the Simultaneous RIP and print function you will see a separate progress bar for the RIP (yellow) and the print output (green).

4. To cancel or pause individual jobs, use the main toolbar.

Tip: You can move waiting documents from the print queue via drag & drop back into the job queue.

By default the job goes back to the job queue after printing. This is indicated by the icon in the `Status` column, which means that the job has been output.

The icon above the print queue has the **following status functions**:

Stop to pause **all** jobs in the print queue. Before jobs are sent to the queue, they can be paused. This is useful to print several jobs in batches.

Continue to re-start the print process for **all** jobs in the print queue.

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6 Processing print jobs

Here you can obtain an overview of how you can process and effectively modify the print output. Functions such as the container, the color management and the job and print workflow settings and the color replacement are available to you for this purpose.

- **Job settings see page 36**: For determining the print workflow and the modification of the job to the printer and the relevant output.
- **Job editing and modification (for example Using visual scaling see page 103)**: For scaling job areas to a fixed size, creating croppings, tiling jobs or for adding additional text information to them.
- **Define color management see page 83** and **Advanced job settings overview see page 105**: For adding the correct screen and the appropriate resolution and to apply profile-independent settings such as the color correction.
- **Define process settings see page 85** and **Advanced job settings overview see page 105**: For adding the correct screen and the appropriate screen ruling .
- **Using color replacement see page 150**: For replacing colors and spot colors in jobs, to be allocated on a hotfolder basis or to replace color replacement tables.
- **Using a container see page 162**: For laying out and outputting multiple jobs with the optimum space usage and edge to edge cut.
- **Managing profiles** (for example **Administrate output profiles see page 172)**: For specifying the standard input profiles for new jobs and for managing output profiles and allocating printers.
- **Overview cost calculation see page 174**: For obtaining the printing and usage costs of one or more jobs after printing or beforehand for a simulation.

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6.1 Defining the job and printer settings

The dialog window for the job settings contains more tabs on which you can specify settings for the job and for the print workflow as well as for cut jobs and RIP properties. The name of the job to which the job settings apply, is in the title of the dialog box.

The window is accessible to you via the printer settings for the hotfolder (s) (**Access to hotfolder settings see page 97**). You can also access the job settings after you have loaded jobs (**Access to job settings see page 97**).

The dialogs for hotfolder and job settings vary only slightly. The workflow and the JDF settings can be selected in the hotfolder. The tiling and cropping functions for the individual job are available instead.

The RIP software permits the **saving and loading of settings** *This function is only available as an option in some product categories*:

Save the settings from all tabs as a CSEX file.

Load the CSEX file.

Save the settings from the current tab in a file.

Load the file with the settings from the current tab.

Settings on the printer and job are made in the following steps:

- **Define print workflow see page 63**: Settings on the print workflow such as ripping, printing and archiving.
- **Select planes see page 65**: Settings on planes and separations in screen workflow.
- **Create contact sheet see page 67**: Settings and total size for an index or thumbnails of images contained in a folder.
- **Define printer setup see page 68**: Settings on the printer margins, for cutting and for header/trailer.
- **Set frame options see page 81**: Settings for canvas printing like frame mode, frame size and multiple output. *This function is only available within the You Frame Module (YFM).*
- **Set up job see page 73**: Settings for turning, scaling as well as for cropping and for tiling.
- **Define color management see page 83** and **Define process settings see page 85**: Settings on MIM , spot colors and the advanced color settings such as color correction and print mode.
- **Control RIP see page 86**: Settings for the RIP process, the RIP quality and for font management.
- **Prepare JDF function see page 88**: Settings for the integration in a JDF workflow to prepare jobs for other applications.

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- **Enter job data CCM see page 89**: Additional information on the job which is used to filter objects for cost reports.
- **Prepare cut function see page 89**: Settings on the workflow for cut jobs. These jobs are cut as a motif. They contain a spot color which is used as a cutter mark.

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Define print workflow

Here you define all settings relevant for the print workflow for a hotfolder or for a job. If the settings apply to one hotfolder, all settings will affect all other jobs placed in this hotfolder.

How to define the print workflow:

You will see the **Job Settings** dialog and select the `Workflow` tab. Below are explanations to the items on the tab:

- **Container settings see page 169** ⓘ *This option is only available in the hotfolder settings.*

- **Hot Container:** 🛈 *This function is included as an option in some product categories.* ⓘ *This option is only available in the hotfolder settings.* To combine incoming jobs in a hotfolder automatically into one container. This option is useful when you want to keep your printer configuration with media, ink and print modes and print them space-optimized. In container settings you determine when the container will be ended and be ready for print.

- **Workflow:** ⓘ *This option is only available in the hotfolder settings.*

  Production: In this workflow you can produce print-outs in any required sizes and settings.

  Proof: In this workflow you can produce simulation print-outs and perform a control wedge evaluation.

  Screen: In this workflow you can produce films as templates for the screen print with any required screen.

- **Color coding:** Under `Color coding`, select the color to highlight the job in the job queue.

- **Preview:** The resolution of the preview determines its display quality and can be set from 200 - 2200 pixels for the maximum displayed side length.

  > **Tip**: Select a resolution which can still be calculated in a reasonable time. A value higher than the default of 1000 pixels might slow down the regeneration of the preview.

  - Set a checkmark if you want to generate and display a preview.
  - Do not set a checkmark if you are using a production computer and this computer as RIP computer processes the print jobs in an automated way by receiving jobs. The regeneration of the preview does not apply which saves time.

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Note: The value defines the number of pixels per line and is not the actual resolution printed. It is only related to the preview.

- **Softproof:** Set the checkmark if you want to achieve a true color display of your print data in all preview windows, in particular in the proof workflow. The output profile and MIM are taken into account in the print output displayed.

  Note: The display is only correct if you have calibrated your screen.

- **Rip while print:** Set the checkmark if you want to start printing immediately after starting the RIP process. In this process, finished rastered lines are sent to the printer, even if the job has not yet been fully rastered.

  This is useful for small format printers such as the ones from Canon/HP.

  Note: The disadvantage is that both the RIP and print queue are blocked at the same time (not for at least two configured RIP licenses in the context of the multiple RIP processes feature). Printing takes longer than ripping in most cases. This means that the RIP queue remains blocked for that time and no new jobs can be ripped as a result.

- **Rip directly:** Set a checkmark so that each job that is placed in the hotfolder is loaded and rastered immediately in the RIP queue. It will then remain in the RIP queue.

  Tip: This option is helpful to automate the workflow if a production computer is being used (collects all jobs from all network computers in the hotfolder).

  - **Pause job before:** Set a checkmark to place the jobs in the RIP queue to pause mode for the time being.

    Tip: This is helpful to order the jobs again by priority before ripping so that the most important jobs are ripped first.

- **Print directly:** Set a checkmark so that each job placed in the hotfolder is ripped and printed immediately.

> **Tip**: This option is helpful to automate the workflow if a production computer is being used (collects all jobs from all network computers in the hotfolder).

- **Pause job before:** Set a checkmark to rip the job, collect it from the print queue and not to print it for the time being.

> **Tip**: This function allows you to check the printer before printing (correct paper, inks, settings).

`After printing`:

- **Save job:** To **save jobs in the job archive folder** on the hard disk after printing, and **to keep them in the job queue**. This means you can access your print job at any time without having to rip it again.
- **Delete RIP data:** To **delete raster data (produced during ripping)** after printing and not to store it in the job archive folder. The original job is kept in the job queue. This means that you can access the settings made at any time, but you will need to rip the data again.
- **Delete job completely:** To delete both raster data (produced during ripping) and the job after printing. **The job is deleted in its entirety**. If you want to print the same job again, you need to re-load it and re-assign the relevant job settings.
- **Apply cost calculation:** Set a check mark to start the cost calculation for a job directly after printing. Appropriate settings you will find in the job settings, the advanced settings or in the `Options` menu.
  - **Calculate directly after rip:** Set a check mark to start a pre simulation of the cost calculation for a job after ripping. You will use this, for example, to estimate the costs for a job using different resolutions.

The print workflow is set. Note all the further tabs of this dialog.

Select planes in screen workflow

This tab is available in Screen Workflow only. In Screen Workflow the process colors CMYK will be output as single separations. This is necessary for the production of film positives in screen printing. Here in tab `Planes` you determine how spot colors will be separated that are contained in loaded jobs. There is a difference between a separated file and a composite file:

Spot colors contained in a file will be recognized after loading in both formats.

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a) After loading in the software, **composite files** will be separated into the process channels CMYK.

b) **Separated files** will be separated into the existent process channels (for example only Yellow and Blac**K**). They will be displayed as separations.

How to select the planes:

You will see the **job settings** dialog and select the `Planes` tab. Below are explanations to the items on the tab:

In the hotfolder settings you specify how to treat planes:

`Split planes into jobs`:

Here you will create a linked job for each plane of newly created jobs. It allows to edit each plane separately and process them after another on a single screen. The feature takes the selection on the `Planes` tab into account, so jobs are only created for activated planes.

This function is an add-on to the previous one to simplify the job processing. When the option Pause print queue after job is enabled, the print queue automatically pauses after finishing each job and allows changing the screen. To start the next job, just push to continue the queue manually.

In the hotfolder settings you are also able to specify settings to the processing of spot colors in non separated files (composite files):

`Create separate planes for all spot colors`:

Here you determine that an additional separation (plane) for each defined spot color in the jobs will be created. For each spot color another plane will be output. The advantage is to be able to print in exactly the same color as defined.

`Convert all spot colors to process colors`:

Tip: Select this option to print cost-efficiently since no more separations additionally to the four process colors will be created.

Here you determine that spot colors will be converted into their CMYK replacement values. They will not be output as single planes. This is recommended if:

- there is no demand on the quality of printed spot colors,
- spot colors were created accidentally or
- the spot color is contained insignificantly.

Additional function in screen workflow:

- With an activated checkbox `Print black plane only` you will determine for newly created composite file jobs in the hotfolder that only the black plane will be output. Further planes will be ignored. If you know about future jobs that only consist of a black channel to print, this functi-

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on is useful. Info text and registration marks will not be printed with empty planes which saves material (film).

In the job settings you are able to make the following settings:

Both composite and separated files remain separated after loading.

When having separated files:

You can determine to print all separations or selected colors:

- Set a checkmark in column `Print` for the required separation to print out or
- Click on `Print All` to output all available colors.

When having composite files:

You can determine to print all separations or selected colors:

- Set a checkmark in column `Print` for the required separation to print out or
- Click on `Print All` to output all available colors.

Additionally you can select spot colors to output separately:

- Set a checkmark in the column `Separate` to output spot colors separately.
- Remove the checkmark at `Separate` to convert spot colors into their CMYK replacement values. Defined spot colors will be split up into existent CMYK separations. Reasons for that see "**Convert all spot colors to process colors**" at the beginning of this topic.
- If you want to activate or deactivate the separated output of available spot colors, click either `Separate None` or `Separate All`.

Adjustments to spot colors and separations were made.

Create contact sheet

Prerequisite: A folder with images for a contact sheet was created. The function **Container** is necessary.

This function is only available within the optional photo module. This function creates an index or thumbnails from the images within a previously selected folder with a specific size (full and single jobs). The same as in the container to all jobs the same color management settings by using the MIM will be applied.

How to create a contact sheet:

You are in the standard view of the RIP software. You have two options to acces the contact sheet function:

- Right click within the job queue and open the context menu. Go then to `Contact Sheet...`.

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- Click on the menu entry `Job > Contact Sheet....`

After that an Explorer window will be opened.

1. Select an existing folder that contains the required images for the contact sheet.

The job settings dialog opens. It shows three tabs - `Printer`, `Color Management` and `Contact Sheet` for the adjustments.

2. Choose the MIM there and printer-specific settings.
3. Enter in tab `Contact Sheet` under `Size` the job size (refers to all jobs and the longest side).
4. Enter under `Distance` the distance of the jobs to each other.
5. Click `OK`.

The contact sheet was created, it is shown in the job queue using the name of the image folder.

Further functions:
- Double click on the preview. The edit window for the container opens where you can **Edit container content see page 164.**
- Double click on the contact sheet in the job queue. The dialog for the job settings opens. There you can set the:
    - **Container options see page 167**
    - **Define print workflow see page 63**
    - **Define printer setup see page 68**

Define printer setup

Here you define all the relevant printer settings for your job or hotfolder. If the settings apply to one hotfolder, they will affect all other jobs placed in this hotfolder.

How to define the printer setup:

You will see the **Job Settings** dialog and select the `Printer` tab. Below are explanations to the items on the tab:

Possible settings are:
- **Paper size:** Select the paper size here on which the job is being printed. The selection corresponds to the current printer setup.

- **Height and width:** The dimensions of the selected paper size will be shown here. With rollfeeds, you can disregard the values.

    If you select `user defined` as the paper size, you can enter the required dimensions under `Height/Width` (height only for sheet media).

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- **Update Size:**

    This function is currently available for some Roland printers as well as for printers of the HP-Z series. The media size of the inserted media in the printer will be applied to the job settings. The printer must be able to read that data (media size or dimensions). The tooltipp of the button shows the size information.

    Tip: Have a look in the JobInfo Log to ensure the succesful transfer.

- **Use size of installed media for new jobs:**

    This function is currently available for some Roland printers as well as for printers of the HP-Z series. Have you selected the hotfolder settings, this additional function will be displayed. Using this function, the media size of inserted media in the printer will be applied to newly loaded jobs.

- **Unprintable margins:** Most printers reserve unprintable margins. No printing is carried out in these areas because, for example, they are important for the paper transport through the printer.

    The dimension depends on the printer model and can only be changed for several printer models by:

    - Setting a checkmark under `Paper size` at `Set margins manually`.
    - Selecting under `Print options` the margin template from the `Margins` drop down menu.

- **Printable area:** The details `Height` and `Width` are produced from the unprintable margins and the selected paper size, and cannot be changed.

    Objects being printed that are larger than the printable area are cropped and printed on the next sheet or printed on the roll later on (Auto Tiling).

Under `Print options` you define the printer-specific properties:

Note: The settings may vary from printer to printer. Only printer-relevant properties will be shown.

- **Rollfeed: Note**: This function is not supported by several printers. For some printers it is set active by default.
    - Set a checkmark to print on roll paper. You can define header and trailer.

    The checkbox `Rollfeed` is automatically active if you have selected `Roll Paper` under `Paper source`.

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- **Cutter: Note**: This function is not supported by several printers.

  Enable `Cutter` to cut off the print-out at the end of the print after the `Unprintable margins` - `bottom` and the value `Trailer:`.

- **Header/Trailer: Note**: The option is available if you have selected `Roll Paper` under `Paper source.`

  A header/trailer means that a paper advance is carried out by the value set before/after the first/last print line. The unprintable areas remain unaffected.

  To do this, enter the required values into the text boxes.

- **Twin Roll Mode: Note**: This function is not supported by several printers.

  If your printer supports this mode, you can print two rolls at the same time which saves time.

  1. Set a check mark to print the same job on each roll simultaneously.
  2. Insert the `offset` between the rolls. For that read the documentation of your printer.

- **Print confidence strip: Tip**: Useful for large-format printing and for solvent printers.

  Activate this option if you want to print a confidence strip in addition to the print image.

  This means that the nozzles of all cartridges are in operation, which means that they function smoothly. Even fluctuations due to significant temperature differences of the nozzles and colors are avoided.

  Note: This reduces the printable area. The width of the confidence strip depends on the number of cartridges in the printer.

- **Print borderless:** Some printers allow borderless printing. In this case, the printable area = paper size.

  Note: For `Right/Left` you will see a value with a negative sign in front. This means that the print image is larger than the paper. Depending on the printer model some areas of the image will be shortened.

- **Paper source: Note**: This function is not supported by several printers.

  Some printers allow the insertion of rolls as well as sheets and printing them on request.

- - Select the paper source here and set the relevant paper under `Pa-per size` at the top of the dialog.

- **Use printer settings:**
  - Select this function to set several printmode settings at the device instead of using the RIP software.

    If the function is deactivated, these printer settings will be overwritten with settings made in the printmode tab.

- **Print and Cut: (when using Roland printer)Tip:** To use the function for cutting frames ![icon] in the `Job` tab, the `Print and Cut` function must be activated here.

  Some Roland printer are hybrid devices. They can print as well as cut contours.

  - Set a check mark to activate this function. Further options become visible.
  - Set a check mark at `Alignment marks` for a subsequent cut (`Cut only`).

  Note: The cut contour in the job must be defined as spot color named `CutLine`.

  In the drop-down list you can decide if you:

  - want to use the cut function `After print`. At first the job will be printed and after that it will be cut by using the alignment marks
  - want to `Print only`. The spot color will be ignored but printed as that color
  - want to `Cut only`. The completed print-out with alignment marks will be recognized as cut job and printed subsequently

    Settings when **Using printer Roland Print&Cut see page 96 for the cut process.**

10. **Destination path:** Here you can determine the composition of path and file name for a) **Others Driver** (output in file) or b) printer drivers that print via a printer-hotfolder (example: Vutek, NUR, Scitex). You can choose MIM elements, date or job name. You can find detailed explanations in **Adapt path and file name see page 71.**

The printer specific adjustments are set. Note all the further tabs of this dialog.

Adjust path and file name for files to save

This function applies:

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- to drivers that print via an individually created folder (printer-hotfolder) into a file (example: TIFF LOW-RES) or
- to printer drivers (example: NUR, Vutek, Scitex) that process files (Sample formats: TIFF or RTL) via an individually created printer-hotfolder.

You will set the path for the printer-hotfolder in the create-printer-assistant. Here within this printer-hotfolder the file name can be adjusted as well as adding subfolders. It will habe the benefit of a better structuring and sorting of jobs by MIM elements, tiles or color channels.

How to adjust the file name and/or the path setting:

You are in the Job Settings on the `Printer` tab.

1. Click at `Destination path` on `...` to open the dialog `Edit Path Setting`. In the left-hand area you will see the available infos.

Samples:

`Job Name`: The loaded jobs' name.

`MIM Media`: The MIM combination's selected media name.

`TileNumber X`: For automatically (if job is larger than media size) or manually loaded jobs the segment number in X direction.

`Channel Short Name`: For drivers that output separations the color channel's name in short form (C, M, Y, K).

1. Click `Show only information with valid values` to avoid details being printed without values.
2. Select the required information there and click `Add` to move it to the right-hand area.
3. To create a subfolder within the printer-hotfolder (Path):
   a) Mark the information (placeholder) in the right-hand list that is intended to be the new folder.
   b) Click `New Path` to add the new folder.

You have further **options** to:

- Arrange information as you like by clicking the `Move Up` or `Move Down` buttons.
- Enter free text. Insert the required text after clicking the `Free Text` button into the text field `Text:`. This text can serve as text separators for information in the file name (for example: /; -; _).
- Display the associated values by activating the checkbox `Show current values`.
- You can also store the user defined configuration carried out using 🖫 to open it again later on.
- In the lower area of the dialog box you will see a preview that shows how the selected information appears in the folder structure.

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4. Click **OK** to apply the adjustments.

File names and paths will be adjusted as required after the next print process via the printer-hotfolder.

Set up job

Here you define all job-related and print-related settings as well as the MIM and the metamode for a hotfolder or a job. If the settings apply to a hotfolder, all settings will affect all jobs newly placed in this hotfolder.

How to set up the job:

You will see the **Job Settings** dialog and select the **Job** tab. Below are explanations to the items on the tab:

Under `Parameter` you will define the size of your print job:

Tip: The following options under `Parameter` are disabled when a frame mode is selected in the `Frame` tab. It prevents unintentional changes to the frame settings.

- **Scale 1:1:** Place a checkmark if you want to print the job with no scaling.
- **Proportional:** Place a checkmark if you want to retain the proportions of the job when entering the height or width.
- **Height/Width: Note**: The option `Scale 1:1` and the function `Tile Manually` must be deactivated.

   Enter the required values into the text boxes.

   Note: If you see a symbol ⚠ next to the height and width information, your job and other additional information will clash with the media size. Check the values and possible additional information such as `free text` or the `control wedge`.

- **Adjust copy/copies to page size: Note**: The option `Scale 1:1` must be deactivated. 🔲 works only with sheet paper.

   🔲 Activate this option if you want to adjust your individual job to the format set on the `Printer` tab or the size entered there.

   🔲 Activate this option if you want to adjust your job with multiple output or a multi-page job to the format set on the `Printer` tab or the size entered there.

Note: The size adjustment is always based on the selection in `Rotate:`. If `Auto` is set, the job will be rotated so that the largest scaling factor and the best layout are used automatically.

- **Scaling: Note**: The option `Scale 1:1` and the function `Tile Manually` must be deactivated.

  Enter the required scaling value here in percent.

Under `Options` you specify additional information and the type of print output:

Note: If you can see a red bar underneath one of the icons, the registration marks, cut marks, control wedge or additional text will not be printed for space reasons. Check the details in `Height/Width` as well as `Paper Size` in tab `Printer`.

- **Setup manual tiling** ⓘ *This function is available as an option depending on the product category.*
- **Define cropping**
- **Print cut marks:**
  - Activate this function if you want to print the job with additional cut marks and tiling marks. Now there are eyelet marks available to prepare for a hanging mounting.

    Note: Cut marks and tiling marks are not displayed in the preview.

    If you chose Fotoba cut marks ⓘ *This function is available as an option depending on the product category.* you can enter the values for the Fotoba cutter being used. These depend on the device. Ask your Fotoba dealer for the correct measurements.

    Note: If you can see a red bar underneath the icon, the cut marks will not be printed for space reasons if they are enabled. Check the details in `Height/Width` as well as `Paper Size` in tab `Printer`.

- **Print registration marks:**
  - Activate this function if you want to print the job with ten additional print registration marks.
  - Set a check mark at `Print channel info` to print out the color plane info (Magenta, Cyan, Yellow, Black) as info text.

Note: Registration marks are not displayed in the preview.

Note: If you can see a red bar underneath the icon, the registration marks will not be printed for space reasons. Check the details in `Height/Width` as well as `Paper Size` in tab `Printer`.

- **Print control wedge** (Control Wedge Evaluation) *This function is available as part of the proofing workflow.*

- Print color control wedge (Quality Assurance Module) *This function is available as part of the production workflow only.*

- **T** **Place free text:** Enable this function if you also want to print any text line with your job.

  Tip: The additional text line makes it easier to identify a print-out. For example, you can use the customer's name.

  Click the arrow next to the icon, followed by `Edit Free Text` to enter the text to be shown.

- **Print info**

- **Mirror print output:** Enable this function if you want to mirror your print-out around the vertical axis.

  This provides support for printing on transparent materials.

- **Cut Frame:Prerequisite**: To be able to use the cut frame function, the option `Print and Cut` must be enabled in the `Printer` tab.

  To the outer cutting path (determined by spot color) you can additionally cut a frame with a required distance around the print image. This makes it easy to remove the film.

  1. Click the icon to activate the function. An edit box will be visible.
  2. Enter the required distance to the outer cutting path.

- **Rotate print output: Note:** If **Auto Rotate** is selected, the tiling function will be deactivated.

  Auto: The job is rotated so that it is automatically positioned to save as much space on the media as possible.

  0°- 270°: Here you have the option of specifying any rotation of the job required.

- ⊞ ⊞ **Offset:**
  - Enable this function if you want to center your print image on the media horizontally or vertically.

    - OR -

  - Enter the required values into the text boxes. The point of origin is in the left upper corner. The job will be shifted with the entered distance.

- ⊞ **Offset to Center:**
  - Enable this function if you know the distance values to the center of a job. Samples are CD prints or circular stickers.
  - If you enter the values in the text boxes at `offset`, they will automatically applied to the center of a job. The distance values will be adapted as well to the `multiple output` distances.

  Note: With the rollfeed active (Printer tab) only centering in the X-direction is available.

- **Fixed output size:**
  - ⓘ *This function is included within the screen workflow. An additional module is necessary.* Activate this function to determine a print-out corresponding to the screen stencil size. It avoids an overlapping of the screen stencil size. In `height`/`width` you enter the dimensions.
  - Activate the icon `Fill Output Area With Copies` to fill up for example for sticker-print automatically the screen stencil with the highest possible number of the same jobs. It saves several print processes, machine preparing and material.

Under `Multiple output` you define the number of job copies:

- **Multiple output:**
  1. Under `Number` you enter the required quantity of copies of the job.
  2. Under `Distance` you enter the distance of the copies in the horizontal and vertical directions.

  Tip: In the grayed out text boxes, 1. stands for the number of columns and 2. stands for the number or rows in total distributed across all media.

> **Tip**: The function **Info Text** can be used to print additional information to the number of copies with `Copy Count:`. For example you can determine the copies to reprint when having a high number of copies and a cancelled job caused by missing paper.

- **Fill last row of copies:** This function is useful for jobs which are multiple jobs. The last row might stay almost empty and the media cannot offer full capacity.

  - Activate by click the function to fill the last row with more copies.

  Example:

  Multiple output of seven copies is applied. Four copies will fit next to each other when using the full media width. The next row will be filled with three copies. If the function is active, automatically another copy is added to the output. The last row is completely used for printing. The result is eight copies. This function causes, that the entered value is changed to the real output of copies.

`Segmenting` displays how your job will be distributed across multiple media (Auto Tiling):

- **Tiles:** If a job that is larger than the printing area reaches the hotfolder , the overhanging image elements are then output on additional pages or strips (for rollfeed).

  The same applies to jobs with printable areas / paper sizes that are changed later on. The RIP software then automatically calculates the necessary number of additional pages required (tiles) and displays these under `Number x/y`.

  - Enter an `Overlap x/y` if you want to insert the individual tiles next to one another with high precision after cutting the non-printable areas.

  > **Tip**: Overlap markings are also printed on the individual sheets automatically which makes it easier to insert the tiles back together.

- **Selection...:**
  - Click on the `Selection...` button to display a fast preview of the print-out.

  You will see the layout of the job on the media, as it will be printed. All the settings made such as Multiple Output, Manual Tiling and Segmenting as well as Cropping and Mirror Output will be taken into account in the process.

  In addition, here you can select the elements to be printed.

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- To do this, highlight the required tiles/pages using the mouse to print them. They will be framed in red.

> **Tip**: This option is required if you want to reprint some tiles.

Apply cut marks

The cut mark function offers a variety of cut mark types - currently: Outer/Inner marks, Outer/Inner frame, Japanese Marks, Fotoba and You frame (optional You Frame Module). Cut marks provide help if the print-out is intended to be cut for any purpose after printing.

How to use the cut mark function:

You will see the **Job Settings** dialog and select the `Job` tab.

For creating and applying new cut marks do the following:

1. Click on to open a **recently defined configuration** for cut marks.

- OR -

1. Select the arrow beside the icon for the cut marks .
2. Click on the `Cut Mark Settings...` to open the settings dialog.

After that you will select the desired cut mark options there:

- `Cut Mark Style`: This is the cut mark type and style selection.
- `Color/Border color` (for You frame): By default, cut marks are printed in black (100% K, RGB=0/0/0). The color can be modified by setting different values for the components of the color mode specified for the job. This can be done either by using a Lab color view (`use color picker`) or by using sliders (`use device colors`) in another dialog. Settings to border and cut mark colors you will find in the job settings frame tab.
- `Symbolic Preview`: This is the preview of the selected cut mark type. It shows how the dimension settings are applied to the cut marks. But it does not show the changes made to the dimensions or size relations!
- `Cut Mark Dimensions`: These are the edit controls for the cut mark dimensions. The characters in parantheses correspond to the according dimensions in the symbolic preview.
- `Symmetric dimensions`: It simplifies the dimensions entry for symmetric cut marks (horizontal and vertical values are equal).

under `Options`

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- When choosing Fotoba marks here you can select either `Print horizontal cut marks` or `Print vertical cut marks`. Both in combination is possible, too. To any job margin a cut mark will then be added.
- `Print cut marks around complete job`: This option allows cut marks to be printed around all copies of multi-copy jobs or all pages of multi-page jobs. It also generates cut marks around the fixed output area of screen workflow jobs.
- You can also store the user defined configuration carried out using 💾 to open it again later on.

3. Click on `OK` to confirm the settings. You will return to the `Job` tab.
4. Select the arrow beside the cut mark icon ⬚.
5. Click on `Cut Marks` to activate it in the print-out.

Note: If you can see a red bar underneath the icon, the cut marks will not be printed for space reasons if they are enabled. Check the details in `Height/Width` as well as `Paper Size` in tab `Printer`.

Cut marks will be applied to the job in the print-out. The tooltip of the cut mark icon ⬚ shows the selected cut mark type for the job, hotfolder or even container. Note that cut marks cannot be displayed in the (advanced) preview.

Apply tiling marks

The tiling mark function offers a variety of tiling mark styles such as lines, marks and also dimensions. Tiling marks provide help if the image is tiled into sections that are intended to put together again.

How to use the cut mark function:

You will see the **Job Settings** dialog and select the `Job` tab.

For creating and applying new tiling marks do the following:

1. Click on ⬚ to open a **recently defined configuration** for tiling marks.

- OR -

1. Select the arrow beside the icon for the marks ⬚.
2. Click on the `Tiling Mark Settings...` to open the settings dialog.

After that you will select the desired tiling mark options there:

- `Line width`: This is the line width for the tiling mark. Mark is activated under `Options`.
- `Tiling line width`: This is the line width for the tiling line. Line is activated under `Options`.

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- **Tiling line style**: This is the line style for the tiling line. Line is activated under **Options**.
- **Color**: By default, tiling marks are printed in black (100% K, RGB=0/0/0). The color can be modified by setting different values for the components of the color mode specified for the job.
- **Symbolic Preview**: This is the preview of the selected tiling mark type. It shows how the dimension settings are applied to the tiling marks. But it does not show the changes made to the dimensions or size relations
- **Horizontal/Vertical distances**: This is the distance of the tiling marks from the job. Negative values are allowed to overlap the marks with the job.
- **Width/Height**: It is the size of the tiling marks as shown in the **Symbolic Preview**.
- **Options**: Here you select whether tiling marks or tiling lines will be printed.
- You can also store the user defined configuration carried out using to open it again later on.
3. Click on **OK** to confirm the settings. You will return to the **Job** tab.
4. Select the arrow beside the cut mark icon .
5. Click on **Print Tiling Marks** to activate it in the print-out.

Note: If you can see a red bar underneath the icon, the tiling marks will not be printed for space reasons if they are enabled. Check the details in **Height/Width** as well as **Paper Size** in tab **Printer**.

Tiling marks will be applied to the job in the print-out. They can be activated for the job, hotfolder or even container. Note that tiling marks cannot be displayed in the (advanced) preview.

Apply eyelet marks

The eyelet mark function offers a variety of eyelet settings - currently: eyelet style, offset, distance, number, color, diameter and thickness. Eyelet marks will be printed with the job, so that a manual creation of eyelet labeling does not apply anymore.

How to use the cut mark function:

You will see the **Job Settings** dialog and select the **Job** tab.

For creating and applying new eyelet marks do the following:

1. Click on to open a **recently defined configuration** for eyelet marks.

- OR -

1. Select the arrow beside the icon for the marks ⊞.
2. Click on the `Eyelet Mark Settings...` to open the settings dialog.

After that you will select the desired eyelet mark options there:

- `Color`: By default, eyelet marks are printed in black (100% K, RGB=0/0/0). The color can be modified by setting different values for the components of the color mode specified for the job.
- `Symbolic Preview`: This is the preview of the selected eyelet mark type. It shows how the dimension settings are applied to the eyelet marks. But it does not show the changes made to the dimensions or size relations!
- `Offset`: This is the offset of the marks from the borders of the job, measured to the center of the eyelets.
- `Maximum distance`: This is the maximum distance between the center of the eyelets. From this value the effective distance and the eyelet number is calculated, taking into account the job size and offset values.
- `Diameter`: This is the outer diameter of the eyelets.
- `Thickness`: This is the thickness - the line width as shown in the preview - of the eyelets.
- `Options`: This is currently the possibility to also print a cross hair with the eyelet mark.
- You can also store the user defined configuration carried out using 💾 to open it again later on.

3. Click on `OK` to confirm the settings. You will return to the `Job` tab.
4. Select the arrow beside the mark icon ⊞.
5. Click on `Print eyelet marks` to activate it in the print-out.

Note: If you can see a red bar underneath the icon, the eyelet marks will not be printed for space reasons if they are enabled. Check the details in `Height/Width` as well as `Paper Size` in tab `Printer`.

Eyelet marks will be applied to the job in the print-out. They can be activated for the job, hotfolder or even container. Note that eyelet marks cannot be displayed in the (advanced) preview.

Define frame options

This description only applies to the You Frame Module. Here you define the frame size and mode for your job or hotfolder for desired Canvas prints. They will be mounted on You frame® frames. If the settings apply to one hotfolder, they will affect all other jobs placed in this hotfolder.

How to define the frame options:

You will see the **Job Settings** dialog and select the `Frame` tab. Below are explanations to the items on the tab:

Possible settings are:

`Frame Mode`

- **Gallery wrap:**

  Select `Gallery Wrap` if the motif should go around the frame border. It will be visible from the sides. This selection is preferable for motifs that spread over the entiere image size.

- **Colored border:**

  Select `Colored border` if the turned media parts on the frame should be visible in only one color. This selection is preferable for motifs that are positioned centrally.

  1. Use either the pipette to select a color near the image border in a newly opened window.

  - OR -

  2. Use the color selection dialog `...` to pick a desired color from the visible Lab color space. Colors similar to the ones from the motif are suitable.

  Beside the `Border color:` string you can see the Lab values and a preview color patch of the selected color.

`Frame Size`

- Enter the size of the You frame® frame that will be used together with the printed image. You can select values in inch or cm. The values are standardized according the frame sizes available in lengths e.g. 9, 12 and 16 and more.
- The job will be automatically scaled to the entered size. If you want to crop an image area from the motif, use the Cropping function. The image will be scaled again to the new dimension.

Tip: Take care that the correct media and size is inserted in the printer. Otherwise beside `Width` or `Height` a yellow warning sign will be shown. Correct the settings in the `Printer` tab.

- Too, user defined sizes can be used. Switch to `Custom` and enter a desired value into the text box.

`Multiple Output`

- Enter the desired number of copies in the text box. These will have the same settings in frame mode and -size.

Canvas print settings for You frame® frames were made. A further option for the framing is cropping to crop image areas or the gray scale conversion for additional color effects. Pay attention to the other dialog tabs.

Define color management

Here you define all color settings as well as MIM and metamode for a hotfolder or for a job. If the settings apply to one hotfolder, all settings will affect all other jobs newly placed in this hotfolder.

How to define the color management:

You will see the `Color Management` tab of the **Job Settings** dialog.

- **Media/Ink/Metamode:**
  - Here you can select a MIM combination, if a MIM has been <u>created or imported</u> for this printer.
  - Both the note and `Printmode modified!` mean that a MIM is not selected or the printmode for a MIM was modified additionally.

Under `Advanced` you will find all the properties relating to the MIM:

- **Settings...:** Here you modify the advanced settings of the MIM for the selected job. These are the profiles and printmode, screens, tonal value , grayscale conversion and color correction.

  Changes to the settings are identified with a yellow warning sign and the message `Modified!`.

  The icon right next to the `Settings...` button indicates that a synchronized output profile will be used for the selected MIM (created by using the Media Device Synchronization). It will not be set job related but global in the program via menu `Options > Media Device Synchronization` by adding a checkmark.

- **Standard:** Here you reset the changes of the advanced settings for the MIM. The original status of the MIM will be restored.

  Note: A reset to the original status is possible at any time, assuming the changes have not been saved in the MIM.

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- **Store to MIM:** If you have changed the properties of a selected MIM in the advanced settings, you can save the changes in this MIM. This will modify all jobs to which the MIM has been assigned.

> **Note**: The changed settings affect all jobs located in this hotfolder (the same MIM). This procedure cannot be undone!

> **Tip**: Use this function if you want to make color corrections, for example, or you want to select a different input profile. For color corrections, the advanced Preview is available for a clear preview.

- **Color Table:** This will take you to Color Replacement where you can replace both spot colors from the file and the process colors with other values.

> **Tip**: For color corrections, the advanced Preview is available for a clear preview. For a predictable print view, select the tab `Workflow` > `Softproof`.

The existing color replacement will be identified with the message `x/x Spot Colors replaced`.

A non existing color replacement will be displayed with `0/x Spot Colors replaced`. In the job defined spot colors will be printed but won't be displayed as required.

5. **Ink Saving:Note**: Only available for printers in CMYK color mode without additional modules (Canon PB, Epson HTM oder HP Contone).

The goal of the Ink Saving functionality is to minimize the amount of ink to be utilized on the printout while making as little sacrifices as possible on the image quality, both visually and in terms of colorimetric accuracy. The advantages of a printing ink reduction are decreased printing ink costs but also an improved printing ability. In practice 10-20 % of printing ink costs can be saved.

The Ink Saving functionality is implemented by applying special DeviceLink profiles that are calculated from the output profile and a number of additional parameters that influence the color separation.

To hold them clear and useable there are multiple presets that apply different levels of saving, while making more or less losses in image quality.

Select the best option for you from the drop-down list:

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- **Neutral**: Combines a high GCR with a smmall Black Width and a medium intensive InkSaving value (40 %). This results in an increased use of black in the neutral tones and on the gray axis only.
- **Strong**: The GCR value is set to zero which means that black is only used in the shadows. Black Width is maximized to use black in the neutral and colored tones. The InkSaving value is increased to 70%.
- **Max**: The GCR value is maximized which means that black is used in light as well as in shadow areas. Black Width is maximized to use black in neutral and colored tones. The InkSaving value is maximum increased.

Define process settings

Here you define MIM and metamode for a hotfolder or for a job. If the settings apply to one hotfolder, all settings will affect all other jobs newly placed in this hotfolder.

How to define the process settings:

You will see the `Process Settings` tab of the **Job Settings** dialog.

- **Media/Ink/Metamode:**
  - Here you can select a MIM combination, if a MIM has been created or imported for this printer.
  - Both the note ⚠ and `Printmode modified!` mean that a MIM is not selected or the printmode for a MIM was modified additionally.

Under `Advanced` you will find all the properties relating to the MIM:

- **Settings...:** Here you modify the advanced settings of the MIM for the selected job. These are the profiles and printmode, screens, tonal value , grayscale conversion and color correction.

  Changes to the settings are identified with a yellow warning sign and the message `Modified!`.

- **Standard:** Here you reset the changes of the advanced settings for the MIM. The original status of the MIM will be restored.

  Note: A reset to the original status is possible at any time, assuming the changes have not been saved in the MIM.

- **Store to MIM:** If you have changed the properties of a selected MIM in the advanced settings, you can save the changes in this MIM. This will modify all jobs to which the MIM has been assigned.

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> **Note**: The changed settings affect all jobs located in this hotfolder (the same MIM). This procedure cannot be undone!

> **Tip**: Use this function if you want to select a different input profile or perform a tonal value correction.

Control RIP process

Here you carry out the settings for the print quality, for overprinting, for blends and for the font replacement depending on the selected workflow.

How to adjust the RIP process:

You will see the **job settings** dialog and select the `RIP` tab. Below are explanations to the items on the tab:

`Rendering`

Enhanced quality (16 bit): This function applies to all supported file formats.

> **Note**: With this function activated, the RIP process takes longer.

- Set a check mark here to apply 16 bit to all color transformations such as linearization, color replacement, profiling and color correction.

In this process, the values for the rip process are no longer rounded up or down, unlike with 8 bit. This has an effect on blended areas and in the proof workflow in particular.

> **Note**: Only use the functions below if you want to specifically change the default settings to optimize the print output.

Anti aliasing: This function applies to some printer drivers such as the Durst Lambda.

When having a low RIP resolution of about 200 dpi, edges of texts and contours show steps and graduation in PDF EPS and PS files. When applying the `Anti aliasing` function the edges of letters will be replaced by pixels of grayscale shades. The visual resolution will be increased and minimized text will be shown more accurate. Select the appropriate setting:

- `Off`: No Anti aliasing
- `Low`: Little Anti aliasing (4 grayscales)
- `High`: Normal Anti aliasing (16 grayscales)
- `Maximum (slow)`: Maximum Anti aliasing (64 grayscales)

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Tip: The setting `High` ensures an optimal anti aliasing in most cases. The setting `Low` has little results and `Maximum` results in long ripping times.

`Vector Gradients`

Maximum steps:

This function applies to the file formats EPS and PS.

The editbox allows to set the maximum allowed steps for vector gradients. The default value is 2048. This achieves the same quality as twice the value of 4096 but at faster RIP times. Setting to lower values like 1028 may speed up the RIP time even more.

Existing hotfolders from version 5.30 and earlier will have a value of 2048. Existing jobs from version 5.30 and earlier will still have a value of 4096.

Add noise:

This function applies to the file formats PDF, EPS and PS.

- Set a checkmark to display color transitions in the print result more softly, or to weaken graduations. The noise means that the line becomes softer and the blend steps more gradual.

Disable Idiom Recognition (PS/EPS):

This function applies to the file formats EPS and PS.

Smooth Shades was developed from the formats EPS/PS in the same way as PDF to Level 3. The RIP attempts to use the **Idiom Recognition process** to replace the Level 2 blends with the Smooth Shades. As a result, blends are displayed with more steps that the print-out can optimize.

- Set a checkmark to switch off the conversion into **Smooth Shades**, if the print result is not optimal.

`Overprints`

Overprinting means:

that several image elements upon each other in a job will be printed as a whole. You can distinguish a present job wheather it has the "Overprinting" information or not. If yes, the colors will be mixed in the print-out. The overlapping area is then green when yellow is printed on cyan.

If the job file does not include the "Overprinting" info, the element in the back will be omitted by the element above. The overlapping area will then be yellow when yellow is printed on cyan. But then, in some cases, the colors are not aligned properly to each other so that the media can be seen through.

The following functions are only available for composite EPS, PS and PDF files.

There are separate settings for CMYK and spot overprints. This is important, because overprint simulation has a big performance cost. Overprint detection has been improved too. And when set to "automatic", the UI shows which settings where chosen. Finally, simulation is used more seldom - for example, it is no longer used for ControlPage.pdf.

To understand overprint settings, consider the following example: a black text is overprinted over a cyan background. The follow settings are available:

- Remove – do not overprint. The black text is color managed as usual and becomes 4C black.
- Allow – overprint using pure colors. The black text is mixed with the background. The result is a mixture of the text and background colors Cyan and Black.
- Simulate – overprint, color manage after rendering. The black text is mixed with the background. The resulting mixture of Cyan and Black is color managed, becoming 4C. Ripping will be slower. In this example, activating "Determine automatically" will set CMYK overprint to "Remove".

Overprint black vectors and text

- Activate this checkbox to force 100% black vectors and text to overprint. You will avoid the media shines through between the different adjoining colors in the print-out. *This function is only available in Screen Workflow.*

`Fonts`

Replace missing fonts with Helvetica or similar: This function applies to the file formats PDF, EPS and PS.

A file with non-embedded fonts is indicated with a warning sign for errors in the job queue. It cannot be processed.

Solution 1: Delete the job. Embed the font in the job by using the graphical application. Reload the job after that.

