

# Certificate

No. 22470



For  
GMG GmbH & Co. KG  
Mömpelgarder Weg 10  
72072 Tübingen

GMG ColorProof 05 has been certified by Fogra for the following configurations.  
The pertinent report no. can be found in the table.

FOGRA 39	Epson Stylus Pro 4800	GMG ProofPaper gloss 250	21894
		GMG ProofPaper gloss 260	20142
		GMG ProofPaper semimatte 250	20142
		GMG ProofPaper semimatte Light	22264
	Epson Stylus Pro 4880	GMG ProofPaper gloss 250	21894
		GMG ProofPaper gloss 260	21228
		GMG ProofPaper semimatte 250	21228
		GMG ProofPaper semimatte Light	22264
	Epson Stylus Pro 7800	GMG ProofPaper semimatte 250	21894
	Epson Stylus Pro 7880	GMG ProofPaper semimatte 250	21894
	Epson Stylus Pro 9800	GMG ProofPaper semimatte 250	21894
	Epson Stylus Pro 9880	GMG ProofPaper semimatte 250	21894
	Epson Stylus Pro 7900	GMG ProofPaper semimatte 250	21894
		GMG ProofPaper semimatte Light	22264
	HP Designjet Z2100 Photo	GMG ProofPaper gloss 250	21894
		GMG ProofPaper gloss 260	20142
		GMG ProofPaper semimatte 250	20142
		GMG ProofPaper semimatte Light	22254
	HP Designjet Z3100 Photo	GMG ProofPaper gloss 260	21228
		GMG ProofPaper semimatte 250	21228
	HP Designjet Z6100	GMG ProofPaper gloss 260	21228
		GMG ProofPaper semimatte 250	21228
	HP Designjet Z3200 Photo	GMG ProofPaper gloss 250	22254
		GMG ProofPaper semimatte 250	22254
		GMG ProofPaper semimatte Light	22254

Munich, 2009-02-20

Dipl.-Ing. Claas Bickeböller  
Fogra Graphic Technology Research Association



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GMG ColorProof 05 has been certified by Fogra for the following configurations.  
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Fogra 27	Epson Stylus Pro 4000	GMG ProofPaper gloss 260	19235
		GMG ProofPaper semimatte 250	19235
	Epson Stylus Pro 4800	GMG ProofPaper gloss 260	19235
		GMG ProofPaper semimatte 250	19235
	HP Designjet Z2100 Photo	GMG ProofPaper gloss 260	20142
		GMG ProofPaper semimatte 250	20142
	HP 130nr	GMG ProofPaper semimatte 250	19551
Fogra 29	Epson Stylus Pro 4880	GMG ProofPaper matte 140	21894
	HP Designjet Z2100 Photo	GMG ProofPaper matte 140	21894
	HP Designjet Z3200 Photo	GMG ProofPaper matte140	22254
Rasterproof	Epson Stylus Pro 4000	GMG ProofPaper semimatte 250	19551
	Epson Stylus Pro 4800	GMG ProofPaper semimatte 250	19551
		GMG ProofPaper gloss 260	19551
	Epson Stylus Pro 4880	GMG ProofPaper gloss 260	21228
	HP Designjet Z2100 Photo	GMG ProofPaper gloss 260	20142
		GMG ProofPaper semimatte250	20142

Furthermore the following proofing substrates have been certified by Fogra:

GMG ProofPaper gloss 260	21862
GMG ProofPaper gloss 250	21862
GMG ProofPaper semimatte 250	21862
GMG ProofPaper semimatte Light	22169

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## Annex

In the following appendix the procedure of setting up a new printer, printer-calibration with external and internal measuring device and job-creation will be described.

A detailed description of all functions and procedures can be found in the **manual** (*GMG-CP05\_Manual\_de.pdf*) and the **Quick-Start-Guide** (*GMG-CP05\_Tutorial\_QuickStartGuide\_de.pdf*).

These can be found in *C:\Program Files\GMG\ColorProof05\Documentation* and in the support-area of the **homepage** [www.gmgcolor.com](http://www.gmgcolor.com).




Furthermore a detailed description is available in the **integrated help-function** of the program (*press F1*).

