

Softproofing Sample

This Advanced Tutorial describes how you can create and preview soft proofs. A prerequisite for reliable softproofing is that you work in a color-managed environment. Therefore, you will also learn how to calibrate and validate your display using ColorTune Display and :APOGEE Prepress.

Duration: You will need 2 hours to complete the lessons in this Advanced Tutorial.

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This tutorial is only a preview of the full advanced tutorial.

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http://www.agfagraphics.com/global/en/mainings/about_us/worldwide/index.jsp

More tutorials are available on www.apogee.agfa.net

Objectives

In this tutorial you will learn how to use various Agfa developed tools to create proofs on a calibrated display using ColorTune Display and :APOGEE Prepress. You will learn:

- To calibrate your display using ColorTune Display
- To validate the display configuration against press standards (new in ColorTune Display 6.0)
- To create a color-managed preview using the **Soft Proof** Action in :APOGEE Prepress
- To create a color-managed soft proof using :APOGEE Prepress Display Task Processor
- To create a color-managed soft proof through WebApproval

Before You Begin

Prerequisites

Before you start the lessons in this Advanced Tutorial, make sure that you have the following:

- :APOGEE Prepress with Raster Preview and ColorTune 6 licensed
- An LCD display (no support for CTR monitors)
- An Eye-One Display colorimeter or Eye-One Pro spectrophotometer
- ColorTune Display

Log on as Administrator

Before you start the lessons in this Advanced Tutorial, make sure that you are logged on to the :APOGEE Prepress System with Administrator access level.

Choose **Edit > Preferences > Logging On** and make sure you have the **Administrator Access Level**. If not, select **Administrator** and log on to :APOGEE Prepress again.

Files and tickets

You will need the following files and tickets, which come bundled with this Advanced Tutorial PDF file:

- Sample PDF files
 - `altona_visual_1v2a_x3.pdf`
- Tickets
 - `Tutorial-SoftProofing-Studentname-Lesson2.aht`
 - `Tutorial-SoftProofing-Studentname-Lesson3.aht`
 - `Tutorial-SoftProofing-Studentname-Lesson4.ajt`

These files are provided in a single ZIP file, which is available for downloading from the Graphics Portal - Services Library website.

NOTE: While working through the lessons in this Advanced Tutorial, do not forget to replace **studentname** with your own name in the **Administration** tab.

Contact Us

Agfa welcomes your suggestions, questions or comments about this documentation. You can send e-mail feedback to: Apogee@agfa.com

About Softproofing

Hardcopy proofing vs. softproofing

Softproofing means that you preview your final output on screen. The color management system will transform the image and display, on your computer screen, a reasonably faithful simulation of the final image as it will appear on the press.

The main difference between softproofing and hardcopy proofing is the use of a display (the proof does not physically exist). Sherpa proofs typically use CMYK inks (subtractive color mixing) with some tint variations to expand the color gamut of the printer, whereas displays are restricted to the additive color mixing method, based on the RGB color space.

Computer screens

Colors on an LCD display are built up using light instead of ink (the additive color mixing method). The RGB color mechanism of a computer display consists of liquid crystals (LCD) that change in opaqueness when they are fed with electric power. Each pixel consists of 3 subpixels each with a Red, Green and Blue filter. The color is composed of gradations of RGB colors. These cells are so small that the human eye interprets the radiated light as a certain color. Classic CRT monitors display colors in a similar way, but in this technique, an electron is shot on a phosphor layer. This layer will lighten up when it's touched by an electron. This technology is aged and is no longer supported by Agfa's latest generation of color management software.

The main difficulty to achieve a reliable onscreen color quality lies in the difference between color gamuts. The RGB color space is typically larger than the CMYK color space but not all CMYK colors (and spot colors) fit in the RGB gamut and visa versa. Color management will be needed to convert between the press color space (the destination color space) and display color space.