Solution 2: Set a checkmark to automatically replace fonts that are not embedded in the file. Missing fonts are replaced by Helvetica or a similar font.

Note: This may differ from the intended font.

Prepare JDF function

JDF means Job Description Format which is a file that contains information to the job processing and the job itself based on XML. To integrate the RIP software in a workflow with other JDF-enabled applications, it allows the use of JDF files in order to describe the parameters for jobs to be produced. JDF files are accepted as another file type in the hotfolders.

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You will find further information to the JDF specification under http://www.cip4.org/ or for the info on JDF file processing in the download section as PDF Tech Note.

A possible practical usage is the Screen Print Proof Module which simulates screen printing machine jobs on a connected printer that are color- and raster accurate. It uses both a proof application and a screen application in just one product.

More information will follow shortly.

Enter job data for cost calculation

Delete this text and replace it with your own content.

You will see the **Job Settings** dialog.

1. Select the `Job Data` tab.
2. Enter there the job relevant data for one or several jobs (hotfolder) to the customer and additional information and remarks.
3. As `remark` further information can be entered that could be the RIP user name.
4. Specify further costs that apply such as costs for fees/wages, for leasing, power consumption and a possible profit.

The job or any new job (for hotfolder setting) is now defined.

5. Close the open dialog by clicking on `OK`.

The job or any new jobs are now ready for a cost calculation (after printing or, if defined in the workflow settings, automatically after ripping) and additionally a report filter output.

Prepare cut function

Prerequisite: You have loaded a job with embedded spot color.

This tab is available with the optional PRINT&CUT Module. Here you can adjust different settings on the synchronization of the printer and plotter. This function adds a number of different new functions to **PRODUCTION**SERVER to control cutting plotters and give printed motifs a contour cut.

Since printers and plotters work independently from one another, the **PRINT&CUT** Module can be used with virtually any printer supported. This means that a plotter can be easily integrated into an existing or a new production chain.

The cut path is directly integrated into the graphics file as a spot color. The **PRINT&CUT** Module recognizes the spot color and stores this cut path in a separate file that can be processed by the plotter. CutServer software establishes the connection to the plotter and allows the device to access the cutting data.

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Together with the print job, device-specific synchronization marks are printed to communicate the starting point to the plotter and enable the correct alignment of the medium. Hotfolder technology makes it possible to seamlessly link all the elements, thus creating an automated workflow, in which you can, of course, intervene at any time.

How to set up your cut job:

You will see the the **job settings** dialog and select the `Cutting` tab of. Below are explanations to the items on the tab:

Use the `Cut Path` section to extract and activate the spot color of the cut path.

This section is not available in the **following cases:**

- If several jobs are grouped within one container. To avoid any problems with different names for the cut paths in the files, the `Cut Path` section is not available in the cutting settings.

- If you want to set up a hotfolder . The `Spot color for cut paths` function cannot be selected in the settings of a hotfolder. There is not any data with embedded cut paths available to be extracted at this time.

- **Extract cut paths:** Before a cut path can be interpreted, the `Extract cut paths` function must be activated. The path, which is stored as a spot color in the file, is removed from the job during the RIP process and is not printed with the job.

  The data that has been extracted forms the basis for the plot file, which is required for further processing and is stored in the printer archive. If necessary, this information can be used to automatically or manually create a plot file.

  Tip: To avoid any problems with embedded spot colors, the function should be deactivated if the print job does not contain a cut path.

- **Spot colors for cut paths:** The **PRINT&CUT** Module does not require any special name for the cut path. The user can select the cut path from a list of all the embedded spot colors in a job. The advantage of this is that print jobs must not be corrected manually if the cut path spot color has been named incorrectly.
  1. Click the selection button `...` to access a dialog of all the embedded spot colors. It allows arranging a comma-separated list of spot color names.
  2. Select the spot color that was used to store the cut path.

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However, there are no defined spot colors **in a hotfolder** - but they can be predefined via `...` by entering a comma-separated list of spot color names next to `New name:`. While creating new jobs for a hotfolder, the spot colors used in the job are checked against the list of predefined cut path colors. The first entry in the list of cut path color that is used as a spot color in the job, will be used as the cut path color for this job.

Use the `Cut Job` section to adjust the settings to process jobs and control the plotter.

- **Plotters:**
  1. Select a plotter from the menu. The cutting data will then be adapted to accommodate the printer selected.
  2. Click the selection button `...` to access the device settings. Settings for the listed plotters are possible: Mimaki device settings see page 94, Mutoh Ultima/SC-PRO series device settings see page 94, SummaSign device settings see page 95, Graphtec device settings see page 93, .

  Tip: If you want to use the value that is entered directly into the plotter, set the value in the device settings to 0.

- **Create cut job when printing:** The **PRINT&CUT** Module automatically creates PLT data when this function has been activated. The plot file names consist of the job name along with a job ID. This ID is printed automatically so that the corresponding plot file can be allocated to a job for the subsequent cutting.

  Note 1: You must have also selected the `Extract cut paths` function at the same time so that the selected cut path can be written into the PLT file. Deactivate this function if you want to create the PLT file at a later date.

  Note 2: **HPGL** must be selected as the plotter language in order to correctly write the data!

- **Folder for cut job files:** The information box that appears on the gray background indicates the current directory in which the PLT files are stored.
  - Click on the selection button `...` to create a new directory or alter the existing one.
- **Quality:** The distances between two points in the calculation of circles and Bézier curves in vectors can be defined by adjusting the `Quality` sli-

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der. This function can be used to process softer curves. The default setting for the slider is in a central position. This setting is ideal for most cut jobs.

- **Maximum segment length: Note**: (Not available for Mimaki FX Series)

  Jobs can be segmented to prevent inaccuracies in longer cutting jobs caused by media transport. The plotter processes all the paths in a segment, realigns the medium and processes the next segment. Motifs that extend over two or more tiles are also processed section by section.

  Mutoh/SC-PRO series:

  Because of the synchronization marks, 350 mm is the minimum segment length. The maximum length should not exceed 500 mm. The **PRINT&CUT** Module divides the entire cut job into tiles of equal size. This means that the actual segment length may be somewhat less than the value indicated, but it will not be exceeded.

  Enter a 0 if you do not want the job to be segmented.

  SummaSign:

  When a SummaSign plotter is used, there is no correlation between the synchronization marks and the segment length. A job is divided according to the segmentation value. If a 1000-mm long job is being processed, for example, a segment length of 500 mm can be given.

  The contours of the first segment are cut completely first, before the second segment is processed, even when the entire motif extends over both tiles. The minimum segment length for Summa plotters is 100 mm, the maximum length should not exceed 500 mm.

  Graphtec:

  When a 10-m long job is being processed, for example, the media transport in the plotter can result in an inexact cut at the end. That's why it is advisable to segment a job and to set additional synchronization marks at a recommended distance of 1 m. Based on the synchronization marks, the segments will then be measured and cut one after the other.

- **Repeat cut paths:** In order to optimize the processing of thicker materials, the cut path can be traced over several times.
  1. Simply enter the desired number of repeats in the input box.
  2. Enter 0 if you want the cut path to be traveled just once.
  3. If you want the path cut three times, for example, enter a 2.

- **After cutting:** After the job has been cut, the blade usually remains standing above the coordinates it last moved to. This function makes it possible to determine the blade's behavior after the cutting process.
    - With `Move to end of job`, the blade will move to the end of the job. The plotter unrolls the medium until the job is completed. The blade then moves to the side, which established a new point of origin for new cutting jobs. This function prevents the blade from having to be moved manually with the head, which could damage the medium.
    - With `Return to origin`, you move the blade back to the point of origin. The plotter rolls up the medium (or takes a cut sheet back for easy removal), it can be removed easily so that the completed cut jobs can be processed further. This is advisable for cut jobs that extend over several meters and are difficult to handle on the rolled-up medium.
- **Options - Synchronization marks:** Based on the plotter selected, special marks are printed to synchronize the printer and the plotter. It is the synchronization marks that communicate the position of the motif and the cut path on the medium to the printer.

    Inaccuracies in the print image (lengthwise) can also be balanced out with the help of the synchronization marks because a re-calculation of the motif is made based on the printed marks.

    Note: The synchronization marks have to be printed with the job (activate the function by placing a checkmark in the box) because that is actually when a PLT file is created, which contains the cutting data of the motif.

    - Enable this function, if you want to print the synchronization marks.

Your printer device will be ready to process cut jobs.

Graphtec device settings

Tip: If you want to use the value that is entered directly into the plotter, set the value in the device settings to 0.

- To simplify further processing with the plotter, a `header` and `trailer` can be entered in the device settings. This enters a distance before and/or after the printed image.
- Under `Condition settings` it is possible to activate up to nine predefined media types for the plotter that deliver the ideal settings for the medium used.

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- The higher the value entered for `Velocity`, the more coarse the results at a reduced processing time will be. Lower values will translate as finer results with a higher processing time.
- `Acceleration` indicates cutting quality. The quality will increase with a lower value, which will in turn increase the processing time.
- The following applies to `Force` for the blade: `Velocity` and `Force` should be adjusted to the medium and the motif. The lower the value, the longer the service life of the blade will be.
- The `Synchronization mark size` refers to the edge length of the square marks.
- The `Print barcode` function prints a job ID that serves to visually identify the job and the print image.

Mimaki device settings

Tip: If you want to use the value that is entered directly into the plotter, set the value in the device settings to 0.

- Mimaki plotters require a 15-mm `Header` and `Trailer`. A value between 40 and 80 mm is the recommended length.
- The option `Synchronization Mark Size` defines the side length of the synchronization marks. `Synchronization Mark Distance` affects the distance between the synchronization marks and the horizontal and vertical edges of the medium.
- `Velocity` and `Acceleration` can be modified as for the Mutoh Ultima to optimize the medium transport.
- Depending on the thickness of the material used, the contact pressure `Force` of the blade can be set at between 20 and 400 g.
- If the `Print Barcode` function has been activated, a job ID will be added to the printout. This job ID is also written in the name when the plot file is created. The cut server uses the job ID to identify the corresponding plot file.

Note: The minimum output length of a job is 100 mm including synchronization marks. The output area between the synchronization marks of shorter jobs will be enlarged until the total output length is 100 mm.

Mutoh/SC-PRO series device settings

Tip: If you want to use the value that is entered directly into the plotter, set the value in the device settings to 0.

- A `header` and `trailer` can be inserted in the device settings to simplify the following processing with the plotter. This function corresponds to the

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header and trailer input boxes in the `Job` tab. Ultima plotters require a 10 to 250-mm header and a 30 to 250-mm trailer or enough space between two jobs to transport the medium correctly. We recommend a value between 65 and 80 mm.

- The cutting speed can be adapted to the motif in the input box marked `Velocity`. While you can select a higher speed for larger motifs with many straight edges and few curves, you should choose a more moderate speed for fine motifs with short cutting distances.

- You can also control the transport of the medium by adjusting the value in the input box marked `Acceleration`.

- The `Force` applied by the blade can vary between 20 to 450 g. This value depends on the thickness of the material used.

- The plotter's `Laser` can be activated in the device settings for demonstration and testing purposes. If this function is set to `On`, then the laser will trace along the cut path.

SummaSign device settings

Tip: If you want to use the value that is entered directly into the plotter, set the value in the device settings to 0.

- The measurements for the `Header` and `Trailer` required have already been taken into consideration in the program. If sheetware or sheets separated from rollware are used, the header and trailer length should be set to 80 mm each.

- Some models in the SummaSign series allow you to set up different user profiles. The `Tool Number` option makes it possible to select a specific user profile directly in the **PRINT&CUT** Module.

- `Velocity` and `Force` can be adjusted to accommodate the medium and the motif.

- The `Synchronization Mark Size` can also be adjusted on older Summa plotters. The value entered represents the edge length of the square synchronization marks.

- The `Print Barcode` function creates a job ID, which is printed out with the printing as a decimal number and as a barcode. It identifies the corresponding plot file and enables the plotter to automatically download the corresponding plot file from the **Color**GATE CutServer.

Note: As a rule, the barcode should always be printed with the job because it also enables a horizontal processing correction. When the line of the barcode is inserted, the plotter sensor passes over the width of the print image and is able to perform a deviation correction if the printing has not been even. The reason could be an inaccurate transport of the media in the previous print job.

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- The **Print Calibration Area** option adds a black square to the prin-tout which can be used, if necessary, to perform a black point adjustment on the plotter sensor.

Cut settings for Roland hybrid devices

If you have selected the Print and Cut function, you can carry out the settings here for the printing cutting workflow.

This function you will find in the job settings printer tab.

Quality

This function allows curves to be processed in finer detail. For most cutting jobs, the default setting is the optimum setting.

- Define the distances between two dots when converting circles and bezier curves into vectors using the **Quality** sliding controller.

Print length

This function is useful with large printed items where the alignment is tricky.

- Specify the length of the print-out here, according to which the cutting process is to be started.

Offset Cut/Print

This occurs in thick printed media where the cutting blade causes an offset by hitting the media at any angle.

- Specify the offset here in the X and Y directions if the cutting line is diffe-rent from the cutting contour.

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6.2 Processing and editing of jobs

Access to the job settings dialog for single jobs:

You are currently loading a job manually and you want to change the settings for the loaded job differing from the hotfolder in the dialog window that is displayed.

- Click on the job in the job queue and select the menu option `Job` > `Settings` or click the icon in the toolbar.

- OR -

- In the job queue, right-click on the job, open the context menu and then go to `Settings`.

The job settings dialog for the job will be opened.

Access to hotfolder settings dialog for new jobs:

Note: Settings specified for the hotfolder only affect newly loaded jobs. Jobs already loaded in the job queue will keep their settings.

You are in Printer Setup (`Printer` > `Settings` on the `Hotfolders` tab) and you want to carry out the settings for a hotfolder from there.

- To do this, double-click on the required hotfolder in the list or select the hotfolder and click on the `Settings` button.

- OR -

- Click on the arrow next to the icon > `Properties > "Printer name"`.

The job settings dialog for the hotfolder will be opened.

Define cropping

Prerequisite: When setting a cropping in the optional You Frame Module (YFM) you must have entered a `Height` and `Width` in the `Frame` tab for the frame size.

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The cropping function is useful when it is required to print an image area out of the motif only to be mounted on a You frame® as canvas print-out.

If you have activated cropping, the RIP software will only rip the cropping section you have defined. Other settings such as color management will only affect that set area. This means that the processing time can be considerably reduced.

How to use the cropping function:

You are in the job settings on the `Job` tab **OR** in the work interface for the RIP software.

- If a section has already been defined with the required size and layout, click the arrow next to the **Cropping** icon and select `Cropping Active`.

- For a new cropping section, click the arrow next to the **Cropping** icon and select `Define Cropping....`.

> Tip: `Cropping Active` and `Define Cropping...` are also available if you right-click on the job in the job queue (context menu) and then click on `Cropping`.

This will take you to the editing window for the cropping section where you can **define and edit** the required cropping area.

1. Select the function by clicking on the icon again. An existing cropping section is now active.

Black lines mark the dimensions of the existing cropping section - for the frame size settings in the Frame tab (YFM) the entered Height/Width.

2. Use the mouse to drag a frame around the required image section or enter the dimensions into the text boxes. The edit boxes `Distance X/Distance Y` with the zero point at the top left and `Width/height` are available to do this.

3. By clicking `OK` (green checkmark) you will apply the changes and turn back to the main program interface. The software will scale the cropping area to the selected frame size.

Changing the cropping section

You are in the cropping window.

- **Moving the cropping section:** The cropping section can be moved when you see the hand. The dimensions will remain unchanged during this operation.
    - Move the mouse over the cropping section and press the Crtl key.

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- OR -

- Enter in the edit boxes the value in X direction ▸| and the value in Y direction ⤓.

• **Unproportional size changes:**
  • Move the mouse over the lines of the square crop section and drag the lines to the required width or height.

  - OR -

  • Enter the values for the cropping width ↔ and height ↕ in the edit boxes.

• **Proportional size changes:**
  1. Move the mouse over the marking lines and hold down the Crtl key at the same time.
  2. Drag the cropping section to the required size.

• **Proportional, equilateral size changes:**
  1. Move the mouse over the marking lines and hold down the Shift key at the same time.
  2. Drag the cropping section to the required size; the location of the cropping center point will remain the same.

Tip: Observe the notes in the status bar underneath the editing window.

Set up manual tiling

Prerequisite: In the job tab of the job settings the function Rotate must set to 0°, 90°, 180° or 270°. When Rotate is set to Auto, the tiling function will be deactivated.

ⓘ *This function is only available as an option in some product categories.* When manual tiling is selected, the RIP software will switch from automatic tiling to manual tiling. This means that you can set a new tiling or edit the dimensions of existing tiles.

How to set up manual tiling:

Note: Manual tiling means that the functions **Cropping**, **Rotate**, **Center**, **Offset** and all functions that change the print image size will be deactivated.

You are in the Job Settings on the `Job` tab OR in the preview mode (toolbar).

1. Press the arrow next to the manual tiling icon 🖼 and click `Define Ti-ling...`.

This will take you to the **Tiling window** where you will see the **current effects** of the automatic tiling if it is active:

- A black line marks the edges of the individual strips.
- Horizontally/vertically hatched areas represent the distance between two tiles.
- Diagonally hatched area indicate the overlap between two tiles.
- The single tiles are numbered showing numbers (ascending in a row) and letter (ascending in a column) which can be ouput including with the InfoText.

Use tiling assistant

Prerequisite: In the job tab of the job settings the function Rotate must set to 0°, 90°, 180°or 270°. When Rotate is set to Auto, the tiling function will be deactivated.

*This function is only available as an option in some product categories*The tiling assistant resets an existing tiling and provides the option of entering all values manually, such as overlap, distance and segment size.

How to use the assistant for the tiling:

You are in the editing window for the tiling or in the main program.

1. In the editing window for the tiling, click the icon for the tiling assistant .

- OR -

1. In the main program, click on the arrow next to the icon for the tiling and then on `Tiling Assistant`.
2. Select either a horizontal or vertical tiling or both combined .
3. Enter the values for the overlap and distance.
4. Enter the segment size or number of tiles. When specifying a number, the **width/height** is calculated automatically. When specifying the width/height, the **number** of tiles is calculated.
5. Clicking on `Finish` will apply this new tiling and replace the existing tiling.

After using the assistant you can still change the tiles as normal.

Adjust tiling

Prerequisite: In the job tab of the job settings the function Rotate must set to 0°, 90°, 180°or 270°. When Rotate is set to Auto, the tiling function will be deactivated.

 This function is only available as an option in some product categories. You are in the tiling window.

- **Tile document:**
  - If no tiling is yet active, select the entire document by clicking or using Crtl + A.
  - Then define the width/height of the first segment in the text input field or .

- **Move segment:**
  - Move the delimitation lines for the individual tiles manually using the mouse or add extra lines. Clicking the mouse on a segment will display its dimensions in the top section of the text boxes.

    - OR -

  - If there are exact values, enter these values into the top text boxes or .

- **Enter overlap:** Overlaps are additionally printed border areas of a segment. They contain information about the segment next to it and therefore overlap.
  - Enter under **overlap right** and/or **overlap left** values for additional print for the marked segment.

- **Reset tiling:**
  - Click on to switch to automatic tiling.

    If there was a manual tiling, it will be deactive.

- **Save or open tiling:** To save the completed tiling:
  - Click on and save the CTL file with a suitable name.

    To apply an existing tiling to another job:

  - Click on and open a CTL file with dimensions of the tiling.

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Split tiles into jobs

ℹ️ *This function is only available as an option in some product categories*Use this function to create single jobs from tiles in a tiled job.

1. Highlight the job in the job queue.

2. Click the arrow next to the icon in the main tool bar and `Split ti-les into jobs`.

- OR -

2. Go via the context menu or the main menu to `Job` and `Split tiles into jobs`.

After that the jobs will be displayed in the job queue separately. They are named with the original file and additionally with the segment number.

Tip: Use this function in combination with the container to reprint segments space and media optimized together with further jobs.

Print Info Text

Activate this function if you want to print job-related information on image properties, profiles used or the color mode of the printer, for example, in addition to the job.

How to print additional text information with the job:

Note: This additional text information is not displayed in the preview.

You are in the Job Settings on the `Job` tab.

1. Select `Edit Info` by clicking the arrow next to the ℹ️ icon. A dialog box will be opened. In the left-hand area you will see the available job infos.

Samples:

`Copy Count`: The number of copy and the entire number of copies when having multiple output (Copy x/y).

`Printer Name`: The name of the used printer.

`Printer Resolution`: The selected resolution in the advanced settings.

`Page Number`: The page number when having multiple pages.

`Workflow Type`: The workflow selected in the workflow settings or used in the MIM.

1. Click on to open a **recently defined configuration** for info text.

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- OR -

1. Make sure that `user defined` is selected in the top left drop-down menu to use **any constellation of items**.
2. Click `Show only job infos with valid values` to avoid details being printed without values.
3. Select the required information there and click `Add` to move it to the right-hand area.

- OR -

1. For **default adjustments of typical workflows** select the required workflow in the top left drop-down menu such as Standard (Production). Only relevant information will be automatically listed under `Selected information:`. For the new media standard print 2007 appropriate text information will be shown choosing `Standard (ISO 12647-7)`.

You have further **options** to:

- Arrange information as you like by clicking the `Move Up` or `Move Down` buttons.
- Add information after a line break by clicking the `New Row` button.
- Enter free text. Insert the required text after clicking the `Free Text` button into the text field `Text:`.
- Display the associated values by activation the checkbox `Show current values`.
- You can also store the user defined configuration carried out using 🖫 to open it again later on.
- In the lower area of the dialog box you will see a preview that shows how the selected information appear on the print.

4. Click `OK` to apply the adjustments.

Use visual scaling

ℹ️ *This function is only available in some product categories.* The visual scaling is used to assign a specific value to a freely selected distance within a job, with the entire image being modified accordingly.

This is useful if you want to make images, image sections or image elements a specific size and print them. The visual scaling function is ideal for exhibition stands and template objects.

How to use the visual scaling function:

Note: The visual scaling can only be used on individual jobs.

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You are in the work interface for the RIP software and have three options for **opening the visual scaling:**

- Select the required job and select the icon for visual scaling
- Right-click on the required job and open the context menu. Select `Visual scaling` from there.
- Click on the `Job` menu and select `Visual scaling` there.

After that you will enter the editing window for the visual scaling**.**

1. Use the mouse to drag a line of the required length.
2. Enter the required new length in the text box.
3. Use `OK` (green checkmark) to apply the changes and return to the regular RIP software interface. Your job is scaled.

Use windows

In the view and edit mode for tiling, cropping and container as well as the advanced preview you can use the following tools:

- Use `Zoom` to enlarge an area of the image using a frame and `Zoom Out` to restore the previous status of the image.

- `Cancel` is used to close the editing window, without saving the changes.

- `OK` is used to apply the changes and return to the regular RIP software interface.

6.3 Advanced job settings and color management/process settings

The advanced job settings cover the raster and profile settings as well as corrections to the color, tonal value and grayscales depending on the product. Some of the functions described here are only available within additional modules, product categories or products.

How to get there:

1. Select the `Process Settings` (screen workflow) or the `Color Management` (production/proof workflow) tab in the job settings dialog.
2. Click the `Settings...` button. You will see the advanced job settings.

The individual tabs in the advanced job settings:

- **Advanced settings in screen workflow see page 106:** For choosing in screen workflow a screen, the linearization as well as options such as the negative output.

- **Select profiles see page 109**: For allocating input and output profiles as well as Rendering Intents and for selecting a linearization . Selection of the DeviceLinks, the simulation profile in the proof workflow and the ambient light type in the photo range can also be selected here.

- **Set print mode see page 118**: For setting up the correct setting of the printer using resolution and the correct choice of cartridges in production/proof workflow.

- **Set print mode screen workflow see page 121:** For setting up the correct setting of the printer using resolution and the correct choice of cartridges in screen workflow.

- **Set screens see page 125**: For achieving the required print output using the screen and other options. This tab is not available if you use printers which perform the screening by using a built-in module (Canon PB, Epson HTM, HP Contone).

- **Adjust tonal value see page 127** *This function is available in some products or within the additional proof module.*: To adapt in proof the tonal values of the single color channels.

- **Adjust tonal value in screen workflow see page 123:** To adapt in screen workflow the tonal values of each single separation.

- **Set grayscale conversion see page 128** *This function is available in some products or within the additional photo module.*: For converting color images with tonal shades into grayscale images in the photo range. Examples of this include sepia images, images with a metallic appearance and neutral images.

- **Perform color correction see page 129** *This function is available in some product categories.*: For making color corrections (gradation and white point) independently of the profile for the job or hotfolder if the image is too color intensive, for example.

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- **Set droplet sizes for CCM see page 131**: For specifying the calculation basis for the Cost Calculation Module and entering the droplet sizes used by the printer if required.

Advanced settings in screen workflow

Prerequisite: A printer definition was added.

This tab is only available in Screen Workflow. Here you select the screen, its dot size, the linearization and other printer-specific options.

How to make further advanced settings:

Open the dialog for the advanced screen workflow settings:

1. Choose the `Process Settings` tab.
2. Click the `Settings...` button. You will see the advanced job settings.
3. Choose the `Advanced Settings` tab.

Screens:

Below `Screen` you can select the appropriate screen setting.

Tip: If you want to use screens from previous versions, activate the appropriate option in the programm settings dialog.

Available screens:

- **Screen Workflow (for screen printing)**

  For every screen type is applied:

  - If you have a composite file, the tab's colors for spot colors are displayed in red. If you have a separated file, the displayed tab color references to the real color of the spot color.

  PostScript:

  Here you can set the angles of the color channels on your own.

  The activated function `Accurate Screens` reduces the Rip speed, but achieves the following characteristics:

  - the construction of the screen cell will be improved,
  - the quality is independent of screen angles,
  - Moirè occurence will be reduced and
  - the accuracy of screen angles will be increased.

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ⓘ *This option is only available in the hotfolder settings.* `Screensettings from original file` means that it will be based on the screen settings made in the file.

`All channels` transfers the settings made for a tab to all other channels.

Approved in screen printing is an elliptical dot type. **Below you will find some more available screen dot shapes as image:**

	Cosi-neDot		Ellipse		Inverte-dEllipseA		OutCirc-leWhi
	Cross		Ellip-se7030		Inverte-dEllipseC		Rhom-boid
	De-fault		EllipseA		Inverted-SimpleDot		Rhom-boid2
	Dia-mond		EllipseB		Line		Round
	Dia-mond2		EllipseC		LineX		Simple-Dot
	Dia-mond3		Grid		LineY		Square
	Doub-le		Inverted Double		MicroWa-ves		Star
	Doub-leDot		Inverted Double-Dot		OutCirc-leBlk		
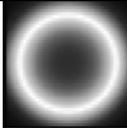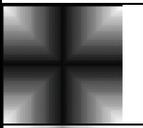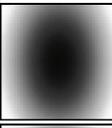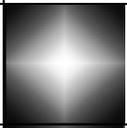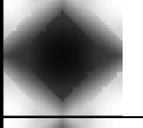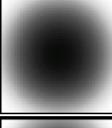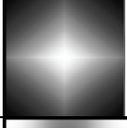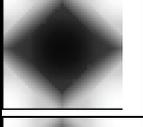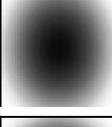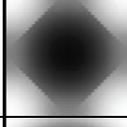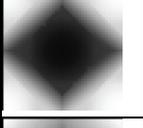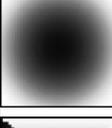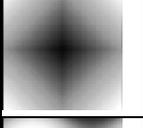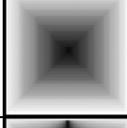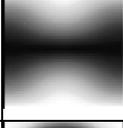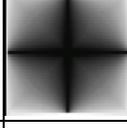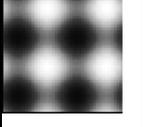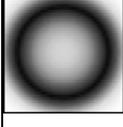
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If **All channels** is not activated, you will see a single colored tab for each process and spot color. There you can apply lpi-number, the angle or the dot sizes independently from screen and chosen settings. A tool-tip shows the name of the color when moving over the tab.

Super Rosette:

Screens are used as bitmap templates. All angles in a screen set are carefully aligned to avoid Moirés between the angles in the print-out of colors together.

Hybrid Raster:

- The process colors Cyan, Magenta, Black are built up using the screen **Super Rosette** by default, the Yellow channel using the screen **Speed Screen**. Moirés can be avoided.
- Depending on the resolution (from 1440 dpi) in the **Printmode** tab, for all channels both screen types **Super Rosette** and **Speed Screen** with different angles and lpi-numbers are selectable.

Tipp: Switch angles and screen types to avoid or reduce existing Moirés.

Example: Does the job have a high amount of Cyan and Magenta, there is a high risk to get a Moiré between these two colors. Switch the screen types of the channels Yellow and Magenta: Choose for Magenta the screen **Speed Screen** and for the Yellow screen **Super Rosette** with the previous screen angle of color Magenta.

- However, the size of the yellow print dots is not variable on the grounds of the FM technology. This result is, when having a high resolution (for example: 2880 dpi), that these dots will not be printed. They will fall through the screen.

The following screen types can be selected:

- **AM screen**

  These are screens with a grid of regularly ordered dots that vary in size. This will result in the color density. Channels CMYK will be printed angularly, so that dots do not lie upon each other.

  PostScript: belongs to the PostScript screen group

  Super Rosette: uses the SuperCell technology

- **FM screen**

These are screens with same sized dots ordered in unregular distances to each other. They vary in the number of dots which results in the different color densities.

Speed Screen: belongs to the Threshold Array screen group

ColorGATE-Crispy, ColorGATE-Smooth, Floyd-Steinberg: belong to the Error Diffusion screen group

- **Hybrid screen**

    This screen group is a combination from AM and FM screen.

    Hybrid Screen: consists of Speed Screen (FM) and Super Rosette (AM).

Linearization:

You can select the required CCX file, if you have created a linearization file or imported/selected a MIM (in the process settings). It will be applied when printing.

`Options`

Negative output:

Note: Activate this function before starting the linearization process to include this setting.

This function allows the creation of negative color separations such as for the flexoprinting. Exactly that parts of the film will be printed on, which will not be printed when using a printing method with film positives. Infotext, registration marks and cut marks will be inverted as well.

No ink below: A white area can contain small colored dots, that are slightly visible. To avoid that, you can enter a value in percent here. Values of the color below that value will be ignored in the output and not be printed.

You have determined the advanced settings here and can change to one of the next tabs `Tonal Value` or `Print Mode` for resolution and dot size.

Select profiles

Prerequisite: An Output Profile for the connected printer is present.

Here you specify the input profiles for the color models as well as the output profile, and the simulation profile in the proof workflow.

How to select the appropriate profiles:

Open the dialog for the profile settings:

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1. Select the `Color Management` tab.
2. Click the `Settings...` button. You will see the advanced job settings.
3. Select the `Profiles` tab.

Depending on the configuration of your RIP software, there are specific functions and check boxes available to you:

In the production workflow: In the Color Server workflow:

The production workflow permits the maximum use of the printer gamut. Print-outs with bright colors are possible with the restrictions of the print system.

The Color Server workflow permits to simulate a printing machine's output that is output on an inkjet printer. To be able to have a realistic print even without having that proof printer it is possible to print-out the result on a different inkjet printer device that is connected to the RIP application PC.

- **Proof Workflow Input Profiles see page 117**

- **Production Workflow Input Profiles see page 115:**

- **Rendering Intents:** The color transformation of a source color space (input profile) into a target color space (output profile) is carried out by a color computer (CMM: Color Matching Module). The rules used for these color transformations are set by the Rendering Intent (RI) used.

   The following Rendering Intents are possible in the RIP software (see glossary for a description):

   Photographic Rendering Intent

   Relative Colorimetric Rendering Intent

   Absolute Colorimetric Rendering Intent

   Saturation Rendering Intent

   Absolute Perceptual Rendering Intent

   Black Compensation Rendering Intent

   Lightener Compensation Rendering Intent

- **Ambient Light:** *This function is included in the optional Photo and Fineart module.*This function is used to taken into account the ambient light of prints issued during the manufacturing process.

   > **Example:**If print-outs are to be hung in a gallery and lit using halogen lights, the print output can be optimized for the ambient light in the gallery. This achieves a better gray balance as well as color reproduction of the print-outs that will still display the correct colors under halogen lights.

   First option:

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1. Select an appropriate profile from the list. The numbers 55, 60 and 75 in the profile files provide information on the color temperature. The higher the value, the more the image is adjusted for cool ambient light.

Second option:

> **Prerequisite**: You need the X-Rite Eye-One with a special measuring head for measuring the ambient light and the ™EyeOne-Share software included for archiving the measurement value(s).

1. Here you generate an ICC profile produced by measuring the local light conditions. To do this, click on `Create profile`.
2. Then select the CXF file that you have previously created with the required ambient light. During the loading process, a profile is created from that which is displayed in the list.

- **Simulation Profile:** Here you select the ICC profile for the inkjet printer whose print result of a printing machine's proof you want to simulate on the connected printer. Here are some of them:

    ISO Profiles: The user association European Color Initiative ECI, in collaboration with FOGRA and the Bundesverband Druck und Medien (The German Printing and Media Industries Federation) provides standard ICC profiles for the printing media standard and the offset printing process standard. As these German standards are in turn based on the international ISO 12647-2 standard, the ECI has called these profiles ISO profiles.

    FOGRA profiles: These profiles have been produced by FOGRA. These use the same settings as for the Altona Test Suite .

    CG SWOP.icc: An in-house profile based on the orginal US-SWOP-Targets.

    USWebCoated: A standard SWOPcoated profile for continuous printing in the USA.

    GRACoL2006_Coated1v2.icc: An optimized profile for the sheet fed offset printing in the USA.

    SWOP2006_Coated3v2.icc/SWOP2006_Coated5v2.icc: Optimized profiles for the web offset printing in the USA.

- To do this, click on the icon and then select the required ICC profile.
- Leave the `Absolute Colorimetric` rendering intent set by default to simulate the paper white as well.
- Select `Relative Colorimetric` for proofs without a paper white simulation.

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Output Intent:

A PDF file designed for output in high resolution, normally contains an Output Intent containing an ICC profile. If this function is grayed out, the file has no embedded profile.

- Select **Use embedded profiles** for PDF files to use the attached simulation profile (printing condition) .

- **Output Profile:** Here you select the output profile for the connected printer that you are using to produce your print jobs.

  By separating linearization and output profile it is possible to generate multiple printer profiles based on a linearization. Each profile may have different settings for the black generation, for example.

  You have loaded this profile with the CMP file ⓘ *This is an optional module available.* or generated using another application and put into the folder "C:\Documents and Settings\All Users\Application Data\\PRODUCTNAME\Profiles\OutputProfiles".

  All profiles for this printer or for this color mode (CMYK/CMYKOG) are displayed in the list. Profiles for other printers can be added via the Profile Administration.

  - To do this, click on the ▶ icon and then select the required ICC profile.

- **Linearization:** Here you select the linearization for the connected printer that you are using to produce your print jobs.

  This CCX file will have been loaded either with the CMP file or using the Linearization Assistant ⓘ *This is an optional module available.*.

  - To do this, click on the 📈 icon and then select the CCX file required for the linearization.

In the proof workflow:

The proof workflow also uses the simulation profile (printing condition) of the print system to be simulated. After the screen process, the CMYK data from the simulation profile are converted using a DeviceLink profile into the output color space.

- **Proof Workflow Input Profiles see page 117:**
- **Printing Condition:** Here you select the ICC profile for the printing machine whose print result you want to simulate on the connected printer. When creating a new hotfolder or MIM, the CMKY input profile set in the input profiles dialog is firstly used as the default.

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This profile will have been generated using the Reference Profiler Assistant ⓘ *This is an optional module available.*. Amongst some others you can also access **standard profiles:**

ISO Profiles: The user association European Color Initiative ECI, in collaboration with FOGRA and the Bundesverband Druck und Medien (The German Printing and Media Industries Federation) provides standard ICC profiles for the printing media standard and the offset printing process standard. As these German standards are in turn based on the international ISO 12647-2 standard, the ECI has called these profiles ISO profiles.

FOGRA profiles: These profiles have been produced by FOGRA. These use the same settings as for the Altona Test Suite .

CG SWOP.icc: An in-house profile based on the orginal US-SWOP-Targets.

USWebCoated: A standard SWOPcoated profile for continuous printing in the USA.

GRACoL2006_Coated1v2.icc: An optimized profile for the sheet fed offset printing in the USA.

SWOP2006_Coated3v2.icc/SWOP2006_Coated5v2.icc: Optimized profiles for the web offset printing in the USA.

- To do this, click on the ▶ icon and then select the required ICC profile.
- Leave the `Absolute Colorimetric` rendering intent set by default to simulate the paper white as well.
- Select `Relative Colorimetric` for proofs without a paper white simulation.

Output Intent:

A PDF file designed for output in high resolution, normally contains an Output Intent containing an ICC profile. If this function is grayed out, the file has no embedded profile.

- Select `Use embedded profiles` for PDF files to use the attached simulation profile (printing condition) .

- **Proofer Profile:** Here you select the output profile for the connected printer that you are using to produce the simulation prints.

  By separating linearization and output profile it is possible to generate multiple printer profiles based on a linearization. Each profile may have different settings for the black generation, for example.

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You have loaded this profile with the CMP file ℹ️ *This is an optional module available.* or generated using another application and put into the folder "C:\Documents and Settings\All Users\Application Data\\PRODUCTNAME\Profiles\OutputProfiles".

All profiles for this printer or for this color mode (CMYK/CMYKOG) are displayed in the list. Profiles for other printers can be added via the Profile Administration.

- To do this, click on the 🎨 icon and then select the required ICC profile.

- **Linearization:** Here you select the linearization for the connected printer that you are using to simulate your print jobs.

   This CCX file will have been loaded either with the CMP file or using the Linearization Assistant ℹ️ *This is an optional module available.*.

   - To do this, click on the 📈 icon and then select the CCX file required for the linearization.

- **Use DeviceLinks:** If a device link is active, a temporary DeviceLink profile is generated during the screen process. It is calculated from the simulation profile and the output profile (proofer profile) using the selected rendering intent.

   > **Note**: For optimum print output in the proof workflow, it is important to use DeviceLinks.

   - In any case, activate `Use DeviceLinks` to use the settings for the DeviceLink technology .
   - If possible, use the **DEVICELINK PROFILER** Assistant ℹ️ *This is an optional module available.* to optimize a DeviceLink profile and activate it using `Use DeviceLinks`.
   - If the function is activated, the profile used is displayed under the `Use DeviceLinks` check box.

   When clicking `Options` a new dialog will open that allows to make settings to the DeviceLink calculation in the Color Server Workflow.

General functions:

- **Saturation Enhancement: Prerequisite**: An output profile must be selected.

Using this function you can increase the saturation of output colors. It will be considered in the calculation of reference values in the QAM (Quality Assurance Module) as well.

1. Select the required level in the drop down menu from `Low` to `Very high`. Check the changes in the before and after preview by clicking `Apply`.
2. Additionally to the job, you can output the applied saturation setting level as text information.

The profiles have been selected. Close the open dialog window using `OK` and return to the main program.

Production workflow input profiles

For a color transformation on the output color space for the printing system, all incoming colors must have color information added to them. To do this, all input data runs through an input profile. For the color types RGB, CMYK and for grayscale images you can select an input profile separately.

RGB:

AdobeRGB1998.icc: This is a color space developed by Adobe that is very popular with photographers in particular for working with Adobe applications. Unlike ECI-RGB v1.0, it uses another gamma value and white point .

CG-RGB-regocnition.icc: This is an in-house test profile that changes the RGB colors significantly. It can be used to check whether RGB objects are included in the file. This profile is not suitable for printing.

ECI-RGB.V1.0.icc: This is an RGB color space recommended by European Color Initiative (ECI) as a work and replacement color space for advertising agencies, publishing houses, repro companies and print shops.

eciRGB_v2.icc: This profile is a technically improved adaption of the version 1.0 profile. It brings substantial advantages in the shadows, as the risk of posterization effects is significantly reduced. Errors caused by colour space conversions are minimized. New projects should be created using this profile.

sRGB Color Space Profile.icc: This profile is smaller than the color spaces of modern printing machines as well as color printers and large-format printers. This profile was originally developed for screen display.

CMYK:

ISO Profiles: The user association European Color Initiative ECI, in collaboration with FOGRA and the Bundesverband Druck und Medien (The German Printing and Media Industries Federation) provides standard ICC profiles for the printing media standard and the offset printing process standard. As these German standards are in turn based on the international ISO 12647-2 standard, the ECI has called these profiles ISO profiles.

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FOGRA profiles: These profiles were developed using the associated characterisation tables with the program Print Open™ from FOGRA. These use the same settings as for the Altona test suite .

CG SWOP.icc: An in-house profile based on the orginal US-SWOP-Targets.

USWebCoated: A standard SWOPcoated profile for continuous printing in the USA.

Grayscale images:

The same profiles are available as for CMYK data.

By default, the profiles set under Define input profiles are selected. The default RGB profile is ECI-RGB.V1.0.icc profile. The standard profile for CMYK and grayscale data is ISOcoated.

- If required, select another profile from the list.
- Select `Use embedded profiles` to use with PDF /X-3 files and all other files supported by the software, attached input profiles. They are selected automatically in the relevant list.
- Select `Preserve pure colors` to exclude the selected colors **black** Example: C=0, M=0, Y=0, K=80 / **C,M,Y,K** Example: C=90, M=0, Y=0, K=0 / **C,M,Y,K,R,G,B** Example: C=80, M=80, Y=0, K=0 / **C,M,Y** Example: C=0, M=0, Y=50 from the color management.

Example: You have created a color as **magenta** in your job. This color should be output without being broken down in the CYMK process colors by the color management.

Use input profile on pixel data or vector data:

- **Activated**: Active by default for all pixel data and vector data. This means that the selected input profile is applied to all elements of the file.
- **Deactivated**: To exclude the color data in the file being edited by the color management (no profile applied). This option is not suitable for a correct color output.

Tip: JPG and TIFF files contain only pixel data. PDF, EPS and PS files can contain both pixel and vector data, such as the Altona test suite.

Information to rendering intents:

- The `Photographic` rendering intent is selected by default for all color types. If necessary, try the `Relative Colorimetric` rendering intent to make improvements.
- Does the image contain Lab pixel data, the rendering intent selected for the RGB input data will be taken by default. Does the image contain Lab vector objects, the rendering intent `Absolute colorimetric` will be used by default.

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Proof workflow input profiles

For a color transformation on the output color space for the printing system via a simulation color space, all incoming colors must have color information added to them. To do this, all input data runs through an input profile.

- For the color type **RGB** select an input profile. By default, the profile set under Define input profiles (menu **Options** > **Input Profiles...**) is selected. The default RGB profile is ECI-RGB.V1.0.icc.

- For the CMYK color types and for grayscale images, the simulation profile (printing condition) will apply in each case as this is included in the print output calculation for the simulation. When creating a new hotfolder or MIM, the CMKY input profile set in the input profiles dialog is firstly used as the default.**RGB input profiles:**

    AdobeRGB1998.icc: This is a color space developed by Adobe that is very popular with photographers in particular for working with Adobe applications. Unlike ECI-RGB v1.0, it uses another gamma value and white point .

