basICColor *SMARtt*

3

Reference Manual

Content

Chapter 1

Preface

1. Preface

SMARtt and the eagle

An eagle has extraordinary vision. It is able to even spot the smallest prey from a 3 kilometer distance. Its resolution capacity is estimated to be 4 times stronger than that of the average human eye - to experience eagle vision one would need binoculars with 8x magnification!

And above all, the eagle has a very sophisticated color perception, even into the UV range.

So it is no surprise that the term „eagle eye“ has become a common term in colloquial English.

These facts made us choose the eagle as our basICColor SMARtt mascot.

SMARtt combines the core requirements calibration, profiling, validation, visualization and communication in an easy-to-use software.
Never before has it been so easy to set up a visual and metrological control system on the monitor. The verifiable quality of the display equals that of a contact proof.

Results as sharp and accurate as an eagle‘s view -„eagle-like“ 8x magnification (and more) at the push of a button!

Furthermore, spot colors can be matched to print better than on a hardcopy proof. Single
separations can be displayed just as easily and effectively as the overprinting of colours in relation to each other.

As the world‘s first stand-alone softproofware, SMARtt combines the requirements of a high-end digital proof with the performance of modern, hardware-calibratable monitors and meets all requirements of the FograCert Softproof certification.

Just as the eagle with its razor-sharp gaze is regarded as the „king of the sky“, basICColor SMARtt offers our customers top class digital proofing.

1.1 Licensing

For licensing process of the software please refer to manual:
basICColor Licensing
https://www.basiccolor.de/assets/Manuals/Manual-Licensing.pdf

Chapter 2

Overview and Quickstart

2. Overview and Quickstart

Start the softproofing process, by launching SMARtt manually or by opening a supported document format (PDF, TIFF, JPG) via the menu *(File > Open)*. You can also directly Drag&Drop one or several supported files onto the SMARtt application icon or onto the workspace to open the files.

Depending on the file size and the performance of the machine used a more or less short delay has to be expected till the document is displayed.

The chosen file will be opened in a new work space. The concept of closed work spaces for each document offers the possibility to display the same file side by side but with different output conditions to review and compare them.

If the document is not tagged with an output intent or an ICC profile, it will be opened with the ICC profile that is specified in the color preferences in the work color space for visualisation on the monitor. You can also choose the output condition manually in the sidebar to the desired ICC profile.

If an output intent is defined in the PDF document or an ICCProfile is attached, the PDF document is displayed directly with the desired simulation condition.

2.1. Work spaces

To give the user the possibility to review and compare several documents with different output conditions, every document will be opened in its own independent work space. Every work space contains the tool bar, which offers the basic functionality, and also the sidebar on the right, which offers an overview over document-specific information and settings.

2.1.1 Tool bar

The toolbar offers the following functions:


[1] [2]


[3] [4]


[5] [6] [7]

[8]


[9]


[10] [11]


[12] [13]


[14] [15]


[16] [17]

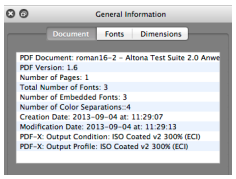

[18] [19]


[20] [21]

- Open file (in a new work space) [1]
- Open new work space[2]
- Previous page [3]
- Next page [4]
- Switch standard-/full screen mode [5]
- Place work spaces side-by-side [6]
- Place work spaces one behind the other[7]
- Zoom function [8]
- Document rotation[9]
- Activate shifting mode [10]
- Magnifier tool [11]
- SMARtt.verify [12]
- SMARtt.ticket[13]
- Mark document as approved in ticket [14]
- Mark document as rejected in ticket [15]
- Show/hide general document information in sidebar [16]
- Show/hide softproof menu with color seperations in sidebar [17]
- Transperence reduction [18]
- Show/hide PDF annotations [19]
- Status monitor calibration [20]
- Status color space approval [21]

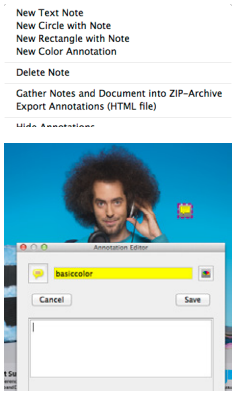
2.1.2 Sidebar

The sidebar is separated in three main sections:



General information

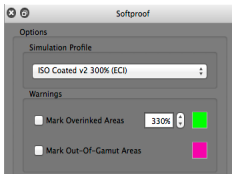
This section offers metadata of the opened document, separated in different tabs. The information like used fonts, document format, etc. can be used to assist the user while the evaluation of the proof and the classification of occurring phenomenons.



Annotations

If your PDF document is tagged with annotation elements and you activated the icon to show those annotations, another section appears, in which all text notes are listed. The corresponding icon in the document and note text in the list will both be highlighted simultaneously.

Add annotations with a right-click. You can choose from four display options. As soon as the annotation-mark is placed in its location the annotation dialog opens and you can enter your comment. Click “Save” to save the annotation.