Screen calibration

Not all screens are identical. Each individual screen has its own RGB color space. This means that each display needs to be calibrated to describe its color behavior in an ICC profile (the display profile). Once a display profile is created, the system (:APOGEE Prepress but also Adobe PhotoShop and various other software programs) knows which values need to be sent to the display to reach a certain color level. To do this, Agfa has developed ColorTune Display, a tool to measure displays and to create an ICC profile based on the measured results. This is performed during the display characterization.

Display changes

Over time, the color behavior of a screen can change, due to various reasons: someone can change the lightness or contrast settings or the display is simply aging. Therefore, it is necessary to check regularly whether the display is still

within tolerance or whether a new profile is necessary. Similar to the proof check functionality in QMS, where a limited number of printed patches are measured, it may be useful to measure some color patches on screen and check these results with the display characterization. This feature is included with ColorTune Display. This is performed during the display calibration.

ISO standards

Two ISO standards apply to softproofing:

- *ISO3664* is a generic standard which describes the environment for color evaluation. It describes the viewing conditions for the graphic arts and photography industry.
- *ISO12646* further elaborates on the ISO3664 standard but adds some specific conditions for comparing hardcopy proofs (or press sheets) with the soft proof. In most cases, a process-color proof or press sheet is compared with an RGB image on the computer screen.

| | ISO3664 | ISO12646 |
|---|---|---|
| Illuminant Reference Illuminant | CIE D50 | CIE D50 |
| Ambient Light White Point Editing Area Proofing Area Extraneous Glare | CIE D50 5000K or less 64 to 32 lux or lower 1500 to 2500 lux Protect against direct daylight etc. No reflections on screens | CIE D50 5000K or less 32 lux or lower 1500 to 2500 lux Protect against direct daylight etc. No reflections on screens |
| Monitor White Point White luminance | CIE D65 Minimum 75cd/m ² but preferably 100cd/m ² or higher. | CIE D50 Minimum 80cd/m ² but preferably 160cd/m ² or higher |
| Environmental Surfaces | Color neutral surfaces walls 80% reflectance or less | Color neutral surfaces walls 80% reflectance or less |
| Maintenance | Regular test of devices according specifications | Regular test of devices according specifications |

NOTE: These ISO standards only describe the requirements that the display and environment need to meet before the hardware may be used for softproofing. It does not assess the actual colors. A real ISO standard for describing color tolerances for soft proofs does not currently exist. The hardcopy proofing standard (ISO 12647-7) is commonly accepted.

Color-managed preview in :APOGEE Prepress

The raster preview client will upload the Display profile of the active screen (top left corner of the window if you use multiple screens) to :APOGEE Prepress. The color management module of :APOGEE Prepress will then convert the job (press profile CMYK color space with additional spot colors) to the display profile of the workstation.

This is a basic implementation of softproofing. The color managed preview can be used on any rendered result (plate making, hard copy proofing, DQS...) as long as a soft proof action is available.

A soft proof with a Display TP gives the opportunity to render for a dedicated computer display (resolution). The result is a soft proof with a perfect dimensional match and, thanks to the zooming levels of the Display TP, sharp results when zooming in.

Color-managed softproofing in StreamProof

StreamProof can be part of :APOGEE Portal (ProjectManager) or WebApproval. StreamProof is developed in a Java environment. This means that soft proofs from StreamProof can be opened in all common web browsers. A ColorTune Display applet will use the active display profile and send it to the :APOGEE Prepress system to create soft proofs. StreamProof also integrates with ColorTune Display. This means that the print buyer can immediately see whether his display is still correct to consult the color managed soft proof in his web browser. The advantage is that a dedicated color managed soft proof can be made for any computer in the world.

LESSON 3: Color-Managed Softproofing with the Display TP (Fully included)

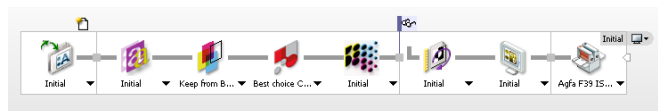
This lesson describes how to create a color-managed soft proof using the Display task processor (TP). The lesson will incorporate validation by ColorTune Display. The collaboration between :APOGEE Prepress and ColorTune Display will result in a monitor validation in the Preview application of :APOGEE Prepress.