    CG-RGB-regocnition.icc: This is an in-house test profile that changes the RGB colors significantly. It can be used to check whether RGB objects are included in the file. This profile is not suitable for printing.

    ECI-RGB.V1.0.icc: This is an RGB color space recommended by European Color Initiative (ECI) as a work and replacement color space for advertising agencies, publishing houses, repro companies and print shops.

    eciRGB_v2.icc: This profile is a technically improved adaption of the version 1.0 profile. It brings substantial advantages in the shadows, as the risk of posterization effects is significantly reduced. Errors caused by colour space conversions are minimized. New projects should be created using this profile.

    sRGB Color Space Profile.icc: This profile is smaller than the color spaces of modern printing machines as well as color printers and large-format printers. This profile was originally developed for screen display.

Apply input profile to data :

- **Activated**: active by default. This means that the selected input profile is applied to all elements of the file.

Information to rendering intents:

- The **Photographic** rendering intent is selected by default for all color types. If necessary, try the **Relative Colorimetric** rendering intent to make improvements.
- Does the image contain Lab pixel data, the rendering intent selected for the RGB input data will be taken by default. Does the image contain Lab

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vector objects, the rendering intent `Absolute colorimetric` will be used by default.

Using external output profiles

Here it will be explained step-by-step how to create output profiles in an external profiling application and how to use them into the RIP software.

1. Select a desired MIM.
2. Create a linearization by using the linearization assistant.
3. Extract a profiling target from the external profiling software and save it as file.
4. Load this target into the RIP software as job.
5. Apply the suitable MIM and linearization to the loaded target.
6. Print the profile target from the RIP software.
7. Read the target using the external profiling software and create an ICC output profile.
8. Put the completed profile into the profiles folder (user directory) with any name.
9. Go to the `Options` menu to `Profile Administration` and click `Update List`.
10. Select that saved output profile in the advanced job settings and confirm with `OK`.
11. Back in the `Color Management` tab select `Store to MIM` to add the profile permanently in the MIM.

- OR -

11. Optionally you can edit or copy an existing MIM using the MIM administration to add the profile to the MIM. You must apply the MIM again in the color management settings.

An external profile has been added that can be used for printing.

Set print mode

Prerequisite: A printer definition has been created. For the function **Special Colors** the WHITE INK Support needs to be ordered as option.

Here you determine the print mode for hotfolders or individual jobs. These are printer-specific details on the color mode (cartridges used), resolution and print behavior (passes, bidirectional), speed settings of the print head and varied temperature and drying time settings.

Settings such as resolution and color mode are calculated with the job during the RIP process. Information such as passes, temperature and print direction are sent directly to the printer as they do not relate directly to the RIP data.

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How to select the print mode:

Open the dialog for the print mode settings:

1. Select the `Process Settings` (screen workflow) or the `Color Management` (production/proof workflow) tab in the job settings dialog.
2. Click the `Settings...` button. You will see the advanced job settings.
3. Select the `Print Mode` tab.

Note 1: The settings vary from printer to printer. Only functions supported by the printer will be displayed. More details on the printer-specific functions can be found in the relevant printer documentation.

Note 2: If the function Use printer settings, available with some printers, is activated, not all the functions will be displayed here. These settings are then carried out directly on the machine.

In Screen Workflow:

- **Printer Settings:** Options here are the resolution and the dot size of a printer dot.
    - Setting the resolution: The higher the resolution, finally the better the print result quality.
    - Does the screen (screen printing) only support coarse resolutions, you should adjust the resolution here to avoid too long ripping times.

In Proof and Production Workflow:

- **Color mode:** Various modes will be available for you here depending on the printer. If the printer supports only one color mode, nothing will be displayed here.

    The color mode can be traced using the color icons. Here are a couple of examples:

     CMYK- Cyan, Magenta, Yellow, Black -

     CMYKLCLM- Cyan, Magenta, Yellow, Black, Light Magenta, Light Cyan -

     CMYKOG- Cyan, Magenta, Yellow, Black, Orange, Green -

    - Select the color mode according to the required printer setup.
    - Some printers are able to define custom media in the printer device (e.g. HP-DesignJet-Z3200). They are based on an existing media and

can be transferred via the `Update Print Mode` button. Then the list under `Printer Settings` will be updated. Such a media can be identified with the leading name `Custom: ...`

> **Tip**: After changing the name of a custom media (in the device), all related MIMs and jobs must be updated via the `Update Print Mode` button.

- **Printer Settings:** Options here depending on the printer are the media type, the resolution and the printing speed.
  - The higher the resolution, the higher quality the print result. The ink consumption increases, however, and the RIP and print processes take longer.
  - If the printed object will be located a great distance from the viewer, low resolution is sufficient.
- Apply special colors see page 147: ⓘ *The option WHITE INK Support is necessary in the Select version.*
- Printing White using Acuity Advance see page 132:
- Printing White using Roland XC-540 see page 143:

In Proof, Screen and Production Workflow:

- **Passes:**
  - Passes provide information on how often the print head prints on the same point. The more passes are selected, the longer the print process will take. Per print direction, only the **proportionate ink quantity** - With three passes, per print direction a third of the ink is used. - is applied.
  - The advantage of a higher number of passes is that the print quality can be increased considerably depending on the media .

- **Bidirectional:**
  - If `bidirectional` is selected, the print heads print in the movement from left to right and from right to left.
  - If the function is not active, printing is carried out in only one direction (while the print heads move from left to right).
  - A bidirectional operation can affect the quality negatively, but accelerates the print process.

> **Tip**: Use this function in combination with `passes` to save time.

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> **Example:** If you have selected four passes, the printer prints in four print passes. If you have also selected bidirectional printing, the printer requires only two print passes.

- **Media compensation see page 121:**

The print mode has been selected. Close the open dialog window using `OK` and return to the main program.

Apply a media compensation

Certain printers have the negative characteristic to print large format prints slightly out of size. By using this function the length as well as width dimension can be compensated automatically.

1. Click on `Define...`. A dialog `Media Compensation` opens.
2. Enter the required dimensions of the job image below `Intended Size`.
3. Enter the printed dimensions below `Actual Size`.

Below `Compensation (%)` the values for the balancing will be calculated that the program combines with the dimensions and sends to the printer.

Set print mode in screen workflow

> **Prerequisite**: A printer definition has been created. For the function **Special Colors** the WHITE INK Support needs to be ordered as option.

Here you determine the print mode for hotfolders or individual jobs. These are printer-specific details on the color mode (cartridges used), resolution and print behavior (passes, bidirectional), speed settings of the print head and varied temperature and drying time settings.

Settings such as resolution and color mode are calculated with the job during the RIP process. Information such as passes, temperature and print direction are sent directly to the printer as they do not relate directly to the RIP data.

How to select the print mode:

Open the dialog for the print mode settings:

1. Select the `Process Settings` (screen workflow) or the `Color Management` (production/proof workflow) tab in the job settings dialog.
2. Click the `Settings...` button. You will see the advanced job settings.
3. Select the `Print Mode` tab.

> **Note 1**: The settings vary from printer to printer. Only functions supported by the printer will be displayed. More details on the printer-specific functions can be found in the relevant printer documentation.

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Note 2: If the function Use printer settings, available with some printers, is activated, not all the functions will be displayed here. These settings are then carried out directly on the machine.

In Screen Workflow:

- **Printer Settings:** Options here are the resolution and the dot size of a printer dot.
    - Setting the resolution: The higher the resolution, finally the better the print result quality.
    - Does the screen (screen printing) only support coarse resolutions, you should adjust the resolution here to avoid too long ripping times.

In Proof and Production Workflow:

- **Color mode:** Various modes will be available for you here depending on the printer. If the printer supports only one color mode, nothing will be displayed here.

    The color mode can be traced using the color icons. Here are a couple of examples:

    CMYK- Cyan, Magenta, Yellow, Black -

    CMYKLCLM- Cyan, Magenta, Yellow, Black, Light Magenta, Light Cyan -

    CMYKOG- Cyan, Magenta, Yellow, Black, Orange, Green -

    - Select the color mode according to the required printer setup.
    - Some printers are able to define custom media in the printer device (e.g. HP-DesignJet-Z3200). They are based on an existing media and can be transferred via the `Update Print Mode` button. Then the list under `Printer Settings` will be updated. Such a media can be identified with the leading name `Custom: ...`

    Tip: After changing the name of a custom media (in the device), all related MIMs and jobs must be updated via the `Update Print Mode` button.

- **Printer Settings:** Options here depending on the printer are the media type, the resolution and the printing speed.

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- The higher the resolution, the higher quality the print result. The ink consumption increases, however, and the RIP and print processes take longer.
- If the printed object will be located a great distance from the viewer, low resolution is sufficient.

- **Apply special colors see page 147:** ⓘ *The option WHITE INK Support is necessary in the Select version.*

- **Printing White using Acuity Advance see page 132:**

- **Printing White using Roland XC-540 see page 143:**

In Proof, Screen and Production Workflow:

- **Passes:**
  - Passes provide information on how often the print head prints on the same point. The more passes are selected, the longer the print process will take. Per print direction, only the **proportionate ink quantity** - With three passes, per print direction a third of the ink is used. - is applied.
  - The advantage of a higher number of passes is that the print quality can be increased considerably depending on the media .

- **Bidirectional:**
  - If `bidirectional` is selected, the print heads print in the movement from left to right and from right to left.
  - If the function is not active, printing is carried out in only one direction (while the print heads move from left to right).
  - A bidirectional operation can affect the quality negatively, but accelerates the print process.

> **Tip**: Use this function in combination with `passes` to save time.

> **Example:** If you have selected four passes, the printer prints in four print passes. If you have also selected bidirectional printing, the printer requires only two print passes.

- **Media compensation see page 121:**

The print mode has been selected. Close the open dialog window using `OK` and return to the main program.

Adjust the tonal value in screen workflow

Prerequisite: A printer was created. You are in Screen Workflow.

The tonal value correction changes the dot and tonal value gain in selected areas such as middle ranges. The output on a screen printing system will be adjusted by using this function.

How to adjust the tonal value:

Open the dialog for the tonal value adjustment:

> **Example:** You have produced on the screen printing machine using the created film positive. Now you notice that at 50% (target status) ink lay down 60% (current status) is printed. Correct this deviation by decreasing the `Output` by 10% at `Input` 50% (- 10%).

1. Select the the `Color Management` tab.
2. Click the `Settings...` button. You will see the advanced job settings dialog.
3. Select the the `Tonal Value` tab.
4. To perform a tonal value correction for all channels at the same time, set the checkmark at `All channels`.

- OR -

4. To perform for each process and sport color the tonal value correction separately, Click on the according tab within the dialog.
5. Create any user-defined anchor points by clicking on the curve. For example in the mid-range it is too light, set a point at 50%. Press **Del** to delete a point.
6. Determine the type of the point. The selection you can find under `Selection > Typ`.

- **Corner:** Here you will have a strong transition from the corrected area to the uncorrected area. It might be visible in the output.
- **Bezier:** Here you will have smooth transitions from the corrected area to the uncorrected area.

7. Select a point, a hand symbol will be displayed.
8. Pull the line to the required place.

- OR -

8. Change the tonal value by entering numerical values in the edit boxes `Input` (current status) and `Output` (target status). The higher the value (max. 40) the higher the correction.

- Select values in the negative range at `Output`, the output will be lighter. If you select values in the positive range at `Output`, the output will be darker.

Via the arrow next to the `Default` button you will find the following options:

- `Default`: Curve settings will be reset to the previous saved status.
- `Default all`: Curve settings for all channals will be reset to the previous saved status.

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- **`Init from Profile...`**: Calculates correction curves from a given ICC profile. The intention of this new feature is to be able to reflect the tonal value increase of a given printing process for which an ICC profile exists.
- **`Import...`/`Export...`**: Set curves can be stored and reloaded as CTVX files as desired.

You have adjusted the tonal value for the required range and now can check the result with the next screen print output.

Set screens

Note: This tab is not available when using printers with integrated modules such as Canon PB, Epson HTM or HP Contone. The modules are in charge of all the screen settings.

Here you can select various screens depending on the workflow and print quality. The selection greatly depends on the printer used and the job.

If you are using an Epson printer with the HTM module, for example, that module will take care of the screening process. Depending on the screen, you will have other options available that are not covered here in detail.

How to select a suitable screen:

Open the dialog for the screen settings:

1. Select the **`Color Management`** tab.
2. Click the **`Settings...`** button. You will see the advanced job settings.
3. Select the **`Screens`** tab.

- **Screen:** Here you select the appropriate screen for the selected workflow.

    Tip: If you want to use screens from previous versions, activate the appropriate option in the programm settings dialog.

    Recommended screens:

    Production / Proof workflow: Speed Screen

    Screen workflow: PostScript

    Note: The recommendation depends on the job and the printing conditions as well as settings. Please choose the appropriate screen for your jobs carefully.

    Available screens:

- Production/Proof Workflow

    Speed Screen:

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- The standard screen is up to 30% faster than ColorGATE-Smooth and up to 60% faster than ColorGATE-Crispy.
- The transfer curves within the profiling can be adapted (Color Transfer).

ColorGATE-Crispy/ColorGATE-Smooth/Floyd-Steinberg:

- Since version 5.0 the screens are not offered by default any more. Still they can be activated in the program settings.
- The transfer curves withing the profiling can be adapted (Color Transfer). However, the automatic adaptions to variable dot sizes (using 2bit) will be ignored.

The following screen types can be selected:

- **AM screen**

  These are screens with a grid of regularly ordered dots that vary in size. This will result in the color density. Channels CMYK will be printed angularly, so that dots do not lie upon each other.

  PostScript: belongs to the PostScript screen group

  Super Rosette: uses the SuperCell technology

- **FM screen**

  These are screens with same sized dots ordered in unregular distances to each other. They vary in the number of dots which results in the different color densities.

  Speed Screen: belongs to the Threshold Array screen group

  ColorGATE-Crispy, ColorGATE-Smooth, Floyd-Steinberg: belong to the Error Diffusion screen group

- **Hybrid screen**

  This screen group is a combination from AM and FM screen.

  Hybrid Screen: consists of Speed Screen (FM) and Super Rosette (AM).

- **No ink below: Note**: This tab is not available when using printers that have integrated modules like Canon PB, Epson HTM or HP Contone. The modules are in charge of all the settings.

  A white surface can actually contain small color dots in the print-out, that are barely visible. To avoid this, you can enter the percentage value for the size of these color dots here. Percentages of the color below this are excluded from the print output.

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Screen settings have been made. Using `Default` you will reset the settings to the previous saved status.

Adjust tonal value

Prerequisite: A printer was created. You are in Proof Workflow adjusted in the `Workflow` tab.

The tonal value correction changes the dot and tonal value gain in selected areas such as middle ranges. The simulated output of a different print system will be adjusted by using this function.

How to adjust the tonal value:

Open the dialog for the tonal value adjustment:

Example: You have simulated a different printer system's print-out on the proof printer device. Now you notice that at 50% (target status) ink lay down only 40% (current status) is printed. Correct this deviation by increasing the `Output` by 10% at `Input` 50% (+ 10%).

1. Select the tab `Color Management`.
2. Click the `Settings...` button. You will see the advanced job settings dialog.
3. Select the tab `Tonal Value`.
4. To perform a tonal value correction for all channels at the same time, set the checkmark at `All channels`.

- OR -

4. To perform for each process and sport color the tonal value correction separately, Click on the according tab within the dialog.
5. Create any user-defined anchor points by clicking on the curve. For example in the mid-range it is too light, set a point at 50%. Press **Del** to delete a point.
6. Determine the type of the point. The selection you can find under `Selection > Typ`.
- **Corner:** Here you will have a strong transition from the corrected area to the uncorrected area. It might be visible in the output.
- **Bezier:** Here you will have smooth transitions from the corrected area to the uncorrected area.
7. Select a point, a hand symbol will be displayed.
8. Pull the line to the required place.

- OR -

8. Change the tonal value by entering numerical values in the edit boxes `Input` (current status) and `Output` (target status). The higher the value (max. 40) the higher the correction.

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- Select values in the negative range at `Output`, the output will be lighter. If you select values in the positive range at `Output`, the output will be darker.
- Using `Default` you will reset the settings to the previous saved status.

You have adjusted the tonal value for the required range and now can check the result with the next proof output.

Set grayscale conversion

This function is included in the optional photo module. Here you convert the color information in the image into grayscale. Various tints are available to you, including black and white, sepia, silver as well as custom tints.

How to use the grayscale conversion:

Open the dialog for the grayscale conversion:
1. Double-click on the preview for the job to open the advanced preview.
2. Click on the icon to display the before and after preview. This means you can track the changes to the job better.
3. Select the `Grayscale Conversion` tab.
4. `Enable grayscale conversion`: Set a checkmark to convert the entire color information of an image either into a black and white image (tint: Neutral) or a **different tint of your choice**. To make the change manually:
   1. Use both sliding controllers.

      - OR -

   1. Click the mouse in the color area.

      If both sliding controllers are set to 0, it will be converted to a neutral grayscale.

      The sliding controller for green/magenta corresponds to the A axis of the Lab color space and th controller for blue/yellow, the B axis.

Tip: The best results are achieved if you used the gray balance optimization during the linearization.

5. `Preserve white`: Set a checkmark to preserve the white dot of the image.
6. Click `Apply` to display the result.

The conversion process will be started. If you are happy with the result, close both open dialog boxes using `OK`. You will return to the main program.

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Perform color correction

Prerequisite: A MIM for the printer created has been imported and selected.

🛈 *This function is available as an option in some product categories.* The color correction can be used to change the gradation curves of the process colors and therefore to affect the color output in a targeted way. These settings have been separated from the properties of the ICC profiles to avoid damaging the profiles.

Adjustments to the gradation curves can be stored for a hotfolder and therefore affect all the incoming data. You can also enter the brightness, the contrast and the gamma value using numerical values.

How to perform a color correction:

Open the dialog for the color correction:

1. Double-click on the preview for the job to open the advanced preview.
2. Click the 🖼 icon to display the before and after preview. This means you can track the changes to the job better.
3. In the job settings dialog, select the `Color management` tab.
4. Click the `Settings` button. You will see the advanced job settings.
5. Select the `Color correction` tab.

You will see setting options for gradation, brightness, contrast and gamma.

- **Gradation**: Here you can compensate for any color faults in the print-out.
    1. To perform a gradation correction for all characteristics simultaneously, set a checkmark for `All channels same`.

       - OR -

    2. To perform the gradation correction separately for each process color, click in the dialog box on the relevant colored tab.
    3. In the gradation line, create any number of anchor points by clicking on the line.
    - If you select a point, you can change the line by moving or
    - by numerical input of the values into the text boxes for `input` and `output`.
    4. Click in the job settings dialog box on `Apply` to evaluate the result.
    5. Evaluate the result of the correction in the right-hand image and perform any other corrections required.

- **Brightness**: Here you adjust the brightness and darkness of images.
    1. Enter a value between 0 and 100 in the text box for `brightness`.
    2. In the job settings dialog box, click `Apply`.
    3. Evaluate the result of the correction in the right-hand image and perform any other corrections required.

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- **Contrast**: Here you modify the mid-tones in the image. The higher the value, the stronger the mid-tone contrast.
    1. Enter a value between 0 and 100 in the text box for `contrast`.
    2. In the job settings dialog box, click `Apply`.
    3. Evaluate the result of the correction in the right-hand image and perform any other corrections required.

- **Gamma**: Here you compensate for the non-linear brightness perception of the viewer.
    1. Enter a value between 0 and 50.80 cm the text box for gamma. Values with decimal points are possible. The value 1 is the default value.
    2. In the job settings dialog box, click `Apply`.
    3. Evaluate the result of the correction in the right-hand image and perform any other corrections required.

- **Workflow white point** *This function is contained in the proof workflow. An additional module is necessary.*: Here you carry out fine corrections to the white point. When you are using papers with optical brighteners in particular, the paper white simulation may not be optimal. **Note**: Bear in mind that when using this function, the technical measurement evaluation with a spectral photometer can be worse.
    - The color definition of the white point can be seen in the left-hand area of the correction window. Using the correction regulators you can set a low correction of -10% to +10%.
    - `Limit`: The corrections relate only to the clear area up to a freely defined percentage. By default the value 30% is stored, that produces good results.

    Note: If you deactivate the `limit`, the correction is applied to the entire gradation curve. This can also result in undesirable color shifts in the mid tones and shaded areas.

    - `Characteristics preview`: To view the effects of the corrections of the white point and the `limit` function.
    - The change is displayed in the image on the right in the before and after preview.

If you are happy with the result, close both open dialog boxes using `OK`. You will return to the main program.

Set user defined droplet sizes (CCM)

Prerequisite: The cost calculation function is enabled in the print workflow settings (`Workflow` tab).

This function is available within the Cost Calculation Module. The droplet sizes will be the basis for an ink usage calculation. They depend on the print mode (e.g. resolution) and will be saved in the MIMs.

How to specify droplet sizes if required:

Open the dialog for the droplet sizes:
1. Select the `Color Management`/`Process Settings` tab.
2. Click the `Settings...` button. You will see the advanced job settings.
3. Select the `Cost Calculation` tab for individual droplet sizes. They will be used as basis for the cost calculation.

Depending on the printer driver there are two possible different settings:

A) If the driver **does provide** the droplet sizes, the check mark next to `Use custom droplet sizes` is off. Then you do not need to change settings. If print or color mode changes, the values for the droplet sizes will adapt automatically.

B) If the driver **does not provide** the droplet sizes, the check mark next to `Use custom droplet sizes` is on.

1. Then enter in `Droplet size` the appropriate value that depends on the printer's print and color mode settings. Contact your software partner or printer manufacturer to request this information.

2. Save the values by clicking on in a file. Name the file according to the print and color mode to be able to relate it easily.

Note: If you change relevant options in the print mode tab (advanced settings), you might have to adapt the droplet sizes again. Load - if existent - the settings file with the appropriate values by clicking on .

---

3. Close the advanced settings and the job settings dialog by clicking on `OK`.

Now the basis for calculation of usage costs has been set.

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Printing white and special colors

Using the Acuity Advance flatbed printer

The Acuity Advance printer supports printing with white ink for various applications. Since this printer is able to print layers, white and color printing can be combined that aims to achieve several different possible variations. Nevertheless a "Non Layered Mode" is available that tend more to accomplish less flexible applications.

To get a basic understanding for this topic, the software settings will be explained comprehensively. The following description will cover the practical usage which is organized into file structure, display of print and finally the settings in the software.

Software settings:

You will find the software settings in the job or hotfolder settings in the `Color Management` tab when double clicking the job.

1. Go via the `Settings...` button to the advanced job settings.
2. Select the `Print Mode` tab there.
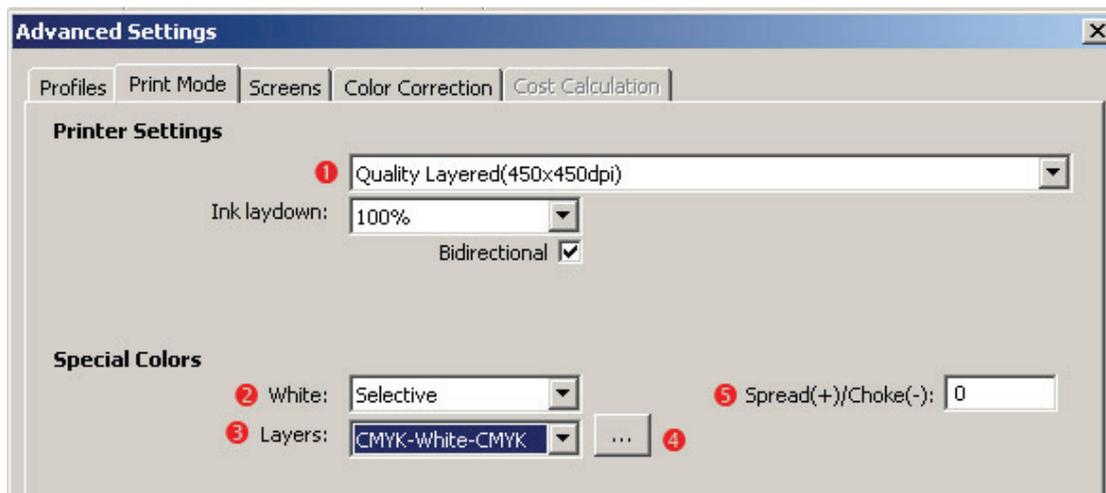
To make use of the white print option with layers:

3. Set the `Quality Layered` mode under ❶ `Printer Settings`.

- OR -

To print either white or color with white in just one print run ("Non Layered"):

3. Select one of the print modes `Production`, `Quality` or `Fine Art`. You will achieve a better quality and higher resolution in **Fine Art Mode** and shorten the print process in **Production Mode** due to lower resolution.

4. Select the suitable white print behavior under ❷ `White`. Especially `Filling` is useful to print job areas in white that do not contain any color information (see example 8).
5. Select the channels under ❸ `Layers` that will be output at once. The `White only` option will print the job file as a pure white print (based on the color channels see example 4).

In the area `Special Colors` any white print options for the `Quality Layered` mode will be visible that are described below:

--> The **white print behavior** will be specified under ❷ `White`:

- `Selective`: for transparent and colored backgrounds; prints white in areas that contain pixels, always using 100% of white
- `Pixel`: for colored backgrounds; prints white in areas that contain pixels, but only using the highest used pixel color value in %
- `Flood`: for any background; white will be printed completely for the entire job size (no ripping is done as the printer does that job)
- `Filling`: for any background; prints white in 100% on areas that do not contain any pixel
- `Spot White`: prints any spot color in the job as white color in the according intensity in %
- For `Selective` and for `Spot White` a function ❺ `Spread/Choke` will be available. Either it says to print white as a padding added to the motif borders (`Spread`) or subtracted to the motif borders (Choke). The measuring unit used is set in the program presettings (to be found in `Options` > `Program Settings...`).

--> The **order and number of layers** will be specified under ❸ `Layers`, for which the white print depends on the settings above:

- `CMYK-White`: color print and white print on it
- `White-CMYK`: white print and color print on it
- `CMYK-White-White`: color print and two layers of white print on it
- `White-White-CMYK`: two layers of white print and color print on it
- `CMYK-White-CMYK`: color print, white print on it, and again color print on it
- `White only`: White ink based on the color channels will be printed only. But then color values must be inverted. This color inversion is done in the optional color correction and will be contained in the MIM.
- `White-White only`: two layers of white print based on the color channels (see above)
- `User defined`: Here the settings made or changed under ❹ `...` will be taken.

--> You will open a **layer adjustment dialog** by clicking on ❹ `....`

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- There you can adjust the output using three available layers.
- If the number of layers is not sufficient when printing once, select in a second print the layers required for the job that will be added to the first print.

4. Close any open dialogs with `OK`. The preview for the job will be recalculated.

5. Click on ▨ in the main program preview toolbar to highlight white printed areas with a red hatch.

Note: a) If `Flood` is selected under ❷ `White` in the print mode settings, no hatch will be displayed since the printer is in charge of print data calculation. b) If `Spot White` is selected under ❸ `White`, the preview will display the hatch by default in former white areas that are replaced by the defined spot color.

Examples for practical use:

The applications described below refer to examples that can even be combined; the mentioned media (material) are replaceable. You will find the settings in the advanced settings `Print Mode` tab (double click on Job > `Color Management` tab > click on `Settings...`).

1. Printing on glass, one-sided, colored motif

Material: transparent glass

File: shows colored motif covering the entire media size

Print result: viewing at the front -> shows media filling motif on white background OR at the reverse side -> shows slightly transparent motif with light, without light it is white

Order of layers: 1. white, 2. colored motif
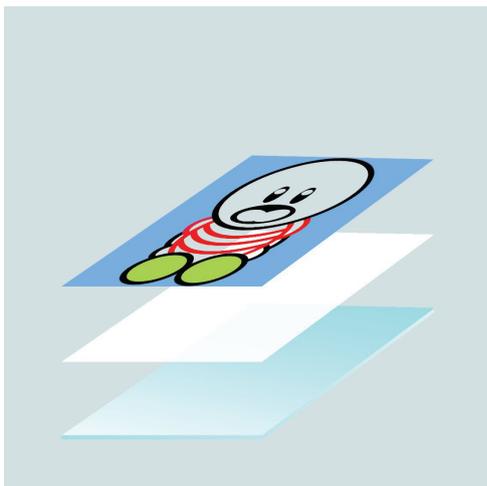
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Settings in print mode (under `Printer Settings/White/Layer`):

Quality Layered

Flood + White-CMYK
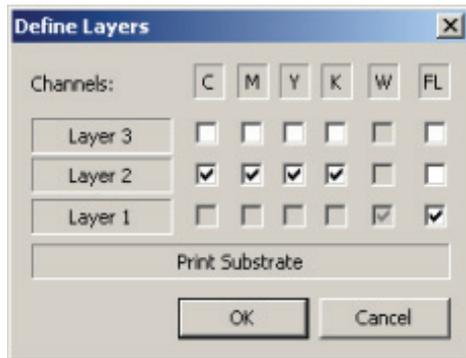
2. Printing on plastic board, colored motif including white spot color

Material: black flexible plastic board material

File: shows single colored elements, not covering the media size, white spot color within image

Print result: shows colored image containing white spot color on a white surface

Order of layers: 1. white, 2. colored motif, 3. white as spot color

Settings in the color replacement:

1. Make sure one of the options except `Flood` or `Off` is selected under `White` in the `Print Mode` tab.
2. Confirm the dialog with `OK`.
3. Select the `Color Management` tab.

4. Click on `Color Table...` to open the spot color replacement for the job.

Note: To recognize a spot color in the RIP software it has to be applied in the file using a graphics editing software. Name the spot color as desired.

---

5. Double click on the spot color entry.
6. Select under `DeviceSpot` > `DeviceWhite` under the `Replacement Color` area and confirm with `OK`.
7. Enable the color replacement by setting a check mark and confirm again with `OK`.

Settings in print mode:

1. Select the option `Quality Layered` in the `Print Mode` tab.
2. Select the option `Spot White` under `White`.
3. Apply the correct settings to layers under `...` as shown in the following image.
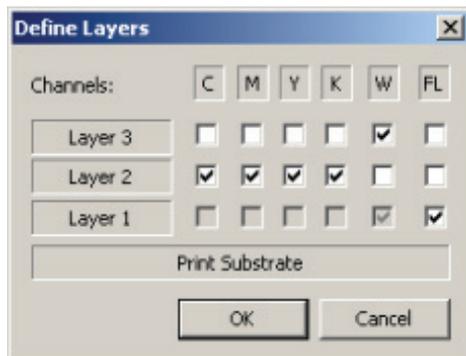
3. Printing on plastic board, colored motif in high intensity

Material: black flexible plastic board material

File: shows colored motif, not covering the media

Print result: shows colored image on white surface (when applying multiple print of white, the motif intensity will be enhanced)

Order of layers: 1. white, 2. white, 3. colored motif
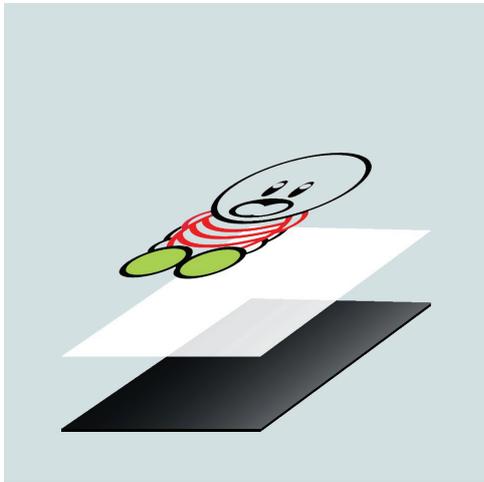
using only one layer
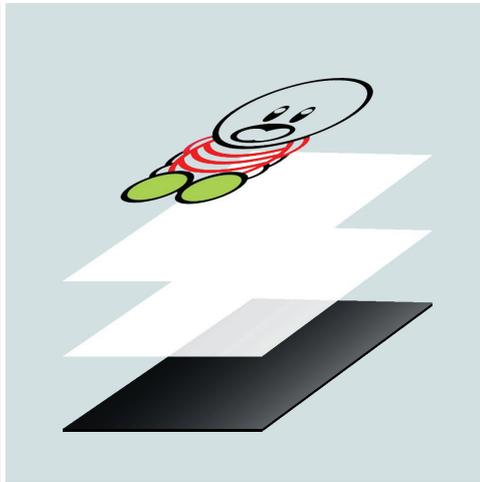
using two layers of white

Settings in print mode:

Quality Layered

Flood + White-White-CMYK
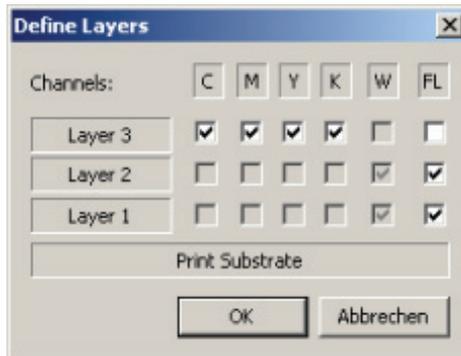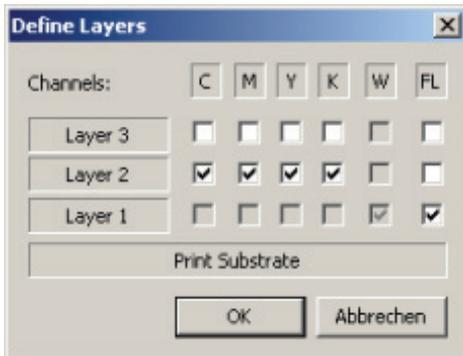
4. Printing on plastic board, only white based on a colored motif

Material: black flexible plastic board material

File: shows colored motif

Print result: shows white-shaded image based on the colored motif in the job

Order of layers: only white in one layer
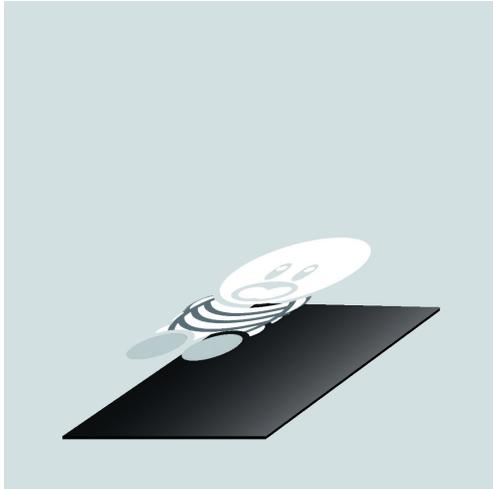
Settings in job settings to achieve a color value reversion for white printing:

1. Open the job settings via double click on the job.
2. Select the `Settings...` button in the `Color Management` tab.
3. Select the `Color Correction` tab (optional function).
4. Select `All Channels` above the graphic.
5. Invert the color values manually (for In 0% to Out 100% and for In 100% to Out 0%).

Tip: However, you can use a MIM containing this setting (can be saved clicking `Store to MIM` in the `Color Management` Tab) without the optional color correction.

Settings in print mode:

Quality Layered / Quality /Production / Fine Art

Pixel + White only
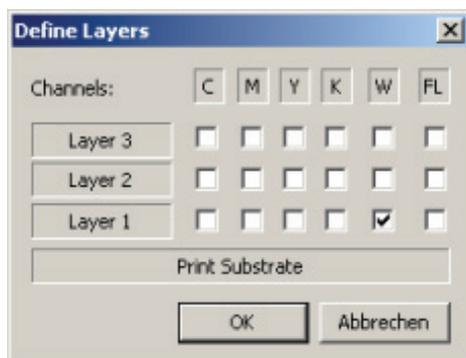
5. Printing on glass, colored motif, visible on reverse side through the glass

Material: transparent glass

File: shows colored motif, covering the media

Print result: viewing at the front -> shows media filling motif on a white surface (must be printed mirrored since viewed through glass) OR at the reverse side -> shows white layer over the colored layer

Order of layers: 1. mirrored colored motif, 2. white filling completely on top of media
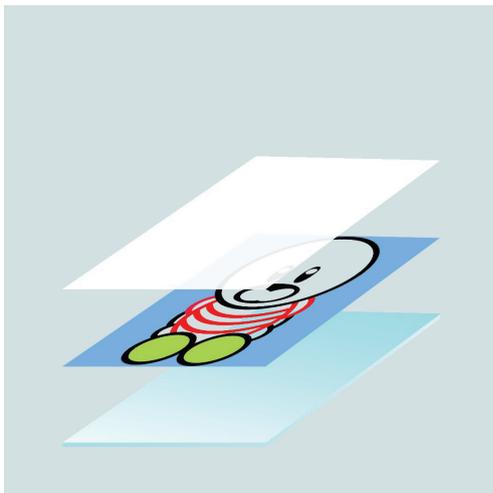
Settings in job settings to mirror the print-out:

1. Open the job settings via double click on the `job`.
2. Select the `Job` tab.
3. Enable the mirror function via click on .

Settings in print mode:

Quality Layered

Flood + CMYK-White
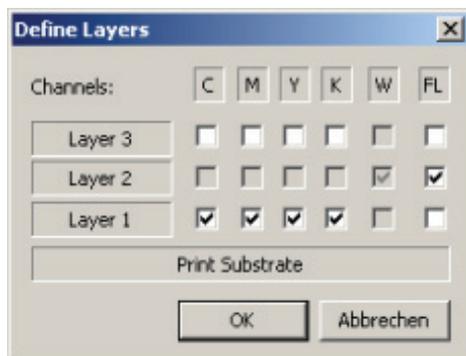
6. Printing on plastic board, colored motif containing single motifs

Material: black and flexible plastic board material

File: shows colored motifs within image (job), not covering the entire media

Print result: shows colored motifs on white surface (e.g. white letters are visible coming from the white underlayer)

Order of layers: 1. white, 2. colored motifs

Settings in print mode:

Quality Layered

Selective + White-CMYK
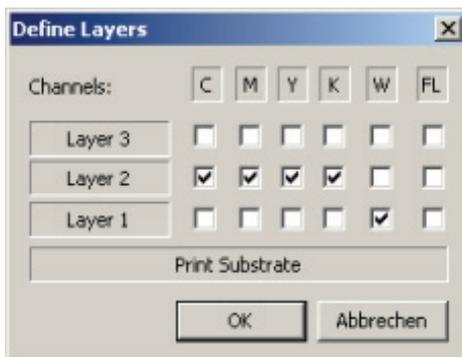
7. Printing on glass, visible on both sides

Material: transparent glass

File: shows colored motif completely over the media size (media filling) or only some areas (partly media filling) and outside of media rare glass is visible

Print result: shows the motif both on front and reverse side (viewing direction)

Order of layers: 1. colored motif, 2. white, 3. colored motif
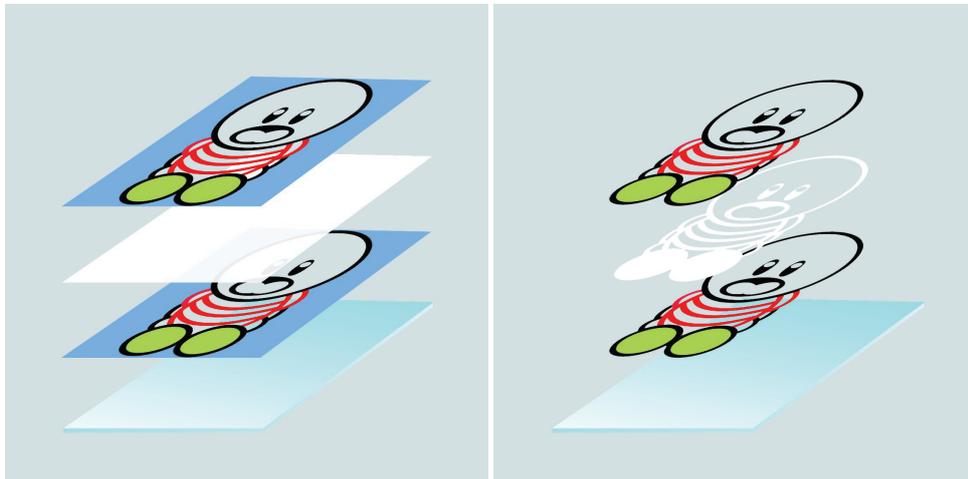
Settings in print mode:
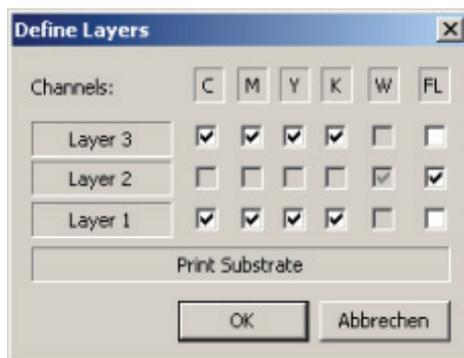
Flood + CMYK-White-CMYK
(media filling motif)
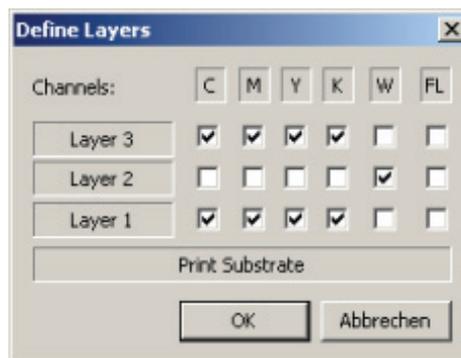
Selective + CMYK-White-CMYK
(motif only covers some parts of image,
remaining parts have to be transparent)

8. Fast printing on glass, white on areas that do not contain a motif

Material: glass

File: shows colored motif not covering the entire media

Print result: shows an image containing a motif, which is surrounded by white color (to cover the gray background or to simulate a special paper white)

Order of layers: just one layer in the `Production/Fine Art` mode OR 1. motif, 2. white in `Quality Layered` mode
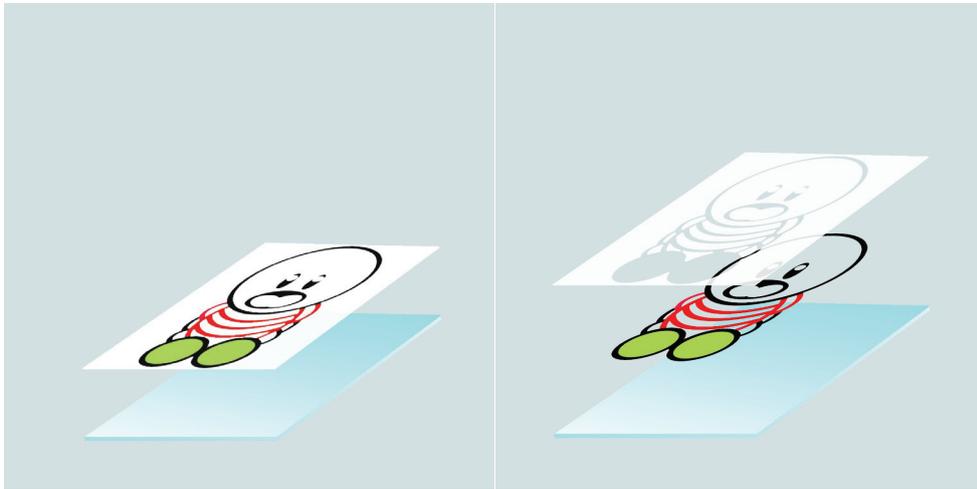
only one layer in Production or
Fine Art mode

two layers in Quality Layered mode

Settings in print mode:

Only one layer

1. Open the job settings via double click on the job.
2. Select the `Color Management` tab.
3. Click on `Settings...` to open the advanced settings.
4. Select the `Print Mode` tab.
5. Select the `Production` option under `Printer Settings` for fast printing with low resolution.
6. Select the `Filling` option under `White` to print areas with white that do not contain any color information.
7. Select the `CMYKW` option under `Layer` to print white together with the motif. The option `White only` will recess the motif.