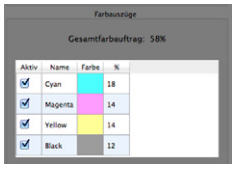
Softproof

In the tab “Softproof” you can manually change the output condition and the rendering intent. You can set the default behaviour in the SMARtt preferences (SMARtt ¬ Preferences ¬ Color Settings) to use the document’s own output information if available or to use the predefined output condition. A standard rendering intent can be defined there as well.

Beside that you can choose to receive different warnings concerning the document.

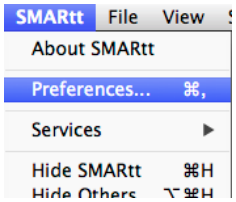
The option “Show overinking” colors all pixels, which total area coverage value exceeds the given threshold value. This indicates if your document is usable for the chosen printing condition. For a safe and high quality production process for a newspaper according to the ISO standard “ISOnewspaper 26 v4” a maximum total area coverage of 240% has to be maintained.

Documents created on basis of “ISO coated v2 (ECI)”, which allows a total area coverage of 330% therefor can not be produced in an acceptable quality range. Is the warning option activated, this problem can be recognized almost immediately. The marking color can also be specified in the preferences of SMARtt (SMARtt¬ Preferences ¬ PDF Rendering Options).
The “Out-of-gamut-warning” indicates all pixels in the marking color whose color value exceeds the monitor gamut described by the monitor profile and therefore can lead to misinterpretations.



In the Tab “Separations” you can select/deselect single color separations to approve the separation characteristics.

Additionally the color values and the total area coverage at the actual mouse pointer position are displayed. These values are the document-based. If the document is displayed in a different simulation printing condition, the displayed values do not represent the chosen simulation condition, but the original color values from the document.



2.2. Preferences

Via the menu path *"SMARtt¬ Preferences ..."* you are able to modify SMARtt to your needs.
The preferences dialogue is separated in three main sections:

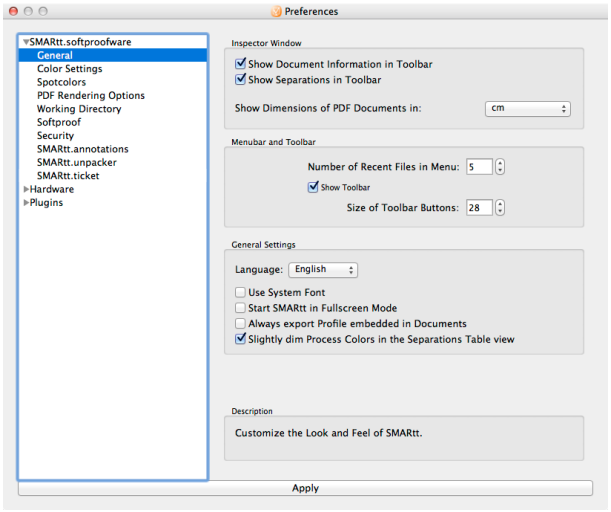
- SMARtt
- Hardware
- Plug-ins

2.2.1 SMARtt.softproofware

In this section all settings are grouped together, that affect the graphical user interface or the functionality of SMARtt.

General

Modify here the user interface and the start behavior of SMARtt.
Click „Apply" to apply the preferences.



Color Settings

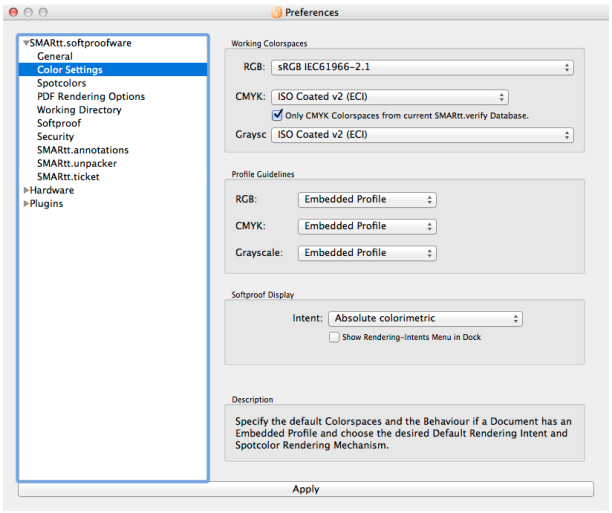
Here you can define the working spaces SMARtt uses as a fallback, if the document does not contain any output condition information or if this should be ignored.

By activating the corresponding option, you can limit the list of available output conditions to those, for which a color space approval job was defined in the color space approval database. The limitation also applies to the "Simulation profie" drop down-menu in the "Softproof" sidebar.

You can also define, if SMARtt uses the profile embedded in the document or the previously defined working space as output condition to render a document.

You can also set the default rendering intent. But for approval against a reference print we recommend to keep the predefined choice "absolute colorimetric".