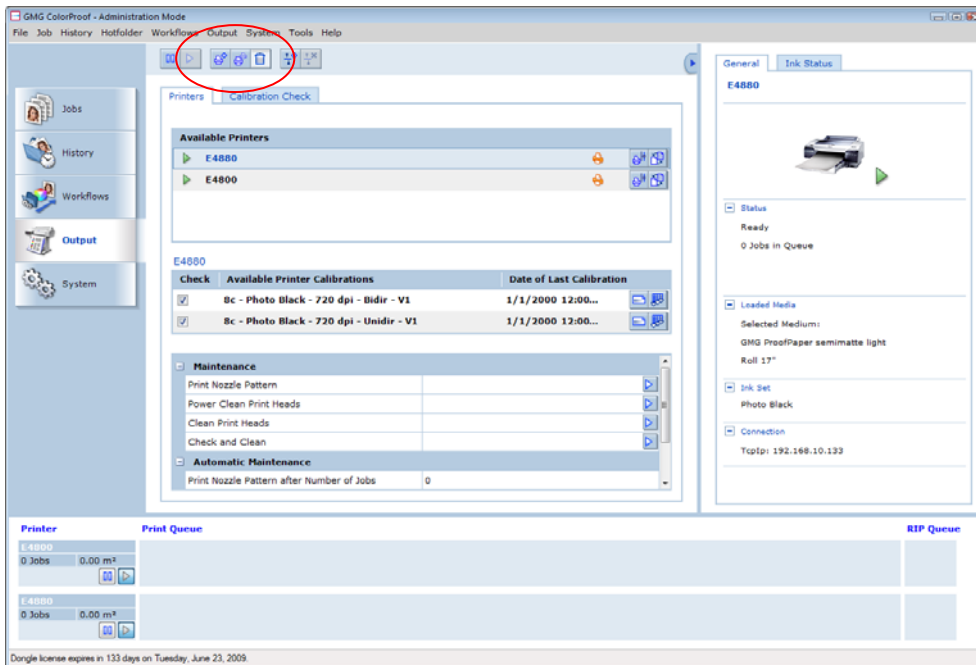
# 1 Setting up a New Printer

In the **Output** view, you can configure, duplicate and delete existing printers and set up new printers on the **Printers** tabbed page.

In the **Output** view, you can configure existing printers and set up new printers on the **Printers** tabbed page.

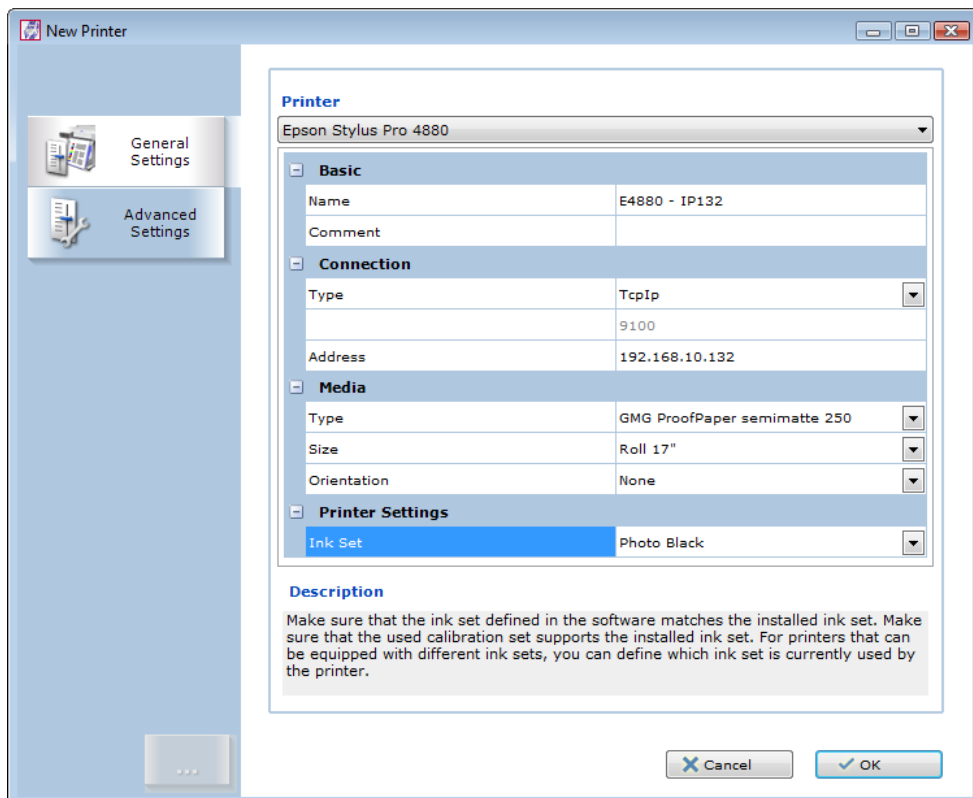
The preview pane shows more information on the printer status. For printers that support a bidirectional communication such as Epson Stylus Pro printers of the x880 series, you can also check the ink levels and printer status on-the-fly. The printer status is updated automatically and shows, for example, jobs in the printer queue, whether the printer is switched on, and so on.