OR

Two layers

1. `White`: Filling
2. `Layer`: CMYK-White

9. Fast printing on glass, white underprint

Material: glass

File: shows colored motif

Print result: shows an image containing a motif - either covering the full media or only part of the motif

Order of layers: one layer in `Production` mode AND the colored layer in `FineArt` mode. Since the Acuity does not print data directly but saves data as file, jobs can be output after each other.

Settings in print mode:

First print step:

1. You are in the `Print Mode` tab (advanced job settings).
2. Select the `Production` option under `Printer Settings` with a low resolution for fast printing.
3. Select the `Flood` option under `White` to pre-print all job motif areas with white.
4. Select the `White only` option under `Layer` that produces white print for any available color information.

AND

Second print step:

1. Select the `FineArt` option under `Printer Settings` with a high resolution for a high-quality print-out.
2. Select `Off` under `White` to disable the white option - the job itself will be printed right on the white background but in color.

Using the Roland XC-540 printer

The Roland XC-540 printer supports printing with white ink for various applications. To get a basic understanding for this topic, the software settings will be explained comprehensively. The following description will cover the practical usage which is organized into file structure, display of print and finally the settings in the software.

Software settings:

You will find the software settings in the job or hotfolder settings in the `Color Management` tab when double clicking the job.

1. Go via the `Settings...` button to the advanced job settings.
2. Select the `Print Mode` tab there.
3. In ❶ set the `Color Mode` to CMYK.
4. In ❷ select the required white print mode.

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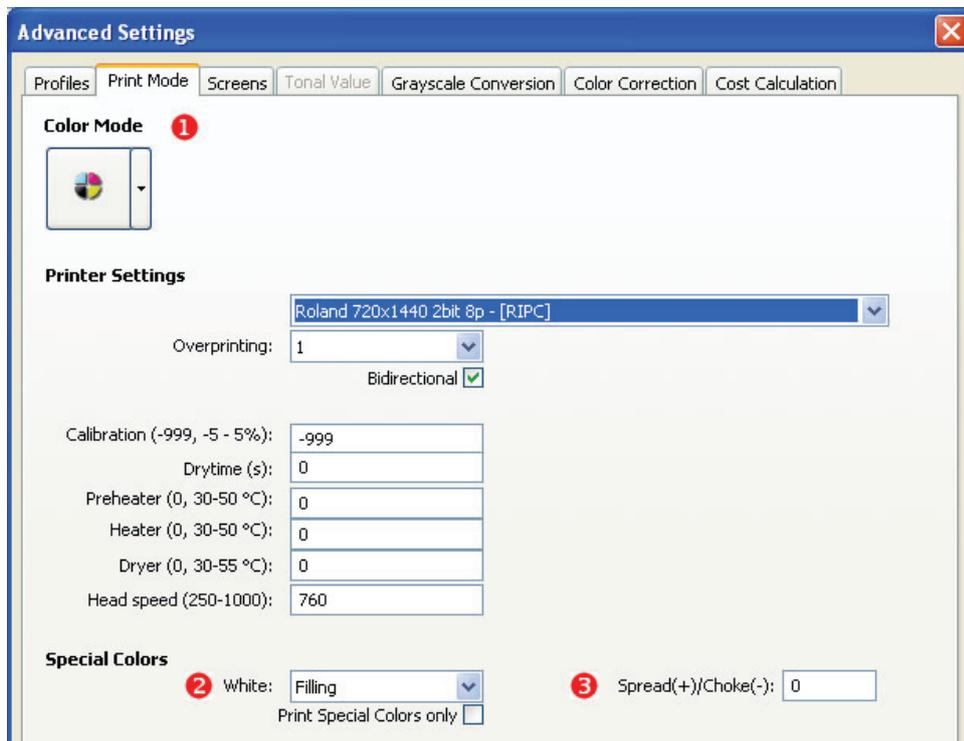
The following white print modes are available:

- `Everywhere`: the entire background will be underprinted with white
- `Selective`: for transparent and colored backgrounds; prints white in areas that contain pixels, always using 100% of white
- `Pixel`: for colored backgrounds; prints white in areas that contain pixels, but only using the highest used pixel color value in %
- `Flood`: for any background; white will be printed completely for the entire job size (no ripping is done as the printer does that job)
- `Filling`: for any background; prints white in 100% on areas that do not contain any pixel
- `Spot`: prints any spot color in the job as white color in the according intensity in %
- For `Selective` and for `Filling` a function ❸ `Spread/Choke` will be available. Either it says to print white as a padding added to the motif borders (`Spread`) or subtracted to the motif borders (`Choke`). The measuring unit used is set in the program presettings (to be found in `Options` > `Program Settings...`).

`Print Special Colors only` means that according to the selected option under `White` only white ink without process colors will be printed. In a second step, the process colors are printed on it.

> **Example:** The resolution or other specifications of printed process colors can be changed after printing with white ink for example to have a different or appropriate ink laydown.

1. Close any open dialogs with `OK`. The preview for the job will be recalculated.

2. Click on in the main program preview toolbar to highlight white printed areas with a red hatch.

Examples for practical use:

The applications described below refer to examples that can even be combined; the mentioned media (material) are replaceable. You will find the settings in the advanced settings `Print Mode` tab (double click on Job > `Color Management` tab > click on `Settings...`).

1. Printing on foil, one-sided colored motif -> underprint white

Material: colored foil

File: shows colored motif covering the entire media size

Print result: shows media filling motif on white background

recommended white print mode: everywhere
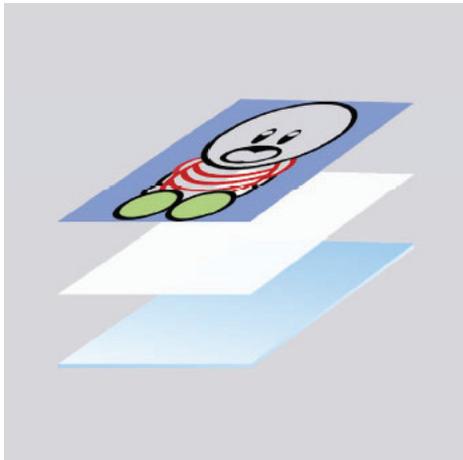
2. Printing on foil, colored motif including white spot color -> white as spot color

Material: transparent foil

File: shows single colored elements, not covering the media size, white spot color within image

Print result: shows colored image containing white spot color

recommended white print mode: spot

Settings in the color replacement:

1. Make sure one of the options except `Flood` or `Off` is selected under `White` in the `Print Mode` tab.
2. Confirm the dialog with `OK`.
3. Select the `Color Management` tab.
4. Click on `Color Table...` to open the spot color replacement for the job.

Note: To recognize a spot color in the RIP software it has to be applied in the file using a graphics editing software. Name the spot color as desired.

5. Double click on the spot color entry.
6. Select under `DeviceSpot` > `DeviceWhite` under the `Replacement Color` area and confirm with `OK`.
7. Enable the color replacement by setting a check mark and confirm again with `OK`.

Settings in print mode:

1. Select the option `CMYK` in the `Print Mode` tab.
2. Select the option `Spot` under `White`.

3. Printing on foil, visible one-sided -> not print data means white

Material: transparent foil

File: shows colored motif covering the entire media

Print result: shows image without white surface, areas without pixel information will be white

recommended white print mode: filling
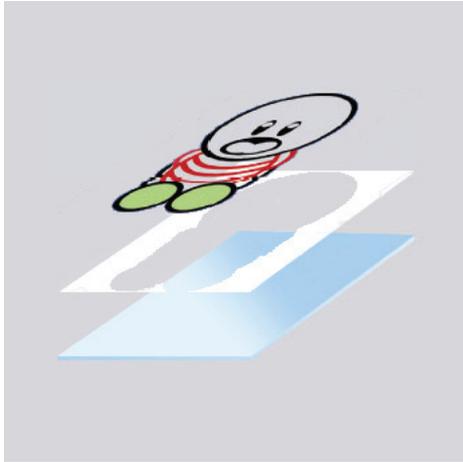
Apply special colors

ⓘ *The option WHITE INK Support is necessary in the Select version.* Special colors are defined as inks that are not handled by color modes of the software. These inks are only supported by some printers such as the NEO UV LED or the Roland XC-540.

Further printers currently:

Acuity Advance

Eastech Textile

GCC StellarJet 183UV

GCC StellarJet 250UV

Inca Spyder

Inca Spyder V

Inca TurboPlus

Inca TurboPlus 220

IP&I CUBE

Keundo SupraQ UV

Mimaki JF Series

Mimaki CJV30

Mimaki JV3-160 SP

Mimaki JV3-250 SP

NUR Tempo

NUR Tempo Q

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Roland SC-545EXW

Roland XC-540

Roland LEC-300

NEO UV LED K

NEO UV LED X

NEO UV LED SN

NEO UV LED SS

NEO Da Vinci

swissQprint Oryx

Vutek PressVu UV 200

Vutek QS Series

Zuend UVjet 250

Examples for practical use:

- Transparent print-outs where the image is printed on top of a white back-ground > for example to see the image from the top side.
- Transparent print-outs where white color is printed on top of an image > for example to see the mirrored image from the reverse side.
- Paper print-outs where the unprinted areas are printed first with white ink > for example to have a different media white.
- Print-outs where a varnish is applied to the whole area > for example for protection or glossy effects.
- Print-outs where special inks replace existing spot colors in a job > **Specify input and replacement colors see page 158.**

The following are sample settings that are possible for supported printers:

Under `White` and `Varnish` for the NEO UV LED printer:

- `Off`: Cartridges for special colors will be ignored and not be used.
- `Everywhere`: The whole area of the image will be printed. This is useful for example to create a varnish application.
- `Selective`: Only areas that contain color information will be printed with special color first. This is applicable when having dark surfaced media. White ink can be printed first and second with the image to achieve a high color accuracy.
- `Filling`: Only areas that contain no color information will be printed with white ink or varnish. It is useful for example to print the paper's white areas or fill the transparent media's unprinted areas with special color.

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`Print Special Colors only` means that according to the selected option under `White` only white ink without process colors will be printed. In a second step, the process colors are printed on it.

> **Example:** The resolution or other specifications of printed process colors can be changed after printing with white ink for example to have a different or appropriate ink laydown.

In the preview window, special colors white and varnish are shown with hatched lines. The varnish application will be displayed as a blue hatch, the print with white ink will be shown as a red hatched brush.

Printing spot colors with white ink is explained here: **Specify input and replacement colors see page 158**

Spread(+)/Choke(-):

Here you can apply a kind of padding or tolerance zone to the border of the defined white ink or special color area. This area could be larger (`Spread`) or smaller than before (`Choke`). Values entered here use the measuring unit that is determined in the **Program settings see page 21.**

Tip: Values with decimal places are possible as well.

- Enter a positive value here to determine a spreaded white ink area.
- Enter a negative value (-) here to determine a choked white ink area.Enter a negative value (-) here to determine a choked white ink area.

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6.4 Using color replacement

Prerequisite: You have selected an input and output profile in the advanced job settings.

This function is available as an option in some product categories. With the color replacement and spot color replacement you can:

- Replace colors and color areas of text, vector and bitmap graphics,
- Automatically detect and replace spot colors,
- Create color replacement tables and assign them to print jobs or hotfolders, and
- Import spot color tables from other providers.

The **key difference** between spot color replacement and color replacement is:

- In spot color replacement, the jobs already contain spot colors whose replacement colors need to be assigned.
- In the color replacement, the input and replacement colors are often completely re-defined.

For this reason, spot color tables are offered on a hotfolder basis so that the replacement occurs automatically. The color replacement for color types RGB, CMYK and grayscale is advantageous for adjusting colors and color areas manually in individual jobs.

The following topics explain color replacement:

Replace spot colors

Prerequisite: You have selected an input and output profile in the advanced job settings.

This function is only available as an option in some product categories. Here is a description how to replace spot colors in a job. When loading a job the CMYK values will be read out and applied. When using the spot color replacement you can apply clearly defined or standardized spot colors instead.

How to assign a spot color:

Tip: Use the before and after preview for a preview of the job with and without color replacement.

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You will see the `Color Management` tab of the **Job Settings** dialog.

1. Click `Color Table`. The `Edit Color Table` dialog will be opened.

At this point you can decide whether you want to:

- Load existing color table see page 156,
- Import entries from a color table see page 156 or
- Measure or assign spot colors see page 157.

2. The replacement values are listed in the `Edit Color Table` dialog box.
3. If you want to enable or disable the replacement, place or remove a check mark next to the desired entry. For a multiple selection just mark the desired entries by pressing Ctrl + left mouse button and then press Alt + left mouse button on one of the check boxes.
4. Click `OK` to complete the spot color replacement process. In the before and after preview, you should now be able to see a difference in the right-hand view.

The active replacement entries in the color table are applied to the job: On the `Color Management` tab of the dialog box of the **Job Settings** in addition to the `Color Table...` button you will find the message `x/x Spot Colors replaced`.

Using HP Professional PANTONE Emulation (HPPPE)

Prerequisite: On the `RIP` tab, the `Use pixel color management` option must be set to `Off`. An output profile must be selected in the advanced job settings on the `Profiles` tab.

Note: This function is **not** available in proof workflow and is grayed out.

For a given ICC profile, the HPPPE calculates color replacement values for PANTONE spot colors. These values are required to simulate any of the PANTONE spot colors on the device/media that the profile was created for.

Using the HP Professional PANTONE Emulation results in more accurate and precise spot color replacements with PANTONE spot colors to achieve the "visual closest match". It is provided by HP and fulfills certification requirements. This function is available for printers in the HP-Z series.

The following PANTONE tables are integrated:

GOE Coated , Solid Coated/Uncoated/Matte, Pastel Coated/Uncoated, Metallic Coated

How to use the HP Professional PANTONE Emulation:

Job settings:

1. Select the `Color Management` tab in the **job settings** dialog box.

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2. Click on `Color Table`. The `Edit Color Table` dialog will be opened.

In the job settings, for single jobs it is possible to specify whether a stored color table (`None (Use Color Table)`) or the HP Professional PANTONE Emulation for PANTONE spot colors (`Visual Closest Match`) is used.

Image:
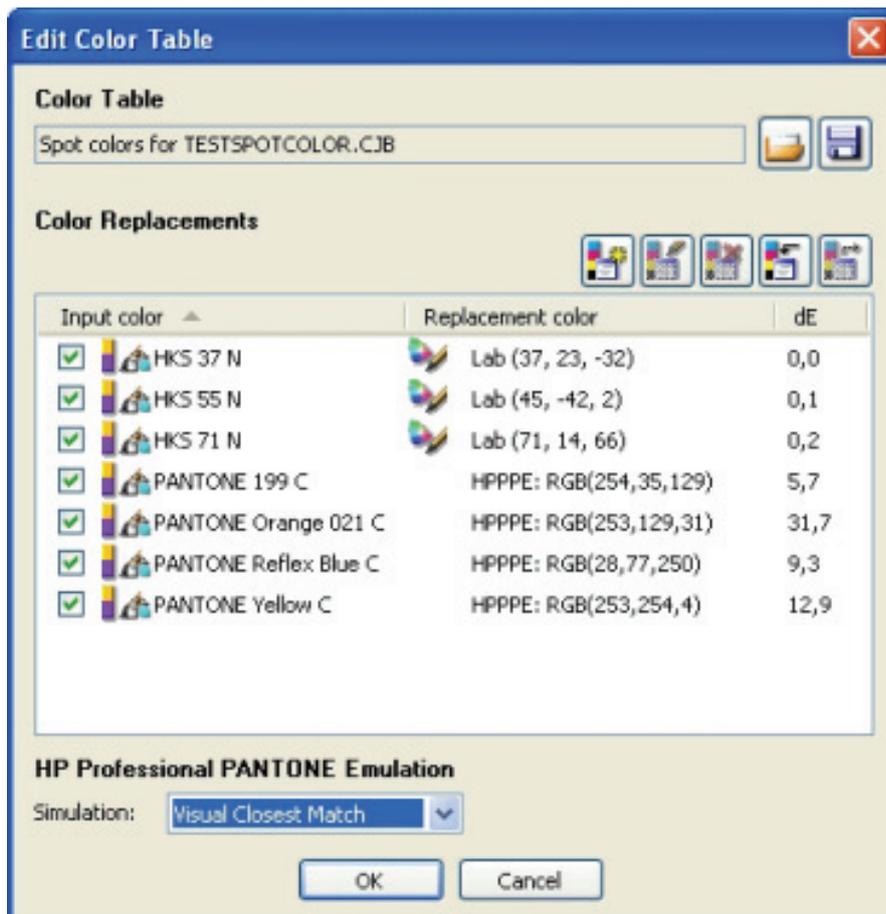
The standard color replacement table is stored separately so that it can be used for printers that do not support the HP Professional PANTONE Emulation.

As shown in column `dE`, the deviation is given using the color value in the Lab color space to the closest color value in the selected color space in DeltaE.

Hotfolder settings:
1. Select the `Color Management` tab in the **hotfolder settings** dialog.
2. Click on `Color Table`. The `Spot Colors for ...` dialog will be opened.

In the hotfolder settings it can be specified for coming jobs if a selected color table (**None (Use Color Table)**) or the HP Professional PANTONE Emulation for PANTONE spot colors (**Visual Closest Match**) is used.

Image:
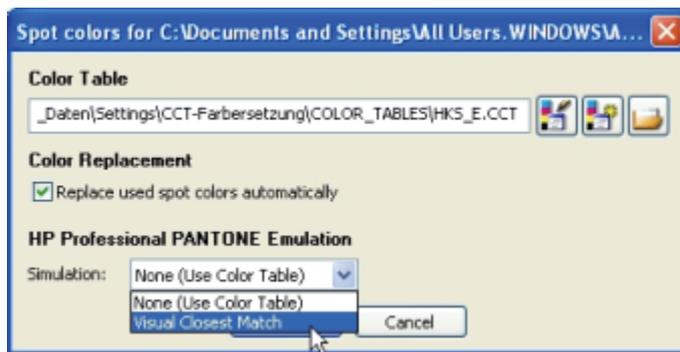
If the HP Professional PANTONE Emulation option is active, the loaded color table will still be used for all spot color replacements except PANTONE colors.

Display in JobInfo Log:

When emulation is active, an entry in the JobInfo Log will show the emulated spot colors and the color values calculated by the emulation technology. The Info Text for printing additional information will be adapted accordingly.

Replace colors

Prerequisite: You have selected an input and output profile in the advanced job settings.

This function is only available as an option in some product categories. This topic is of interest if you want to carry out color replacements for a job. This can happen if certain colors or color areas do not have the required composition and need to be adjusted. In this process, both the input colors and the replacement colors can be specified in a targeted way across areas and color models.

How to replace colors:

Tip: Use the before and after preview for a preview of the job with and without color replacement.

You will see the **Color Management** tab of the **Job Settings** dialog.

1. Click **Color Table**. The **Edit Color Table** dialog will open.
2. Click to create a new replacement entry. The **Edit Color** dialog will open.
3. Determine the input and replacement colors.

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4. Under **`Color Replacement`**, select the elements such as bitmaps (pixel), vectors and text to which the replacement is to be applied.

5. Confirm the **`Edit Color`** dialog with **`OK`**.

The replacement values are listed in the **`Edit Color Table`** dialog box.

In column **`dE`** (DeltaE) for Lab replacement values you will see a deviation of the color value that lies in the Lab color space in comparison to the possible location in the selected output color space. Values in range of zero you can just ignore. Values approximately above 3 refer to color differences that can be visible in the printout.

Tip: Change the media that can be helpful to achieve lower color deviations.

6. If you want to enable or disable the replacement, place or remove a check mark next to the desired entry. For a multiple selection just mark the desired entries by pressing Ctrl + left mouse button and then press Alt + left mouse button on one of the check boxes.

7. Click **`OK`** in the **`Edit Color Table`** dialog to complete the color replacement process. In the before and after preview, you should now be able to see a difference in the right-hand view.

The active replacement entries in the color table are applied to the job: On the **`Color Management`** tab of the dialog box of the **Job Settings** in addition to the **`Color Table`** button you will find the message **`x/x Spot Colors replaced`**.

Create color replacement tables

This function is only available as an option in some product categories. This includes both spot color tables and color replacement tables. You can also combine a spot color table with color replacements so that all required input colors are automatically replaced in new jobs.

A color table must be comprehensive so that it can replace multiple spot colors in the a print job. This means that a color replacement table can be compiled that contains all HKS colors, Pantone colors or other colors, for example. You can save this table as a CCT file at any location, assign a hotfolder to it or re-import it later on.

Note: The use of a very large color table can slow down the screen process, which depends on the performance of the RIP computer.

How to create a color table:

To create a color table, it is necessary that no printer has yet been defined.

1. Go to the **`Options`** menu and click on **`Edit Color Table`**.

At this point you can decide whether you want to:

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- Load existing color table see page 156,

- Import entries from a color table see page 156 or you want to

- create a color replacement manually: .

   1. Click to create a new replacement entry. The `Edit Color` dia-
      log will open.
   2. Determine the input and replacement colors.
   3. Under `Color Replacement`, select the elements such as bitmaps,
      vectors and text to which the replacement is to be applied.
   4. Confirm the `Edit Color` dialog with `OK`.

2. The replacement values are listed in the `Edit Color Table` dialog box.
   For a replacement color in Lab the DeltaE calculation method can be se-
   lected. This will be kept even after reopen the dialog.
3. If you want to enable or disable the replacement, place or remove a check
   mark next to the desired entry. For a multiple selection just mark the de-
   sired entries by pressing Ctrl + left mouse button and then press Alt + left
   mouse button on one of the check boxes.
4. **Export entry for further usage:**

   1. Click if you want to save the newly created and selected color
      replacement entry as a CCT file.
   2. Enter an appropriate name so that you will be able to assign the file
      later on.
   3. This entry can be imported into any table.

5. Click `OK` in the `Edit Color Table` dialog to complete the color repla-
   cement process. In the before and after preview, you should now be able
   to see a difference in the right-hand view.

The activated replacement entries in the color table are applied to the job: On
the `Color Management` tab of the dialog box of the **Job Settings** in addition to
the `Color Table` button you will find the message `x/x Spot Colors rep-
laced`.

Using Color Picker

Prerequisite: An RGB or CMYK output profile must be selected.

This function can be used to include a color in the job and to define a replace-
ment color. The **difference** between regular color replacement and Color Picker
color replacement is as follows:

Regular color replacement: The color replacement is used on the input color
values in the job.

Color Picker: The color replacement is applied to the output color values deter-
mined by the color management.

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Note: The output color replacement is only available in the production workflow and for color modes where the RIP generates the data in RGB or CMYK.

How to use the Color Picker:

You are in the work interface for the RIP software.

1. Double-click on the preview. The advanced preview will be opened. The job settings will also be displayed.

2. As an option, select the before and after preview to track the changes.

3. Click in the toolbar.

4. Click on any point in the image to change the color. The color replacement dialog will be opened.

5. Carry out the required settings here.

6. Close the dialog boxes with `OK`.

The changes will be shown on the right-hand side of the before and after preview. If you move the mouse over the color, the left-hand column will display the original values and the right-hand column shows the values after the change.

Pressing the `Color Replacement` button on the `Color Management` tab will call up a table of all replaced colors. Here there is also the option of carrying out a color replacement based on input color data for this job.

Load existing color replacement table/Load spot color table

You are in the Color Replacement in the `Edit Color Table` dialog.

Tip: There are HKS color tables on the RIP software installation DVD. Pantone color tables (CXF files) are supplied on a CD together with the X-Rite Eye-One.

Note: If you have already created replacements, they will be completely overwritten by the content of the color replacement table.

1. Click . The Windows Explorer will be opened.

2. Select the required color replacment table with the extension CCT and click `OK`.

Existing names of the job will be replaced with those from the file and the relevant values will be assigned to them.

Importing entries from a color replacement table/spot color table

You are in the Color Replacement in the `Edit Color Table` dialog.

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Tip: There are HKS color tables on the software installation DVD. Pantone color tables (CXF files) are supplied on a CD together with the X-Rite Eye-One.

1. Click . Windows Explorer will be opened.
2. Select the color replacment table with the extension CCT (Pantone CXF) and click **Open**. The entries will be listed in the **Import color table** dialog.
3. Select the required entries from the list. Hold down the Crtl key to select multiple entries.
4. Click **OK** to confirm.

If there are already entries of the same name, a message will be displayed.

- Click **Yes** if you want to overwrite everything.
- Click **No** if you want to keep the existing assignments.

Replace spot color manually

You are in the Color Replacement in the **Edit Color Table** dialog.

Assigning the spot color with a replacement color :
1. Double-click the entry. The **Edit Color** dialog will open.
2. Select the required color model there under **Replacement Color** as well as the required color composition for the spot color .

- OR -

Measuring the replacement color:

This avoids a conversion from CMYK via Lab to CMYK, which can change the input values.

1. Double-click the entry. The **Edit Color** dialog will open.
2. Under **Replacement Color**, select the color model **Lab**.
3. Click to measure the required color.
4. In the **Measure** dialog, select your **measuring device** that supports individual measurements.
   - X-Rite Eye-One
   - X-Rite Spectrolino
   - X-Rite PULSE
   - X-Rite Digital Swatchbook
5. Carry out the settings for the connection parameters and confirm with **OK**.
6. Close the **Edit Color** dialog with **OK**.

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Specify input and replacement colors

On the `Edit Color` tab in Color Replacement you will find the overview of input and replacement colors.

Input Color:

Note: Make sure that you only select color models that are also present in the file. Only these color models can be replaced. PDF may contain both RGB data and CMYK data.

- **Spot color:**
    1. Select the color model if you want to define spot color replacement for a hotfolder .
    2. Here, specify the name of the spot color included in the file.

    Tip: The color model `spot color` in combination with the replacement color `Lab` makes the selection `Print spot color in maximum printer` gamut possible under `Options`.

- **CMYK:**
    - Select this color model if you want to replace an exact color match.
    - Enter the percentages of all process colors to which you want to apply the color replacement.

- **CMYK area:**
    - Select this color model if you want to replace all color matches in an area.
    - Enter the percentages of all process colors for the range from minimum to maximum to which a color replacement is to be applied.

- **RGB:**
    - Select this color model if you want to replace an exact color match.
    - Enter the values from 0 to 255 of all RGB colors to which the color replacement is to be applied.

- **RGB area:**
    - Select this color model if you want to replace all color matches in an area.
    - Enter the values from 0 to 255 for the minimum to maximum value range of the RGB colors to which the color replacement is to be applied.

- **Grayscale:**
    - Select this color model if you want to replace an exact color match.
    - Enter a value here from 0 to 255 to which a color replacement is to be applied.

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- **Grayscale area:**
  - Select this color model if you want to replace all color matches in an area.
  - Enter values here from the range 0 to 255 to which the color replacement is to be applied.

Replacement Color:

- **CMYK (ICC):**
  - Select this color model to apply the color replacement to the color management later on.
  - The color replacement is taken into account in the profile so that the print output is still optimal. The profile is not changed in this process, however.

- **Lab:**
  1. Select this color model to be able to enter or measure values from the Lab color space .
  2. Enter the required values for Lab.

     - OR -

  2. Click ![icon] to use a **measuring device:** that supports individual measurements to measure the required color.
     - X-Rite Eye-One
     - X-Rite Spectrolino
     - X-Rite PULSE
     - X-Rite Digital Swatchbook

  Below `Replacement Color` the DeltaE calculation method can be selected for a visual comparison. After selection click somewhere in the dialog to confirm.

  In line `Lab out` you will see the Lab values that are calculated to closely match with the printer gamut (profile). This is to compare how the printer gamut interprets the replacement values. A colored patch above `Lab out` both shows the entered Lab values and the final values clearly.

- **CMYK:**
  1. Select this color model to not apply any color management to the color replacement.
  2. Under `Options` for apply linearizationto set a checkmark to apply the linearization settings to the color replacement.

     - OR -

  2. Do not set a checkmark if the printer is to convert the values exactly as they are specified.

- **Alias:**
  - Select this color model to use the replacement color of an entry from the color table used for a new entry.
  - This avoids having to enter values again if they are already present.
- **DeviceSpot:**

  (i) This function only appears if the printer supports special colors such as white or varnish. It replaces the given spot color with one of the special colors. In comparison the function `Special Colors` in the `Printmode` tab applies special inks either to the unprinted or the printed area (**Set print mode see page 118).**

  You can decide which one to replace depending on the printer:

  - **DeviceWhite:** Here you specify the white ink as replacement color that some printers support.
  - **DeviceVarnish:** Here you specify the varnish ink as replacement color that some printers support.

  In the preview window, special colors white and varnish are shown with hatched lines. The varnish application will be displayed as a blue hatch, the print with white ink will be shown as a red hatched brush.

Color table for hotfolder

You will see the `Color Management` tab of the dialog box of the **Job Settings**.

1. Click `Color Replacement`. The `Edit Color Table` dialog will open.
2. Select `Replace used spot colors automatically` if the replacement for new jobs in the hotfolder is to be applied immediately.

At this point you can decide whether you want to:

- **Load existing color table see page 156 or**
- you want to **Create color replacement tables see page 154** .

Options for color replacement

On the `Edit Color` tab in Color Replacement you will find the overview of input and replacement colors.

Additional `Options`:

- Under `Print spot color in maximum printer gamut` you can select in (proof workflow) (i) *This functionality is only available in some product categories.* whether or not the replacement color is to be printed in the maximum printer gamut (proof printer). This achieves the highest possible quality and simulation. Otherwise only the color space of the printing machine

being simulated will be used as the basis. Any additional printing machinery for spot colors will not be taken into account in this case.

- Under **Apply linearization** set a checkmark to apply the linearization settings to the color replacement. Otherwise the printer is to convert the values exactly as they are specified.

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6.5 Using a container

ⓘ *This function is available as an option in some product categories.* You can compile multiple print jobs together into one using a container. Jobs located in a container are automatically distributed across the print area, optimized for cutting. The container is therefore used primarily to avoid wasting paper.

Several other editing functions are also available within the container. This includes functions such as scaling, copying, moving and turning individual jobs in the container.

The following topics clarify the container function:

Create container manually

ⓘ *This function is optionally available in some product categories.* A container is created manually when you collect jobs already loaded together. They are inserted into a container and can be arranged to optimize the space used.

How to create a container manually:

You are in the work interface for the RIP software.

1. Select the required jobs in the job queue that are to be inserted into a container. You then have several options **for creating a container**:

   - Click on the arrow next to the container icon 🔳 and select `Create Container`.
   - Right-click on the required selected jobs and open the context menu. From there, select `Container` > `Create Container`.
   - Click on the `Job` menu option and select `Container` > `Create Container` there.

Jobs in a container should always have the same print mode settings. If the settings for the new jobs are different, the following occurs:

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You will see a message listing all new jobs in the container. Jobs that have the most properties in common determine the print mode. They are marked with a green checkmark. Jobs with the least matches are marked with a warning symbol ⚠.

- Check the jobs for the correct print mode settings.
- Set a checkmark there if you want to modify a job for the selected print mode and include it in the container.

Then you will see the open dialog for job settings, where you can make the container settings for the print workflow and for the printer.

Note: The settings for the container on the Workflow tab only affect a new container. Changes have no effect on an existing container.

Clicking `OK` will take you to the editing window for the container, where you can edit and arrange the required jobs.

Create container automatically

🛈 *This function is optionally available in some product categories.* If you want to specify your container and its properties before loading the jobs, within the printer definition you can define a hotfolder as what is known as a hot container. This means that newly loaded jobs are automatically collected together in a container.

How to create a container automatically:

You are in the Job print workflow settings for a hotfolder.

1. Set a checkmark against `Hot Container` and click `Settings`. You will see the open dialog for containers and hot container settings for automatically closing the container or for arranging the jobs.
2. Carry out the options for the container.

Note: These settings for the container on the Workflow tab only affect a new container. Changes have no effect on existing containers.

---

3. Click `OK`.

The loaded jobs are collected together straight away into a container in the job queue. That container will be marked in red if it has not been closed automatically via a time limit or a length limit or manually.

Note: When a hot container is displayed in red in the job queue and has not yet been closed, it cannot be edited.

- **Extending hot containers with additional jobs:**

- Extend the hot container with further jobs by either clicking the menu option `Job` or on `Container` > `Add Hot Container` in the context menu.

  If the job being added has different print mode settings from the container, a message will be displayed:

  All new jobs in the container will be listed. Jobs that have the most properties in common with the existing jobs in the container determine the print mode. They are marked with a green checkmark. Jobs with the least matches are marked with a warning symbol ⚠ .

- **Ending hot containers manually:**
  - Close a hot container manually by either clicking the menu option `Job` or on `Container` > `End Hot Container` in the context menu.

    The container will then be displayed in blue in the job queue. Read more on the topic of editing containers.

Edit container content

Prerequisite: You have created a container.

ℹ *This function is optionally available in some product categories.* Here you can find out how to edit and arrange your jobs within the container, as well as add or remove jobs.

How to edit content in a container:

You are in the work interface for the RIP software.

- Double-click on the preview of the required container or, for the selected container, go to `Job` > `Container` > `Edit container` (also via the context menu). The editing window opens.
- Move the mouse onto the graphic for more information on the toolbar:

  `▶ ⊕ ⊖ | ▦ ◌ | ▦ ⬚ ⬚ ⬚ ⊠ | ✖ ✔ | ▸| 96,75  ▾ 306,75  ⬍ 111,25  ↔ 152,50  33.JPG`

- **Using edit windows see page 104**

Note: If you change the MIM or other parameters being included in the preview, a gray area will be displayed instead of the job. Back in the main program, the preview will be generated again.

- 🗔 **Job settings::**
  - Select the required job and click the icon. You can carry out settings for the job in the next dialog as normal.

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Copies of a job cannot be changed, however, if they have not been released.

- To update the required space on the media after changes of media size press the right mouse key.

> **Note**: Do not change the MIM settings and the print mode as they are dependent on the printer setup carried out and determine the selected profile and the linearization .

- **Copy job in container see page 170**
- **Move job:**
  1. If you select a job in the editing window, you will see the X and Y distances of the object - relative to the top left corner - in the top text boxes.
  2. Left-click on the job and move it or enter the required distance into the text boxes. Click `Enter` to confirm.
- **Scale job: Note**: In the job settings, the option `Output 1:1` must not be activated.
  1. Select the original job required.

  - OR -

  1. Select the required copy and enter it freely using `Job` > `Release job`.
  2. Go to a corner of the job, until you see an icon with arrows.
  3. Drag the job to the required size.

  - OR -

  3. Enter the required size into the text boxes in the toolbar.

> **Tip**: You can also enter the scaling factor in % in the job settings.

- **Rotate:**
  - Select the original job required (purple frame), you can rotate this job in 90° increments.

  - OR -

  - Select the required copy (green frame) and enter it freely using `Job` > `Release job`. You can then rotate this job as well.
- **Arrange:** All jobs in the container will be arranged to save space and optimize cutting. Existing overlaps and layouts will be reset.

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- **Foreground:** The selected job is moved in front of the other jobs in the overlap process. These will then be in the background.

- **Background:** The selected job is moved behind the other jobs in the overlap process. These will then be in the foreground.

- **Add job:** This icon can be used to add other jobs to the container that are already located in the job queue.

  - Select the required job from the list.

- **Delete job:** The selected job is removed without a confirmation prompt.

- **Release copies or tiles in container see page 170**

- **Multipage documents:** *The optional function Multipage PDF/PS is required.* If you have loaded a multipage PDF document, the individual pages will be displayed, arranged and handled in exactly the same way as individual jobs.

- **Configure guidelines see page 168**

- **Tiling in the container:** Jobs with manual tiling in the container are handled in exactly the same way as individual jobs in the container.

  To convert individual tiles of the file within the container into separate files in the job queue:

  1. **Release copies or tiles in container see page 170.**
  2. Go to the main menu, click the `Job` menu option or click on the context menu and then on `Container` > `Split Container`.

Copy container

Prerequisite: You have created a container.

 This function is optionally available in some product categories. Here you can find out how to copy your container and thus reproduce the jobs. Changes in a container affect all copies. If the container is output, then all copies of the container will be output as well.

How to copy a container:

You are in the work interface for the RIP software.

1. For a multiple output of the container, double-click the required container in the job queue. You will see the dialog for the job settings.

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Note: If you cannot open the job settings, the hot container has probably not yet been ended.

2. On the **Container Options** tab, enter the required number of copies in the text box and click **OK**.

3. Activate the Media preview [icon] to display the entire container content.

You have copied the container, which means that editing carried out on the container content will be applied to all copies.

Container options

[icon] *This function is optionally available in some product categories.* Here you can find out how to optimize your container and modify the print mode . Changes in a container affect all possible copies.

How to use the additional functions:

You are in the work interface for the RIP software.

1. **Create container manually see page 162.**

- OR -

1. Double-click on the required container in the job queue. You will see the dialog for the job settings.
2. Select the **Container Options** tab.

Note: If you cannot open the job settings, the hot container has probably not yet been ended > **Create container manually see page 162.**

Depending on the product you will have the following setting possibilities:

In tab **Container Options** you make the required settings to cut marks [icon] or margins [icon] *This function is only available within the photo module and for flat bed printers.*:

*   **Parameter** > **Fixed Container Size**: This function determines a container with a fixed size to edit and arrange photos or collages within a defined x-y-size. However, if the entire size of all jobs exceed the fixed Container size (or the media width), a message will show up to remind you.

    Then jobs cannot be auto-arranged [icon] - their position will be kept unchanged.
*   **Margins**: Here you can set distances from the print element to other jobs towards all directions.
*   By using **Multiple Output** you will copy (**Copy container see page 166**) content. The complete content will be output several times.

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- Optionally select `Printmode...` to change the printmode settings for every job in the container.
3. Afterwards click `OK`.

Tipp: Activate the Media preview ⬚ to display the entire container content on the media .

You have modified or set up the container. The settings are applied to all possible copies of the container.

Align jobs in container

🛑 *This function is optionally available in some product categories.* Guidelines in the container are used to align the objects. This can be carried out by external measurement but also by entering precise values.

How to configure guidelines in the container:

You are in the editing window for the container.

1. Click on the menu option `View > Guidelines`.
2. Select the required option from here:

- **Display guidelines**Activate the function to prevent guidelines being used and displayed.

- **Lock guidelines**Activate the function to freeze guidelines. This means they cannot be moved.

- **Magnetic guidelines**
  - Activate the function to align jobs or elements of the container with guidelines.
  - Move a job with the left mouse button held down to save it flush to a guideline.

- **Magnetic object borders**
  - Activate the function to align jobs or elements of the container with other elements. All object edges and center points of objects are detected in this process.
  - Move a job with the left mouse button held down. It will be stored at the specified distance to an element edge.

Configure guidelines

🛑 *This function is optionally available in some product categories.* Here you specify the precise coordinates of guidelines and determine the distances between individual objects.

How to create guidelines:

You are in the editing window for the container.

1. Click on one of the two scales or the ruler at the edge of the editing window.
2. Drag the mouse cursor to the required position on the editing surface.

- OR -

1. Click on the menu `View > Guidelines`.
2. Select `Settings`. A dialog will be opened, where you can make the following settings:

Guidelines:

This function allows guidelines to be entered using precise values.

1. Click `New`.
2. Under `Alignment`, select the position of the guideline.
3. Then enter the distance to the top left corner in the `Position` text box.
- `Delete` is used to remove the selected entry from the list.
- `Delete all` is used to remove all entries from the list.

Magnetic object borders: If you move objects within the container, they will be aligned with one another.

- Enter the distance to be used inbetween the objects here.
3. Click on `OK` to close the dialog.

The required guidelines are saved in a pale blue color. The jobs within the container can be aligned accordingly.

Container settings

This function is optionally available in some product categories. These adjustments you can find in the `Workflow` tab in the **Job settings see page 61 dialog.**

Auto arrange

Jobs in the container are optimized for cutting and arranged alongside one another at the specified distances.

Multipage-Container *Available with the optional function Multipage PDF/PS.*

If the jobs in the container have multiple pages (for example PDF), you can set here whether only the first or even all of the other pages are loaded.

Hot Container

You have two options for closing the hot container after creating it. Whichever occurs first will close the container.

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Print length: Enter the length after which you want to close the hot container here. If the number of jobs specified by the print length is reached, the container will be created and will be ready for editing.

Time: Enter the time duration (hours.minutes.seconds) after which you want to close the hot container here. When the specified time expires, the container will be created and will be ready for editing.

Release copies or tiles

This function is optionally available in some product categories. This is used to separate the job copy from their original job. Scaling, turning and separate editing are then possible. If you then change the original job, this no longer affects the job copy (copies).

This function can also be used to separate individual tiles of this manual tiling. This is useful if you want to use the split function on the individual tiles to generate separate entries in the job queue.

- In the Container editing window, click `Release job` under `Job`.

Split container

This function is optionally available in some product categories. **If you want to split jobs in a container from the container:**

- In the main menu, click the `Job` menu option or click on the context menu and then on `Container` > `Split Container`.

The container will be split back down into its individual jobs.

If you want to split the tiles of a manual tiling in the container:

Prerequisite: You have already released the tiles.

- In the main menu, click the `Job` menu option or click on the context menu and then on `Container` > `Split Container`.

After splitting, the individual tiles in a tiled job are also displayed as individual entries in the job queue. In the preview, the entire job is displayed, but only the selected tile is output.

Copy job

This function is optionally available in some product categories. Jobs within the container can be duplicated any number of times. If you then change the original job, the copy is also changed accordingly.

1. Select the job and press the Crtl key. Move the copy to the required point with the mouse button pressed down.

- OR -

1. Press the Crtl key and the D key at the same time to duplicate. A copy of the job will be saved. Move it to the required position.
2. Right-click to re-adjust the size of the jobs to the size of the screen.

Tip: The original has a purple frame around it and has black grab points at the corners. The copy has a green frame around it and also has a red square in the top left corner.

To edit the copy as a separate job:

You need to release the copy. The red square in the top left corner will then disappear.

Adding copies to the job queue:

Use the split function for a container with released copies. Copies of the container are listed separately in the queue.