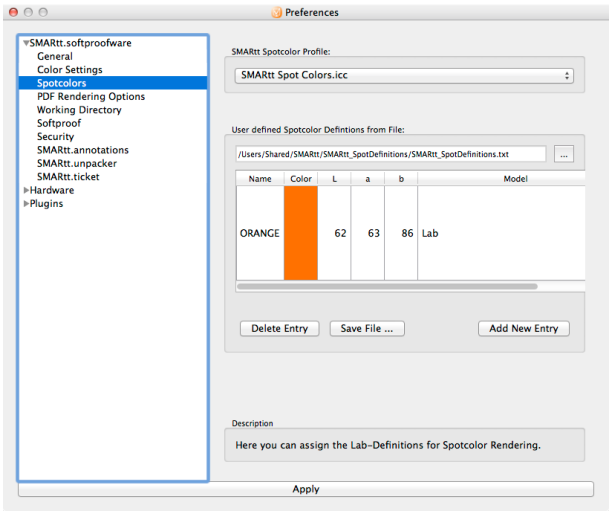
Click „Apply" to apply the preferences.



Spotcolors

Choose your default spot color profile and administrate your user-defined spot color database.

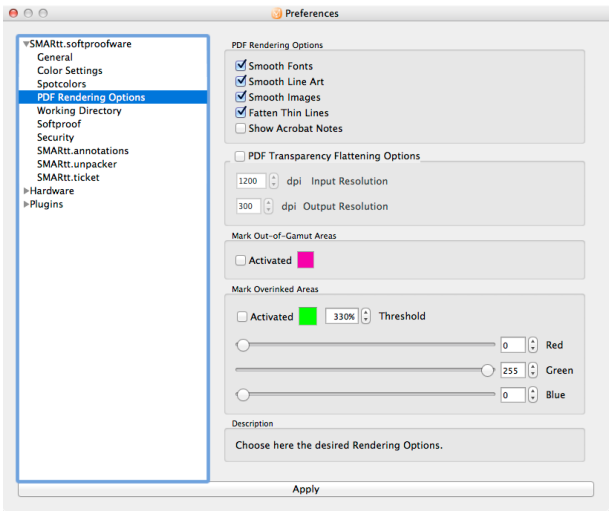
Click „Apply“ to apply the preferences.



PDF Rendering Options

Activate in this section the PDF-specific rendering options. The recommendation is to keep the default settings and all options activated. The rendering resolution used to flatten transparent objects can be adjusted to your needs and you can also specify the default behavior of the “out-of-gamut-warning” and the “overinking-warning” and its threshold value and the marking colors. Choose a color that cannot be misinterpreted as a document color.

Click „Apply“ to apply the preferences.



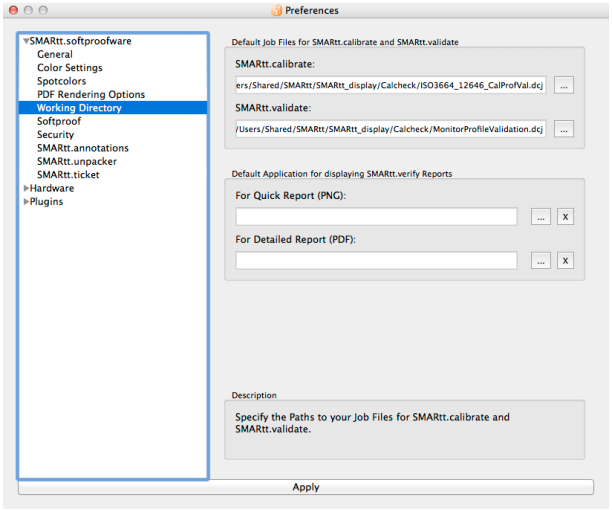
Working Directory

In this section you can specify the default job files for the monitor calibration and monitor validation. These jobs are used, when the menu items “Softproof¬ SMAtt.calibrate” or “Softproof¬ SMAtt.validate” or the corresponding buttons in the “Softproof¬ Satus - Softproof”-window are used.

You can also specify individual applications used for opening the quick report (PNG) or the detail report (PDF) from SMARtt. verify.

This is used to keep the systems own file extension assignments, but to avoid to start up i.e. Adobe Photoshop to open the quick report.

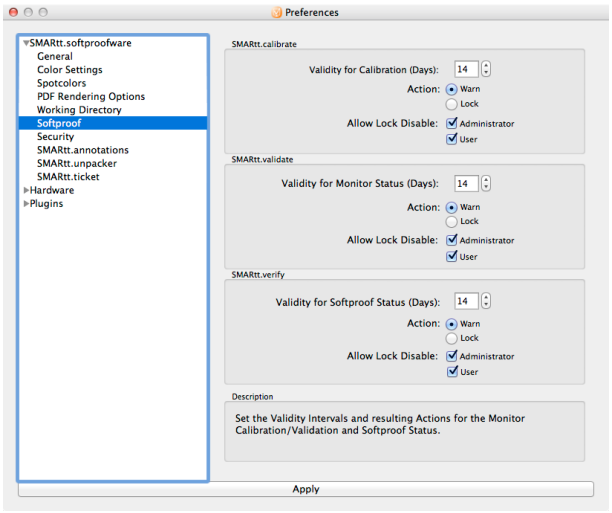
Click „Apply“ to apply the preferences.