-  **New Printer**      CTRL+N      Set up a new printer.
-  **Duplicate Printer**      CTRL+D      Duplicates the selected printer. You need to enter a different name for the new printer. This feature is useful if you have multiple instances of the same printer type in use.
-  **Delete Printer**      DEL      Permanently removes the selected printer. **No undo possible.**



The **General Settings** tabbed page of the **Add Printer** dialog box shows all settings that are generally needed for daily work (printer name, printer connection, Ink-Set).


On the **Advanced Settings** page, you have access to media specific parameters that are not used on a regular basis, for example, paper feed adjustments. Default **Advanced Media Settings** for the selected printer–medium combination are updated from the database when you select the media type. You need to adjust the settings only in case the connected printer hardware exhibits any individual variations that need to be compensated.



### How to set up a new printer in GMG ColorProof

1. Click the **Output** button on the navigation panel on the left of the main window. On the **Output** menu, point to **Printers**, and click **New**.
2. Select a printer type from the **Printer** list.
3. Enter a name for the printer. This name serves as an identifier in the **Output** view. You can also filter and sort jobs according to the printer name in the **Jobs** and **History** view.
4. Under **Connection**, select a connection type from the **Type** list. Select **TCP/IP** or **USB** if you want to use a direct printer connection without spooler. Select **Spooler** if you had set up a Windows spooler for this printer.
5. Select the currently loaded **Media Type** and the appropriate **Media Size** from the list.
6. Select the ink set that is currently **installed** in the printer from the list.

### How to change the print medium

1. Click the **Output** button on the navigation panel on the left of the main window.
2. Select the printer that you want to change the printer medium for from the **Available Printers** list.
3. On the **Output** menu, point to **Printers**, and click **Change Media**.  
—OR—  
Click the **Change Media** button  on the right side of the printer.
4. Select the currently loaded **Media Type** and the appropriate **Media Size** from the list. If a sheet type **Media Size** is selected, you need to define the orientation of the sheet in the printer as well.

### Printer Media Mismatch Management

Some printers such as the HP Designjet Z series, send information about the loaded print medium to GMG ColorProof. For these printers, GMG ColorProof automatically checks whether the loaded printer medium matches the medium specified for the printer in the software. You can decide how the software should respond if this check fails. This feature minimizes paper usage and ensures reliable print results.

<i>Available options</i>	<i>Description</i>
<b>Put on Hold</b>	The printer / job created for this printer will be put on hold and is restarted automatically after paper change.
<b>Use Loaded Medium</b>	The medium that is currently loaded in the printer overwrites the medium predefined in the printer settings and the medium that was defined in a job/workflow. An error message will inform you if the medium cannot be found in the GMG ColorProof database.
<b>Ignore Loaded Medium</b>	The medium predefined in the printer settings overwrites the medium that was actually loaded into the printer. (not recommended)