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6.6 Administration of input and output profiles

Set input profiles

In this dialog window you can determine which input profiles are to be applied to your newly loaded jobs by default. These profiles only are used if these jobs or elements in the jobs do not use any input profiles in the graphics application (embedded profiles).

How to select the appropriate input profiles:

1. Select the `Options > Input profiles...` menu option.
2. Select country-specific or region-typical standard profiles under `settings`. Then all other boxes can no longer be changed. For `Europe` the standard is eciRGB_v2.icc (RGB) and ISOcoated_v2_eci.icc (CMYK and grayscales). For `Eastern Asia` the JapanColor2001Coated.icc, JapanColor2001UnCoated.icc and JapanColor2001Newspaper.icc profiles are available.

- OR -

2. Select `User defined` to select the input profile from a list.
3. Select the required profile from the list for all color types.
4. Click `OK` to close the window.

If in the advanced job settings in the Profile tab `Default.icc` is selected for the color types, the user defined standard profiles are applied to the job.

Tip: In the advanced job settings in the Profile tab you can specify whether embedded input profiles are to be used. If embedded profiles are used, the profiles created in the image will be applied.

Administrate output profiles

Prerequisite: One or more MIMs have been imported or profiles created.

The profile administration provides an overview of the profiles and linearizations currently imported. It indicates the connections between a profile and the printers that use that profile. This dialog window is also used to activate/deactivate output profiles as well as linearizations or to assign them to other printers.

How to administrate the output profiles:

1. Select the `Options > Profile administration...` menu option.

All profiles (*.icc) and linearizations (*.ccx) that can be used by the RIP software for the current printer are listed here. These files are available in the user directory in the `Profiles` folder. If you want to add a profile in order to use it in the software, save it in that folder.

2. Select the required files with a checkmark.

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3. Click `Update list` to apply the changes made in the `Profiles` folder in the user directory when adding more external profiles.

The marked profiles and linearizations can be selected in the advanced job settings in the list under `output profile`.

Advanced display and assignment:

1. Click `Advanced >>`. Other areas in the dialog window will drop down. The following modes can be selected:

- `Profiles for current printer:` All profiles that can be used by the printer currently open are marked with a checkmark here.

- `Profiles for selected printer:` A list of all printers available to you is available here in the printer area.
    - Select a printer in the list of printers.

    All profiles used by this selected printer will now be marked with a green checkmark.

- `Printers for selected profile:` Here you can specify yourself which profiles can be used for which printer.
    - To do this, set a checkmark by the required printer in the `Printer` list.

    These profiles will then be available in the corresponding selection menus in the software for the relevant printer.

2. Click `OK` to close the dialog window.

Changes become effective.

6.7 Cost Calculation Module (CCM)

This module can be purchased additionally. Using this module you will find out about the costs that occur when printing jobs in your print system. The calculation covers material costs and additional costs, if available, that occur. To carry out a cost calculation it is necessary to record the prices of the used media and ink. This will result in lists that are saved in XML format for import and export.

The total cost will be calculated from the usage of ink and media during the print and their corresponding prices. Including all that a detailed report will be arranged that can filter jobs using different criteria.

Note: A cost calculation will not be supported by some halftoning module printers (e.g. Canon PB). When using printers of the HP-Z series the corresponding data will be transferred via the Printer Status Monitor to the RIP software after printing. They will be the basis for the cost calculation.

The following steps show you how to run a cost calculation:

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Presettings for cost calculation

Here you will determine the settings that are the basis for the cost gathering and calculation. You will find some of the settings in the job and hotfolder settings and further via menu **Options** > **Cost Calculation Module**.

Procedure is as follows:

- Activate cost calculation,
- Select a MIM in the color management settings,
- Enter user defined ink droplet sizes when driver information is missing,
- Apply additional job information for a report filter,
- Set currency and manage report database.

How to prepare the cost calculation:

You are in the software main user interface.

Activate cost calculation:

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First you will enable the cost calculation and determine to create a cost report either after ripping or printing:

1. Go to a desired job's job settings or the hotfolder settings for new jobs.
2. Select the `Workflow` tab.

After printing:

3. Set a check mark at `Apply cost calculation`. The function cost calculation will be enabled and applied **after printing** to the desired job.

- OR -

After ripping:

3. If you want to start the calculation **before printing** to simulate the job costs for an estimate for different resolution for example: Set a check mark additionally at `Calculate directly after rip`. After ripping the costs will be calculated and a report will be displayed.

Note: If you use a printer with halftoning module (some of them, e.g. HP-Z series), a simulation is not possible. The printer itself determines the data for the cost calculation after printing. They will be transferred via the Printer Status Monitor to the RIP software that is the basis for the cost calculation.

Select MIM:

In the job settings dialog you will select the mIM (Medium-Ink-Metamode) as basis for the cost calculation:

1. Switch to the `color management`/`process settings` tab.
2. There select a MIM. If you have not yet imported a MIM, add a new one in the MIM administration beforehand.

Set droplet sizes:

In the advanced job settings you can determine user defined droplet sizes:

Prerequisite: You have selected a MIM or added a new one.

1. Click in the job settings' `color management`/`process settings` tab on `Settings...` to open the advanced job settings.
2. In the Cost Calculation tab you set the appropriate droplet sizes. > **Set droplet sizes for CCM see page 131**

Enter job data:

- Back in the job settings dialog you can **Enter job data CCM see page 89.** By doing that you will add some additional information to the job for later filtering and report creation.

Set currency and manage report database:

- From the main user interface you can open a dialog to **Set currency and manage cost report db see page 176.**

You have done any necessary presettings for the cost calculation and can now go to the next step:

Add and maintain ink price sheets see page 179 and

Add and maintain media price sheets see page 176.

Set currency and manage report database for cost calculation

In this dialog you will set the currency that is used for display in reports and dialogs within the cost calculation module. Furthermore you will manage the report database here for jobs with existing cost calculation data.

The following settings will be available:

You are in the main user interface.

1. To open the dialog go via the `Options` menu to `Cost Calculation Module` and then select `Settings....`.
- You can specify the currency under `Currency Settings`. `Reset to Locale` sets the currency according to the operating system settings.
- If you want to keep the cost report for later filter settings, set a check mark next to `Save report data for printed jobs`.
- To remove existing and future reports selectively, set under `Purge job reports older than:` a suitable time period from `1 month` up to `2 years` or choose `<off>` for no removal. Job cost reports within that time period will be removed when opening the report and filter dialog and excluded from the filter.
- `Remove Now` applies the setting made in `Purge job reports older than:` to clean up the directory where reports are saved after a prompt.
2. Click on `OK`. The currency and report database management is set.

Further steps in the cost calculation module are: Create material price sheets (**Add and maintain media price sheets see page 176, Add and maintain ink price sheets see page 179** and **Set filter for reports of multiple jobs see page 182**).

Add and maintain media price sheets

Prerequisite: You have imported a MIM or added a new one.

Media and inks are managed globally in a dialog together with their corresponding prices. From these listings of material and prices sorts of lists will result that are saved in the program directory. When doing a cost calculation these lists will be searched for material names that are used by the print jobs' MIM.

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You can link these entries to one or several printers. It will assure that same name materials can have different prices (e.g. media "Glossy Paper" used by HP and Epson) depending on the linked printer.

How to create a price list:

You are in the software main user interface.

- To open the dialog, go via menu `Options` > `Cost Calculation Module` on `Media Price Sheet`. A `Cost Calculation - Media Price Sheet` dialog will be opened.

There are now several options:

Add new media:

1. Click on the icon to select a media and determine its basis price. Other printer's MIMs can also be selected. Then a `Cost Calculation - Media Properties` dialog will be opened.

Edit a selected media:

1. Click on the icon (or double click on media) to adjust that media in the list, for example if the price or manufacturer has changed.

Remove a selected media:

- Click on the icon to remove an existing media from the list after prompt.

Column description:

Entries in the columns come from the `Cost Calculation - Media Properties` dialog. It will open by clicking on or .

- `Media name`: The media added here.
- `Printers`: List of all printers that refer to this media price. `<all>` means the media price can be used with any printer(s).
- `Manufacturer`: The media producer.
- `ID`: Media number or ID.
- `Basis price`: Prices that apply for the media per square meter/inch in the selected currency.

Comments to notes:

 marks a warning that should be checked!

Samples:

- **No MIM for media**: The entered media name does not match the ones in currently opened MIMs. Make sure that a MIM is existent for this media to be able to perform a cost calculation. **TIP**: Only MIMs of any printers currently open can be selected.

- **Not in product**: Will be displayed if an imported media price sheet contains printers that have not been licensed (yet).

A media price sheet has been added that can be imported or/and exported , too.

Set media properties and printer restriction

Prerequisite: You have imported a MIM or added a new one.

Here you will determine the properties such as basis price, the name (from an active MIM) and printer(s) that use the determined media (printer restriction).

How to carry out the media settings and its printer restriction:

To open the dialog:

1. Go via menu **Options** > **Cost Calculation Module** on **Media Price Sheet...**. The dialog **Cost Calculation - Media** will be opened.
2. Click on the icon . The dialog **Cost Calculation - Media Properties** is shown.

Set properties for the media:

1. Click the button **...** to select the media. In the newly opened dialog any MIMs of printers that are currently open will be displayed.
2. Select the suitable media and confirm the dialog with **OK**.
3. Enter the **Manufacturer:** and **ID:** if desired.

Enter the basis price for the media:

1. Click in the **Basis price:** row on **...**. An additional dialog will be opened.
2. Enter the media width and media length.
3. Insert the media price next to **Price roll/sheet** in that dimension. Next to **Media basis price** the price for the media size will be calculated depending on the currency.
4. Close the dialog by clicking on **OK**.

Link the printer to the media (below **Select printers**):

1. Click on to go to the printer selection that shows currently open printers.
2. Select the printer that should be used with that media price from the list.
3. Close the dialog by clicking on **OK**. The printer name will be displayed in the list.

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Note: Make sure that the media name matches the one in the corresponding MIM (warning: `No MIM for media`)!

4. For further printers to link open the dialog again.

5. By clicking on you will unbind the printer restriction if required.

If you click on `OK` you will go back to the media list window. To continue preparing the cost calculation do one of the following:

- **Set currency and manage cost report db see page 176,**
- **Enter job data CCM see page 89,**
- **Set ink properties and printer restriction see page 180Set ink properties and printer restriction see page 180**.

Add and maintain ink price sheets

Prerequisite: You have imported a MIM or added a new one.

Media and inks are managed globally in a dialog together with their corresponding prices. From these listings of material and prices sorts of lists will result that are saved in the program directory. When doing a cost calculation these lists will be searched for material names that are used by the print jobs' MIM.

You can link these entries to one or several printers. It will assure that same name materials can have different prices (e.g. media "Glossy Paper" used by HP and Epson) depending on the linked printer.

How to create a price list:

You are in the software main user interface.

- To open the dialog, go via menu `Options` > `Cost Calculation Module` on `Ink Price Sheet`. A `Cost Calculation - Ink Price Sheet` dialog will be opened.

There are now several options:

Add new ink:

1. Click on the icon to select an ink from the printer MIM and determine its basis price. Other printers' MIMs can also be selected. Then a `Cost Calculation - Ink Properties` dialog will be opened.

Edit a selected ink:

1. Click on the icon (or double click on ink) to adjust that ink in the list, for example if the price or manufacturer has changed.

Remove a selected ink:

- Click on the icon to remove an existing ink from the list after prompt.

Column description:

Entries in the columns come from the `Cost Calculation - Ink Properties` dialog. It will open by clicking on or .

- `Ink name`: The ink added here.
- `Printers`: List of all printers that refer to this ink price. `<all>` means the ink price can be used with any printer(s).
- `Manufacturer`: The ink producer.
- `ID`: Ink number or ID.
- `Channels`: Color channels the entered price refers to.
- `Basis price`: Prices that apply for the ink per milliliter in the selected currency.

Comments to notes:

marks a warning that should be checked!

Samples:

- `No MIM for ink`: The entered ink name does not match the ones in currently opened MIMs. Make sure that a MIM is existent for this ink to be able to perform a cost calculation. **TIP**: Only MIMs of any printers currently open can be selected.
- `Not in color mode`: Will be displayed if color channels have been added that are not supported by any of the linked printers.
- `Not in product`: Will be displayed if an imported ink price sheet contains printers that have not been licensed (yet).

A media price sheet has been added that can be imported or/and exported , too.

Set ink properties and printer restriction

Prerequisite: You have imported a MIM or added a new one.

Here you will determine the ink properties such as basis price, the ink name (from an active MIM) and printer(s) that use the determined ink. You can enter different basis prices for each ink channel.

How to carry out the ink properties and its printer restriction:

To open the dialog:

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1. Go via menu `Options` > `Cost Calculation Module` on `Ink Price Sheet...`. The dialog `Cost Calculation - Ink Price Sheet` will be opened.

2. Click on the icon . The dialog `Cost Calculation - Ink Properties` is shown.

Set properties for the ink:

1. Click the button `...` to select the ink. In the newly opened dialog any MIMs of printers that are currently open will be displayed.

2. Select the suitable ink and confirm the dialog with `OK`.

3. Enter the `Manufacturer:` and `ID:` if desired.

Determine the basis price for ink channels (below `Select ink channels`):

1. If all channels do have **the same basis price**, enter the value in `<all>`.

2. Optionally click on `...` to calculate the basis price from the purchase price and the cartridge size.

- OR -

1. If used ink channels do have **different basis prices**, click on . A further dialog opens.

2. Select the additional channel from the list, confirm with `OK` and apply the ink basis price via `...` or enter it directly into the list.

3. Confirm the dialog `Calculate Ink Price` by clicking on `OK`.

If there are ink channels in the list that differ in price, the first entry (common basis price) will then be marked with `<other channels>`.

Link the printer to the ink (below `Select printers`):

1. Click on to go to the printer selection that shows currently open printers.

2. Select the printer that should be used with that ink price from the list.

3. Close the dialog by clicking on `OK`. The printer name will be displayed in the list.

 Note: Make sure that the ink name matches the one in the corresponding MIM (warning: `No MIM for ink`)!

---

4. For further printers to link open the dialog again.

5. By clicking on you will unbind the printer restriction if required.

If you click on `OK` you will go back to the ink list window. To continue preparing the cost calculation do one of the following:

- **Set currency and manage cost report db see page 176,**

- **Enter job data CCM see page 89,**
- **Set media properties and printer restriction see page 178.**

Set filter for reports of multiple jobs

Prerequisite: Jobs were printed with enabled cost calculation function which means that usage costs have been captured.

Here you will get to know how you can create a report from the captured usage costs not just for one but for several jobs. There is a filter available which can limit jobs by date, time period or/and cost range. Additionally you can set a filter for job data such as customer name or a specific media. Only matching jobs will be covered by the report.

Filter information on each single job go into a job report database that is saved in the user directory. After printing that database will be updated. To keep it clear you can remove entries from the database as adjusted in the settings.

How to carry out filter settings and create reports:

To open the dialog, go via menu `Options` > `Cost Calculation Module` on `Job Report...`. The dialog `Cost Calculation - Job Report` will show up. It is divided into `Filter Settings` and `Report Settings` that will be described here:

`Filter Settings` **- set up filter for the job cost report**:

1. Select relevant entries (`Printer name`, `Media`, ...) for the report from the drop down menu.

Example: Only `Media` Glossy Paper that was printed for `Customer` XYZ is meant to include in the report --> Select `Customer: XYZ` and `Media: Glossy Paper`.

2. Leave unimportant entries as they are (`<all>`).

Additionally you can filter jobs by date, time period or cost range:

- `Select jobs created between`: When the job was loaded into the software.
- `Select jobs printed between`: When the job was printed the last time.
- `Select jobs within a cost range of`: Usage costs for a single job between min and max value; captured after printing.

Options offered can be combined:

Example: Only jobs of customer XYZ that were printed between April and Mai 2007 with ten Euro max. costs per job are allowed in the report --> Select next to `Select jobs printed between: 01.04.2007 – 31.05.2007` and next to `Select jobs within a cost range of: 0 - 10 Euro`.

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Report Settings - **Select type of report and sort contents**:

- Determine next to **Sort report output by** which of the set filters in the current dialog should be applied. This filter will be the one that sorts the report.
- Select next to **Choose report template** a preview or print-out as:
  - **Job report (CSV)**: is a table format that will be opened in MS Excel for example for an easy editing.
  - **Job report (detailed)**: is an HTML view that contains some more info to the simple job report like the additional charges.
  - **Job report**: is a simple report that contains info to the most relevant items - MIM, job name, costs that apply and job size. It is recommended to rotate it in the preview before printing.

Filter and report settings are carried out. Click optionally either to display it, print it or save it.

Show job cost report

The cost report opens in a dialog that contains data about usage, prices for material and the cost results obtained **after ripping** clearly arranged. This dialog refers to a single job that has been printed with enabled cost calculation function.

What the cost report shows:

You are in the main program user interface. To open the dialog for the cost report:

- Select the job and click on the menu entry **Job** > **Cost Report...** or
- Click right on the job and open the context menu **Cost Report...**.

A **Cost Calculation – Job Report** dialog will be opened. It is divided into three tabs as follows:

-
-
-

If you have called up and changed material lists within the cost report, the calculation will be updated directly. If you want to show a report for several jobs, choose the filter report function.

Show job data in a cost report

You are in the **Cost Calculation – Job Report** dialog. To open the dialog:

It shows three tabs (**Job Data**, **Usage Data** and **Calculated Cost**).

- Here in the `Job Data` tab you can see that information to the job added in the job settings, the time of loading, printing and selected MIM settings.

- If you see a warning ⚠, the material name could not be found in the price list. Via `...` you can gather the basis price for the material (media or ink) afterwards or correct its spelling in the list if required. The calculation will be updated as soon as the material price can be assigned.

Show usage data in a cost report

You are in the `Cost Calculation - Job Report` dialog. To open the dialog: . **It shows three tabs (`Job Data`, `Usage Data` and `Calculated Cost`).**

Here you can see the exact `Usage Data` for:

- media including its printed (`Printed area`) and only blank (`Wasted area`) areas and

- the total ink (`Total ink amount`) containing all inks used and each ink channel listed separately (`Per channel ink amount`).

Show calculated costs in a job report

You are in the `Cost Calculation - Job Report` dialog. To open the dialog: . **It shows three tabs (`Job Data`, `Usage Data` and `Calculated Cost`).**

- From the previous tabs of the `Cost Calculation - Job Report` dialog holding job and usage data the cost result for one job will be calculated here in the `Calculate Cost` tab **after ripping**. The currency to use is set in the settings.

- Here as well via `...` next to `Ink`/`Media` you can go to the global material lists and update them.

- If you see a warning ⚠, the material name could not be found in the price list. Via `...` you can gather the basis price for the material (media or ink) afterwards or correct its spelling in the list if required. The calculation will be updated as soon as the material price can be assigned.

- If you want to adjust the profit or charges that occur go to the job settings (job data tab). The cost calculation will be carried out again after closing the job settings dialog.

- Under `Cost Report` a report with sections to file information, calculated costs, the ink usage for all channels and the media usage can be output as HTML file or can just be saved.

7 Optimizing printed output

Here you can get an overview about further optimizing the print output. This is possible by loading MIM (coordinate media and ink), by linearizing your printer, by optimizing a profile contained in the MIM or by optimizing proofs when using DeviceLink technology .

The listed modules here can be purchased additionally. Some functions are included in the full version or within additionally available modules of the RIP software.

The following links and descriptions refer to functions for optimization:

- **MIM administration see page 31**: For importing and editing of MIM (Media, Ink, metamode) which contains by default the linearization and profile for this combination.

- **MEDIA DEVICE SYNCHRONIZATION see page 206**: For synchronization of two or more printers or for recalibration of a printer back to the original state. Also useful to synchronize imported CMP files (MIM packages).

- **Make settings for linearization see page 194**: For the linearization of a printer by applying a pre-calibration and the color transfer for additional cartridges. The linearization is included in the **PROFILER** Module.

- **LINEARIZATION Assistant Screen Workflow see page 201**: For the linearization of a printer by calibrating the existing channels to a linear print curve.

- **EXPRESS PROFILER Module see page 236**: For a new and fast profiling based on a profiling with similar media, similar ink and similar print settings.

- **(MULTI-COLOR) PROFILER Module see page 218**: For printer profiling including linearization. Further functions are determination of ink limit, gray balance optimization and ICC profile creation.

- **Profiling in RGB mode see page 232**: For printers which function with RGB color data. They have additional cartridges.

- **REFERENCE PROFILER Module see page 245**: For the profiling of a print system which is not supported by our RIP software.

- **DEVICELINK PROFILER Module see page 240**: For the optimization of a DeviceLink profile which leads to an improved output in proof workflow.

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- **Overview control wedge evaluation see page 248**: For the evaluation of a proof print by using the media wedge. A proof report will be created which can be printed on labels.
- **Overview Quality Assurance Module see page 254 (QAM)**: For the evaluation of a production print by using the color media wedge. Here a quality report on labels will be created as well.

7.1 Using MIM administration

For high quality printing, you need the answers to the following three questions:

- Which media (paper, material) is being printed?
- Which ink combination should be used in the printer?
- Which technical properties, such as the print resolution, should be used?

These three components are described together in what is known as an MIM combination (MIM = Media-Ink-Metamode).

Note: An MIM combination is created taking into account the physical properties of a media in combination with the ink. It is therefore advisable to use a combination of this nature only for the relevant paper and the relevant ink.

A CMP file is the exchange format for MIM combinations. When a CMP file is imported, its content is distributed into the existing directory system. **Three critical parts are included in one MIM package**:

- Advanced settings in color mangement
- An ICC profile whose properties have been adapted for a special media
- A linearization file that controls the ink application with precision

The following steps clarify the MIM administration:

Import MIM

Prerequisite: A printer appropriate for the CMP file must be created; only then the access to the MIM-Administration is possible.

The optimum settings for your printer with the component media, ink and print mode are included in the MIM package. This MIM package (CMP file) can be found on the installation DVD or on the website. You dealer can also provide you with an appropriate file or you can create a completely new MIM combination.

Then import the MIM package previously created, that can contain information on ink(s) and the metamode (metamodes). Only then can the optimum results be achieved using the RIP software and the printer set up accordingly.

How to import a MIM:

Note: For an optimum print result, the CMP file selected must match your printer setup with media, ink and print mode.

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1. Take a look at the installation DVD or ask your distributor. The MIMs are located in the Profiles\PrinterNameXYZ folder on the DVD.

- OR -

1. At www.colorgate.com you will find the MIM combinations (CMP files). Before you can access the download area, you first need to log on using your email address and password, if you have already completed the product registration process.
2. Save the file (*.cmp) at any location. The MIM can then be imported into the RIP software.
3. If you want to create a new printer including a MIM combination, go to the **printer setup**.
   1. Click `Printer > New`.
   2. Select the printer and click `Next >`.
   3. Click `Import MIM....`

   You will see the dialog `MIM file` for selecting the MIM package (CMP file).

- OR -

3. If you want to load an MIM package later on, go to the **MIM administration**.
   1. Click `Options > MIM-Administration`.
   2. Here, select `Import MIM-files` and click `Next >`.

   You will see the dialog `MIM file` for selecting the MIM package (CMP file).

4. In the next dialog `MIM file`, search with `Browse...` for the CMP file that you have loaded and saved or exported. All compatible printers for this MIM will be listed below `Compatible printers`. If the current printer does not belong there, you will see a message in the next step.
5. In the next dialog `MIM-file`, search for the CMP file that you have loaded and saved.
6. Select `All` next to the drop down menu for `media`, to import all available combinations for that media only, for example.
7. Click `Next >`.
8. In the next dialog `MIM-Loading Options` you set whether:

   - **Existing metamode settings:**
   - **are overwritten:** Default setting; new print mode settings with the same name are applied and the previous settings removed.
   - **kept:** Print mode settings contained in the MIM are not applies if their name is the same as the previous designations.

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- **Existing profiles and linearizations**:
- **are overwritten:** Default setting; new profiles and linearizations with the same name are applied and the previous settings removed.
- **kept:** Profiles and linearizations contained in the MIM are not applied if their name is the same as the previous designations.

9. Click `Next`, and then on `Finish` to complete the import process and close the dialog.

The MIM package has been unzipped during the import process and, according to the current printer setup, divided into its component parts of ICC profile, linearization and files for the Media Default Synchonization.

Create new MIM

Prerequisite: A printer appropriate for the MIM must be created; only then it is possible to access the MIM-Administration.

Here you create a completely new MIM or copy an existing MIM to use it as the basis for new print jobs with modified metamode settings.

How to create a new MIM:

1. Click `Options > MIM-Administration`.
2. In the next dialog, select `Administrate MIM-files`.
3. Click `Next >`.

You now have two options:

1. **Create new MIM**: In this case you need to enter completely new names. In the advanced job settings you can always start from the default settings.

   Prerequisite: The fields for `Media:`, `Ink:`, `Metamode:` must contain `None`.

   4. In the next dialog `Select MIM Combination`, select `New`.
   5. Click `Next >`.
   6. In the next dialog, enter the new name for `Media:` / `Ink:` / `Meta-mode:`.

   Note: Make sure that you use appropriate names so that you can track the MIM, such as the name of the media of the type of print mode with resolution and color mode.

   7. Select under `Workflow` the required workflow, which the newly created MIM is based on. Depending on the module configuration different workflows are selectable: Production, Proof, ScreenPrint-Proof, ColorServer.

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8. Click **Settings** to carry out the relevant settings for the metamode in the next dialog **Profiles/Print Mode/Screens/Color Correction**.
9. Click **Next >**, then click **Finish**.

2. **Copy MIM**: Copying has the advantage that you can access settings that have already been tried and tested in practice. You don't need to change as many parameters.

Prerequisite: A MIM combination must be selected.

4. In the next dialog, under **Media/Ink/Metamode**, select the settings to be used as the basis for the new combination.

Note: The quality of the print results depends greatly on the correct MIM being selected and its metamode. Therefore, ensure that the settings deviate as little as possible from the current printer setup.

5. Then select **Copy**.
6. Click **Next >**.
7. In the next dialog, enter a new name for **Media/Ink/Metamode**, if anything in the settings needs to be changed.

Note: Make sure that you use appropriate names so that you can track the MIM, such as the media name or the type of print mode with resolution and color mode.

8. Change the workflow if required under **Workflow** for the copied MIM to base on. Depending on the module configuration tree workflows are selectable: Production, Proof, ScreenPrintProof.
9. Click **Settings** to carry out the relevant settings for the metamode in the next dialog **Profiles/Print Mode/Screens/Color Correction**.

Note: For your new settings, the required profile (medium) and the relevant linearization are selected. It is possible to print only using the linearization by deactivating the use of the profile.

10. Click **Next >**, then click **Finish**.

You have created a new MIM and can then either process print jobs or optimize them further.

Edit MIM

Prerequisite: A printer appropriate for the MIM must be created; only then is it possible to access the MIM-Administration. An appropriate MIM must be imported.

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Here you edit an existing MIM by adjusting the metamode settings to your printer setup. The RIP software and the correctly set up printer are then matched for one another.

How to edit a MIM:
1. Click `Options > MIM-Administration`.
2. In the next dialog, select `Administrate MIM-files`.
3. Click `Next >`.

Note: An appropriate MIM must be imported so that it can be edited.

4. In the next dialog `Select MIM Combination`, select the required MIM.
5. Then go to `Edit`.
6. Click `Next >`. You will see the advanced job settings.
7. Carry out the required settings here.
8. Confirm with `OK` and click `Finish` in the MIM-Administration.

The changes have been entered in the MIM. It will keep its name for media/ink/metamode . Newly loaded jobs are assigned the current MIM settings.

Note: Jobs already loaded in the job queue with the assigned MIM retain their old MIM settings. The new settings are only applied if you re-assign the changed MIM in the job settings.

Export MIM

Prerequisite: A (modified) MIM exists for the printer created.

When you export an MIM combination, you generate a CMP file. These files can then be imported into an existing RIP software installation later on. It contains the linearization data as well as the profiles used.

How to export a MIM:
1. Click `Options > MIM-Administration`.
2. In the next dialog, select `Export MIM-files`.
3. Click `Next >`. The `Choose MIM-Definitions` dialog will be displayed.
4. Select the MIM that you want to export into a CMP file.
5. Click to checkmark `All` if all the information contained in the MIM (such as multiple print modes) is to be imported. If you only want to import all information contained for media , ink or metamode , select `All` next to the relevant text box.
6. In the next dialog `MIM-Saving Options`, use `Browse` to specify the save location and the filename for the MIM (CMP file).

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Note: Make sure that you use an appropriate name so that you can track the MIM, such as the name of the printer, the model and possibly the media used.

Optional:

You can export this MIM including newly created profiles and linearizations of a certain MIM combination for a different printer as well. If you have added the appropriate printer, the profiles and linearizations will be selectable in tab profiles or within the MIM.

If there are different print mode settings, a **message** will appear.
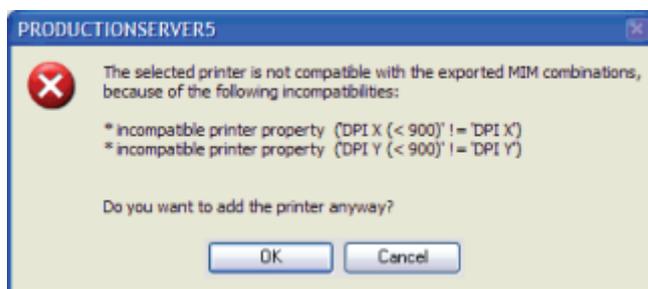
The screenshot above shows a message about different print mode settings for the selected printers. Their names deviate from each other just slightly, they have the same meaning. So you can ignore the message.

- Click **Yes** to add the required printer.
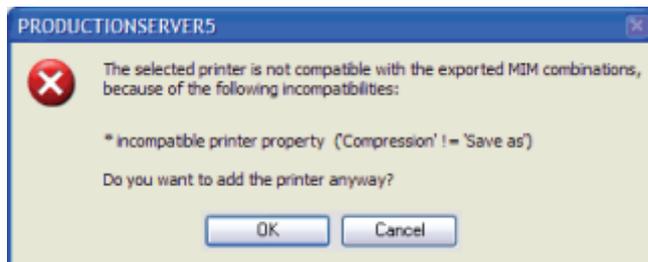
The screenshot above shows a message about differently named print mode settings for the selected printers. You will have two completely different properties which may cause a driver crash or unwanted print outputs.

- Click **No** not to add the required printer.

Tip: Check messages with your distributor.

7. Click **Add....** The printer list will be open.

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8. Choose the printer you want.
9. Click **OK**. The new printer is visible in the list **Compatible printers**.

Above the list **Compatible printers** you have several options for the content being saved:

- **Existing file:**
- **Overwrite:** You specify with **Overwrite** that an existing file with the same name is completely overwritten.
- **Extend:** You specify to **Extend** an existing file with the new data (default). Older settings are retained in the file with the **Extend** option.
10. Click **Next >** and then in the next dialog, click **Finish**.

The CMP file is saved at the required lcoation.

7.2 LINEARIZATION ASSISTANT

Prerequisite: You have imported or created a MIM for your printer. You have purchased the **LINEARIZATION ASSISTANT.**

With the optionally available Linearization Assistant you can linearize your printer without creating a profile. The **LINEARIZATION ASSISTANT** is built up as an assistant. Its task is to create a linear characteristic print curve and to save the adjustments. The printer type, the printer media such as ink and paper as well as **print mode-**These are mainly the number of ink laydowns, the print speed and the drying performance.are taken into consideration.

You will save your finished adjustments in a linearization file *.ccx. Such a file contains settings to the maximum ink laydown, the optimization of gray balance and color gradients, from which the characteristic print curve depends.

Here you can see an overview to necessary and optional steps of **LINEARIZATION ASSISTANT**:
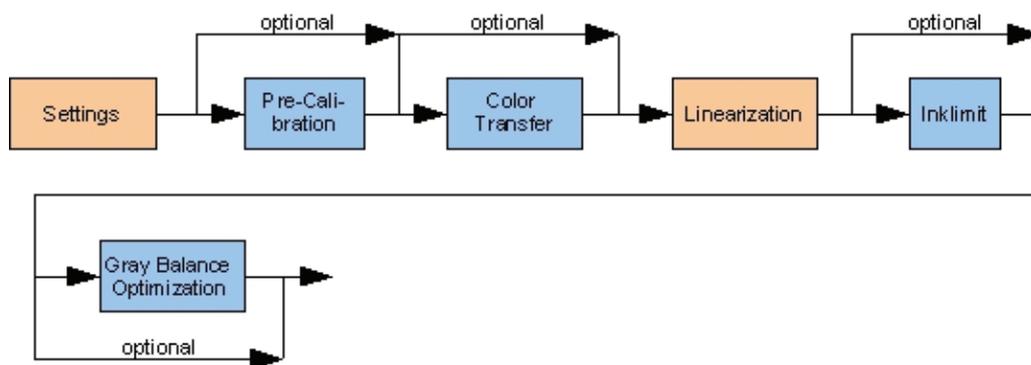
If you want to use output profiles created in another application, read the following instruction: **Profiles from external software see page 118**

Note: The use of external profiles restricts the optimization by using the Media Device Synchronization.

In the following steps you perform a linearization:

- **Make settings for linearization see page 195**
- **Use Pre-Calibration see page 221 (optional)**
- **Apply Color Transfer see page 222 (optional)**
- **Perform linearization see page 196**
- **Optimize Ink Limit for linearization see page 198 (optional)**
- **Optimize Gray Balance for linearization see page 199 (optional)**

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Specify settings linearization

Here you specify settings which are the basis for the following steps. These settings are MIM combination, pre-calibration for ink laydown and the measuring device for target measurements.

Note: For profiling in RGB mode read the corresponding topic.

How to specify settings:

1. Select from the menu `Options > Linearization Assistant...` or `Linearization and Profiling Assistant...`.
2. Decide either for a new or for an existing linearization or profiling file *.ccx to continue or to edit.
3. Click the icon to open the folder with linearization files or click the arrow next to the icon to display the last ten processed linearization files and open one of them.

Tip: Name a new file with the printer type's name to be able to retrace it later on. The file will be saved by default in folder **Profiles** within your software directory.

You will see the assistant's `Settings` tab.

4. Select under `Printer` the MIM which belongs to your printer configuration.
5. If you have not imported or created a MIM, select `MIM Administration`. Copy your appropriate MIM combination or create a new one with the required print mode .

Note: The adjusted print mode will be applied to the entire linearization and profiling (if the **PROFILER** Module has been implemented). Try several print modes for an optimal result.

6. If you have a printer with additional cartridges for light colors or the option **Variable Dot Size**, you can adjust the color gradients by using the function Color Transfer. Click on `Color Transfer` button. Required is, that the MIM's appropriate ink mode under `Print Mode` is selected.
7. If you know about your printer's high color laydowns in the selected print mode, use the Pre-Calibration to limit them.
8. Select the appropriate target template from the list. > Target types
9. Select the connected measure device which is applied to the entire assistant. > Supported measure devices
10. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: Measure de-

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11. Click to continue on `Next: Linearization Target`.

You have made the presettings and can now start a linearization in tab `Linearization Target`.

Perform linearization

The linearization is required for the Profiler to create an ICC output profile. This is a basis for future print jobs under the same printing conditions. The linearization covers **two tasks**.

- It is a kind of **Calibration**(Calibration , a so called post linearization provides a proof system's constant color reproduction for a specific combination of media and ink. The approach to perform the calibration by using measured Lab values offers especially high accuracy.) for which between printer input and output (data and image) a linear relation is created. The individual print colors CMYK are printed linearly from 0-100% onto the media .
- Adjusted to printer type, media, ink and print mode the full color laydown for each single print color CMYK is set to be output optimally by the printer.

For a specific printer type and the MIM combination you print a linearization target and do the measurement by using a measure device. The measure device records the values spectrally and calculates the densitometric density as well as LCH and Lab values.

Afterwards you can determine the maximum density value per process color in the target visualization. The assistant calculates the optimal characteristic print curve to achieve a linear print output.

Tip: If you have not purchased a **PROFILER** Module, after finishing the linearization you can print an external application's linearization target. This printed target is the measuring basis for the other application where you create an ICC profile. By using the MIM administration you can integrate this profile in your RIP software afterwards.

How to perform the Linearization:

You are in **PROFILER** assistent's `Linearization Target` tab.

Note: You need to perform a new linearization if media, ink or print mode changes.

Tip: The style of target is based on the selection in the assistant's `Settings` tab and is grayed out for that reason.

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More Information to Print Target:

Note: The adjustments from the first hotfolder will be applied when printing the target. Some of the adjustments are media width and the selection of sheet or roll feed.

1. In area `Print Target` click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Click at `Print` to print the target on the connected printer.

Tip 1: If the ink laydown on the printed target is too high, click on `Previous: Settings` to control the ink laydown by choosing different print mode settings in the MIM administration.

Tip 2: If the ink laydown on the printed target is too high, click on `Previous: Settings` to control the ink laydown by using the Pre-Calibration.

Tip 3: If you want to optimize the output of light and process colors, click on `Previous: Settings` and then on `Color Transfer` button.

3. Keep a proper drying time for a measurable print result (approximately 20 minutes).

More Information to Measure Target:

4. Keep a proper drying time for a measurable print result (approximately 20 minutes).
5. Measure the target by clicking `Start`. Pay attention to the notes in the area.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

Note: When errors occur make sure that the appropriate measuring device and additional modules are selected (optional iO-support for Eye-One iO).

During the measuring process empty targets on the monitor are filled with the measured color values.

6. Move the mouse over the color patches to display the color values (Lab, CH, spectral curve).
7. You can export these values into a text file by clicking `Start > Export measurements` to access it later on.
8. Determine, if necessary, the maximum **density value** for each process color.You can determine the maximum density value per process color by

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clicking right mouse button at the requested color patch. In text field `Full Color` the new value is shown. It makes sure that the printer can display this color density. This adjustment has influences when doing the linearization synchronization. Another printer of the same type can possibly print with a lower color density.

9. Click on `Next: Linearization` to **display the results** of the measurement.You will see the corrected print curve displayed in the graphic display.

    You can view process colors separately or all colors together when clicking `All Channels`.

    If you select the display of single process colors you will see a table which lists the corrected color values (output) to each of the color patches (input).

10. Click at `Next:` and select the appropriate topic.

You have performed a linearization and adjusted a linear relation between printer input and output (data and image).

Optimize ink limit for linearization

The Inklimit adjustment is included in the PROFILER module and the Linearization Assistant. With this optional function you can limit the total ink laydown when printing colors together. Not more ink than necessary for an optimal print output is applied to the media .

How to optimize the ink limit (optional):

You are in the assistant's optional `Inklimit Target` tab.

1. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Select one of the following targets:

Tip: Solvent targets are larger than default ones to allow a good printability for low resolutions and moderate ink laydowns.

-   Default Inklimit Target / Default Inklimit Target - Solvent: for simple evaluation
-   Inklimit Target (3 Elements) / Inklimit Target - Solvent (3 Elements): for detailed evaluation

Note: In **MULTI-COLOR PROFILER** you have a target available which is adapted to the additional color channels.

3. Click `Print` to output the target on the connected printer.
4. Evaluate the printed target visually.

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5. Enter the value in percent in the text field for which the elements in the target are displayed optimally.

Note: In **MULTI-COLOR PROFILER** 100% per channel are added automatically.

Two further possibilities for manual limitation of ink amounts are selectable:

- **Limit all channels**- All process colors are limited in same proportions (selected by default).
- **Keep black channel**- All process colors except for black are limited. This makes sure that despite of strong limitation of process colors a saturated black is printed.

6. Click at `Next:` and select the appropriate topic.

You have adjusted the total ink laydown to print efficiently.

Optimize gray balance for linearization

Note: The gray balance optimization does not apply in **MULTI-COLOR PROFILER** when you use a printer with additional cartridges. This module applies already a gray balance optimization internally.

Note: The gray balance optimization does not apply in proof workflow because the adjustments influence the linearization . It must be kept since a high color accuracy is required.

The Gray Balance Optimization is included in the PROFILER module and the Linearization Assistant. The function gray balance optimization achieves a neutral output of grayscales when printing process colors together and supports the profile calculation. Using the gray balance optimization, the linearization curve can vary caused by errors of measurements having incidents of light. When applying the linearization, the gray balance should be adjusted optimally which is not true in most cases.

The gray balance optimization is an optional function which can be performed as often as necessary (iterative) until the gray balance fulfills the requirements.

How to optimize the gray balance (optional):

You are in the assistant's optional `Gray Balance` tab.

1. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Click at `Print` to print the target on the connected printer. If the printed output looks as intended, go at `Previous: Linearization` to skip the gray balance.
3. Otherwise keep a proper drying time for a measurable print result (approximately 20 minutes).

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4. Measure the target by clicking `Start` for the calculation later on. Pay attention to the notes in the area.

- OR -

4. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements...`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

- You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).

- When clicking `Start > Measure device settings...` you will open a dialog about additional settings for the selected measure device: **Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217**

5. Click at `Next: Gray Balance` to **display the result** from the optimization as a graph.You will see a characteristic print curve for each process color which includes the gray balance optimization. This visualization contains a tabular comparison with previous and current values of colors in percent.

6. Either click at `Next: Gray Balance Target X` to print a target included with the correction once again. After that you evaluate the target visually and decide about a further correction cycle.

Tip: You can repeat this procedure as often as required. Each further output of the gray balance target is based on the measurement results from the previous measurement. After 4-5 approximations the result will get worse than the previous one.

- For a further correction: Measure the target and continue as described from step 4.

- For a confirmation of correction and continue in the assistant with the profile target: Click on `Previous: Gray Balance` and in tab `Gray Balance` at `Next: Profile Target`.

- OR -

6. Click on `OK` to finish the linearization.

You have achieved a neutral output of gray-scales when printing all process colors together. The linearization is completed.

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7.3 LINEARIZATION ASSISTANT in screen workflow

**Prerequisite**: You have imported or created a MIM for your printer. You have purchased the **LINEARIZATION ASSISTANT.**

The **LINEARIZATION ASSISTANT** is built up as an assistant. Its task is to create a linear characteristic print curve and to save the adjustments. The printer type, the printer media such as ink and paper as well as **print mode** - These are mainly the number of ink laydowns, the print speed and the drying performance. - are taken into consideration.

You will save your finished adjustments in a linearization file *.ccx.

In the following steps you perform a linearization:

- **Make settings screen linearization see page 201**
- **Use Ink Reduction see page 202**
- **Perform linearization screen workflow see page 203**

Specify settings

Here you specify settings which are the basis for the following steps. These settings are MIM combination and the target.

How to specify settings:

1. Select from the menu `Options > Linearization Assistant...` .
2. Decide either for a new or for an existing linearization or profiling file *.ccx to continue or to edit.
3. Click the icon to open the folder with linearization files or click the arrow next to the icon to display the last ten processed linearization files and open one of them.

Tip: Name a new file with printer model and configuration (media, ink, mode) to be able to retrace it later on. The file will be saved by default in folder **Profiles** within the software directory.

You see the assistant's `Settings` tab.

4. Select under `Printer` the MIM which belongs to your printer configuration.
5. If you have not imported or created a MIM, select `MIM Administration`. Copy your appropriate MIM combination or create a new one with the required print mode .