The following aspects are important in this respect:

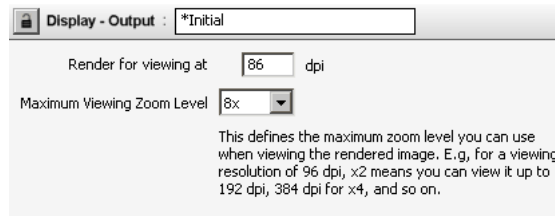
- **Native Resolution**
To get an exact dimensional match —an A4 should be 210 mm wide on screen— you have to know the native resolution, i.e. the number of display pixels per inch. This native resolution needs to be used as a parameter of the **Display** Task Processor and can be seen in ColorTune Display.
- **One Parameter Set per Display**
You can create a Parameter Set for each display that is used for softproofing. This Parameter Set contains the native resolution and the maximum zoom level. In theory, you need only one Parameter Set with a native resolution if all displays have the same screen resolution.
- **Zoom Level**
The zoom level is the number of zooming bitmaps which the preview service of :APOGEE Prepress can create. Multiple bitmaps (different multiples of the screen resolution) have an advantage and a disadvantage:
 - The advantage being that you get sharp previews at multiple zoom levels without any resolution interpolation
 - The disadvantage being that more zoom levels need more processing time

▶ To build and configure your production plan

- 1 In the **Hot Tickets** window, open the sample Hot Ticket named **Tutorial-SoftProofing-Studentname-Lesson3.aht**.
- 2 Click the **Administration** tab.
- 3 Name the new Hot Ticket **studentname-Softproofing with Display TP-0001** where you replace “studentname” with your name.
- 4 Click the **Plan** tab to see the Production Plan.



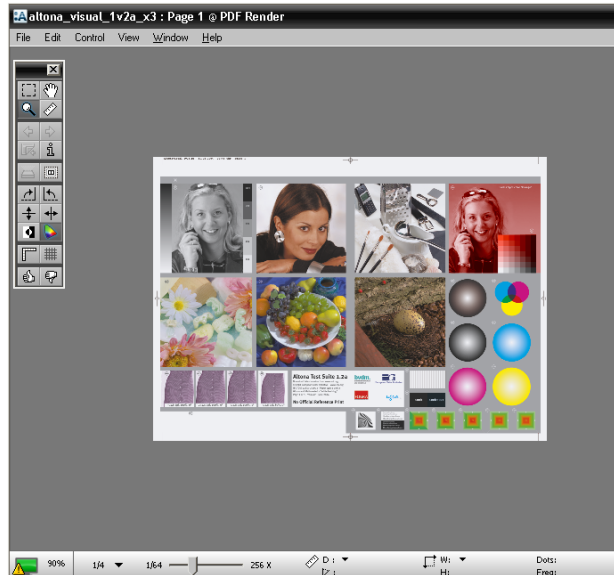
- 5 Click the **Output** component of the **Display Task Processor**.
- 6 Enter the native display resolution, for example 86 dpi.



You can find the native display resolution in the main window of ColorTune Display.

- 7 Choose **File > Submit Hot Ticket**.
- ▷ **To process a job and create a color-managed raster preview.**
- 1 Do one of the following:
 - Locate the **AltonaVisual_1v2a_x3.pdf** sample file, and drag it to the **studentname-Softproofing with Display TP-0001** Hot Ticket in the **Hot Tickets** list.
 - Context-click the **studentname-Softproofing with Display TP-0001** Hot Ticket in the **Hot Tickets** list and choose **Upload Document**. Open the **AltonaVisual_1v2a_x3.pdf** sample file.
 - 2 Click the **Jobs** window.
 - 3 Expand the Job Ticket **studentname-Softproofing with Display TP-0001** and click the Altona job.
 - 4 Click the **Results** tab.
 - 5 Wait until the job is rendered, and then double-click the page in the **Activity preview** pane.