Softproof

Here you can define the validity periods for the calibration, validation and color space approval and also the actions performed after expiration of the validity period and the user status needed to neutralise the defined actions.

Click „Apply“ to apply the preferences.



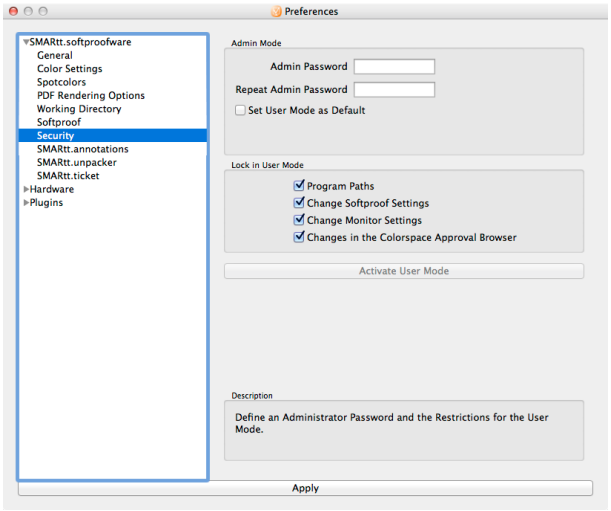
Security

To avoid errors in usage and not suitable settings by inexperienced users SMARtt can be used in a so called *"user mode"* in which specific section in the preferences are secured against modifications.

Those settings cannot be accessed until the correct password is entered.

These settings and the password for the administrator mode can be specified in this section.

Click „Apply" to apply the preferences.

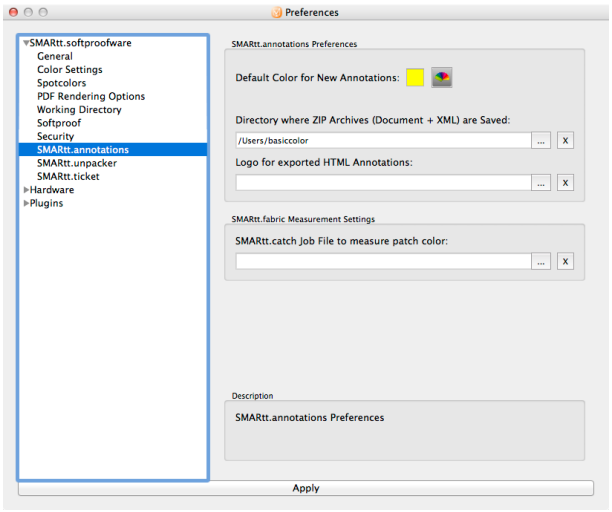


SMARtt.annotations

Here you can change the settings for SMARtt's own comments. You can define the default color for new comments, but there is always the possibility to change the color of individual comments in the document.

To send the softproof document including SMARtt's own comments to another SMARtt user, there is an easy way to create a ZIP archive. This ZIP archive can then be opened in SMARtt via the menu item „File ¬ Open package (ZIP) ...“; however, a folder for unpacking the ZIP archive must first be defined if this has not already been done under „SMARtt. unpacker“. In addition to the option of packing SMARtt's own comments as a ZIP archive with the softproof document, you can also export the comments as an HTML document for simple communication via e-mail, for example. Your own logo for the HTML documents can be freely defined. In the SMARtt.fabric measurement settings, you can select a measurement job to measure individual colors with SMARtt.catch. Afterwards you have the possibility to measure the desired color in the color comments with a spectrophotometer.

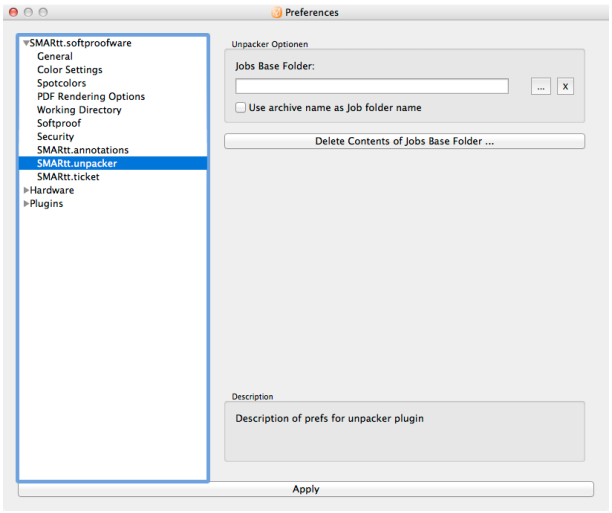
Click „Apply“ to apply the preferences.