Note: The adjusted print mode will be applied to the entire linearization. Try several print modes for an optimal result.

6. For special cases such as pad printing <u>**Use Pre-Calibration see page 221**</u> to limit ink laydowns.
7. Choose the appropriate target named `Film Linearization`.
8. Click to continue on `Next: Linearization Target.`

You have made the presettings and can now start a linearization in tab `Linearization Target.`

Use Ink Reduction

In the screen workflow Linearization Assistant this function offers for any available color mode:

An ink reduction

When you print film media with a high printer resolution, more ink might be applied than possible. Often it is visible easily, if the ink lay down is too high: the ink stays on the target, smears or takes a long time to dry. In this case a reduction of ink is necessary.

A limitation needs to be as high as necessary and as low as possible. The reason is the UV density which is needed to be about 3 to 3.5 for the exposure process.

An increase of ink lay down

In the past for certain printers it was not possible to print films with low printer resolutions (for example 720x720) that achieved sufficient UV density. Using this function you can add another channel to the 100 percent black - the required density of 3 to 3.5 will be obtained when having two channels.

Here it is important to know which channel beside black has the highest UV density to add as little ink as possible.

How to perform an ink reduction:

You are in the Linearization Assistant's `Ink Reduction` tab.

TIP: First print in the next step a target to evaluate the ink lay down visually via `Next: Linearization Target`. Is there a need to perform an ink reduction/increasement, go one step back via `Previous: Ink Reduction`.

---

1. Adapt the ink setting using the rulers or text input fields.
- If you want to reduce ink, adapt the black channel.
- If you want to add ink, adapt the channels Yellow, Cyan, Magenta or others separately or combined. When using Epson printers recommended is to add ink of the Yellow channel.
2. Check the optimal setting by printing a target in the next tab `Linearization Target`. After that evaluate the ink lay down visually. If required go back to the `Ink Reduction` to adapt the ink.
- Via `Reset` you will switch back to the original state of the program.

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You have done an ink reduction/increase and can now start a linearization in tab `Linearization Target`.

Perform linearization

The linearization covers **two tasks**.

- It is a kind of Calibration(Calibration , a so called post linearization provides a proof system's constant color reproduction for a specific combination of media and ink. The approach to perform the calibration by using measured Lab values offers especially high accuracy.) for which between printer input and output (data and image) a linear relation is created. The individual print colors CMYK are printed linearly from 0-100% onto the media .
- Adjusted to printer type, media, ink and print mode the full color laydown for each single print color CMYK is set to be output optimally by the printer.

For a specific printer type and the MIM combination you print a linearization target and do the measurement by using a measuring device. The measuring device records the values spectrally and calculates the procentual area coverage.

Afterwards you can determine the maximum density value per process color in the target visualization. The assistant calculates the optimal characteristic print curve to achieve a linear print output.

How to perform the Linearization:

You are in the assistent's `Linearization Target` tab.

Note: You need to perform a new linearization if media, ink or print mode changes.

More information to **Print Target:**

Note: The adjustments from the first hotfolder will be applied when printing the target.

1. In area `Print Target` click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Click at `Print` to print the target for every single separation on the connected printer.

Tip: If the ink laydown on the printed target is too high, click on `Previous: Settings` to control the ink laydown by choosing different print mode settings in the MIM administration.

3. Keep a proper drying time for a measurable print result (approximately 20 minutes).

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More information to **Measure Target:**

4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

Tip: For the calculation of the print curve, measure values in steps of 5 are sufficient (for example at patch 5; 10; 15; ...). Do not enter values for patches with 100% measured ink laydown, but the patch with a maximum measured ink laydown of 99% (could be patch 82). If you choose negative output, a value needs to be entered for that patch, which is measured at least with 2% ink laydown (could be patch 5, but never patch 1).

Note: Set the measuring device for the negative output (at the device).

5. Click in the required patch in the assistant's target display.
6. Measure the corresponding patch (at least the framed ones) for example with the iCFilm™ or the DTP 341 (X-Rite). Enter the measured value in the assistant's appropriate patch.

- OR -

6. Import existing measure data by clicking `Start > Import measurements...`.
7. Click on `Start > Copy measurements to all channels` to use measured values of black for other separations. Deviations will be disregarded and the results might be inaccurate.

- OR -

7. Enter measured values for all separations CMYK.

After the measuring process empty targets on the screen are filled with the measured values.

8. Click on `Next: Linearization` to **display the results** of the measurement.You will see the corrected print curve displayed in the graphic display. You can view process colors separately or all colors together when clicking `All Channels`.

   If you choose the display of single process colors you will see a table which lists the corrected color values (output) to each of the color patches (input).

9. Click at `OK` in the `Linerization` tab (curves) to finish the linearization process.

- OR -

9. If you see deviations higher than 3 % or if you want to renew the linearization after some time: Click `Next: Linearization Target (2)`. There you will print and measure a target again to calculate a linearization curve

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with **Next: Linearization (2)**. At least all framed patches have to be measured and filled with the currently measured value. You can repeat this linearization process as often until the deviations are below 3 %.

You have performed a linearization and adjusted a linear relation between printer input and output (data and image).

7.4 MEDIA DEVICE SYNCHRONIZATION (MDS)

Prerequisite: You have purchased the **MEDIA DEVICE SYNCHRONIZATION** function. The printer to be synchronized is from the same type as the basic printer type. A MIM is available that contains an activated profile and linearization (on the print mode tab) with identical names. The profile and linearization must be imported using the MIM or created using the **PROFILER** Module.

The MEDIA DEVICE SYNCHRONIZATION is an optional function. All process colors are considered together in a multidimensional color space during the synchronization process. Composited colors are entered within a profile which results in a multi-channel and therefore more accurate correction.

The **MEDIA DEVICE SYNCHRONIZATION** is iterative, meaning that you can perform as many consecutive optimizations as required. You also can create multiple synchronizations based on a **Media Default Profile** if you have more than two printers. A **Media Default Profile** is contained in the MIM or is created in the **PROFILER** Module. MIM packages from version 4 are automatically converted so that they can be used in the MDS.

The **MEDIA DEVICE SYNCHRONIZATION** can be used **in the situations below**:

Practical examples:

- Harmonize printers of the same type at different locations (synchronize the print output) > Remote proofing.
- Calibrate printers back to the original print output following extended usage (wear) and modified print image.
- Create a profile for synchronizing multiple printers of the same type for identical print outputs at the same location (using the same MIM).
- In booth construction, single segments of a booth wall can be reproduced or produced from scratch with exactly the same coloring.
- Large-volume jobs can be split across multiple identical print systems with consistent print results.
- Single misprints can be corrected systematically even under different ambient conditions and across an extended time period.

Given below is an overview of the assistant:
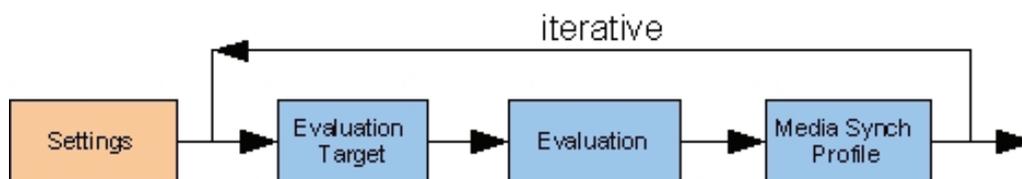
The following steps show you how to perform a MEDIA DEVICE SYNCHRONIZATION:

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Specify settings

Here you make adjustments which are the basis for the following steps. These are MIM combination and measuring device.

How to specify settings for the MEDIA DEVICE SYNCHRONIZATION:

1. Select from the menu `Options > Media Device Synchronization`.
2. Select according to your printer configuration from the following dialog box the MIM which should be synchronized.

This entry is displayed with `Original: (Media Default)`. It means that a profile to synchronize is available.

Other existing synchronizations can be listed there as well. They are named with the `printer name`.

3. Click at `OK` to perform the conversion. When you want to synchronize printers by using MIMs from previous versions, a message shows up to convert this MIM into a suitable one.
4. Click on `Measure` to start the conversion.

You will then see a new dialog box similar to the profiling assistant.

Note: Buttons which are grayed out are depending on the existing profiling. They cannot be changed.

5. Check the details of the MIM combination which reflects your printer configuration.
6. Select your measuring device.
7. Click at `Next: Evaluation Target`.

You have made settings to your MIM and to the measuring device. In the assistant's next tab `Evaluation Target` you can print and measure a target for optimization.

Print and measure target

Here you print a profile target to measure. You can select between different targets. From the measured target the ICC profile for the print output will be calculated.

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How to print and measure the media synch target:

You are in the assistant's `Evaluation Target` tab to print and measure a target.

1. Select the target to print.

Several targets are available. They vary in size and number of patches and are dependent on the measuring device. The quality of the synchronization depends on the number of color patches on the target. The more patches the better the color accuracy but a higher risk of possible measure inaccuracies as well.

2. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
3. Click at `Print` to print the target on the connected printer.
4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

- OR -

4. For printers with an internal measuring device like **HP-DesignJet-Z6100 / Epson-Stylus-Pro 7900 / Epson-Stylus-Pro 9900**: If you want to use the build-in measuring device to start the measuring immediately after printing select `Automatically measure target after printing`. The measuring results will be saved in the job folder (...\"product name"\JobDir\"printer name").
5. For other printers measure the target by clicking `Start` for the profile calculation.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

- You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).
- When clicking `Start > Measure device settings...` you will open a dialog about additional settings for the selected measure device:
6. Click `Next: Evaluation` to review the optimization.

Now you have printed and measured a target. After that you can list the calculated values in tab `Evaluation`.

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Evaluate target

Prerequisite: Values are in a red range in the `Limit` column of the previous `Evaluation` tab.

Here you evaluate the synchronization, after you have printed and measured a target with the current status of the printer. This program internal evaluation allows you to check the deviations and if required do further optimizations.

How to evaluate the media synch target:

You are in the MEDIA DEVICE SYNCHRONIZATION assistant's `Evaluation` tab.

1. When you move the mouse in the area `Target` you will see the **values** (If you move over the color patches which are based on the target's original values, you will see Lab values. If you move over the newly measured patches, you will see the Lab values as well as DeltaE deviations in Lab color space, the spectral curve and the original CMYK separations.) of the original and measured color patches on top of each other.

2. Below the area `Evaluation` you can read the maximum and media deviations from the original values for:
   - the primary colors,
   - the neutrals
   in DeltaE listed regarding the tolerance according to FOGRA.

3. You will see in the column `Limit`, if the measured value is within the defined **FOGRA** tolerance: red = out of tolerance / green = within tolerance.

Note: If the DeltaE maximum value lies very far from the limit, check the MIM settings to make sure they are correct.

4. In column `Custom` you can enter user defined tolerance zones. This is useful if you want to proof with predefined standards.

Further possible steps:

Note: After the second synchronization the evaluation dialogs' lower right area will show some additional information concerning the optimization success in terms of a percentage and a list of previous optimization results. If the value is equal to or less than 50%, further improvements cannot be expected. **Therefore end the assistant here.**

- OR -

If you are **not** satisfied with the results or the values are out of tolerance zone (**deviations in red**) you can perform further synchronizations after the profile creation in the next step. They are serially numbered (x) behind the tab name.

- Click on `Next: Media Synch Profile (1)` to further optimize the color quality.

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- OR -

If you are satisfied with the result (**deviations in green**) you can close the assistant here. A further profile optimization is not required.

1. Click on `OK` to close the assistant.
2. Click on `Finish` in the start dialog of the MDS to complete the synchronization.

Create media synch profile

Here you calculate a synchronized ICC profile from the measured target, if the evaluation result from the previous step is **not** satisfying.

How to create a profile for the print output:

You are in `Media Synch Profile (1)` tab to calculate a profile.

1. Click at `Calculate Profile` to create a synchronized profile for your printer configuration from the measured and saved data.

Tip: Profiles are saved by default within the software directory.

2. Click `Next: Media Synch Target (1)` to further optimize the profile. Dialog names (name.ccx.00X) and tabs within the dialog (example: Media Synch Target (1)) are displayed serially numbered.

If the measure result has again **not** turned out satisfactory (tab `Evaluation` > the values in column `Tolerance` are shown in red), you can do further optimizations based on this profile. Otherwise you close the assistant in tab `Evaluation`.

Result to see:
- In the dialog the finished synchronization process is listed showing date and time as well as the printer name.
- The synchronization in the list which is marked with a checkmark is the currently used synchronization.
- The dialog shows the name of the currently synchronized printer in its title bar.
- When deleting a synchronization it is checked that there is no other printer using the same data. A window shows up to agree or refuse.
- In `Comment` the default text can be modified as desired and displayed in the list accordingly.

An additional Media Synch Profile (*.sicc) will be created and saved in the software directory's folder **OutputProfiles**.

7.5 Profiling

Measure device settings

Barbieri Spectro LFP and Swing

The Barbieri Spectro LFP, its successor Barbieri Spectro LFP II and the Barbieri Swing are measure devices that measure transparent, transmissive and standard paper, fabric or synthetical media. It is used for control wedge evaluation, linearization, profiling and in proof workflow for DeviceLink profiling.

Additionally to the same properties both of the devices, the measuring head is adjustable for the Barbieri LFP to be flexible for varying media thicknesses. Also the measuring aperture can be set as required for an optimal color information recognition. The measuring technology is quite the same which results in the same measuring values.

Prerequisite: You have purchased the module **Barbieri Spectro LFP Support** or the **Baribieri Swing Support**. The module is free of cost included in the program if the measure device was purchased directly at us.

Comment: The physical light source of the measuring head has a color temperature of 2800K. It is recalculated in the program to 5000K (D50) which refers to a standardized daylight according to ISO norm ISO 3664.

The following steps will explain the Barbieri devices:

Connect the measuring device

According to the manufacturer the connection via USB port between measure device and PC does not work with some PCs. Therefore the package will include an USB cable as well as a cable adapter (from USB-to-serial).

Additionally the connection via USB offers some more settings in the advanced device settings dialog.

1. Connect the cable with the adapter to the serial port of the measure device and to the USB port of the PC.
2. Switch on the measure device. For more information read the documentation of the manufacturer.

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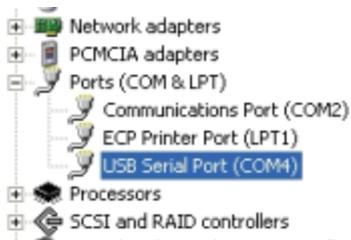
The Barbieri USB COM Driver will be displayed in the Control panel under **System** > **Hardware** > **Device Manager** as **USB Serial Port** (here for example as **COM4**).

Fig.   1 - Windows Device Manager

3.   Check here if the driver could be installed and is displayed. You can find the driver on the CD that was delivered with the device.

4.   Download and install the driver from the Manufacturer website (www.barbierielectronic.com).

5.   Check here if the driver could be installed and is displayed. You can find the driver on the CD that was delivered with the device.

6.   Double Click on **USB Serial Port (COM 4)** to open the port settings (might be a different COM port such as 1, 2 or 3).
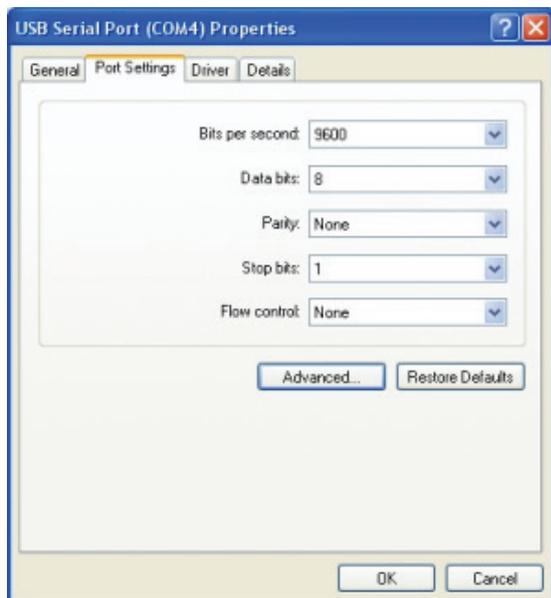
5.   In the following dialog go to the **Port Settings** tab.

6.   Click on **Advanced** to open the advanced settings for the port.

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Fig. 2 - Properties for the port

7. In the opened dialog `Advanced Settings for ...` apply one of the free COM ports 1, 2, 3 or 4 at `Com Port Number`.
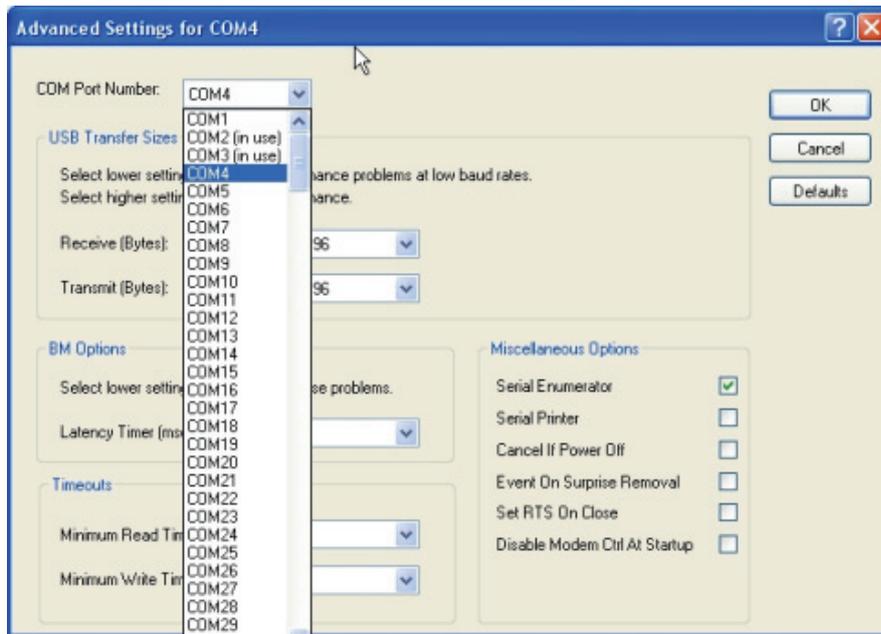
Fig. 3 - Advanced settings for the port

If the ports are already assigned to other devices:

8. Change the `COM Port Number` and switch with another device if needed.

Specify settings in the software

In the program's Profiler assistant you can access the measure device settings as follows:

- Select in tab `Settings` below `Measure Device` the `Barbieri Spectro LFP` and click `Settings`.

OR
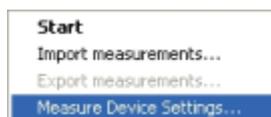
- Click in these dialogs that allow to print and read targets at the small arrow next to `Start` and then at `Measure Device Settings....`

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The following settings dialog will be opened:

❶ The selection of `Port` determines which of the serial ports should be used to communicate with the measure device.

❷ `Measuring mode` determines how to measure targets.

❸ The number of `Measurements per patch` depends on the media fineness and results in a higher measuring accuracy.

❹ The selected `Calibration mode` determines how often the media white point is calibrated again.

❺ In the active `Transmissive mode` an additional light source is switched on that is necessary when measuring transparent media.

❻ Using the `Manual target positioning` the target can be positioned manually for media that is difficult to measure.

Fig.   4 - Measure device settings
in the program

❶ `Port`

Apply the same `Port` in the program's measure device settings referring to the device settings.

❷ `Measuring mode`

Select a suitable `Measuring mode`:

- `Fast`: Fastest mode, the measuring head moves close over the target without moving upwards. This may result in measuring errors and scratched targets. This measuring mode is not recommended for the transmissive mode.
- `Up-Down`: Combination of `Fast` and `Contactless`, the head moves down to the target's surface during the measurement. When changing to the next patch the head will be moved upwards. Therefore the pro-

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cess is slower. This method might result in repeating measurements caused by interruptions. It is recommended for the transmissive mode.

- **Contactless**: The measuring head hovers slightly above the target's surface, this is suitable for sticky surfaces. This method is sensitive against light because of the distance between target and head. Intensive light sources must be avoided to prevent incorrect measure results.

The quality for all modes is the same; differences can be found in the measuring process: The speed of the **Fast** and **Contactless** mode is almost the same, using **Up-Down** the speed is lower caused by up and down movement of the measuring head, but **Up-Down** provides a more stable measurement process.

❸ **Measurements per patch**

Enter the **Measurements per patch**:

- Here you can enter a number of maximum five measurements for each color patch. It means that one color patch will be measured several times in a millimeter distance - depending on the given number - and then an average value will be calculated. Inaccuracies will be compensated.
- This method is suitable for coarse or reflective media or canvas media that cause shadow effects and result in an inaccurate measuring. The period of measuring will be increased approximately by the number set in the dialog.

Follow the steps to correctly use this function:

- If you get a quite linear linearization curve for all colors in the linearization assistant, the conclusion is a correct measurement:
  -> 1-spot measurement is suitable
- If you get a quite irregular linearization curve, the conclusion is a mistake in the measurement:
  -> Select then the double or multiple spot measurement.

- OR -

- Repeat the measurement and compare to the first one:
  -> If you can see a visible difference between the curves, select a multiple spot measurement.

❹ **Calibration mode**

Normal and **Fast (default)** can be chosen but **Fast (default)** is often the first choice. This option allows an optimal measurement, since a white point calibration is performed in the beginning. The option **Normal** performs a white point calibration every two rows which guarantees an optimal measurement. The time period will then increase.

❺ **Tansmissive mode**

- If you use backlit material (lighted from reverse side) or film (transparent media), set a checkmark at `Transmissive mode`.
- Use the enclosed transparent template to fix the target on the measuring table. For more information read the documentation of the manufacturer.

❻ `Manual target positioning`

This could be necessary for media which have quite rough and reflective surfaces such as textiles. They can make automatic measurements difficult since marks won't be recognized and moved.

Note: This option remains enabled for further measuring processes until it is switched off manually.

After closing the dialog and starting the measuring, a new dialog will open. This dialog transmitts the mark coordinates to the measuring head.

Measure target

Prerequisite: The target was printed within the assistant/dialog. A drying time of 25-30 minutes has been kept, but the target can also be blow-dried with **cold** air.

Note to the "Transmission Calibration Area": The white corner of the target with the lable "Transmission Calibration Area" allows the measuring head to recognize the white point of the target media. Only cut the corner if the media is almost or completely transparent. In this case a white point determination is not necessary. It rather would result in measuring errors.

1. Fix the printed target on the template and the device. The transparent template is used for the transmissive mode, the white template for all remaining media. For more information read the documentation of the device.

Adjust the measuring aperture at the device (only Barbieri Spectro LFP):

At the measuring head a round switch can be found. Its task is to switch the measuring aperture from 2mm to 6mm which decreases the visibility range. A measuring aperture of 6mm is suitable for resolutions below 150dpi as well as for fabrics with a more textured surface than paper media. More color information will be recognized.

Tip: Use the 2mm measuring aperture for targets with 5mm patch size (targets **not** labled with `Large`). Use the 6mm measuring aperture **only** for targets with 10mm patch size (targets labled with `Large`). You can select the targets in the Profile assistant's tab `Profile Target` below `Target`.

2. Click `Start` in the assistant/dialog.

The measuring process will start. All measured values will then fill the empty patches in the dialog.

- OR -

If the manual target positioning is enabled, a new dialog will be open (`Manual Target Positioning`). The dialog shows a symbolic preview of the target containing the position marks. Via the scrollbar or the arrow keys the preview can be moved. This will move the device's measuring head and target accordingly.

3. Position now the indicator (front part) of the measuring head over the three red marks after each other.
4. After moving to the last mark the measuring process itself starts automatically - the measured values will then fill the empty patches.

Tip: The option `Position on corner` is offered for the Barbieri Spectro LFP only to measure small targets, whereby the target corners will be used.

Eye-One

Targets printed with a low resolution or quality are sometimes difficult to read in with the EyeOne measure device. Patches are not correctly recognized. With an activated option in the measure device settings dialog you can support low resolution targets as well.

How to set the measure device:

1. Access the settings dialog in the profiling assistant's `Settings` tab and in the `Profile Target` tab or in the control wedge evaluation dialog.
2. Set a checkmark at `Scan targets printed with low resolution` to apply this option when having targets with a low resolution to measure.

Note: For the next measurement make sure that the appropriate setting is made.

PROFILER Module

Prerequisite: You have imported or created a MIM for your printer. You have purchased the **PROFILER** Module (PFM).

ℹ️ *The PROFILER is available as an module. The optional available Linearization assistant performs new linearizations for your printer without creation of profiles.* The **PROFILER** is built up as an assistant. Its task is to optimize the printed output and to save the adjustments. The printer type, the printer media such as ink and paper as well as **print mode**These are mainly the number of ink laydowns, the print speed and the drying performance. are taken into consideration.

The user saves his finished adjustments in ICC profiles for later print jobs. Such a profile contains settings to the maximum ink laydown, the optimization of gray balance and color gradients as well as profile settings.

Tip: Within the assistant a linearization takes place.

Is your printer equipped with additional color cartridges, you can create ICC profiles with **MULTI-COLOR PROFILER** which support additional color channels. These are **CMYK O**(range)/**G**(reen), **CMYK R**(red)/**G**(reen) or **CMYK R**(ed)/**B**(lue). By using additional inks a wider gamut and an improved display of spot colors are available.

Characteristics to the **MULTI-COLOR PROFILER** (MCPFM) will be explained together with the **PROFILER** module. The option **MULTI-COLOR ICC-ENGINE** is necessary for that.

Here you can see an overview to necessary and optional steps of **PROFILER** assistant:
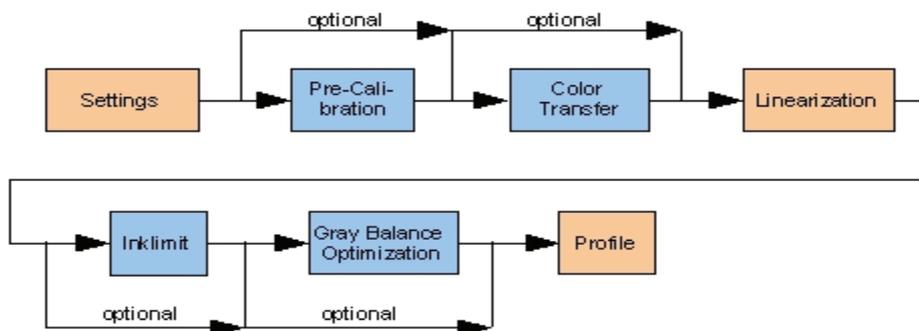
If you want to use output profiles created in another application, read the following instruction: **Profiles from external software see page 118**

Note: The use of external profiles restricts the optimization by using the Media Device Synchronization.

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In the following steps you perform a printer profiling:

- Make settings PFM see page 219
- Use Pre-Calibration see page 221 (optional)
- Apply Color Transfer see page 222 (optional)
- Perform linearization for profiling see page 222
- Optimize Ink Limit see page 225 (optional)
- Optimize Gray Balance see page 226 (optional)
- Print and measure target PFM see page 227
- Create profile PFM see page 228

Specify settings PFM

Here you specify settings which are the basis for the following steps. These settings are MIM combination, pre-calibration for ink laydown and the measuring device for target measurements.

Note: For profiling in RGB mode read the corresponding topic.

How to specify settings:

1. Select from the menu `Options > Linearization Assistant...` or `Linearization and Profiling Assistant....`
2. Decide either for a new or for an existing linearization or profiling file *.ccx to continue or to edit.
3. Click the icon to open the folder with linearization files or click the arrow next to the icon to display the last ten processed linearization files and open one of them.

Tip: Name a new file with the printer type's name to be able to retrace it later on. The file will be saved by default in folder **Profiles** within your software directory.

You will see the assistant's `Settings` tab.

4. Select under `Printer` the MIM which belongs to your printer configuration.
5. If you have not imported or created a MIM, select `MIM Administration`. Copy your appropriate MIM combination or create a new one with the required print mode .

Note: The adjusted print mode will be applied to the entire linearization and profiling (if the **PROFILER** Module has been implemented). Try several print modes for an optimal result.

6. If you have a printer with additional cartridges for light colors or the option **Variable Dot Size**, you can adjust the color gradients by using the func-

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tion Color Transfer. Click on `Color Transfer` button. Required is, that the MIM's appropriate ink mode under `Print Mode` is selected.

7. If you know about your printer's high color laydowns in the selected print mode, use the Pre-Calibration to limit them.
8. Select the appropriate target template from the list. > Target types
9. Select the connected measure device which is applied to the entire assistant. > Supported measure devices
10. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: **Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217**
11. Click to continue on `Next: Linearization Target`.

You have made the presettings and can now start a linearization in tab `Linearization Target`.

Supported measuring devices

Note: If you use **MULTI-COLOR PROFILER**, only the measuring device **Eye-One iO** is available.

Note: For the measuring device **X-Rite Eye-One iO** you need to purchase the add on **iO-Support** from us.

- X-Rite Eye-One (manually)
- X-Rite Eye-One iO (automatically)
- X-Rite Eye-One iSis (automatically)
- X-Rite iCColor (automatically)
- X-Rite Spectrolino (manually)
- X-Rite Spectrolino/SpectroScan (automatically)
- X-Rite DTP22 (manually)
- X-Rite DTP41 (serial and USB) – (semi-automatically)
- X-Rite DTP70 (automatically)
- X-Rite PULSE (manually)
- Barbieri Spectro Swing (also measures small patches in transmissive mode) - (automatically)
- Barbieri Spectro LFP RT I and II (supports transparent media and backlit material) - (automatically)
- SpectroProofer (an additional device for Epson-Stylus-Pro 7900/9900) - (automatically)

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Available target templates

A selected target template is applied for the entire Linearization and Profiling Assistant.

Note: In the **MULTI-COLOR PROFILER,** according to the additional color channels, a special CMYK Advanced Target is available.

- **CMYK-Advanced Target** 40 measuring patches per process color (primary colors CMYK) > By using the target with 40 measuring fields an accurate linearization curve is calculated.
- **CMYK-Advanced Target Solvent** 40 measuring patches per process color > This target is suitable for solvent printing devices or for printers with a rough resolution .
- **CMYK-Quick Target** 21 measuring patches per process color > The Quick Target is a small target to produce linearizations even faster comparable to other targets.
- **CMYK-Super Wide Format Target** 20 measuring patches per process color > This target contains patches in 10% steps and is suitable for wide format or flatbed printers e.g. Acuity Advance.

Use pre-calibration

The Pre-Calibration is included in the PROFILER module and the Linearization Assistant. The Pre-Calibration's task is to eliminate an ink lay down that iseither too high or too low. It provides an optionally available very rough correction of the ink laydown before the output of a linearization target to be able to measure. After the limit is optimized you can continue or start the linearization.

How to apply the Pre-Calibration (optional):

Prerequisite: In the assistant's `Linearization Target` tab you have printed and evaluated a target. The ink laydown seems to be too high or too low OR you know already about the printer's behaviour in not printing the appropriate ink laydown for one or several cartridges.

1. Click in tab `Settings` at `Pre-Calibration` to do a rough adjustment for the ink application.

A window opens. You have two options to specify settings for each color:

- adjust the curve in the graphical illustration as wanted.
- enter the required values into the text fields `Input` or `Output`.

Sample: The patches on the linearizationtarget are not visible from up to 80%. A new value 75% in text field `Output` corrects the high ink application. The upper limit of ink application is moved from the previous value 75% to 100%.

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2. Click `OK` to apply the settings.

The ink laydown is set as required.

Apply color transfer

The Color Transfer is included in the PROFILER module and the Linearization Assistant. Some printer types have color cartridges for process colors as well as for light colors. Light colors are process colors CMYK with an reduced percentage of the complete color range. With the function **Color Transfer** the user can determine how the printer should combine the cartridges for best print results.

In the following cases the function is deactivated:

*   The printer adjustments are based on an Epson printer with HTM modul. The driver controls light colors correctly.
*   The printer does not have cartridges for light colors.
*   Within the MIM combination only process colors are applied to the print mode (metamode).

How to use the Color Transfer (optional):

Prerequisite: Your printer model contains additional cartridges for light colors (light magenta, light cyan). You have printed and evaluated a target in assistant's `Linearization Target` tab. As a result you want to optimize the use of light and process colors.

1. Click the `Color Transfer` button in the `Settings` tab.

A window opens. There you have two alternatives to adjust the values for each light or process color:

*   Adjust the curve in the graph as required by drag and drop.
*   Insert the required values into the text fields `Input` or `Output`.

Note: Both curves of one primary color must overlap in the graph. The reason is not to spot the transfer between the used light and process color.

2. Click on `OK` to apply the changes.

The **Color Transfer** for light and process colors is adjusted as desired.

Perform linearization

The linearization is required for the Profiler to create an ICC output profile. This is a basis for future print jobs under the same printing conditions. The linearization covers **two tasks**.

*   It is a kind of Calibration(Calibration , a so called post linearization provides a proof system's constant color reproduction for a specific combination of media and ink. The approach to perform the calibration by using measured Lab values offers especially high accuracy.) for which between printer input and output (data

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and image) a linear relation is created. The individual print colors CMYK are printed linearly from 0-100% onto the media .

- Adjusted to printer type, media, ink and print mode the full color laydown for each single print color CMYK is set to be output optimally by the printer.

For a specific printer type and the MIM combination you print a linearization target and do the measurement by using a measure device. The measure device records the values spectrally and calculates the densitometric density as well as LCH and Lab values.

Afterwards you can determine the maximum density value per process color in the target visualization. The assistant calculates the optimal characteristic print curve to achieve a linear print output.

Tip: If you have not purchased a **PROFILER** Module, after finishing the linearization you can print an external application's linearization target. This printed target is the measuring basis for the other application where you create an ICC profile. By using the MIM administration you can integrate this profile in your RIP software afterwards.

How to perform the Linearization:

You are in **PROFILER** assistent's `Linearization Target` tab.

Note: You need to perform a new linearization if media, ink or print mode changes.

Tip: The style of target is based on the selection in the assistant's `Settings` tab and is grayed out for that reason.

More Information to Print Target:

Note: The adjustments from the first hotfolder will be applied when printing the target. Some of the adjustments are media width and the selection of sheet or roll feed.

1. In area `Print Target` click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Click at `Print` to print the target on the connected printer.

Tip 1: If the ink laydown on the printed target is too high, click on `Previous: Settings` to control the ink laydown by choosing different print mode settings in the MIM administration.

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Tip 2: If the ink laydown on the printed target is too high, click on `Previous: Settings` to control the ink laydown by using the Pre-Calibration.

Tip 3: If you want to optimize the output of light and process colors, click on `Previous: Settings` and then on `Color Transfer` button.

3. Keep a proper drying time for a measurable print result (approximately 20 minutes).

More Information to Measure Target:

4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

5. Measure the target by clicking `Start`. Pay attention to the notes in the area.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

Note: When errors occur make sure that the appropriate measuring device and additional modules are selected (optional iO-support for Eye-One iO).

During the measuring process empty targets on the monitor are filled with the measured color values.

6. Move the mouse over the color patches to display the color values (Lab, CH, spectral curve).

7. You can export these values into a text file by clicking `Start > Export measurements` to access it later on.

8. Determine, if necessary, the maximum **density value** for each process color. You can determine the maximum density value per process color by clicking right mouse button at the requested color patch. In text field `Full Color` the new value is shown. It makes sure that the printer can display this color density. This adjustment has influences when doing the linearization synchronization. Another printer of the same type can possibly print with a lower color density.

9. Click on `Next: Linearization` to **display the results** of the measurement. You will see the corrected print curve displayed in the graphic display.

   You can view process colors separately or all colors together when clicking `All Channels`.

   If you select the display of single process colors you will see a table which lists the corrected color values (output) to each of the color patches (input).

10. Click at `Next:` and select the appropriate topic.

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You have performed a linearization and adjusted a linear relation between printer input and output (data and image).

Optimize ink limit

The Inklimit adjustment is included in the PROFILER module and the Linearization Assistant. With this optional function you can limit the total ink laydown when printing colors together. Not more ink than necessary for an optimal print output is applied to the media .

How to optimize the ink limit (optional):

You are in the assistant's optional `Inklimit Target` tab.

1. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Select one of the following targets:

Tip: Solvent targets are larger than default ones to allow a good printability for low resolutions and moderate ink laydowns.

- Default Inklimit Target / Default Inklimit Target - Solvent: for simple evaluation
- Inklimit Target (3 Elements) / Inklimit Target - Solvent (3 Elements): for detailed evaluation

Note: In **MULTI-COLOR PROFILER** you have a target available which is adapted to the additional color channels.

3. Click `Print` to output the target on the connected printer.
4. Evaluate the printed target visually.
5. Enter the value in percent in the text field for which the elements in the target are displayed optimally.

Note: In **MULTI-COLOR PROFILER** 100% per channel are added automatically.

Two further possibilities for manual limitation of ink amounts are selectable:

- **Limit all channels**- All process colors are limited in same proportions (selected by default).
- **Keep black channel**- All process colors except for black are limited. This makes sure that despite of strong limitation of process colors a saturated black is printed.
6. Click at `Next:` and select the appropriate topic.

You have adjusted the total ink laydown to print efficiently.

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Optimize gray balance

Note: The gray balance optimization does not apply in **MULTI-COLOR PROFILER** when you use a printer with additional cartridges. This module applies already a gray balance optimization internally.

Note: The gray balance optimization does not apply in proof workflow because the adjustments influence the linearization . It must be kept since a high color accuracy is required.

ⓘ *The Gray Balance Optimization is included in the PROFILER module and the Linearization Assistant.* The function gray balance optimization achieves a neutral output of gray-scales when printing process colors together and supports the profile calculation. Using the gray balance optimization, the linearization curve can vary caused by errors of measurements having incidents of light. When applying the linearization, the gray balance should be adjusted optimally which is not true in most cases.

The gray balance optimization is an optional function which can be performed as often as necessary (iterative) until the gray balance fulfills the requirements.

How to optimize the gray balance (optional):

You are in the assistant's optional `Gray Balance` tab.

1. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
2. Click at `Print` to print the target on the connected printer. If the printed output looks as intended, go at `Previous: Linearization` to skip the gray balance.
3. Otherwise keep a proper drying time for a measurable print result (approximately 20 minutes).
4. Measure the target by clicking `Start` for the calculation later on. Pay attention to the notes in the area.

- OR -

4. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements...`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

- You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).

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- When clicking **Start > Measure device settings...** you will open a dialog about additional settings for the selected measure device: [Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217](#)

5. Click at **Next: Gray Balance** to **display the result** from the optimization as a graph. You will see a characteristic print curve for each process color which includes the gray balance optimization. This visualization contains a tabular comparison with previous and current values of colors in percent.

6. Either click at **Next: Gray Balance Target X** to print a target included with the correction once again. After that you evaluate the target visually and decide about a further correction cycle.

Tip: You can repeat this procedure as often as required. Each further output of the gray balance target is based on the measurement results from the previous measurement. After 4-5 approximations the result will get worse than the previous one.

- For a further correction: Measure the target and continue as described from step 4.
- For a confirmation of correction and continue in the assistant with the profile target: Click on **Previous: Gray Balance** and in tab **Gray Balance** at **Next: Profile Target**.

- OR -

6. Click on **OK** to finish the linearization.

You have achieved a neutral output of gray-scales when printing all process colors together. The linearization is completed.

Print and measure profile target PFM

Here you print a profile target to measure. You can select between different targets. From the measured target the ICC profile for the print output will be calculated.

How to print and measure a profile target:

You are in the **Profile Target** tab to print and measure a target once more.

1. In the **Profile Target** tab select the target to print.

Several targets are available. They vary in size and number of patches and are dependent on the measuring device. You have two basic options:

- Normal target with high number of patches > accurate evaluation
- Quick target with less patches > faster evaluation but less accuracy

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Note: In **MULTI-COLOR PROFILER** a target according to the additional color channels is available.

2. Click **i** to print an information line with target name, file name and date. It is helpful for retracing the target.
3. Click at **Print** to print the target on the connected printer.
4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

- OR -

4.

5. For other printers measure the target by clicking **Start** for the internal profile calculation.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking **Start > Import measurements**.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

*   You can save the values as text file by clicking **Start > Export measurements...** for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).
*   When clicking **Start > Measure device settings...** you will open a dialog about additional settings for the selected measure device: Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217
6. Click **Next: Profile Creation** to generate a profile for the print output.

Now you have printed and measured a profile target. After that you can calculate a profile from these data in the **Profile Creation** tab.

Create profile PFM

Here you create a profile from the measured target after you determined the path for saving the profile and other properties.

How to create a profile for the print output:

You are in the **Profile Creation** tab to calculate a profile.

1. You can put a check mark to enter the profile in your MIM automatically and to select it by default.

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Tip: Profiles are saved by default within the software directory. After an update since version 5 both with previous deinstallation and deletion of **Productionserver** INI-file or after a completely new installation, profiles are saved by default within this path.

Note: The profile settings are not available in **EXPRESS PROFILER** and for the profiling in RGB-Mode.

2. Select the `Profile Settings` button to specify settings for separations, total ink and black generation > Profile Settings
3. Click at `Calculate Profile` to create a profile from the measured and saved data.
4. Click at `MIM Administration` to add other metamodes to the profile settings. The profile will be entered additionally.
5. Click `OK` to finish and close the assistant.

The calculated profile will be displayed automatically in the list of selectable profiles under `Output Pofiles` in the advanced job settings.

Profile settings

You can make the following settings:
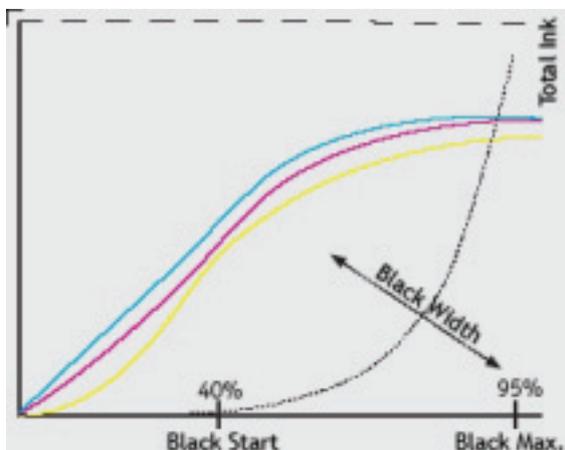
Black Start:

`Black Start` determines the screening percentage value which is the start point to add process color black. All areas below this value are built up from CMY.

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- The later black is used in separation the less strong the image's bright areas are spoiled with dark color dots. Therefore the default value is set at 40%.
- For a consistant image a black start value of 10 or 20% should be preferred.
- If you mainly print black and white motifs a black start value of 0% is recommendable.

Black Max:

`Black Max` determines the maximum coverage in the black separation. If black is set to 90%, only 90% black is used at maximum. As the black generation is important for a high-contrast display of motifs, the black max should be at 95 to 100%.

Black Width:

The `Black Width` describes the replacement of CMY with black in saturated areas.

- A weak black from 0 to 25% replaces only in motif's neutral areas (same proportion CMY) values of CMY with black.
- A heavy black from 70 to 100% is also applied in saturated areas (high portions CMY).