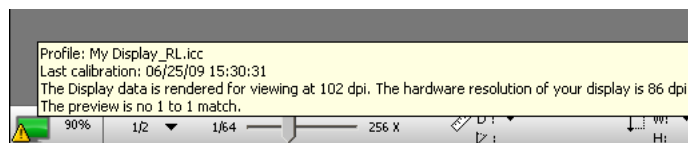
Preview is opened.



You now see the raster preview of the job. In this exercise, we have used the press profile **Agfa F39L Coatedv2**.

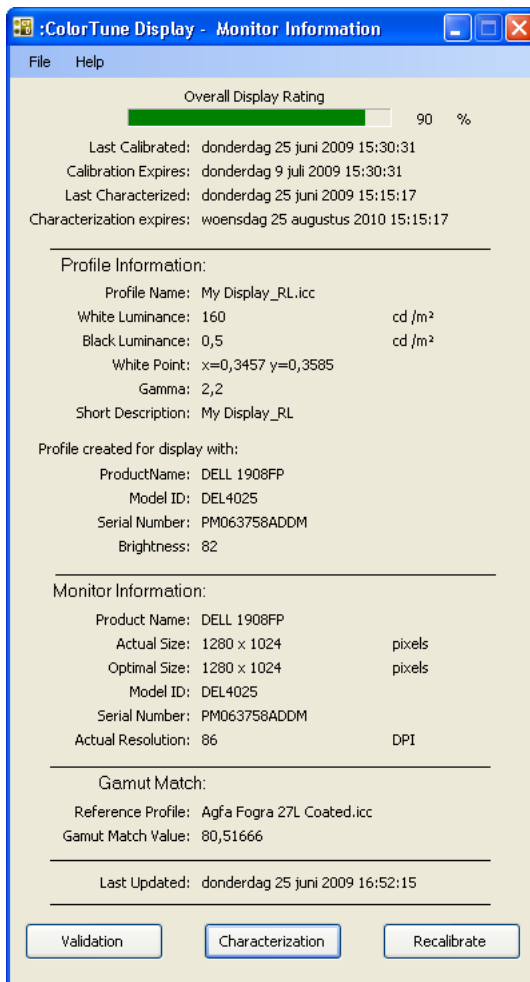
NOTE: The PDF Render will render a bitmap with multiple zooming levels in different separations (process + spot). Once the :APOGEE Prepress client requests a soft proof, the active display profile will be uploaded to the :APOGEE Prepress system. Using the common color converting technology, the bitmap(s) will be recombined and converted to the active display profile.

- 6 Hover over the ColorTune Display icon in the bottom left corner to see the display details.



The rating color and percentage are taken from the ColorTune Display overall rating. Any warnings or mismatches with the ColorTune Display characterization will be reported.

- 7 Click the ColorTune Display icon if you want to see all the monitor information.



- 8 Close the Monitor Information window and click Yes to continue display monitoring.
- 9 Click the full screen icon to see the soft proof in full screen mode.



- 10 Zoom in and admire the sharpness of the image.



11 Close the Preview window.

LESSON 4: Softproofing with WebApproval and StreamProof

In this lesson you will learn how to create and configure a WebApproval account, create a color-managed soft proof through :APOGEE Portal by creating a job in :APOGEE Prepress, upload a page in :APOGEE Portal and consult a color-managed soft proof in StreamProof

WebApproval is a web interface between the :APOGEE Prepress system and the rest of the world using a web browser. The active display profile is uploaded via the web browser. :APOGEE Prepress then creates a dedicated color-managed soft proof for this specific screen. StreamProof serves as the link between the color managed soft proof from :APOGEE Prepress and the print buyer's web browser. This means that multiple color-managed soft proofs may be generated when the same page is consulted on multiple computers.

The StreamProof functionality also tracks all annotations and, thanks to the integration with ColorTune Display, also logs the display status when approving or rejecting soft proofs.

Configuring :APOGEE Prepress for a WebApproval job

:APOGEE Portal needs to be linked to the :APOGEE Prepress system before you can perform this task. Please consult the WebApproval advanced tutorial for more information.



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The **Web Approval Account** window is displayed.