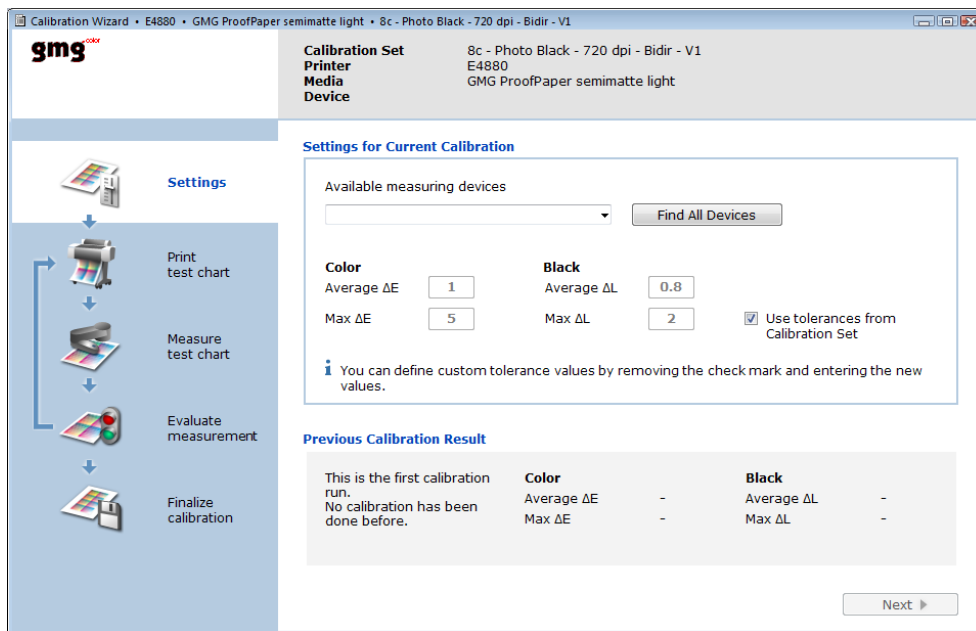
## 2 Printer Calibration

If you select a printer in the **Available Printers** list, the list of **Available Calibrations** shows for which print mode a printer calibration is available and when the last calibration was performed. You can check the calibration and recalibrate the printer, if necessary.

On the **Calibration Check** page, you can check the calibration status of printers.

Note: A **separate** calibration set is required for **each** specific printer configuration, including media type, ink set, and print mode. When changing the ink set, the printer automatically switches the calibration set. A recalibration might be required if the last calibration for this set is not valid anymore.

The **initial calibration** (MX3, MXC, or MX4) file is defined in the calibration set. The appropriate target values are automatically extracted from the database. The updated printer calibration is then automatically saved after the successful calibration. The next time you start the calibration, the last saved calibration is used as a basis for the new calibration.




After connecting the measuring device to the computer and starting the Calibration Wizard (GMG CaliWizard), GMG ColorProof automatically detects all connected measuring devices and you simply have to select the spectrophotometer you want to use for the calibration. If the printer features an integrated measuring device, the calibration can be completely automated by using the GMG AutoCali Wizard.

## 2.1 GMG CaliWizard (external measuring device)

### 2.1.1 GMG CaliWizard

GMG CaliWizard is used to calibrate printers with an external measuring device (for printers that do not support an integrated measuring device). The wizard will lead you through all steps required for the calibration.

#### How to start the GMG CaliWizard

1. Click the **Output** button on the navigation panel on the left of the main window.
2. Select the printer you want to calibrate from the **Available Printers** list.
3. Select the calibration set you want to use from the **Available Printer Calibrations** list.
4. Click the **CaliWizard** button  on the right side of the calibration set. The GMG CaliWizard is started.

### 2.1.2 Step 1: Print Calibration Test Chart

When calibrating a printer, a printer calibration test chart is printed with the output color values taken from the printer calibration file that is linked as **Initial Calibration** in the calibration set.

**Pre-linearization:** When the calibration is based on an **MXC** printer calibration, the input–output behavior of additional non-CMYK inks in the printer is analyzed and standardized first. To achieve this, a Pre-Lin test chart is printed and measured in an iteration cycle, just like a printer calibration test chart. The Pre-linearization data is saved in the MXC calibration file.

### 2.1.3 Step 2: Measure Calibration Test Chart

The color values of the printed patches are measured (**Current** values) with the integrated spectrophotometer and **compared** to the **Target** values. The wizard **calculates** new output values based on the **deviation** of the measured values from the target values.

### 2.1.4 Iteration Cycle

If the current values of the first cycle are already within the tolerances (indicated by a green status lamp in the **Results** column), the wizard will proceed to the final step.

A failed iteration will be indicated by a red status lamp in the **Results** column. If the iteration fails, steps 1 and 2 will be repeated: The test chart will again be **printed** with the new output values and **measured**.