The possibility to insert values in percent allows a variable adjustment of black width. It is recommended to leave the black width at 80 to 100%. It should be reduced if there is too much darkening in the output.

Total Ink:

The `Total Ink` determines the total ink amount in the following cases:

- to optimally display shadowed areas in the print output
- to optimally adjust Epson Printers with Ultrachrome inks by using 350% total ink
- to optimize printing systems for black and white prints with neutral deep black to high black ink lay down and little colored ink
- to reduce for black and white prints the total ink to 200% or even 150%, for that `Black Max` is set to 100% as well

Note: In **MULTI-COLOR PROFILER** 100% per channel are added automatically.

Black Generation:

The `Black Generation` determines when black color replaces CMY process colors:

- UCR (Under Color Removal): Black color is used to replace cyan, magenta and yellow in neutral areas. Tertiary colors with odd color portions are not

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applied by using this method. The ink application will decrease and the depths will improve.

- GCR (Gray Component Replacement): Portions of CMY in the any image areas are replaced with black color. GCR replaces the primary colors cyan, magenta and yellow in the colored and neutral parts, until one of the primary colors disappears, with black ink. It improves the saturated, dark colors more than UCR. The neutral, gray parts are almost completely created with black ink, so the gray balance will become more stable.
- **GCRMax**: Like GCR but with GCRMax a higher amount of the CMY primary colors are replaced with black ink.
- **GCRMaxSmooth**: Like GCRMax but with optimizations to get smoother gradients and less "steps".

Optical Brighteners:

If you noticed optical brighteners in the measured media during the linearization process, you will activate `Compensate Optical Brighteners` to include them within the profile creation. To achieve a paper's higher impression of white, optical brighteners are used.

Profiling for printer controlled by RGB data

Prerequisite: A MIM for the selected printer model was imported. In advanced settings (Job menu > Properties entry > Color Management tab > Settings… button > Print Modetab) the RGB mode is selected. You have purchased the **PROFILER** Module (PFM).

This way of profiling is supported by the PROFILER Module. The printer manufacturers Canon (for example iPF5000/8000/9000 PB), HP (for example HP-DesignJet-Z2100/3100) and Epson (for example Epson-Stylus-Pro 4800HTM) have developed printers that are controlled via RGB data. Depending on the configuration these printers can combine the usual CMYK cartridges and cartridges of other colors (red, green, orange, gray). As a result a wider gamut and better neutral halfto-nes in the output print are achieved. This is recommended for proofing as well as for photographical usage.

A halftoning module (HTM, PB, Contone) is responsible for the transformation of RGB data to the printable data. Color separations, screening and calculation of dot sizes are its task as well. This module is either installed parallel to the RIP application (Epson HTM or Canon PB) or integrated into the print device itself as firmware (HP Contone). Therefore, a linearisation is not necessary as the halfto-ning module makes the appropriate settings.

The following steps show you how to profile a printer in RGB mode:

- **Make settings RGB mode see page 232**
- **Print and measure target PFM see page 227**
- **Create profile PFM see page 228**

Specify settings

Prerequisite: A MIM for the selected printer model was imported. In advanced settings (Job menu > Properties entry >Color Management tab > Settings… button > Print Mode tab) the RGB mode is selected. You have purchased the **PROFILER** Module (PFM).

Here you specify settings for MIM and measuring device which are the basis for the following steps in the RGB profiling process.

How to make the settings:

1. Select `Options > Linearization and Profiling Assistant`.
2. Decide either for a new CCX file (linearization) for an existing one to con-tinue or to complete.

Tip: Name a new file with the printer type's name to be able to retrace it later on. The file will be saved by default in folder **Profiles** within your software direc-tory.

---

3. Select below `Printer` in tab `Settings` the MIM which refers to your printer configuration.

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Note: Pre-Calibration is not necessary in RGB mode when you use Canon IPF 5000/8000/9000. It offers no mentionable results. Please skip the Pre-Calibration.

4. Select the connected measuring device which is applied for the entire assistant. > Supported measure devices see page **Fehler! Textmarke nicht definiert.**

5. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217

6. Click `Next....`.
7. Click on `Profile Target` to create a profile for your printer which is controlled via RGB data.

You have made the presettings and can now print and measure a target in tab `Profile Target.`

Print and measure target in RGB mode

Here you print a profile target to measure. You can select between different targets. From the measured target the ICC profile for the print output will be calculated.

How to print and measure a profile target:

You are in the `Profile Target` tab to print and measure a target once more.

1. In the `Profile Target` tab select the target to print.

Several targets are available. They vary in size and number of patches and are dependent on the measuring device. You have two basic options:

- Normal target with high number of patches > accurate evaluation
- Quick target with less patches > faster evaluation but less accuracy

Note: In **MULTI-COLOR PROFILER** a target according to the additional color channels is available.

2. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
3. Click at `Print` to print the target on the connected printer.
4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

- OR -

4.
5. For other printers measure the target by clicking `Start` for the internal profile calculation.

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- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

- You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).
- When clicking `Start > Measure device settings...` you will open a dialog about additional settings for the selected measure device: Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217

6. Click `Next: Profile Creation` to generate a profile for the print output.

Now you have printed and measured a profile target. After that you can calculate a profile from these data in the `Profile Creation` tab.

Create profile RGB mode

Here you create a profile from the measured target after you determined the path for saving the profile and other properties.

How to create a profile for the print output:

You are in the `Profile Creation` tab to calculate a profile.

1. You can put a check mark to enter the profile in your MIM automatically and to select it by default.

Tip: Profiles are saved by default within the software directory. After an update since version 5 both with previous deinstallation and deletion of **Productionserver** INI-file or after a completely new installation, profiles are saved by default within this path.

Note: The profile settings are not available in **EXPRESS PROFILER** and for the profiling in RGB-Mode.

2. Select the `Profile Settings` button to specify settings for separations, total ink and black generation > Profile Settings
3. Click at `Calculate Profile` to create a profile from the measured and saved data.
4. Click at `MIM Administration` to add other metamodes to the profile settings. The profile will be entered additionally.

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5. Click **OK** to finish and close the assistant.

The calculated profile will be displayed automatically in the list of selectable profiles under **Output Pofiles** in the advanced job settings.

EXPRESS PROFILER Module

Prerequisite: A MIM for your printer is imported and the **EXPRESS PROFILER** Module (EPFM) is implemented.

Note: The **EXPRESS PROFILER** Module is not available for the proof workflow.

ℹ️ *The EXPRESS PROFILER is an optionally available module which functions independently but within the RIP software.* The **EXPRESS PROFILER** module allows the accelerated creation of ICC profiles for output devices in production workflow. It is able to adapt an existing color profile for one media / one ink to a new media / to a new ink with similar properties.

In comparison to the existing PROFILER Module, a simple target is required to be printed and measured only. This results into a profile with a comparable quality but with less effort to create.

In the **following cases** the module can be used:

- same media , different ink , same metamode
- different media, same ink, same metamode
- different media, same ink, different metamode
- same media, different ink, different metamode

Note: Note that your current printer configuration is as far as possible based on a profile which uses high quality components. These are paper and ink as well as meta mode with high resolution . From that, an optimal new profile can be created.

The following steps show you how to accomplish an Express Profiling:

- **Make settings EPFM see page 236**
- **Print and measure target EPFM see page 238**
- **Create profile EPFM see page 239**

Specify settings EPFM

Here you can specify settings that are based on the following steps. These are MIM-Administration of the master profile and the derived profile as well as the measuring device.

How to make the settings:

1. Select from the menu `Options > Linearization Assistant....`
2. Decide either for a new Linearization and Profiling file or for an existing one (*.ccx) to continue or to complete.

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Tip: Name a new file with the printer type's name to be able to retrace it later on. The file will be saved by default in folder **Profiles** within your software directory.

You can see the assistant and its `Settings` tab.

3. Select under `Master Profile` the MIM from which the profile for your printer configuration should be derived.
4. Click under `Derived Profile` at `MIM-Administration` and select the master MIM.
5. Copy this MIM and enter new names for paper, ink and metamode - according to your printer configuration.

- OR -

5. Click `Copy Master MIM` to use the settings of the basis MIM.
6. Make the required adjustments for metamode, for example resolution or paper type.

Note: Keep the color mode as it is (icon under print mode in **Advanced Settings**), because it determines the used color range.

Note: Note that your current printer configuration is as far as possible based on a profile which uses high quality components. These are paper and ink as well as meta mode with high resolution. From that, an optimal new profile can be created.

7. Select under `Derived Profile` this MIM which you entered within the `MIM-Administration`.
8. Select the connected measuring device that will be applied during the whole assistant. > **Supported measure devices see page Fehler! Textmarke nicht definiert.**
9. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: **Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217**

Ink Limit (optional):

10. Click `Next... > Inklimit`, to open the optional tab `Inklimit`.

Here you can define the total ink limit of all process colors printed together. You print a target and evaluate it visually. More information see Inklimit.

11. Click at `Next: Profile Target`.

You have made the presettings and can now print and measure a target in tab `Profile Target`.

Print and measure profile target EPFM

Here you print a profile target to measure. You can select between different targets. From the measured target the ICC profile for the print output will be calculated.

How to print and measure a profile target:

You are in the `Profile Target` tab to print and measure a target once more.

1. In tab `Profile Target` select the target to print.

Several targets are available. They vary in size and number of patches and are dependent on the measuring device. You have two basic options:

- Normal target with high number of patches > accurate evaluation
- Quick target with less patches > faster evaluation but less accuracy

2. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
3. Click at `Print` to print the target on the connected printer.
4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

- OR -

4. For printers with an internal measuring device like **HP-DesignJet-Z6100 / Epson-Stylus-Pro 7900 / Epson-Stylus-Pro 9900**: If you want to use the build-in measuring device to start the measuring immediately after printing select `Automatically measure target after printing`. The measuring results will be saved in the job folder (...\"product name"\JobDir\"printer name").
5. Measure the target by clicking `Start` for the calculation later on.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

- You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).
- When clicking `Start > Measure device settings...` you will open a dialog about additional settings for the selected measure device:

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6. Click `Next: Profile Creation` to generate a profile for the print output.

Now you have printed and measured a profile target. After that you can calculate a profile from these data in tab `Profile Creation`.

Create profile EPFM

Here you create a profile from the measured target after you determined the path for saving the profile and other properties.

How to create a profile for the print output:

You are in the `Profile Creation` tab to calculate a profile.

1. You can put a check mark to enter the profile in your MIM automatically and to select it by default.

Tip: Profiles are saved by default within the software directory. After an update since version 5 both with previous deinstallation and deletion of **Productionserver** INI-file or after a completely new installation, profiles are saved by default within this path.

Note: The profile settings are not available in **EXPRESS PROFILER** and for the profiling in RGB-Mode.

---

2. Select the `Profile Settings` button to specify settings for separations, total ink and black generation > Profile Settings
3. Click at `Calculate Profile` to create a profile from the measured and saved data.
4. Click at `MIM Administration` to add other metamodes to the profile settings. The profile will be entered additionally.
5. Click `OK` to finish and close the assistant.

The calculated profile will be displayed automatically in the list of selectable profiles under `Output Pofiles` in the advanced job settings.

DEVICELINK PROFILER Module

Prerequisite: You have purchased the **DEVICELINK PROFILER** Module (DLPFM), selected the proof workflow and you have created a reference profile of the print system to simulate.

The DEVICELINK PROFILER is an optionally available module which functions independently but within the RIP software. DeviceLink profiles contain a color space transformation from one device's gamut (simulation) into a different device's gamut (actual output). The **DEVICELINK PROFILER** assistants' task is to optimize DeviceLink profiles for the proof workflow in iterative steps. The measure result will decide about a further iterative step. So that you will achieve an optimal color simulation in your proof result. The DeviceLink Profiler is able to optimize Multi-Color profiles as well.

Here you can see an overview of the assistant:
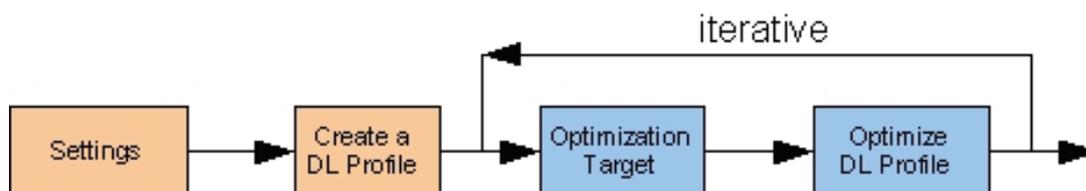
In the following steps you optimize a DeviceLink Profile:
- **Make settings DLPFM see page 240**
- **Create profile DLPFM see page 241**
- **Print optimization target DLPFM see page 241**
- **Evaluate target DLPFM see page 243**
- **Optimize profile DLPFM see page 243**

Specify settings DLPFM

Here you will get to know the access to the assistant, select the MIM and the measuring device with its connection settings.

How to specify settings:
1. Select from the menu `Options > Linearization and Profiling Assistant....`
2. Decide either for a new file or for an existing one (*.cdlx) to continue or to complete.

Tip 1: Click the icon to open the folder with files or click the arrow next tothe icon to display the last ten processed files and open one of them.

Tip 2: Name a new file with the printer types' name to be able to retrace it later on. The file will be saved by default in the folder **DeviceLinkProfiles** within your software directory.

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You will see the assistant's `Settings` tab.

3. Select under `Printer` the MIM which belongs to your printer configuration or create a new one.

Note: Pay attention to select the proof workflow and a simulation profile (printing condition). You can find the settings in the MIM administration under print mode when you edit your MIM.

---

4. Select the connected measuring device which is applied for the entire assistant.

5. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: **Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217**

6. Click on `Next: Profile Creation`.

You have selected the assistant's valid measuring device and the appropriate MIM.

Create profile

Here you create a DeviceLink profile which is based on the ICC profile, on the simulation profile (printing condition) and the MIM. By default the created DeviceLink profile contains information of how to handle the black generation and separations. It is a kind of is-definition of the existing transformation from source to target profile and additionally a predefined DeviceLink standard transformation.

How to create a profile:

You are in the `Profile Creation` tab to calculate a profile.

1. With `Browse` you can select a different path for saving the profile.

Tip: Profiles are saved by default within your software directory.

---

2. Click on `Calculate Profile` to create a DeviceLink profile from the basic ICC profile, the simulation profile and the MIM.

3. Click `Next: Optimization Target(1)` to optimize the calculated profile.

The calculated profile will be applied automatically in proof workflow when `Use DeviceLinks` in advanced print mode settings is selected.

Print optimization target DLPFM

Here you print a target to measure. You have two differnt targets. The deviation between image data and measured data will be calculated into the DeviceLink profile.

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How to print and measure an optimization target:

You are in the `Optimization Target (1)` tab to print and measure a target.

1. Select the target to print.

Two targets are available. They vary in size and number of patches and are dependent on the measuring device. You have two options:

*   Normal target with high number of patches > accurate evaluation
*   Quick target with less patches > faster but less accurate evaluation

2. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
3. Click at `Print` to print the target on the connected printer.
4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

- OR -

4. For printers with an internal measuring device like **HP-DesignJet-Z6100 / Epson-Stylus-Pro 7900 / Epson-Stylus-Pro 9900**: If you want to use the build-in measuring device to start the measuring immediately after printing select `Automatically measure target after printing`. The measuring results will be saved in the job folder (...\"product name"\JobDir\"printer name").
5. Measure the target by clicking `Start` for the calculation later on.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

*   You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).
*   When clicking `Start > Measure device settings...` you will open a dialog about additional settings for the selected measure device:

6. Click `Next: Evaluation (1)` to identify the deviations between target data and measured values.

Now you have printed and measured a target. After that you can see the result in tab `Evaluation (1)`.

Evaluate optimization target DLPFM

Here you can see the measured patches and values from the printed target as well as color patches and values from the originally created target. According to FOGRA, the DeltaE deviation is derived from that. This program internal evaluation is helpful to form an opinion about the deviation and continue the optimization if required.

How to evaluate the optimization target:

You are in the assistant's `Evaluation (1)` tab.

1. When you move the mouse in the area `Target` you will see the **values** (If you move over the color patches which are based on the target's original values, you will see Lab values. If you move over the newly measured patches, you will see the Lab values as well as DeltaE deviations in Lab color space, the spectral curve and the original CMYK separations.) of the original and measured color patches on top of each other.

2. Below the area `Evaluation` you can read the maximum and media deviations from the original values for:
   - the primary colors,
   - the neutrals
   in DeltaE listed regarding the tolerance according to FOGRA.

3. You will see in the column `Limit`, if the measured value is within the defined **FOGRA** tolerance: red = out of tolerance / green = within tolerance.

Note: If the DeltaE maximum value lies very far from the limit, check the MIM settings to make sure they are correct.

4. In column `Custom` you can enter user defined tolerance zones. This is useful if you want to proof with predefined standards.

5. Click on `Next: Profile Optimization (1)`.

You have evaluated the optimization target and can now create the according profile for your proof workflow.

Optimize profile

Here you calculate a profile which considers the deviations between the measured target and the intendet values.

How to create an optimized DeviceLink profile:

You are in `Profile Optimization (1)` tab.

1. Click at `Calculate Profile` to optimize the DeviceLink profile.

Tip: You can perform further optimizations if you are not satisfied with the results or the values are out of tolerance zone. They are serially numbered (x) behind the tab name.

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2. Click at **OK** to finish the assistant or click **Next: Optimization Target (2)** to further optimize the profile.

The created profile will be automatically applied in proof workflow when you have selected **Use DeviceLinks** in the advanced print mode settings.

You can find the ICC profile file in folder **DeviceLinkProfiles** to use them in different products.

Advanced print mode settings for DeviceLink optimization

- **Workflow**: Proof (product version 4, version 5/6 proof workflow is selected in <u>Define print workflow see page 63</u>)
- **Input Profiles**: dependent on the loaded job
- **Simulation Profile**: dependent on the print device to simulate, for example ISOuncoated.icc or created profile using Reference Profiler; it is adapted to the ICC output profile (selectable under **Proofer Profile**) by using DeviceLinks
- **Proofer Profile** (Output Profile): ICC output profile and linearization which were created by using Profiler Module or by default after import the MIM for the printer configuration
- **Use DeviceLinks**: the created DeviceLink profile will be considered here, it optimizes the output accordingly
- Resolution: as high as possible to guarantee a high-quality proof result

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REFERENCE PROFILER Module

Prerequisite: You are able to print on your external print system. You have purchased the **REFERENCEPROFILER** Module (RPFM).

The REFERENCE PROFILER is an optionally available module which functions independently but within the RIP software. The **REFERENCE PROFILER** is built up as an assistant. Its task is to create ICC profiles which simulate the gamut of other print system not controlled by our software.

In the **following cases** the module can be used:

- You would like to edit images with an graphical application, apply to those images your analog or digital print system's appropriate gamut and print these images on that system as optimally as possible.
- You own a printer which is not included in **our** portfolio and would like to create a profile for it with intended print results.
- You would like to simulate a system's gamut on a different print device (proofing).

In the following steps you perform a reference profiling:
- **Make settings RPFM see page 245**
- **Print and measure target RPFM see page 246**
- **Create profile RPFM see page 247**

Specify settings RPFM

Here you get to know the access to the assistant, confirm the measure device and make other adjustments.

How to specify settings:

1. Select from the menu `Options > Linearization and Profiling Assistant`.
2. Decide either for a new file or for an existing one (*.cppx) to continue or to complete.
3. Click the icon to open the folder with linearization files or click the arrow next to the icon to display the last ten processed files and open one of them.

Tip: Name a new file with the printer type's name to be able to retrace it later on. The file will be saved by default in folder **Profiles** within your software directory.

You will see the assistant's `Settings` tab.

4. Select the connected measure device which is applied for the entire assistant. > Supported measure devices
5. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: **Measure de-**

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6. Click on `Next: Profile Target`.

You have selected the assistant's valid measuring device.

Print and measure profile target RPFM

Here you print a profile target to measure. You can select between different targets. From the measured target the reference profile for the printed output of another's print device will be calculated.

How to print and measure a profile target:

You are in the `Profile Target` tab to print and measure a target once more.

1. In the `Profile Target` tab select the target to print.

Several targets are available. They vary in size and number of patches and are dependent on the measuring device. You have two basic options:

- Normal target with high number of patches > accurate evaluation
- Quick target with less patches > faster evaluation but less accuracy

2. Click `i` to print an information line with target name, file name and date. It is helpful for retracing the target.
3. Click at `Print` to print the target on the connected printer.
4. Keep a proper drying time for a measurable print result (approximately 20 minutes).

- OR -

4. For printers with an internal measuring device like **HP-DesignJet-Z6100 / Epson-Stylus-Pro 7900 / Epson-Stylus-Pro 9900**: If you want to use the build-in measuring device to start the measuring immediately after printing select `Automatically measure target after printing`. The measuring results will be saved in the job folder (...\"product name"\JobDir\"printer name").
5. Measure the target by clicking `Start` for the calculation later on.

- OR -

5. Import existing measure data to calculate a profile from the data by clicking `Start > Import measurements`.

During the measuring process empty targets on the monitor are filled with the measured color values. Move the mouse over the color patches to display the color values. They contain information about Lab values, CH values (angle description in Lab color gamut) and the spectral color gradient.

- You can save the values as text file by clicking `Start > Export measurements...` for access later on. A file name consisting of the name of the printer definition and the type of the target will be suggested (**example**: Epson-Stylus-Pro 4800 HTM Profile Target).

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- When clicking **`Start > Measure device settings...`** you will open a dialog about additional settings for the selected measure device: <u>Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217</u>
6. Click **`Next: Profile Creation`** to generate a profile for the print output.

Now you have printed and measured a profile target. After that you can calculate a profile from these data in tab **`Profile Creation`**.

Create profile RPFM

Here you create a profile from the measured target after you determined the path for saving the profile and other properties.

How to create a profile for simulation:

You are in the assistant's the **`Profile Creation`** tab to create a reference profile.

1. With **`Browse`** you can select a different path for saving the profile.

Tip: Profiles are saved by default within your software directory.

---

2. Select the **`Profile Settings`** button to specify settings for separations, total ink and black generation > Profile Settings
3. Click **`Calculate Profile`** to create a profile from the measured and saved data for the other print system.
4. Click **`OK`** to finish and close the assistant.

In proof workflow the calculated profile will be displayed automatically in the list of selectable profiles under **`Simulation Pofile`** in the advanced job settings.

Tip: If you want to further optimize your proof results, we recommend **DEVICE-LINK PROFILER** Module which can be purchased separately.

You can find the ICC profile file in the profile folder SimulationProfiles to apply them to image data printing on the different print device.

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7.6 Control wedge evaluation

Prerequisite: You are using the proof workflow.

ℹ️ *This function is available as part of the proof workflow.* The Ugra/FOGRA media wedge CMYK V2.0 is intended for quality checking the digital proof print. A proof print is only deemed accurate in terms of color if an Ugra/FOGRA media wedge CMYK has been printed and its relevant CIELab values have been observed, for example.

Using the control wedge evaluation you measure the licensed FOGRA media wedge of a proof print-out. So you will check the proof print for conformity with the tolerances specified by Ugra/FOGRA.

It is also very easy to use your own in-house standards. The result can be saved and printed out as an HTML report. The output of the report to a DYMO label printer is also supported.

The following steps are carried out to perform a control wedge evaluation:

Print control wedge

Prerequisite: An appropriate printing condition or a suitable MIM is selected in the advanced job settings.

ℹ️ *The control wedge evaluation is contained in the proof workflow. An additonal module is necessary. QAM is optional in some product categories and is only contained within the production workflow.* Here you also select a control wedge such as the FOGRA 2.0 media wedge that is printed with the job. It is used to evaluate the color conformity of the reproduction of a simulation print in proof workflow to see whether or not the relevant CIELab values have been kept within the tolerances.

Available are media wedges referring to the current FOGRA standard versions for supported measure devices that are regularly updated.

Note: The control wedge/color control wedge will not be displayed in the preview.

How to print a control wedge/color control wedge:
1. Select automatic scaling by setting the `Rotation` on the `Job` tab to `Auto` to use the printable area optimally.

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2. Click the arrow next to the icon . In the open menu you will be able to select between different control wedges that depend on the measuring device or are provided by the FOGRA.

3. For printers with an internal measuring device **HP-DesignJet-Z6100 / Epson-Stylus-Pro 7900 / Epson-Stylus-Pro 9900**: If you want to use the build-in measuring device to start the measuring immediately after printing select `Automatically measure control wedge after printing`. The measuring results will be saved in the job folder (...\"product name"\JobDir\"printer name"). Subsequently they will be measured in the control wedge evaluation (Proof Workflow) or for QAM (Production Workflow) under `Job` > `Control Wedge Evaluation`.

Tip: Saving to the job folder allows multiple jobs to be automatically printed and measured after each other. However, the evaluation has to be started manually for each job, which is based on the measured data from the job folder. This works even if the printer is switched off.

- other printers -

3. After printing, dry the print-out (approximately 20 minutes or blow-dry with cool air). To measure the color control wedge, use the control wedge evaluation (Proof Workflow) or the QAM for a quality evaluation (Production Workflow) under `Job` > `Control Wedge Evaluation`.

The control wedge has been printed and can now be measured using the control wedge evaluation dialog.

Specify settings for control wedge evaluation

Prerequisite: You have printed a control wedge with the relevant job. An appropriate printing condition or a suitable MIM is selected in the advanced job settings.

Here you set the details for the measuring device, on the reference profile (inhouse standard possible) and on the media wedge being measured.

How to carry out the settings:

You are in the program interface. You have three options for opening the control wedge evaluation/color control wedge evaluation (QAM) that are both explained here:

- Select the job and click on the icon in the toolbar or
- Select the job and click on the `Job` > `Control wedge evaluation` menu option or
- Right-click on the job and open the context menu > `Control wedge evaluation...`.

A dialog for the control wedge evaluation will be opened.

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1. Under `Measure Device`, select the device that you want to use for the measuring.

For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217

2. Under `Control Wedge`, select the required FOGRA wedge to measure in proof workflow.
3. From the job the preset simulation profile/output profile will be read out and displayed in a green font (in proof workflow under `Printing Condition` and in production workflow under `Reference Values`).

Leave the setting as it is if you want to use the profile assigned to the job. The other profiles given there are standard profiles- for newspaper and offset printing - from FOGRA. Their reference values and tolerances are already stored in the program.

To proof an in-house standard: *This function is available as part of the proof work-flow.*

If you want to use your own profile in **proof workflow:**

1. Store a separate profile for the in-house standard in the folder for simulation profiles under **Profiles > SimulationProfiles** so that it is available in the program.
2. Select the profile in the advanced settings under `Printing Condition`.
3. Set a checkmark by `Calculate reference from profile`. The reference values are then created for the calculation. It is displayed under `Reference/Profile` with the `Custom` addition.
4. Under `DeltaE Calculation`, select the appropriate **method** that will be preselected for the next new job to evaluate: **DeltaE**: Is the standard and correct method for calculating proofs. This specification refers to the CIE standard from 1976.

   DeltaE 94: Closer to human sensory perception of the color distinctions than DeltaE.

   DeltaE 2000: Closer to human sensory perception of the color distinctions than DeltaE.

The settings are made and the control wedge can be measured.

Measure control wedge

Prerequisite: You have printed the control wedge with the job and made the settings for the control wedge evaluation.

Here you measure the control wedge to find out more on the quality of the proof print.

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How to measure the control wedge:

You are in the dialog box for the Control Wedge Evaluation.

1. Select the measure device to match the control wedge that was printed.
2. Align and attach the target on the measuring table, if required.
3. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device:

Tip: If you use **HP-DesignJet-Z6100** or **Epson-Stylus-Pro 7900/9900** with the measure automatically option, under `Start` you will select the entry `Use automatically measured data`. The saved measuring results will then be taken automatically. If there are measuring data for several jobs (located in the job folder "JobDir"), the evaluation has to be called up separately while the printer is allowed to be switched off.

4. Click `Start` to begin the measurement process.

Optional

- If you open the drop-down menu at `Start`, you can also import previously measured values or export newly measured values and store them at the required location. This means you can access the existing values at any time. The job name will be suggested when saving the text file.

After reading in the measured values, the deviations detected will be displayed for you in the `Evaluation` area in DeltaE. Here you will therefore see the difference determined between the reference values of a print standard/presetting and the measured values achieved for the print-out.

If the tolerances specified by FOGRA according norm ISO 12647 are observed, the values in the `Difference` column will be shown in green. If they are outside the tolerance, they will be displayed in a red color.

Note: This will only be applied to the set `DeltaE` method at `deltaE Calculation` in the dialog. For other methods a colored display for values is not available.

Values:

- The `Average` row describes the mathematical average of all patches.
- In the `Maximum` row, the color field with the greatest deviation in DeltaE will be displayed.
- With `Media` the white point of the printing condition (of the media used) on the field B17 of the FOGRA media wedge is simulated.
- In the `Primaries` row, the patch with the greatest deviation of primary colors will be displayed in DeltaE.

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- The `Primaries (dH)` row describes the hue for primary colors in DeltaH (angle value) according to DIN ISO 12647-7.
- In `Gray Average (dH)` row, the deviations of hue for gray range patches will be specified in DeltaH (angle) according to DIN ISO 12647-7.
- In the `Custom` column, enter your own tolerance specifications to evaluate an in-house standard that is independent of the used profile.

You have measured the control wedge and can then print a report.

Print proof report

Prerequisite: You have printed and measured the control wedge with the job.

In the final step in the control wedge evaluation you can display and print the evaluation of the media wedge (proof workflow) as well as additional information as a proof report.

How to output a proof report:

You are in the dialog box for the Control Wedge Evaluation/Quality Assurance Module. This dialog box is used both for proofing to evaluate a control wedge and for production to check the print-out color quality.

The `Additional Info` area displays the information recorded in the report.

1. Enter any additional information in the text boxes `Customer` and `Comment`. For a legally binding proof, the fully and correctly completed additional information is required. For example, enter the customer's name and the job number.
2. Use the `Use Logo` function to add a logo to the report automatically.
3. Set the logo using the `Select` button. The required logo will be available there if you store it in the ControlWedge - C:\Program Files\ColorGATE Software\PRODUCTIONSERVER5\Targets -folder.
4. Select the required report from the list under `Reporting`. There are four different reports available (in production workflow only one). These also include the report for the label printer DYMO LabelWriter to use it for the proof/production print.

Tip: Check in each case if the values are within the tolerances. The proof must be carried out again if the values are outside of tolerances. Use the DeviceLink Profiler (proof). If you want to improve the color quality in production workflow by using the QAM, use the Media Device Synchronization (MDS).

You will have three different options:

- `Print` to directly print the report without prior viewing it.
- `View` to start an internal viewer that displays the report. The button `Preview` opens the page preview and `Page Setup` stores settings to the page such as margins.

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- **Save** to save this report as an HTML file at the required location.

The control wedge evaluation/quality evaluation is completed. The proof or the print-out can be used with the report for example as standard requirement for the printing press.

The control wedge evaluation is complete. You can use the proof together with the report for specifications in the print shop, for example.

Print proof report on labels

Prerequisite: You have printed and measured the control wedge with the job. You are in possession of the software installation DVD.

Here you can find out how to print the proof report/quality report on labels as well. The advantage is that the result of the measurement can be affixed to the proof using the label. This means you have the proof, control wedge and the proof certificate all on one document.

How to print the proof report/quality report on labels:

You are in the dialog box for the Control Wedge Evaluation/Quality Assurance Module.

The **Additional Info** area displays the information recorded in the FOGRA report.

1. Connect the device for label printing to the RIP computer.

The model LabelWriter 320 and subsequent models from the manufacturer are supported. The template in the RIP software is also compatible with all label printers that support labels of size **99014 Shipping**.

2. Install the driver from the installation DVD.
3. In the control wedge/quality evaluation dialog box, under **Report** select the **PROOFGATE FOGRA Report (LabelWriter)**/**Color Control Report (LabelWriter)**.
4. Click **Print** to directly print the report without prior viewing it.

- OR -

4. To view the report click **View** first. A preview of the label is shown. The label shows an image to visualize the result of the evaluation: a check-mark for OK or a cross if values are out of tolerance.
5. Click **Print** to send the label to the label printer from the preview.

The finished, printed label can then be affixed to the proof result next to the control wedge. This can be supplied to the print shop as a legally binding proof, for example.

Farbe bekennen
Committed to Color

7.7 Quality Assurance Module (QAM)

Prerequisite: You are using the production workflow.

QAM is optional in some product categories and is only contained within the production workflow. This module is intended for quality checking the print result in the production workflow. The control wedge evaluation takes care of this in the proof workflow, however. A color control wedge is used to evaluate production prints. A print-out is only deemed accurate in terms of color if a color control wedge has been printed for measuring and the relevant CIELab values have been observed, for example. Custom tolerances can be set if required.

The QAM dialog displays set and measured color control wedge values in a table. A traffic light system indicates the quality of the measured values. The profile can be optimized by linking to the Media Device Synchronization (MDS).

It is also very easy to use and save your own in-house standards. The output of the report to a DYMO label printer is also supported.

The following steps are carried out to perform a color quality check:

-
-
-
-
-

Print color control wedge

Prerequisite: An appropriate output profile or a suitable MIM is selected in the advanced job settings.

QAM is optional in some product categories and is only contained within the production workflow. Here you also select a control wedge such as the Color Control Wedge 1.0 (Barbieri Spectro LFP) that is printed with the job. It is used to evaluate the color conformity of the reproduction of the intended colored print-out to see whether or not the relevant CIELab values have been kept within the tolerances.

Available are control wedges appropriate version 1.0 control wedges for supported measure devices that are regularly updated.

Note: The control wedge/color control wedge will not be displayed in the preview.

How to print a control wedge/color control wedge:

1. Select automatic scaling by setting the `Rotation` on the `Job` tab to `Auto` to use the printable area optimally.

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2. Click the arrow next to the icon . In the open menu you will be able to select between different control wedges that depend on the measuring device or are provided by the FOGRA.

3. For printers with an internal measuring device **HP-DesignJet-Z6100 / Epson-Stylus-Pro 7900 / Epson-Stylus-Pro 9900**: If you want to use the build-in measuring device to start the measuring immediately after printing select `Automatically measure control wedge after printing`. The measuring results will be saved in the job folder (...\"product name"\JobDir\"printer name"). Subsequently they will be measured in the control wedge evaluation (Proof Workflow) or for QAM (Production Workflow) under `Job` > `Control Wedge Evaluation`.

Tip: Saving to the job folder allows multiple jobs to be automatically printed and measured after each other. However, the evaluation has to be started manually for each job, which is based on the measured data from the job folder. This works even if the printer is switched off.

- other printers -

3. After printing, dry the print-out (approximately 20 minutes or blow-dry with cool air). To measure the color control wedge, use the control wedge evaluation (Proof Workflow) or the QAM for a quality evaluation (Production Workflow) under `Job` > `Control Wedge Evaluation`.

The color control wedge has been printed and can be measured using the QAM dialog.

Specify settings for the quality evaluation (QAM)

Prerequisite: You have printed a color control wedge with the relevant job. An appropriate output profile or a suitable MIM is selected in the advanced job settings.

 QAM is optional in some product categories and is only contained within the production workflow. Here you set the details for the measuring device and for possible in-house standards.

How to carry out the settings:

You are in the program interface. You have three options for opening the control wedge evaluation/color control wedge evaluation (QAM) that are both explained here:

- Select the job and click on the icon in the toolbar or
- Select the job and click on the `Job` > `Control wedge evaluation` menu option or
- Right-click on the job and open the context menu > `Control wedge evaluation....`

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A dialog for the control wedge evaluation will be opened.

1. Under `Measure Device`, select the device that you want to use for the measuring.

For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217

2. Under `Control Wedge`, select the required FOGRA wedge to measure in proof workflow.
3. From the job the preset simulation profile/output profile will be read out and displayed in a green font (in proof workflow under `Printing Condition` and in production workflow under `Reference Values`).

Leave the setting as it is if you want to use the profile assigned to the job. The other profiles given there are standard profiles - for newspaper and offset printing - from FOGRA. Their reference values and tolerances are already stored in the program.

To proof an in-house standard: *This function is available as part of the proof workflow.*

If you want to use your own profile in **proof workflow**:

1. Store a separate profile for the in-house standard in the folder for simulation profiles under **Profiles > SimulationProfiles** so that it is available in the program.
2. Select the profile in the advanced settings under `Printing Condition`.
3. Set a checkmark by `Calculate reference from profile`. The reference values are then created for the calculation. It is displayed under `Reference/Profile` with the `Custom` addition.
4. Under `DeltaE Calculation`, select the appropriate **method** that will be preselected for the next new job to evaluate: **DeltaE**: Is the standard and correct method for calculating proofs. This specification refers to the CIE standard from 1976.

   DeltaE 94: Closer to human sensory perception of the color distinctions than DeltaE.

   DeltaE 2000: Closer to human sensory perception of the color distinctions than DeltaE.

The settings are made and the color control wedge can be measured.

Measure color control wedge

Prerequisite: You have printed the control wedge with the job and made the settings for the Quality Assurance Module.

Farbe bekennen
Committed to Color

ℹ *QAM is optional in some product categories and is only contained within the production workflow.* Here you measure the control wedge to find out more on the quality of the production result.

How to measure the color control wedge:

You are in the dialog box for the Quality Assurance Module.

1. Select the measure device to match the control wedge that was printed.
2. Align and attach the target on the measuring table, if required.
3. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device: **Measure device settings Barbieri Spectro LFP see page 211, Settings Eye-One see page 217**

Tip: If you use **HP-DesignJet-Z6100** or **Epson-Stylus-Pro 7900/9900** with the measure automatically option, under `Start` you will select the entry `Use automatically measured data`. The saved measuring results will then be taken automatically. If there are measuring data for several jobs (located in the job folder "JobDir"), the evaluation has to be called up separately while the printer is allowed to be switched off.

4. Click `Start` to begin the measurement process.

Optional

- If you open the drop-down menu at `Start`, you can also import previously measured values or export newly measured values and store them at the required location. This means you can access the existing values at any time. The job name will be suggested when saving the text file.

After reading in the measured values, the deviations detected will be displayed for you in the `Evaluation` area in DeltaE. Here you will therefore see the difference determined between the reference values of a print standard/presetting and the measured values achieved for the print-out.

If you move the mouse over the color patches, you will see the original profile values and the measured values in Lab and CMYK listed in a small window.

How to evaluate the color control wedge:

Values below `Results`:

- The `Average` row describes the mathematical average of all patches.
- In the `Maximum` row, the color field with the greatest deviation in DeltaE will be displayed.
- In the `Primary colors` row, the patch with the greatest deviation of primary colors will be displayed in DeltaE.

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If the tolerances specified by FOGRA according norm ISO 12647 are observed, the values in the **Limit** column will be shown in green. If they are outside the tolerance, they will be displayed in a red color.

- Enter your own tolerance specifications to evaluate an in-house standard in the **Custom** column.

Evaluation using the traffic light symbol:

- **Red** - More than one value is outside of tolerances. Performing a color improvement and a profile optimization using the MDS is recommended.
- **Yellow** - One value is outside of tolerances. Depending on the deviation the MDS can be carried out for a color optimization.
- **Green** - All values are within the tolerances. The print result is optimal.

Optimization by performing the Media Device Synchronization (MDS):

In the event of a yellow or a red traffic light symbol the MDS should be performed for a profile optimization >

5. To do this, click on **Start MDS**. An assistant will also be opened.

An optimization may be necessary if:

- The printer needs to be recalibrated back to an original state,
- The printer is required to print under different conditions or
- A different printer model in the same series is being used.

Note: When you have optimized the profile via MDS, print the job again with the control wedge to measure in the QAM dialog. The measuring results should be within the tolerances and the traffic light displays a green color.

After the evaluation you can either print a report (on a label) or **Close** the dialog. The measuring results will be entered automatically. Values for the selected profile will be visible when accessing the dialog the next time.

Print quality report

Prerequisite: You have printed and measured the color control wedge with the job.

In the final step in the control wedge evaluation you can display and print the evaluation of the quality evaluation (production workflow) as well as additional information as a quality report.

How to output a proof report:

You are in the dialog box for the Control Wedge Evaluation/Quality Assurance Module. This dialog box is used both for proofing to evaluate a control wedge and for production to check the print-out color quality.

The **Additional Info** area displays the information recorded in the report.

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1. Enter any additional information in the text boxes `Customer` and `Comment`. For a legally binding proof, the fully and correctly completed additional information is required. For example, enter the customer's name and the job number.
2. Use the `Use Logo` function to add a logo to the report automatically.
3. Set the logo using the `Select` button. The required logo will be available there if you store it in the ControlWedge - C:\Program Files\ColorGATE Software\PRODUCTIONSERVER5\Targets -folder.
4. Select the required report from the list under `Reporting`. There are four different reports available (in production workflow only one). These also include the report for the label printer DYMO LabelWriter to use it for the proof/production print.

Tip: Check in each case if the values are within the tolerances. The proof must be carried out again if the values are outside of tolerances. Use the DeviceLink Profiler (proof). If you want to improve the color quality in production workflow by using the QAM, use the Media Device Synchronization (MDS).

You will have three different options:

- `Print` to directly print the report without prior viewing it.
- `View` to start an internal viewer that displays the report. The button `Preview` opens the page preview and `Page Setup` stores settings to the page such as margins.
- `Save` to save this report as an HTML file at the required location.

The control wedge evaluation/quality evaluation is completed. The proof or the print-out can be used with the report for example as standard requirement for the printing press.

The quality evaluation is complete. You can use the print-out together with the report for specifications in the print shop, for example.

Print quality report on labels

Prerequisite: You have printed and measured the optimized (via MDS) color control wedge with the job. You have access to the software installation DVD (includes label printer driver).

 QAM is optional in some product categories and is only contained within the production workflow. Here you can find out how to print the proof report/quality report on labels as well. The advantage is that the result of the measurement can be affixed to the print-out using the label. This means you have the print-out, control wedge and the quality certificate all on one document.

How to print the proof report/quality report on labels:

You are in the dialog box for the Control Wedge Evaluation/Quality Assurance Module.

Farbe bekennen
Committed to Color

The **Additional Info** area displays the information recorded in the FOGRA report.

1. Connect the device for label printing to the RIP computer.

The model LabelWriter 320 and subsequent models from the manufacturer are supported. The template in the RIP software is also compatible with all label printers that support labels of size **99014 Shipping**.

2. Install the driver from the installation DVD.
3. In the control wedge/quality evaluation dialog box, under **Report** select the **PROOFGATE FOGRA Report (LabelWriter)**/**Color Control Report (LabelWriter)**.
4. Click **Print** to directly print the report without prior viewing it.

- OR -

4. To view the report click **View** first. A preview of the label is shown. The label shows an image to visualize the result of the evaluation: a check-mark for OK or a cross if values are out of tolerance.
5. Click **Print** to send the label to the label printer from the preview.

The finished, printed label can then be affixed to the print-out next to the control wedge. This can be used as a sample or can be archived.

Farbe bekennen
Committed to Color

8 Additional information

8.1 Menues

Printer menu

Prerequisite: Open and activate the required printer definition to apply a function from the menu.