SMARtt.unpacker

Here you define the default folder into which SMARtt should extract the contents of the ZIP archive (softproof document including SMARtt's own comments). The checkbox below also allows you to define whether the ZIP archive is to be unpacked directly into the standard folder or into a subfolder.

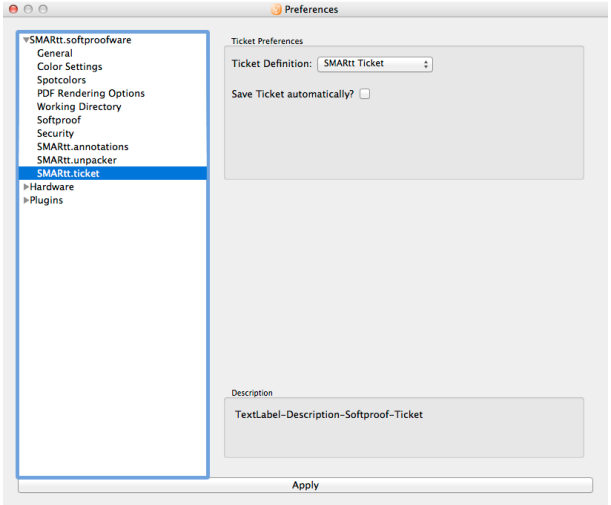
Click „Apply" to apply the preferences.

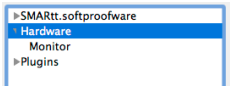


SMARtt.ticket

Here you can specify whether a softproof ticket is to be generated directly when a document is opened, which specification it is to comply with and whether it is to be stored next to the document or integrated into the document.

Click „Apply“ to apply the preferences.





2.2.2. Hardware

Monitor

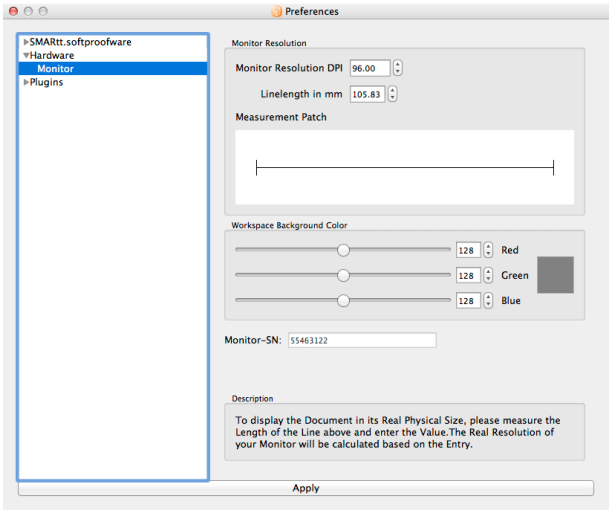
Here the display input resolution can be adjusted to the physical resolution (pixel-cells per inch) of the monitor to provide a real sized representation of the motif on the screen.

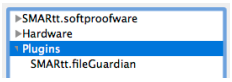
Measure the length of the line in the field with a standard office ruler and enter the correspondent value in the input field. SMARtt will calculate the correct resolution.

After a restart of SMARtt the document will be displayed in its actual size.

With the sliders red, green and blue you can change the background of SMARtt's working area to visually match a light-box grey, for example.

Click „Apply" to apply the preferences.





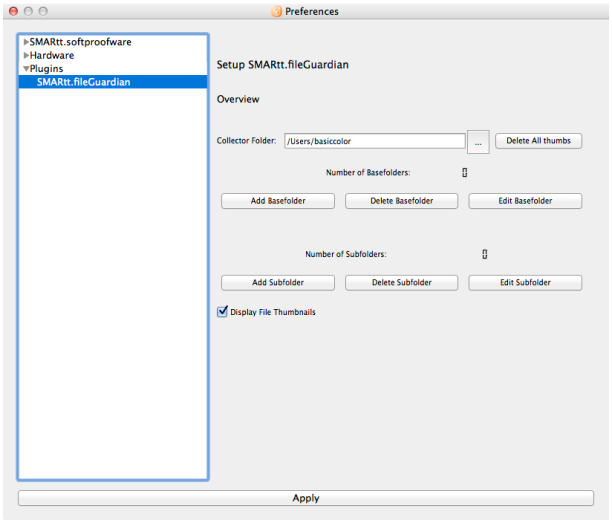
2.2.3. Plug-ins

In this section you can define the preferences for the SMARtt Plug-ins

SMARtt.fileGuardian

This is a visual file browser and hotfolder-controlled automation tool for the workflow. Here you define the base folder with the corresponding subfolders".

Click „Apply" to apply the preferences.



Via the menu „File ¬ Open Plugin ... ¬ SMARtt.fileGuardian" you can open the visual file browser. Once you have clicked on the folder, the visual file browser appears on the left side of the workspace.