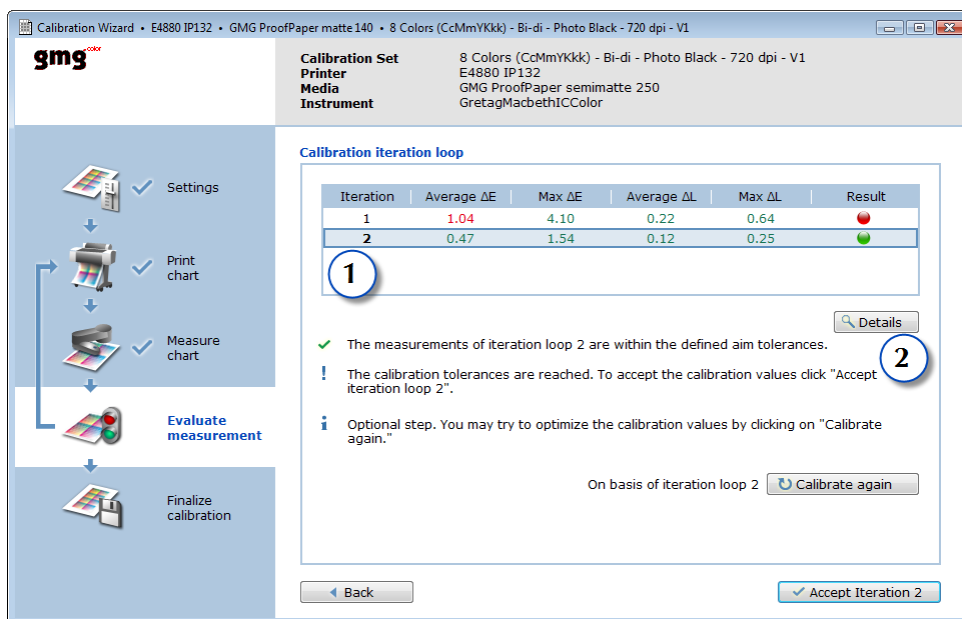
You can show a table with all measured and target values for all patches by selecting an **Iteration Cycle** from the list and clicking the **Details** button.

### 2.1.5 Final Step: Evaluate and Finalize Calibration

The iteration cycle is iterated until the measured values are in the **tolerances** of the target values (Printer status = **calibrated**). The printer calibration file with the new output values is automatically saved after a successful calibration.

The iteration cycle is canceled if the **maximum** number of iterations is reached (Printer status = **not calibrated**).

The next time a calibration is started for the same printer–medium **configuration**, the output values are taken from the last saved printer calibration file. This way, the number of iterations you need for a successful printer calibration is minimized.




## 2.2 GMG AutoCali Wizard (integrated measuring device)

### 2.2.1 Automated Calibration with GMG AutoCali Wizard

GMG AutoCali Wizard is used to calibrate printers with an integrated measuring device such as printers of the HP Z series or Epson Stylus Pro 7900. With the integrated measuring device, the whole process is fully automated. You can use the **scheduler** to run the calibration in regular intervals.

Note: Not all media types are recommended for using the GMG AutoCali Wizard. GMG AutoCali Wizard is **only** available if a **supported** medium is loaded into the printer.

#### How to start GMG AutoCali Wizard

1. Click the **Output** button on the navigation panel on the left of the main window.
2. Select the printer that you want to calibrate from the **Available Printers** list.
3. Select the calibration set that you want to use from the **Available Printer Calibrations** list.
4. Click the **AutoCali Wizard** button  on the right side of the calibration set. The GMG AutoCali Wizard is started.

### 2.2.2 Iteration Cycle

The GMG AutoCali Wizard runs all steps required for the calibration (printing, drying, measuring, comparison with target values, calculating) fully automatically in the background. The status of the iteration cycles corresponds to the calibration with an external measuring device (red/green status lamp in the Results column).

### 2.2.3 Final Step: Evaluate and Finalize Calibration

The iteration cycle is iterated until the measured values are in the **tolerances** of the target values (Printer status = **calibrated**). The printer calibration file with the new output values is automatically saved after a successful calibration.

The iteration cycle is canceled if the **maximum** number of iterations is reached (Printer status = **not calibrated**).

The next time a calibration is started for the same printer–medium **configuration**, the output values are taken from the last saved printer calibration file. This way, the number of iterations you need for a successful printer calibration is minimized.

Cycle	Results	Average $\Delta E$ (Color)	Max. $\Delta E$ (Color)	Average $\Delta L$ (Black)	Max. $\Delta L$ (Black)
1	Red	1,21	3,53	0,67	1,21
2	Green	0,51	1,6	0,49	1,28


The measured (current) values of the first iteration cycle (1) were outside the tolerances defined in the **Quality Criteria** of the calibration set. Therefore, **Print** and **Measure** steps have been repeated in a second iteration cycle.