Here you will find entries that, with the exception of `New...` and `Open...`, relate to an open printer definition.

- **New...:** Opens the dialog for the printer definition to create a new printer.

- **Screen New...:** Opens the printer definition dialog for creating a new printer in the Screen workflow (printing screen printing templates) 🛈 *An additional module may be required for this.*.

- **Open...:** Opens the printer definition required.

- **Close:** Closes the current printer definition after a confirmation prompt as to whether or not you want to save the changes to the printer definition. The RIP software will remain open.

- **Save:** Saves the current printer definition.

- **Save as...:** Saves the current printer definition under the required name.

- **Properties...:** Opens the dialog for the current printer definition.

- **Create PPD:** Opens the dialog for creating a PPD to be able to print it on the network.

- **Export Configuration...:** Stores and transfers information of RIP configurations for a connection to external systems. Saves the information in any text file as XML code.

- **Quit:** Closes the RIP software after a confirmation prompt as to whether or not you want to save the changes to the printer definition.

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Job menu

Prerequisite: Select the required job in the job queue to use the functions in this menu.

Here you will find the entries relating to a job. The job menu corresponds to the context menu for the jobs in the job queue.

- **Pause:** Here you can pause both the ripping and the printing process of the job as required.

- **Continue:** This is used to continue both the ripping and the printing process for a paused or aborted job.

- **Abort:** Here you can cancel the ripping or printing process of a highlighted job completely. The RIP data will be deleted. The job remains in the particular queue and shows the ▐▐ symbol in front. It can be restarted by clicking ▶.

- **Move up:** The job is moved up one job in the job queue.

- **Move down:** The job is moved down one job in the job queue.

- **Delete:** The job is deleted. The Del key shortcut can also be used.

- **Print:** Print the selected job according to the Workflow settings. Short key: Ctrl + P

- **Regenerate print data:** Generate the print data after changes again to then print a job. Short key: Ctrl + Shift + P

- **Delete print data:** Clear the print data (ripped data) to save memory space and print after changes with new RIP data. Short key: Ctrl + Alt + P

- **Regenerate preview:** Generate the preview again to make the changes visible. Short key: Ctrl + Shift + R

- **Export original data:** Export the original data for the selected job to load it into another workflow if the original file has been moved with the automatic load process.

- **Create cut job:** ⓘ *This function is module-dependent.* The PLT data (cutting data) for a job can be generated manually later on if the job contains spot colors.

  - Go to the program interface and right-click on the relevant job.

    The function `Create cut job` uses the extracted cutting data to generate a plot file in the folder specified for `cutting jobs`.

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Tip: This function can be used if subsequent settings on the `Cut` tab or in the plotter settings change, such as `Repeat cutting path`, `Pressure` or `Speed`. The manual generation of the cut job includes the changes without the job being ripped again.

- **Contact Sheet:** *This function is module-dependent.* In combination with the container function, multiple jobs can be arranged here including cut marks.

- **Cropping:** To only print out a individual section of a job such as for test prints.

- **Tiling:** To divide large format jobs for a print in several steps or to reprint single tiles.

- **Container:** *This function is only available as an option in some product categories.* To arrange several jobs optimized for cutting after print and print them.

- **Duplicate:** Creates a copy or reference of the job in the job queue.

- **Visual scaling:** *This function is only available as an option in some product categories.* To scale a specific element in a job to a required size. The entire job is adjusted.

- **Edit:** Here the job can be opened and edited using the standard editor registered by the operating system.

  This means that the route of re-loading the job after editing in the RIP software is not necessary.

   In the dialog `Select Programm` you can determine, if a default operating system editor or a user defined editor should be used.

- **Info:** Here a window is opened providing information on the loaded job. The information includes the time of loading, the source of the file and the reason for change.

- **Rename:** This is used to give an existing job in the job queue any name required.

- **Control wedge evaluation...:** *This function is module-dependent or product-dependent.* To evaluate a Control Wedge/Media Wedge for a legally binding creation of proofs in the proof workflow.

  - OR/AND -

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To evaluate a color control wedge using QAM, including optimization by applying MDS for achieving a constant and good color output in production workflow.

- **Cost report...:** *This function is module-dependent and available as an option.* Here you can call up a dialog showing additional job info, used media and resulting costs after ripping (cost simulation) or printing a job.

  If you call up the cost report here, you can start a cost simulation after prompt. This only applies if it is enabled in the job workflow settings.

- **Settings...:** To Specify settings for the job or hotfolder such as print workflow, color management (MIM), printer properties, RIP settings.

Queue menu

The menu options here relate to both the calculation of the RIP process and to the print process for all jobs in the RIP or printer queue.

Rip

Pause:

To pause all jobs in the RIP queue.

The relevant icon above the jobs indicates the status.

Continue:

To continue all paused jobs in the RIP queue.

The relevant icon indicates the status, the jobs will be ripped.

Abort:

Calculations for the highlighted job in the RIP queue are cancelled. The RIP data will be deleted. The job remains in the RIP queue and shows the symbol in front. It can be restarted by clicking .

Print

Pause:

To pause all jobs in the printer queue.

The relevant icon above the jobs indicates the status.

Continue:

To continue all paused jobs in the printer queue.

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The relevant icon ![icon] indicates the status, the jobs will be printed.

Abort:

The print process for the highlighted job in the printer queue is cancelled. The RIP data will be deleted. The job remains in the printer queue and shows the ![pause] symbol in front. It can be restarted by clicking ![play].

View menu

Here you specify the appearance of the software, the toolbars and the preview.

- **Toolbar:** Switches the main toolbar on (checkmark) or off (no checkmark).
- **Status bar:** Switches the status bar with additional information in the lower area of the software on (checkmark) or off (no checkmark).
- **Preview:** Here you will find the same information as in the toolbar for the preview.

Options menu

Here you will find the entries used to optimize jobs. These include the MIM administration for matching the printer to the media, ink and metamode as well as the creating and managing the profiles.

Some of the functions given here are included in the full version or in additional modules in the RIP software.

- **Program settings...:** To make basic settings for the software.
- **Input profiles...:** Here you specify which Input Profiles you want to use in new jobs by default.
- **Profile Administration...:** Here you can track which printers already have output profiles and linearizations and their associations and how to change them.
- **MIM administration...:** To set up a printer with media, ink, metamode in the software. A profile will be entered.
- **Edit Color Table...:** ![info icon] *This is an optional function depending on the product category.* To replace colors or apply spot colors to existing colors in the job.
- **Cost Calculation:** Here you can do presettings for the cost calculation, specify ink and media and carry out currency and cost report database settings.

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- **Linearization and Profiling Assistant...:** 🛈 *This is an optional function or included within a profiler module.* To linearize a printer or create a profile.
- **Media Device Synchronization...:** 🛈 *This is an optional function.* To calibrate printers from the same type for remote proofing or reset them to the original state after constant usage.
- **Language:** To set the language required. The selection requires the software to be re-started.
- **Update Dongle...:** To enable the RIP software using a keycode (activation).

Window menu

Here you specify how the individual windows are to be arranged for multiple printer definitions created. It is also possible to switch between the printer definintions by selecting a different definition (checkmark).

- **Cascade:** The printer definitions windows are arranged on top of one another with a slight offset.
- **Tile:** The printer definitions windows are arranged on top of one another.

Help and Info menu

- **Help Contents:** Opens the Online Help for the product showing the start page.
- **About PRODUCTIONSERVER5...** Opens a window with information on the product. From there you can go to the Product activation or look up the version and build number.

  The **Module Info** button will take you to an overview of the installed and available modules and add-ons.

8.2 Deinstallation

The deinstallation differs slightly for each operating system.

How to deinstall the RIP software:

- The software can be uninstalled via `Control Panel > Software` (XP/2003)

- OR -

- `Control Panel > Programs and Functions` (Vista).

Profiles and other settings added after installation will not be removed in this process.

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8.3 Modules and functions

To find your configuration, click in the application on `? > About PRODUC-TIONSERVER6 > Module Info`. Also visit our website for more information on the latest new developments and test options.

Note: This documentation describes the RIP software in the full version. The RIP software version you have purchased may not offer the full range of functions.

Optional functions and modules are indicated by the notes 🛈 and 🛈 however.

Our products are graded by product categories that include different sets of functions. Our website shows the function overview that shows the configuration for each product.

The most important modules are listed in the table below. Click on the link to the relevant module and a description on our website.

Modules and functions	Description
JDF Module (JDFM)	Interfaces conforming to industry standard JDF V.1.1 for integration into workflow systems.
PRINT&CUT Module (PCM)	To produce contour cuts by using cutting plotter.
FILMGATE Module (FGM)	To create screen stencils for screen printing or offset use on a suitable inkjet printer.
PROOF Module (PGM)	To create color-binding and legally binding proof prints conforming to printing media standard: 2007 (ISO 12647-7) with integrated, licensed FOGRA media wedge.
PHOTO&FINEART Module (PHG)	To create printed photo and fine art items. The container function has been expanded.
PROFILER Module (PFM)	For creation of linearizations and ICC profiles directly from the assistent-based software.
MULTI-COLOR PROFILER Module (MCPFM)	For creation of ICC profiles which support additional color channels.
EXPRESS PROFILER Module (EPFM)	To accelerate the creation of ICC profiles which are based on existing profiles of a similar printer setup.

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DEVICELINK PROFILER Module (DLPFM)	For iterative optimization of color transformation from a source to a target profile which is stored in a device-link profile.
REFERENCE PROFILER Module (RPFM)	To create ICC profiles for output devices that cannot be actuated directly using the RIP software.

8.4 Printer overview

You will see a list of printer manufacturer with printer models that we support.
You can get information about printer models when visiting our website.

AGFA

ALGOTEX

BeDigital

Canon

ColorSpan

DGI

Durst

Eastech

Encad

Epson

Eurotech

Fey Yeung Union

FUJIFILM

Gandinnovations

GongZheng

Graphtec

Grapo

HMDT

HP

Indigo Color

IP&I

Keundo

Kodak

Leggett & Platt Digital Technologies

Mimaki

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Mutoh

Neolt

NUR

Richmond Graphics

Roland

Scitex Vision

Seiko

SerCo Multiplex

Signtrade

SUN Company

swissQprint

Teckwin

Tiara

VIP

Vutek

Witcolor

Xerox

Yaselan

Yat Fung Digital

ZBE

Zuend

Cutters from the following manufacturers will be supported as well:

Aristo

Graphtec

i-cut

Mimaki FX Series

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Mutoh Ultima

SummaSign

Date: 30.07.2008

8.5 Supported graphic file formats

The following file formats can be processed depending on the different product categories.

- PDF
- EPS
- PS
- JPEG
- GIF
- BMP
- TIFF
- PSD

On the website function overview you will find some more information on the products.

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8.6 File extensions

Click on one of the file extensions given below in alphabetical order. A list of explanations for the files used by the program will be displayed.

- **CCT**: Color replacement; all information on the color replacement table is stored here
- **CGM**: When an MIM combination is added to the RIP software after the import, it will be in this format.
- **CCTX**: Color transfer; all settings made on the color transfer curve are stored here.
- **CCUX**: Job settings; contains the settings for a job relating to the Cutting tab.
- **CCX**: linearization ; here you will find all the information available on a completed Linearization.
- **CJOX**: Job settings; contains the settings for a job relating to the Job tab.
- **CKY**: Keycode; contains binary information on the product version, the printer being controlled and possibly also a time limit for the use of your program. This file is copied to your dongle and enables your program version.
- **CMP**: MIM Package; contains MIM definition and linearization file CCX that is saved when saving from CD or loading from the website.
- **COS**: Printer definition; contains all settings for a new printer definition such as connection, printer name and paths used for files.
- **CPRX**: Job settings; contains the settings for a job relating to the Printer tab.
- **CPSX**: Job settings; contains the settings for a job relating to the Color management tab.
- **CRIX**: Job settings; contains the settings for a job relating to the RIP tab.
- **CSEX**: Job settings; contains the settings for a job relating to all job settings tabs.
- **CTL**: Tiling settings; contains all settings for the tiling (segmentation) that you can save in the Settings folder and re-load as well.
- **CWOX**: Job settings; contains the settings for a job relating to the Print workflow tab.
- **CXF**: Profiles used by Eye-One measuring devices; the optional module Ambient light provides the option of loading this file by clicking the Create Profile button and using it to generate an ICC profile. A color table in this format can also be imported.
- **ICC**: Input and output color profiles; are selected in the Advanced job settings.
- **PPD**: PostScript Printer Description; contains all information such as print properties and printer settings.

8.7 Ink name abbreviations

The following table shows abbreviations of ink names that are used in the RIP software at several locations.

C = Cyan

M = Magenta

Y = Yellow

K = Black

LC = Light Cyan

LM = Light Magenta

LY = Light Yellow

LK = Light Black

LLK = Light Light Black

PhK = Photo Black

MaK = Matte Black

LG = Light Gray

R = Red

G = Green

B = Blue

O = Orange

V = Violet

MC = Medium Cyan

MM = Medium Magenta

MK = Medium Black

MY = Medium Yellow

E = Gloss Enhancer

VR = Varnish

G = Gray

S1 = Special1

W = White

MT = Maintanance Tank

MT2 = Maintanance Tank 2

MT3 = Maintanance Tank 3

8.8 Key shortcuts

Some procedures can also be accessed by the following keys:

Regenerate print data: Ctrl + Shift + P

Delete print data: Ctrl + Alt + P

Regenerate preview: Ctrl + Shift + R

Delete preview data: Ctrl + Alt + R

Print job: Ctrl + P

8.9 ***Others*** driver

Except the Windows Printer Driver the described drivers below print jobs in a file. Depending on the driver you can change the output format and resolution. For all available drivers that print in a file, follow these steps:

1. Select the path in the Create-printer-dialog to save the output files.
2. Set the resolution and the file format in the advanced settings in the `Print Mode` tab.
3. Configure the output file name as required in tab `Printer` in the job settings.
4. Select a MIM (no import) and set the print mode settings as you would do for every other printer.

What the drivers are:

PDF FLAT HIGH-RES / PDF FLAT LOW-RES:

These drivers print your job in a PDF file to embedd it. Vector objects in PDF, EPS and PS files will be rendered.

- Using `HIGH-RES` the job will be output with unlimited user defined resolution.
- Using `LOW-RES` the job will be output with a resolution of maximum 900 DPI.

RasterFile:

In all workflows (Production, Screen, Proof) this driver will print your job in a file. The format TIFF or JPEG you can Select in tab `Print Mode`.

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- In Screen workflow: For each of the printer settings (`32-bit CMYK`/`4 x 8-bit Gray`/`4 x 1-bit`) in tab `Print Mode` a file will be printed. The setting `4 x 1-bit` is for the rendering of the file.
- In Production/Proof workflow: For the printer setting `4 x 8-bit Gray` and `4 x 1-bit` in tab `Print Mode` four files will be output - one for each process color. The printer setting `4 x 1-bit` simulates the screen `SpeedScreen` or `PostScript` that you can select in tab `Screens`. The file will be rendered.
- Using `32-bit CMYK` a Composite file will be output. That file contains all four process colors and spot colors in one page.
- Using `LZW` you can select a lossless compression that reduces the file size.

SoftProof RGB:

This driver prints your job in a file. The format TIFF or JPEG as well as quality you can select in tab `Print Mode`.

Additionally you can simulate the output of a printing machine for example with the simulation profile (printing condition) **ISOcated.icc** on the monitor. The difference to proofing: Instead of connecting a simulation device a printer driver for files is selected.

- Select the required simulation profile under `Printing Condition` in tab `Profiles`.

TIFF HIGH-RES / TIFF LOW-RES:

This driver prints your job in a TIFF file.

- The printer settings in tab `Print Mode` are the same as in the RasterFile driver: `32-bit` for colored file, `4 x 8-bit` for gray-scale file, `4 x 1-bit` for black/white halftone.
- Using `LZW` you can select a lossless compression that reduces the file size.

You can set the resolution:

- Using `HIGH-RES` the job will be output with unlimited user defined resolution.
- Using `LOW-RES` the job will be output with a resolution of maximum 900 DPI.

Windows Printer / Windows Printer-PS:

The **Windows Printer Driver** serves as an adapter to print on small format printers. These are printers that obtain a driver in MS Windows which are based on the **PCL language** (Printer Command Language). These printers operate with inkjet or laser technology and often in RGB color mode.

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The **Windows Printer-PS Driver** is a kind of an adapter as well for small format printers. All **PostScript printers** used by MS Windows can be controlled. These printers operate on basis of laser technology in CMYK color mode quite often. This is a big advantage since CMYK data are kept when sent to the printer. Even on these small printers automatic printing and color management is possible.

> **More information:** Most of the high-quality printers support two page description languages: **PCL (Printer Command Language) and PS (PostScript)**. The main difference between PCL and PS can be described in the way how data is rendered. Using the PCL driver, the main work will be done on the PC. On the other hand the PS driver sends the complete print file to the device that processes it optimally. Therefore PCL works faster in most cases than PS.

- Select the required printer in the Create-printer-dialog in tab `Printer Port`. The printer must be installed in the network.

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8.10 Export configuration

This functions' task is to store and transfer information of RIP configurations for external system connections. In general it is used together with the JDF interface.

By default the files in XML format will be created that contain for example information on media types and media sizes used by the printer. Taking the appropriate XSLT files in folder "PrinterConfigExport" (file system) you can create other formats that are suitable for the linked external system.

Perform export:

1. Select the required printer definition.
2. Go to the menu entry **Printer** and select **Export Configuration....**
3. In the next dialog select any desired text file which is used to put information to the configuration in.
4. Click **OK**.

The desired file contains now information to the RIP configuration that can be used in external systems (for further processing of print material). Also use the JDF function.

8.11 File archive system

User directory:

In the following folder and its subfolders the files to work with such as archive files, profiles, job settings as well as printer definitions (*.cos) and hotfolders will be stored:

For Windows Server 2003/XP:

C:\Documents and Settings\All Users\Application Data\ColorGATE Software\PRODUCTIONSERVER5

For Windows Vista/7:

C:\ProgramData\ColorGATE Software\PRODUCTIONSERVER5

Printer halftoning modules:

In the following folders the additional printer modules for Epson and Canon will be installed:

For Epson Halftoning Modules (Windows XP/2003 Server/Vista/7): C:\Program Files\Epson HTM Module

For Canon Halftoning Modules (Windows XP/2003 Server/Vista/7): C:\Program Files\Canon PB Module

File path:

All further files and drivers such as PPDs, export printer configurations and printer drivers can be found in the program installation path:

For Windows Server 2003/XP/Vista/7:

C:\Program Files\ColorGATE Software\PRODUCTIONSERVER5

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9 Support and contact

9.1 Support

ColorGATE Partner

Contact your **Color**GATE partner always for first level support. Technical Service offers second level support.

Link to the partner overview on our website:

http://www.colorgate.com/nc/en/company/partner/sales-partners.html/

Websupport Request Form

Fill in the request form, attach your data and click the send button:

Under the following link:

https://support.colorgate.com/colorgate.rip/en/support/supportrequest/

- We accept attached files up to approx. 10 MB limit.
- Submit data sizes from more than 10 MB on via ftp://cgguest:cgguest@ftp.colorgate.net/Incoming%20user%20files%20(write%20only)/ and include your request number in the filename. Mention your submitted file in the request description.
- Send us larger amounts of data, sample prints or similar things for evaluation or testing purposes to the **Color**GATE postal address (http://www.colorgate.com/en/location.html/). Include your request number which you will find on the request form.

9.2 Contact us

ColorGATE - Digital Output Solutions GmbH

Grosse Duewelstrasse 1

30171 Hannover - Germany

Phone: +49 511 942 93-0

Fax: +49 511 942 93-40

Email: contact@colorgate.com

www.colorgate.com

9.3 Feedback

We strive to produce quality documentation products and welcome your feedback. If you have comments or suggestions about our documentation you can email us.

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Please include the following information with your feedback:

- Product name and version number
- Topic title (in documentation)
- Brief description of content (for example, are you reviewing step-by-step instructions that are inaccurate, grammatical errors in a specific paragraph, information that requires clarification or more details)
- Your suggestion for how to correct/improve documentation

Please send email messages to:

documentation@colorgate.com

This email address is only for documentation feedback. Unfortunately you will not receive a reply. If you have a technical question, please ask your distributor or use our technical support that you can find at our website.

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10 Glossary

Absolute Colorimetric Rendering Intent

- The same as the "Relative Colorimetric" Rendering Intent, but with simulation of the white dot (paper simulation). Used with digital proofs on special paper (not the same as print run paper) or displaying the print simulation on the screen. -

Absolute Perceptual Rendering Intent

- A photographic color transformation is carried out in this process while retaining a simulated white dot. This Rendering Intent uses the dynamics of the printer color space in full, but in addition simulates the white dot of the input profile. This is a particularly useful option with a simulation of a printer color space without proof requirements. For example, if you want to reproduce a mini-lab print-out including paper simulation on an inkjet printer. Please note that this RI, depending on the profiles used, can result in undesirable results. You should not use this with the standard RGB working color spaces such as ECI-RGB, AdobeRGB or sRGB. -

AdobeRGB1998.icc

- This is a color space developed by Adobe that is very popular with photographers in particular for working with Adobe applications. Unlike ECI-RGB v1.0, it uses another gamma value and white dot. -

Altona test suite

- Freely available PDF/X-3 file for testing PostScript RIPs for proof solutions, PDF workflow systems in print shops and PostScript RIPs for CtP exposure units. In addition the actual file, there are comprehensive instructions for use. The paid version of the user package for the Altona test suite is available on the internet at www.altonatestsuite.de. This includes the reference prints for ISO 12647-2. This means that the color behavior of proof systems and printing machines can also be checked visually with reference to the correct color reproduction. -

ambient light

- The same color looks different in different lighting. If you want to ensure that a specific color impression is still reproduced with the correct colors in specific lighting, the ambient light from this lighting must be included in the color transformation calculation. -

Anti-aliasing

- Anti-aliasing is a method of making fonts and edges more smooth and round by adding grey dots at the edges and corners. -

archive folder

- The jobs are saved here together with the screen information. At a later time the job can be printed again using the same settings. In this case the screen process does not have to be performed again, which saves time. -

bézier curve

- Bézier curve refers to a process for drawing curves and surfaces using a computer, which is based on an algorithm developed by the French engineer and mathematician Pierre Bézier (1910-1999). Bézier worked for the French car manufacturer Renault for 42 years and was a pioneer in the field of Computer Aided Design (CAD). The curve description he developed uses individual support points for drawing (also known as anchor points) and

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control points that determine the length, position and path of a curve. Many commonly used graphics programs for PCs provide the option of designing curves using this method. The Postscript page description language also uses Bézier curves to describe curved lines. -

Black Compensation Rendering Intent

- This method corresponds to the "Relative Colorimetric + depth compensation" Rendering Intent recognized by ™Photoshop. This rendering intent is popular with photographers in particular, but also print service providers, who use it to preserve RGB image data containing bright, highly saturated colors in the print output. If your image output using the "Photographic RI" does not achieve print-outs with adequate brightness, use this RI instead. Another advantage of the "Black Compensation RI" is that it brings the print output closer together when using profiles from different manufacturers. -

Bundesverband Druck und Medien (BVDM; The German Printing and Media Industries Federation)

- The most important organization for the German printing industry. BVDM www.bvdm-online.de coordinates the regional German associations in printing and media, in which a large proportion of German printing companies are organized. The BVDM provides significant financial support for FOGRA initiatives on standardized workflows and quality control in print production based on ISO 12647. Some working tools issued by BVDM are intended primarily for members. -

calibration

- Calibration, sometimes also known as linearization, ensures that a print system displays constant color reproduction for a specific combination of media and ink. The approach of performing the calibration on the basis of spectral measurement values provides a particularly high degree of accuracy. -

CIELab

- Defined in 1976 by the Commission Internationale de l"Eclairage (CIE), the CIELab color space has a three-dimensional, right-angled coordinate system. The vertical coordinate L determines the brightness of a color, and the two horizontal coordinates a and b determine the color value and the saturation on a red/green or a blue/yellow axis. The CIELab color space is especially well-suited for displaying color differences, as geometric distances here virtually match the delicate color differences. -

color space

- Color space refers to the collection of all colors that can be displayed in a specific system. These various spaces can sometimes be part of a different space and are displayed using different geometric systems (CMYK, RGB, Lab). It is purely mathematical functions that are involved here. (URL: http://www.copyshop-tips.de/lexikon.php?user=&Suchwort=Farbraum) -

composite file

- Colors CMYK as well as spot colors in a file are contained in just one page in the original file format. All supported file formats will be considered. The formats PDF, EPS, PS can be both Separated files or Composite files. -

Contone

- Contone modules were developed by HP as halftoning modules. They are integrated in the printer device on the software side. A halftoning module is responsible for the transformation of input data to the printable data. Color

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separations, screening and calculation of dot sizes are its task as well which leads to a better result compared without halftoning module. -

DeltaE

- DeltaE is the name of the color difference between two color measurement values. It is also measured on a proof of the Ugra/FOGRA media wedge CMYK to evaluate whether the color reproduction is also legally binding. It means that the DeltaE is the most important specification on the preset values. This specification refers to the CIE standard from 1976. -

DeltaH

- "H" in DeltaH stands for "Hue". Associated with proofs it refers to the tint in the gray balance that cannot be covered by DeltaE. -

DeviceLink technology

- Without DeviceLinks the transformation of the simulation color space (CMYK) into the output color space (CMYK) took place via the Lab color space. As these color spaces have different structures, a complete re-separation process is carried out. This results in undesirable effects if, for example, a color value achieved using specific percentages (black) is structured differently in the target profile. Using a DeviceLink profile, the black generation and other specific color combinations can be obtained. -

dot

- Is a printable element that simulates by varying the distances or different sizes the grayscales of a template. A dot consists of several printing dots which are the smallest printable element a printer can output. -

dot growth

- In the proof workflow: The tonal value is the brightness level of a color during screening. It is expressed in percent and describes the ratio of the area covered with screen points to the unprinted area. In the film workflow: The tonal value specifies the size of the screen points in a motif. A tonal value of 100% means that the screen points are large enough for there to be no unprinted area remaining between them. -

European Color Initiative (ECI)

- The ECI was originally a combined initiative of leading companies in the pre-press sector to optimize ICC-based workflows together and to announce these publicly. Since then, FOGRA and BVDM has also become members of the ECI. The high proportion of practitioners in the ECI ensures that the specifications and guidelines of FOGRA and BVDM are also easy to implement in practice. Some key tools from the ECI are freely available, such as the ISO profiles or the Altona test suite. -

firewire

- The name Firewire, coined by computer manufacturer Apple, refers to a serial interface with high transfer speed, conforming to the US standard IEEE 1394. Previously the standard specified maximum transfer speeds of 400 Mbit/s. Even higher rates have already been proposed for standardization. Firewire interfaces are increasingly found in workstation computers and are now used primarily for connecting video cameras and similar products to a computer, but more and more mass storage devices, scanners and other peripherals as well. -

FOGRA

- Printing research company based in Munich, Germany. FOGRA develops specifications for reliable and efficient production from the creation of

print data to the finished printed product. The FOGRA control tool for all steps in print production are an industry-wide reference and in the event of disputes in print products, FOGRA steps in as an expert witness. In developing and maintaining the ISO standard 12647 for print data, proofs and printing, FOGRA has a central, coordinating role. -

FOGRA profiles

- These profiles were developed using the associated characterization tables FOGRA33 to FOGRA40 with the program ™Print Open from FOGRA. These use the same settings as for the Altona Test Suite. -

gamma

- A gamma correction is required in reproduction systems to compensate for the non-linear brightness perception of the human eye. With an incline the eye does not necessary react to a double brightness in the physical sense with a doubling of the brightness perception. The perceived brightness increases more sharply in dark areas and less sharply in bright areas. (URL: http://de.wikipedia.org/wiki/Gammakorrektur) -

gamut

- Gamut, color range or total color range refers to the collection of all colors that can be displayed in a specific system. It is equivalent to the term color space. -

GCR

- With the non-color build process GCR (Gray Component Replacement), proportions of CMY are replaced in all image areas by a black color. The low color application and the reduced drying time involved is particularly useful for non-smooth papers. In comparison to reprography, in modern color management a little magenta is always included at max. GCR. -

haptics

- "Haptics" refer to the feeling one has when touching an object. In the printing sector, haptics normally relate to the paper used for a printed object. Put bluntly, some papers feel very "cheap", and other feel considerably better quality. Papers have their own emotionality. The haptics of the paper should be appropriate for the purpose. The advertising inserts in a daily newspaper are often printed on basic papers because in this case the purpose of the information is the priority. With a business card for the managing director of a large company, however, it is important that with the first contact and when handing over the business card, an impression of seriousness and competence is conveyed directly. In this case, much value is placed on the appropriate haptics of the paper. Please note: The haptics of a paper can be affected greatly by the printing and other steps (embossing, lamination, etc.). -

HKS

- The HKS is a colour system which contains 120 spot colours and 3250 tones for coated and uncoated paper. HKS is an abbreviation of three German colour manufacturers: Hostmann-Steinberg Druckfarben, Kast + Ehinger Druckfarben und H. Schmincke & Co. HKS colours, similar to the Pantone colours, are used for any kind of print publication to produce predictable colours. Like in the Pantone colour system, there are HKS colours that can't be reproduced using the CMYK colour space, like bright orange or certain tones of blue. HKS colours are cheaper but also limited compared to the huge Pantone colour space. The advantage of the HKS Tones is that it bases on the

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euroscale colourspace. It follows the guidelines of ISO 12647:2 2002 and the accordingly FOGRA. http://en.wikipedia.org/wiki/HKS_(colour_system -

hotfolder

- If you want to print a job, that job first needs to be placed in the required hotfolder. This folder should be located on one of the local hard drives with adequate free storage space. The hotfolder settings apply to all print jobs contained in that hotfolder. The properties of the first hotfolder created have a particular significance. By default it is used both for newly loaded jobs and for the print-outs of linearization and profiling targets. -

HTM

- HTM was developed by Epson and means HalfToning Module. It is installed parallel to the RIP application. A halftoning module is responsible for the transformation of input data to the printable data. Color separations, screening and calculation of dot sizes are its task as well which leads to a better result compared without halftoning module. -

ink

- The number of printable colors (color space) is largely determined by the inks used or by the ink combination used in the printer. For this reason, printer manufacturers are making increasing efforts to enlarge the color space that can be displayed by the use of additional colors. This can be achieved by the use of light cyan and light magenta, from pale gray to photo black. A controlled color space enlargement is possible in particular by the use of additional process print colors. The RIP software supports these developments with the spectral linearization of all process colors. -

ISO Profiles

- The ISO profiles from ECI (http://www.eci.org/doku.php?id=en:start) are based on the characterization data from FOGRA for ISO 12647. There are separate ISO profiles for each of the various paper types in the ISO standard. They play a central role in creating print data and for the proof. ISO profiles are used to separate RGB data, ensure a correct CMYK softproof in Adobe Photoshop and are also required for a legally binding digital proof. The specifications for the Ugra/FOGRA media wedge CMYK control tool for the proof are in turn harmonized with the ISO profiles from the European Color Initiative (ECI). -

ISO/DIN 12647

- The international standard for print data, proofs and printing. The ISO 12647 is the successor standard for Euroscale, and is defined much more clearly. The ISO 12647-2 section describes offset printing. The central point of the standard is the subdivision into different paper types. These are gloss and matt coated types, LWC papers as well as white and yellow-tinted papers. Based on the ISO 12647 is a range of various tools and guidelines for legally binding digital proofs, such as the offset printing process standard from the Bundesverband Druck und Medien. ISO standards can be purchased from Beuth-Verlag at www.beuth.de. -

Lab color space

- Colloquial name for the "CIELab" color space. The "L" stands for brightness, "a" for the red/green proportion of a color and "b" for the blue/yellow proportion. Lab is used throughout in color measurements for print, proof and color management across all production processes. -

legally binding digital proof

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- In accordance with FOGRA and BVDM guidelines, a legally binding digital proof must be modified in terms of color reproduction to the relevant paper type of the print run. For each paper type conforming to ISO 12647-2, there are clearly defined color specifications. So that the color specifications are observed can be measured on the proof, the Ugra/FOGRA media wedge CMYK must be given on the proof. In addition, the proof should also contain a control line with the filename, color profiles used, and date. -

light color

- This term describes additional cartridges in the printer with a low percentage of the process colors CMYK. This means that color transitions can be displayed more gradually. Less demanding jobs can be printed with four colors (CMYK). For demanding prints, color systems with up to eight colors (CMYK+LC+LM...) are used. By using the light colors (Light-Cyan, Light-Magenta) and different black tones, color spaces for different LFP systems can be expanded so that they overlay the standard prints.

Lightener Compensation Rendering Intent

- This RI is important for the proofing workflow. The condition for using this RI, however, is that you have not already compensated for optical brighteners in the profile calculation. A recommendation is to switch off the compensation of the optical brightener in the profile calculation and instead in the proofing workflow - if there are optical brighteners in the paper - the RI "Lightener Compensation" is used instead of the "Absolute Colorimetric" RI. -

linearization

- The linearization, sometimes also known as calibration, ensures that a print system displays constant color reproduction for a specific combination of media and ink. The approach of performing the calibration on the basis of spectral measurement values provides a particularly high degree of accuracy. -

media

- As the carrier material for the ink, the media used deserves special consideration. For the drying performance (fading), the media is just as important as the ink. For example, the media for the ink applied must provide good adhesion and fast drying. Sometimes it needs to be water-deflective to ensure its color stability and even non-combustibility for years in sunlight. Whereas in the photographic field optical brighteners are viewed positively, in the proof field they are undesirable at best, while an ideal media white point is desirable, especially for creating proof prints. -

metamode

- The metamode contains information on the profiles and linearizations used, screen settings, color corrections as well as print mode settings. It can be found in the job settings on the "Color management" tab under the "Settings" button. -

MIM

- Media-Ink-Metamode. The MIM refers to a combination that contains information on the printer, the paper used, the ink and the metamode. It is available as a CMP file on the installation DVD or on the website and can be imported into the RIP software. When it is imported, the profile and linearization files contained in it are stored in the software folder. -

optical brighteners

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- This refers to substances (crystals) that are mixed into the coating and that have the property of converting energy-rich ultraviolet light which is invisible to the naked eye, into visible light. They generate as bright a white as possible in papers. Many papers for inkjet printing contain many optical brighteners and are not suitable for use as a proof media as brighteners change the result in the color measurement for profile creation and quality control. -

Pantone
- Pantone is an American manufacturer of color sample cards. Specifically, Pantone is therefore not a standard, and is not an ink manufacturer. However, Pantone issues licenses to ink manufacturers who manufacture according to the mixing recipes from Pantone and offer these to printers as spot colors. -

PB
- PB modules were developed by Canon as halftoning modules. They are installed parallel to the RIP application. A halftoning module is responsible for the transformation of input data to the printable data. Color separations, screening and calculation of dot sizes are its task as well which leads to a compareable better result than without halftoning module. -

PDF
- The designation PDF stands for "Portable Document Format". PDF is based on Postscript and was developed the company Adobe to achieve the follow aims: - Reproduction of document formats true to the original versions - Independence from any particular operating system - Independence from different word processing formats - Independence from equipment types and resolution - No changes to fonts, page breaks when opened on different computers and printers with different settings. -

Photographic Rendering Intent
- The image impression is retained thanks to an even compression of all color values of the largest source color space in the smaller target color space. It is a good idea for the smaller target color space to be fully included in the larger source color space. Used in the conversion of RGB to CMYK (e.g. RGB-Scan to CMYK). -

pixel data
- It is composed of image dots (pixels). Typical pixel formats are BMP, TIF, JPG. Pixel graphics result in problems with significant enlargement because the individual pixels then become visible. For example, stepped effects may be caused on contours and lines. -

PostScript
- PostScript is a universal page description language (interpreter) from Adobe that is platform-independent for describing graphics and text. It contains a comprehensive graphics command set that provides all the details of a document with the text, font and size, formatting information, alignment and images. This data is normally available as pure text files and can be edited and manipulated using a text editor. A significant advantage of Postscript is its platform-independence. -

PPD
- A PPD affects the behavior of the driver for a specific printer. PPDs contain information on the output device, color output capability, paper sizes, alignment, optimized screen widths and available fonts. A PPD is often also

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known as a "dynamic PPD" as it can be used to modify the printer properties dynamically using the print dialog. -

primary color

- Primary colors are the colors in a color model from which all other mixed colors are derived. Each color model contains three primary colors (additive color model: RGB > Red, Green, Blue or subtractive color model: CMY > Cyan, Magenta, Yellow). -

print mode

- It contains information on the print process and print files of each specific printer. It can differ in varying degrees from printer model to printer model. Typical properties are the resolution, the print direction, the paper type and the cartridges used for the print. The print mode can be found in the RIP software in the advanced job settings. -

printing condition

- This is the condition of the print system that needs to be simulated in the proof workflow. It is described as an ICC profile. -

printing dot

- A printing dot is the smallest dot that a printer can print. From several printing dots a dot is built up in the printer matrix. -

proofing

- Proofing refers to the binding color reproduction or an advance simulation of exact color printer results from other printing systems (offset printing machine). A media or printer is only appropriate is its color space can completely include the color space of the printer being simulated. -

Relative Colorimetric Rendering Intent

- The color values for the source color space included in the smaller target color space are retained 1 : 1, the color values of the larger source color space not included in the target color space are cut out. There is no paper simulation, the white dot is not taken into account. This RI is used when converting CMYK 1 to CMYK 2, from smaller source color space to larger target color space or with digital proof on print run paper. -

Rendering Intents

- Rendering intents (RI) are methods for converting the individual colors of an image from one color space to another. Four different rendering intents have been specified by the ICC (International Color Consortium): "Photographic" (perception-oriented, for images), "Relative Colorimetric" (proof), "Absolute Colorimetric" (match) and "Saturation" (graphic). In the RIP software the rendering intents "Black Compensation", "Lightener Compensation" and "Absolute Perceptual" can also be found. -

resolution

- In terms of optics, the resolution is a measure of the capability of input and output devices and of photographic films to display two adjacent pixels separately from one another. The resolution depends on the physical properties of the device or material displaying or storing the information. It is generally limited by the wavelength of the light used. The resolution is normally specified in dots per inch (dpi) or in lines per mm. -

RIP

- Raster Image Processor. In the RIP the incoming information is transferred into a bitmap via a page (digital layout in image, text and graphical ele-

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ments as well as details on the positions). In this process the rastering and the preparation of data is carried out to activate the output device. -

RIP data
- Data produced during the RIP process. Data is therefore converted so that it can be processed by the printer. -

Saturation Rendering Intent
- It has no significance for the reproduction and printing. Colors of the source color space are reproduced with as high a saturation as possible in the target color space. Used for business graphics and presentations. -

screen cell
- A screen cell describes a specific range, in which several print dots will create a single screen dot. Depending on the size of the screen cell high resolutions or many grayscales can be achieved. -

screen proof
- In addition to the layout and color information, a screen proof is used to check the screen structures of a print in advance. This means that any errors occurring in this area, such as moiré and rosette effects can be detected early on. As the print data does not yet contain any screen information before the screening of the images in the Raster Image Processor (RIP), a raster process needs to be carried out before producing a screen proof. To exclude errors, the proof printer can often be actuated from the same RIP, that also supplies the film or the plate exposure unit with data. -

screen ruling
- The number of screen points per length unit; Number of rows or lines of screen points in a screen image at a specific distance, given in lpi (lines per inch) or l/cm (lines per centimeter) -

secondary color
- Secondary colors are the colors produced in the color mixture of two primary colors (such as primary colors: Red + Green = secondary color: Yellow). -

separated file
- Colors CMYK as well as spot colors in a file will be split up into single pages in the original file format. Only structured file formats such as EPS, PS und PDF will be considered. -

simulation profile
- This is an ICC profile of the print system that needs to be simulated in the proof workflow. -

skeleton black
- Skeleton black refers to the black color extract of a color set for four-color printing, if it only adds contrast and details in the darkest areas of the images and therefore contains relatively little black. Printers also refer to this black mixture as half-scale black. -

softproof
- A softproof is a document that is examined for the simulation and checking of the print result on the screen. This refers to the colorimetric output with correct content of digital print data on a monitor. -

spectral photometer
- A measurement device used for color measurement on any surface. Via a spectral color measurement the colors in different processes such as offset printing and inkjet printing can be compared with one another. ICC profiles

are based on color measurement data from spectral photometers. The quality control of the digital proof using the Ugra/FOGRA media wedge CMYK a spectral photometer is also required. The measurement values from a spectral photometer can be converted into many different color spaces. The most commonly used here is the CIELab color space, shortened to Lab color known. Color differences between presets and measurements are expressed in DeltaE. -

spot color

- An appropriately defined color shade which is printed with a single color, in other words not mixed from the colors cyan, magenta, yellow and black. -

spot color table

- It contains specified input colors with assigned replacement colors. Standard spot color tables used are available from HKS and Pantone -

target

- Measuring template with a fixed number and arrangement of color patches. It is used in the linearization or profiling to print and measure color patches. Target templates can look differently and vary in the number of patches depending on the measure device. -

tertiary color

- A tertiary color consists of a mixture of a primary color and a secondary color or by mixing two secondary colors. -

tonal value

- In the proof workflow: The tonal value is the brightness level of a color during screening. It is expressed in percent and describes the ratio of the area covered with screen points to the unprinted area. In the screen workflow: The tonal value specifies the size of the screen points in a motif. A tonal value of 100% means that the screen points are large enough for there to be no unprinted area remaining between them. -

UCR

- The color black is produced in printing via the overprinting of cyan, magenta and yellow - but with a hint of green or brown. For this reason, black is printed as an additional color. UCR reduces at those points where only black is to appear, the other three color components cyan, magenta and yellow and thus avoids unnecessary color application. Tertiary colors (see Glossary) with uneven proportions remain untouched with this process. -

Ugra/FOGRA media wedge CMYK

- The most important control tool for the legally binding digital proof. The 46 color fields of the Ugra/FOGRA media wedge are measured using a spectral photometer (see Glossary). The delta for the preset values is calculated for each color field. From all the measurements, four indexes are identified that must be within the specified tolerances for a legally binding proof: 1. Color location of the printing material (paper white), 2. Mean DeltaE across all fields of the CMYK media wedge, 3. Maximum DeltaE, 4. DeltaE of the primary colors -

vector data

- In the vector format, images are not saved with the image dots, but indirectly in the form of geometric shapes as mathematically defined object. The size of vector graphics can be changed by expanding all elements by the same factor in the x and y directions, whereas the line density remains

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the same. In comparison with the pixel format, a much lower memory requirement and the scalability without any loss of image sharpness are the advantages of the vector format. It is not suitable for photos, however, that contain image structure. Typical file formats are PDF, EPS and PS. -

white   dot

white point

- In printer gamuts and profiles, the white point is produced from the paper color that - unprinted - represents the brightest possible color. Color profiles for newspaper printing or print process on unbleached papers have a much darker or even a different colored white point than the print profiles for high white paper grades. -

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