Chapter 3

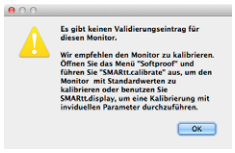
System Setup

3. System Setup

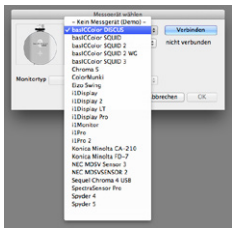
How to setup your system:

Please ensure your monitor is connected correctly to your computer. In many cases this entails to have an additional USB cable (DisplayPort and USB cables for example) connected to the computer.

Furthermore the measuring instrument has to be connected to the computer prior to launching the software.



Launch basICColor SMARtt. On first launch or with an invalid Validation entry you'll get a warning that your system is not valid for softproof comparison. Click "ok" to continue. You can also see the status of your system at the "Status-Monitor" icon in the bottom right corner.



Navigate to „Softproof --> SMARtt.calibrate". The software launches SMARtt.display automatically and the instrument dialo appears. Select the instrument you are using and click "Connecct". As soon as the instrument is found , the "Monitor Type" pulldown menu will be active, depending on the instrument in use. Select the monitor backlicht (technology) and confirm by cklicking "OK

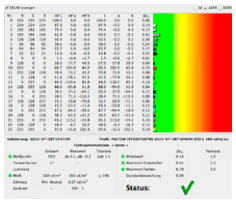
> ***Important**: The backlight of your monitor is decisive for the "Monitor Type" pulldown menu. Please refer to the monitor manufacturers information and select accordingly. If this information is not available maybe do a search on the internet for a reliable source.*
> *The basICColor DISCUS offers individual correction matrices for various high-end monitors. Please use these.*

Then place your measuring device on the monitor and click on "Measure".

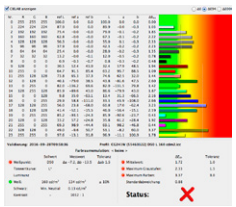
The monitor is now calibrated to the the default values of ISO 3664 or ISO 12647:

White Point:	D50
Gamma:	L*
Luminance:	White 160cd/m²
	Black min. neutral
chrom. Adaption:	CAT02
Profile Type:	16bit Tabellenprofile, v2

Once the calibration is finished a report is shown.



After successful calibration you will get a green check-mark in the report. Please execute „Softproof --> SMARtt.validate“ and you will get a green „Status - Monitor“ icon.



If the calibration is not passed, a red X appears in the report and the „Status Monitor“ icon remains red. Please perform the calibration again and contact the basICColor support if necessary.

Note: *If you want to calibrate your monitor to other parameters, you can do this via the SMARtt.tool „SMARtt.display“ (see chapter 3.1.1). You can also transfer your new settings to the SMARtt settings „Working Directories“ (see chapter 2.2.1) if required, but your system will then no longer be conform to ISO 3664 or ISO 12646!*

3.1 SMARtt.tools

3.1.1 SMARtt.display

The functionality and setting options of SMARtt.display can be found in the manual:
basICColor display
https://www.basiccolor.de/assets/Manuals/Manual-display5.pdf

3.1.2 SMARtt.catch

Please refer to the manual for the functionality and setting options of SMARtt.catch:
basICColor catch
https://www.basiccolor.de/assets/Manuals/Manual-catch5.pdf

3.2 SMARtt Paths

3.2.1 Profiles

MAC: /Users/User/Library/ColorSync/Profiles
PC: /Windows/System32/spool/drivers/color

3.2.2 Job-Files

Job files and user-specific data generated during monitor validation and color space checking (measurement results, etc.) are stored in a folder that is accessible to all users of the computer.
MAC:/Users/Shared/SMARtt
PC:/ProgramData/SMARtt

3.3 SMARtt informational video

https://www.youtube.com/watch?v=tqa2ALYaLKQ

Chapter 4

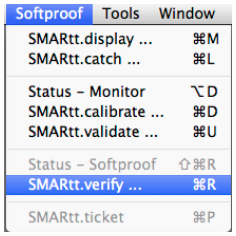
Color Space Approval

4. Color Space Approval

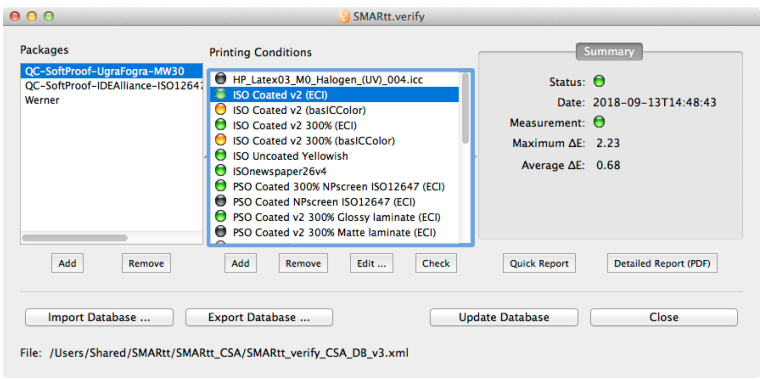
To gain the title “proof” for the output of any device, the whole proofing system has to prove, that it can produce the reference values defined in the ISO 12647 for the specific printing condition inside the tolerances also specified in the ISO 12647. For a conventional digital proofing system the German Printing and Media Industries Federation recommends to verify this by the means of the Fogra Mediawedge v3 (PSO 2010).