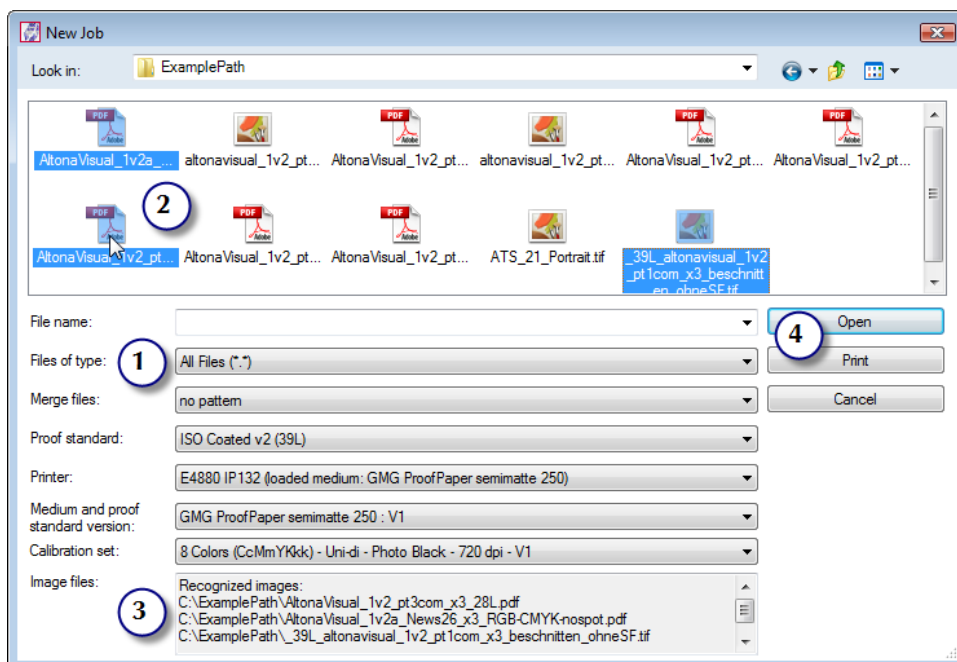
The output values calculated after evaluation of the first cycle resulted in correct measured values in the second iteration. The printer status is set to calibrated and the printer can be used for printing. The updated calibration file is saved.

You can click the **Details** button (2) to show all results.

## 4 Job-Ausgabe

### 4.1 Creating New Jobs

1. On the **File** menu, click **New Job** or click  on the toolbar.
2. Select the input file type. If you want to select input files in different file formats or if you want to see all files, select **All Files** (1).  
The browse box filters the files in the selected folder and displays only images in the selected input file format.
3. (For multi-file images without description file: Select a pattern recognition from the **Merge Files** list.)
4. Select an **input** file (2). It is also possible to select **multiple** files (by holding down the CTRL or SHIFT key). If you want to print a **multi-file** image with a description file, for example, a Sep file, you need to select only the description file.  
All **recognized** images will be shown in the **Image Files** info box (3) at the bottom of the dialog box, each image in a **separate** row. Files that will be combined to a single image (multi-file format) will be shown in the **same** row. **Unrecognized** files are also listed below the recognized files.
5. Select a **Proof Standard, Printer, Medium, and Calibration Set**.
6. Click **Print** to print the selected files directly without user interaction or click **Open** to edit the job in the **Manual Job Manager** (4).



## 4.2 Manual Job Manager

In the **Manual Job Manager**, you can manage all general job settings and all images that should be printed together in one job (that is, on a single sheet of paper).

The **Manual Job Manager** is opened when you create a new manual job. You can also open any job in the History (regardless how a job was created, that is, manually or from a workflow) in the **Manual Job Manager**, change any settings, and print the job again. You can bypass the **Manual Job Manager** if you want to quickly print out a single image or multiple images with standard settings.

The **Manual Job Manager** is divided into two major areas:

- **Job Settings**

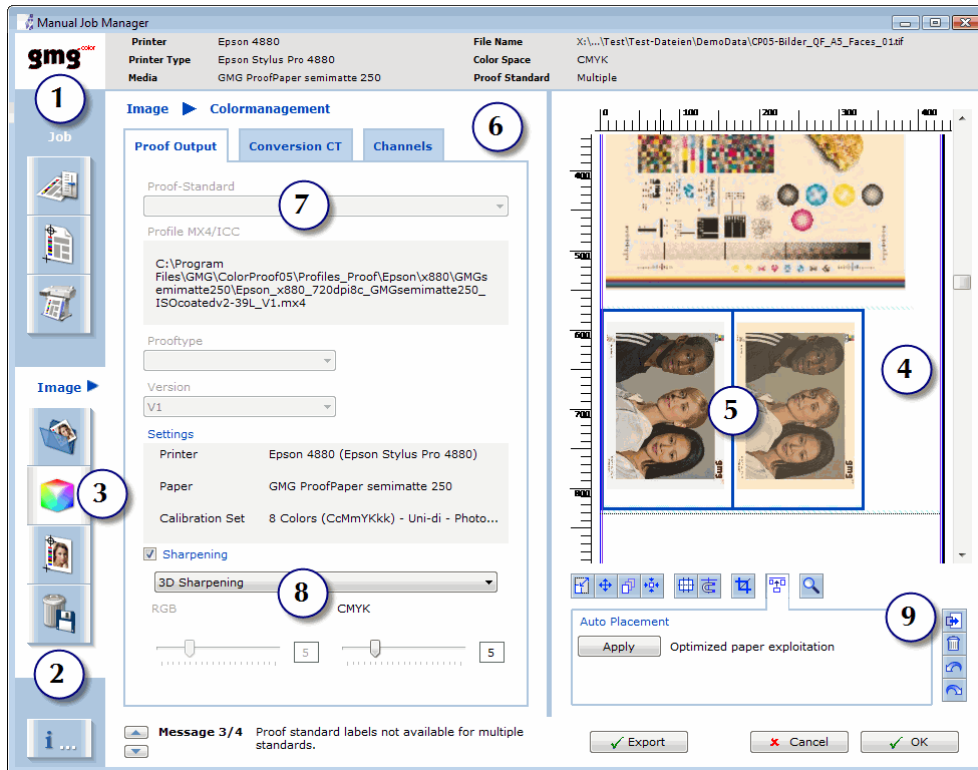
The Job Settings affect the global parameters of a job. Here, you can define the printer medium, the job label and control strips (that will be printed at the end of the complete print job), the printer and printer settings, and the calibration set that will be used for this job.

- **Image Settings**

The **Image Settings** affect all images that are currently selected in the image preview. Therefore, the **Image Settings** area is available only if at least **one** image in the job is selected.

All changes that you make in the **Image Settings** area will be applied to all selected images. If images have different settings, the corresponding software control will be unavailable. You can only change settings that are identical. This helps to avoid mistakes, for example, reset different proof standards in a job to the same proof standard.

Settings that can be defined individually for each image are the pattern recognition and screening detection parameters for 1-Bit TIFFs, the raster parameters for PDF/PS files, color management settings, sharpening effects, image label and control strips (that will be printed together with each image), image marks, and cleanup and backup rules (that define what will happen with images after the printing).



You can change any settings that affect the whole job in the Job Settings area (1).

The image preview on the right (4) shows the complete jobs with all images, label, and control strips.

Images that are selected in the preview are highlighted by a blue border (5). You can change the settings of selected images in the Image Settings area (2).

In this example, the **Proof Output** (6) page is shown, where you can change the proof standard (7) and define sharpening effects (8).

You can add new images to a job by clicking the **Add Images to Job** button (9).

### 4.3 RIP Settings

When selecting a contone input image in the preview, the **Rip Settings** tabbed page is shown.

In GMG ColorProof 05, GMG RipServer is integrated into the main ColorProof application. For proofing, images can be ripped either by the integrated GMG RipServer or by an external RIP. GMG RipServer converts **vector graphics** and **text** into **contone** (for ContoneProof) or **1 Bit** images (for DotProof).

With the integrated RipServer, output settings such as **Separation** type are not required anymore. Input files will automatically be ripped to the correct output color space according to the proof profile you have selected.

### 4.3.1 Contone Image Output for ContoneProof

#### Print (and RIP) Resolution

Generally, the ideal print (and RIP) resolution is half the resolution of the **print mode** of the proof printer. Thus, for most proofs and printers (with a printing resolution of 720 dpi), a RIP resolution of **360 dpi** is sufficient. Higher resolution will not necessarily result in a higher quality. Please note that a higher resolution will result in a longer RIP and print time. The default resolution is **360 dpi** for **Epson Stylus Pro** printers and **300 dpi** for all **other** printers.