By the understanding of SMARtt and corresponding to this term, the color reproduction of a calibrated monitor can not be called “softproof-qualified” until the compliance of the criteria of the ISO12647 is validated.

For this the CMYK reference values of the mediawedge are transformed via the ICC-profile of the printing condition to Lab-values, which are again transformed via the monitorprofile generated during the calibration process to R GB values, which then can be displayed and measured on the screen. The process of the color transformation equals exactly the process for the conventional hardcopy proof and is performed by the same color management technology.

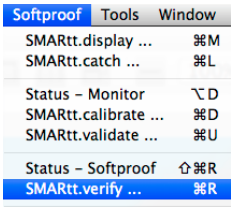


To start the so called color space approval you can use the menu item “Softproof > SMARtt.verify ...” or the designated icon in the toolbar.



To see the last status of the “Printing Condition” mark the printing condtion. Overview results are shown in “Summary” or open the “Quick Report” for more information or the “Detailed Report”

All color space approvals will get invalid after a new calibration of the monitor, because the condition of the whole proofing system could have changed. So it is not longer guaranteed, that the monitor with now used calibration parameters still represents the printing condition.



4.1 SMARtt.verify

The color space approval browser is the administrative centre for your color space approval jobs.

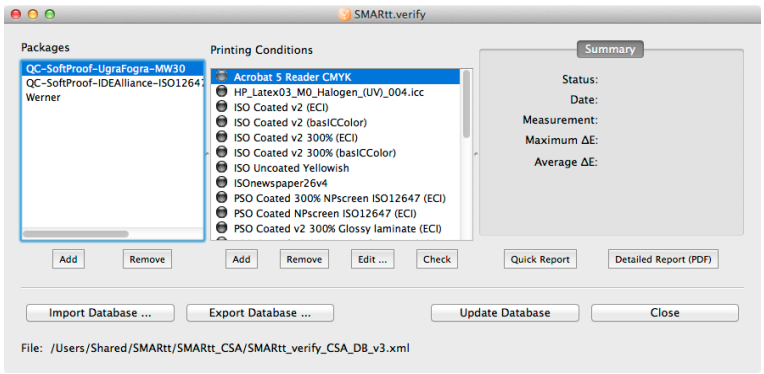
You can create different packages with individual collections of color space approval jobs i.e. for different printing processes, customers or projects.

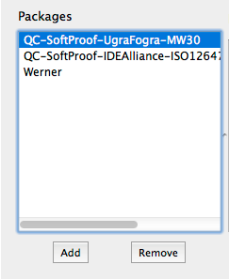
After each completed color space approval a quick report as a fast overview and also a detailed PDF report will be generated. If needed, these reports can be opened again later, by using the buttons <*Quick report*> and <*Detailed report (PDF)*>.

Successful completed color space approvals will be marked with a green “bulb”, unsuccessful jobs or jobs which got invalid by a new calibration are marked with a red “bulb”.

Left of the list of color space approval jobs a short list with the current status and the status after the last approval with date, average and maximum dE is displayed. This offers a quick overview over your proofing system.

The color space approval packages will be administrated in a database, which you can import into an XML-file or export via the correspondent buttons. This gives you the possibility to save your settings and to share them with your colleagues or customers..

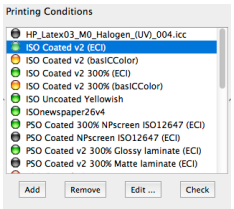




4.1.1 Color Space Approval Packages

By using the button *"Add"* under the section *"Packages"* you can generate a new package. Please assign a significant name and confirm it with a click in *"OK"*.

With a click on the button "Remove" you can delete packages.
To save your current configuration, please click on the button **"Update database"**.

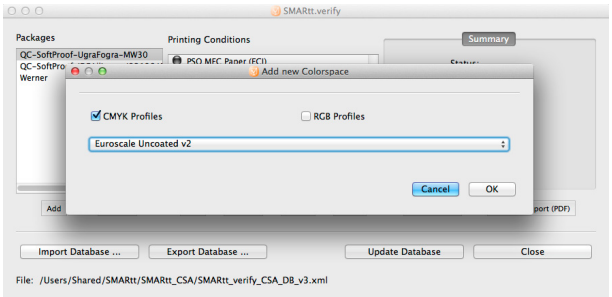


4.1.2 Add new Color Space / Printing Condition

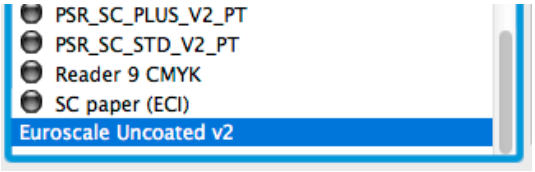
To create a new color space approval, create a new package or use an existing one.
By using the button <Add> under the section "Printing Condition" you can create a new color space approval.