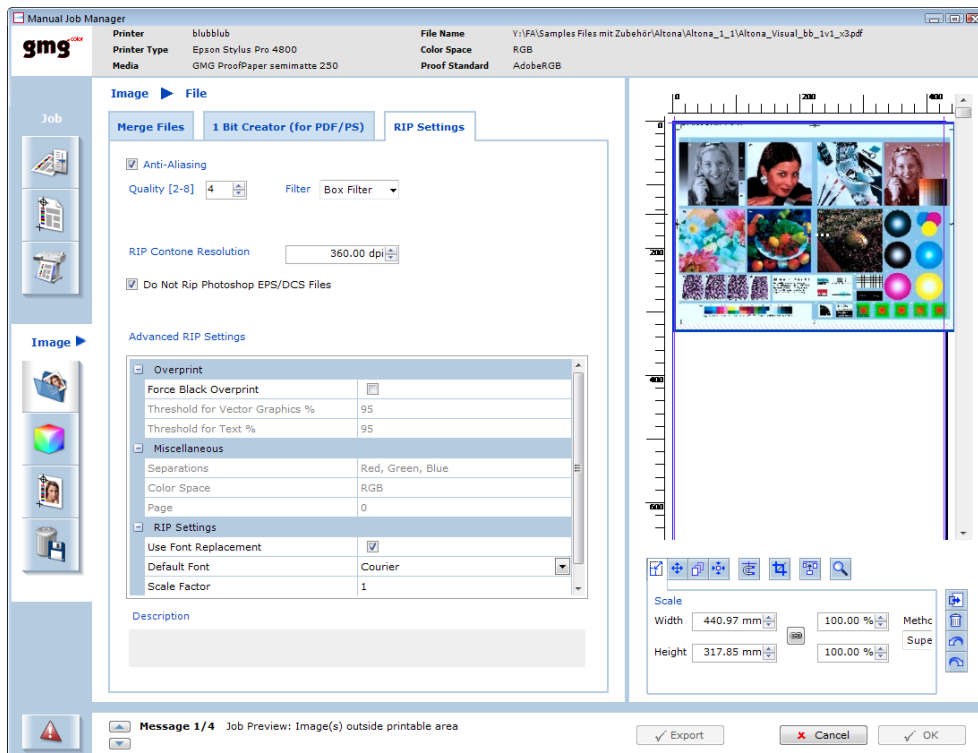
#### Anti-Aliasing

Aliasing effects occur whenever a vector graphics element is ripped into a raster image, or when a raster image is downsampled to a lower resolution. The higher the downsampling, the higher the aliasing effects, because several pixels are reduced to one. Without anti-aliasing, these edges would not appear smooth, but as jagged lines.

**Standard settings** for a resolution of **360 dpi** would be an anti-aliasing level of **4** and a **Box** filter. **Maximum** RIP resolution is **5760** without anti-aliasing and **2880** with anti-aliasing. **Maximum** quality level for anti-aliasing is **8**.

#### EPS/DCS Input files

Often EPS/DCS input files are TIFF images. In this case, ripping is not required and not recommended (option **Do not Rip Photoshop EPS/DCS Files**). Deselect this option only if input files contain vector graphics or text elements that need to be rasterized.



### 4.3.2 Advanced RIP Settings

#### Font replacement

All fonts that are not embedded in the input file are replaced by the (same) default font specified under **General Settings**. If fonts are missing and **Use Font Replacement** was not selected, the job will be canceled with an error message.

#### Overprint settings

If the option **Force Black Overprint** is selected, the Black overprint rules defined in the input file are ignored. Instead, the Black overprint settings defined under **Overprint Settings** in GMG ColorProof are used. You can define a threshold for overprinting black, separately for vector graphic elements, and text elements. The same settings are also applied for **Device Gray** overprint.

If **Force Black Overprint** is not selected, the Black (and Device Gray) overprint settings (if any) defined in the input file will be applied and the overprint settings specified in GMG ColorProof will be ignored. Overprint settings of other colors, for example, spot colors, always remain unchanged, as specified in the input file.

A recommended default value is **95 % Black Overprint**, for text elements as well as vector graphics. **Forcing Black Overprint** leads to a higher reproducibility of the proofs, as overprint settings might be inconsistent between different input files from different input sources. On the other hand, using the same overprint rules for proofing and plate making may lead to proofs that are nearer to the final output of the printing machine.

#### Separation mode overview

The **Separation Type** is automatically preselected according to the color space of the input image and the target color space according to the selected proof standard.

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<i>Available options</i>	<i>Description</i>
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<b>CMYK + spot color channels</b>	Input file is ripped into a <b>multi-channel</b> contone image, with <b>CMYK</b> and <b>spot color</b> channels.
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<b>All to CMYK</b>	Input file is ripped into <b>single CMYK</b> contone image. Spot colors are also converted to CMYK.
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<b>All to RGB</b>	Input file is ripped into <b>single RGB</b> contone image. Spot colors are also converted to RGB. RGB input files can be converted from one standard RGB color space to another (gamut mapping) with the <b>All to RGB</b> separation rule, for printing with a PhotoProof standard.
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Note: Please note that according to the **PDF X-1/X-3** specification, only **CMYK** is allowed as output color space for a PDF X conversion and **spot colors** are always maintained. Therefore, only the **Separation** mode **CMYK + spot color channels** is available if the option **PDF X** was selected on the **Conversion CT/LW** pages.

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