Choose a profile in the upcoming dialogue window, which represents the printing condition you wish to validate (i.e. ISOnewspaper 26 v2). You can filter the list with the check boxes for RGB- or CMYK-profiles. In the dropdown list you will find all ICC-profiles in your systems profiles folder matching your filter criteria.

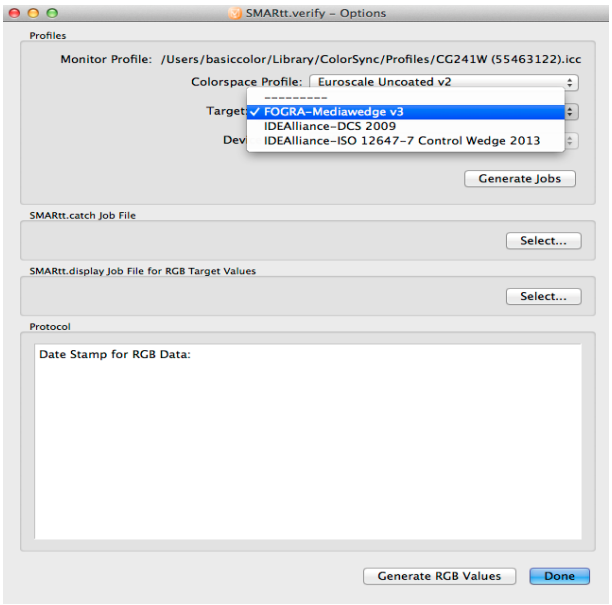
In a MS Windows environment this will be the folder "C:\Windows\System32\spool\drivers\color\", in an Apple OSX environment it is the folder "\Library\ColorSync\".



The new color space approval will named by the internal profile name an will be added to the end of the list.
Now you have to link the color space approval with the job files which are used to drive the measurement module and the analysis module. Open the settings dialogue window by clicking the button <Edit>.



The “SMARtt.verify - Options” window is divided into four sections

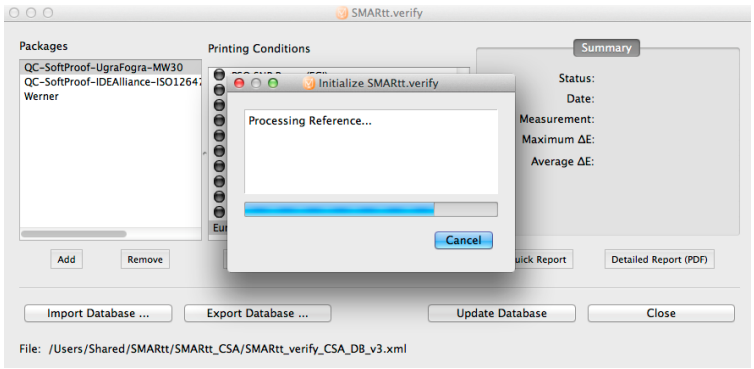


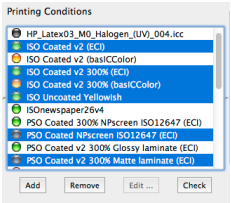
Select a Target (reference) in the „Profiles“ section and click the „Generate Jobs“ button. SMARtt then generates all required files automatically.

Upon completion leave the „SMARtt.verify - Options“ window via the „Done“ button. Now the new Printing Condition is ready for color space approval.

4.2 Performing a Color Space Approval

To start a color space approval, choose a printing condition click on <Check>. A window appears, which displays the progress of the RGB data generation. When all data is generated the measurement module SMARtt.display starts automatically and the instrument dialog appears. Connect your device, select the correct „Monitor Type (see also Page 21) and click „OK“. Place your device on the monitor and click measure.





4.2.1 Multiple Color Space Approvals

SMARtt also offers the possibility to perform several color space checks at once. Mark - as used from your operating system - the “Printing Conditions” you would like to check and then start the color space approval process with a click on „Check“.

Then the measurement window - known from the monitor calibration - appears. Position the measuring device accordingly on your monitor.
Now start the measurement by clicking on the <Measure> button.

SMARtt will now process the selected “Printing Conditions” one after the other, passed approvals are marked green, approvals just within tolerances are marked yellow, failed approvals are marked red.

Chapter 5

Product Information

5. Product Information basICColor SMARtt

Copyright Information

Trademark Information

Authors: Hanspeter Harpf, Werner Le Roy
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