

ORIS Certified Monitor

Version 1.2.1

User Manual

For Windows and Mac OS



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1 Introduction

ORIS Certified Monitor is an effective and easy-to-use monitor calibration and certification system. It is a component of ORIS Certified Suite which also includes ORIS Certified Proof and ORIS Certified Press. This is a suite of quality diagnostic tools designed to give printers ultimate quality control, from the prepress stage all the way to the pressroom.

Features

Monitor Calibration and Profiling

ORIS Certified Monitor calibrates and profiles your monitor. Both hardware and software calibration are supported.

Hardware calibration runs fully automatically for DDC/CI compliant monitors and EIZO monitors with USB interface. Scheduled self-calibration of EIZO CG245W monitors with the built-in sensor is also supported.

Light Booth Calibration

ORIS Certified Monitor can calibrate JUST Normlicht *Color Communicator* light booths to a target luminance. The monitor can then be calibrated to the luminance and white point measured in the light booth.

Uniformity Verification

ORIS Certified Monitor allows you to verify monitor uniformity according to ISO 12646. It indicates the deviations in luminance and chromaticity from the center of the screen.

Monitor Certification

A color bar is displayed as a series of flashed patches on the monitor and measured with a spectrophotometer. The software compares the measurements against common industry standards such as SWOP, GRA-CoL or FOGRA, or user-defined target values. You can use color bars of a printing standard or custom color bars. Dual monitor mode is supported.

Reports and Trend Analysis

The software gives you an instant pass/fail indication on the screen and also provides detailed reports and a trend analysis over time.

Supported Printing Standards

Compliance with the following industry standards can be checked:

- ISO 12647-7 (SWOP, GRACoL, FOGRA)
- ISO 12647-7 Validation Print (FOGRA)
- ISO 12647-3 Newspaper
- 3DAP
- SICOGIF

The software includes target values, tolerances and reference files (color bar definitions) for these printing standards.

The software also includes the ISO 12647-7 tolerance values defined by FOGRA for verifying proofing systems using IT8/7.4 test charts. Target values and reference files are not included, but will be in one of the next software versions. Currently target values can be specified with ICC profiles.

» RELATED TOPICS:

- PREDEFINED MONITOR TARGETS (PAGE 9-2)
- USE STANDARD TOLERANCES (PAGE 9-7)
- CHARACTERIZATION DATA FOR PRINTING CONDITIONS (PAGE 10-1)
- COLOR BARS AND REFERENCE FILES (PAGE 10-5)

Monitors Supported for Automatic Calibration

ORIS Certified Monitor allows you to hardware-calibrate the following types of monitors in a fully automated way (see page 3-1):

DDC/CI Compliant Monitors

Monitor and computer communicate via the monitor's VGA or DVI cable. Both the monitor and the graphics card must support the DDC/CI protocol (Display Data Channel Command Interface).

EIZO LCD Monitors with USB Interface

Monitor and computer communicate via USB cable. The following EIZO monitors are supported for this functionality:

- ColorEdge CG245W
Scheduled self-calibration with the built-in sensor is fully supported. An external measurement device can be used alternatively. The built-in sensor can be correlated to the measurement results of the external device.
- ColorEdge CG18, CG19, CG21, CG210, CG211, CG220, CG221, CG222W, CG241W, CG301W
- CE210W, CE240W
- G33, GS510
- L367, L375, L567, L568, L685, L685EX, L685EX-M, L695, L767, L768, L795, L797, L885, L887, L985EX
- R11, R12, R21, R22, R31
- FlexScan S170, S190

System Requirements

License

- Software license for ORIS Certified Monitor
- Serial number

Supported Platforms

The software is available as a Windows and Macintosh version. The following operating systems are supported:

- Windows 7, 2008, Vista, 2003, XP (SP 3 or higher)
- Mac OS 10.3 or higher

The computer name should conform to the DoD Internet Host Table Specification (RFC 952). Note that underscores are invalid characters.

Note: All screen captures in this document are from the Windows version.

Supported Measurement Devices

Built-in devices:

- Calibration sensor of EIZO ColorEdge CG245W

You can also use external measurement devices for this monitor.

External devices:

- X-Rite Eye-One
- X-Rite Eye-One Display
- Datacolor Spyder 3

We recommend to directly connect the measurement device to the USB port of your computer. The device may not work correctly if it is connected to a USB hub.

Please install the measurement device according to the accompanying instructions provided by the manufacturer. The device is shipped with a CD that includes software and drivers.

Starting ORIS Certified Monitor

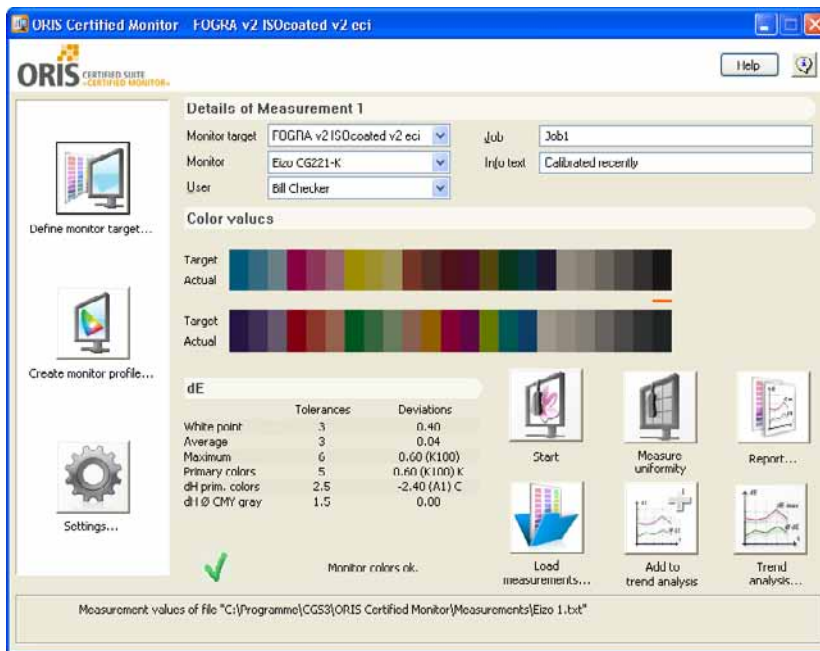
- Windows*
- Select START | ALL PROGRAMS | CGS | ORIS CERTIFIED MONITOR.
- Mac OS*
- Double-click ...Applications:ORIS Certified Monitor:ORIS Certified Monitor.

The main window appears (see Fig. 1-1).

When starting ORIS Certified Monitor for the first time, you have to enter a serial number. If no valid serial number is entered, ORIS Certified Monitor runs as a 30-day fully functional demo version.

It is not possible to start more than one instance of ORIS Certified Monitor on the same computer.

Fig. 1-1 ORIS Certified Monitor – Main Window



2 Setting up ORIS Certified Monitor

Step 1: Create or Modify Monitor Targets

Before starting to measure, the user has to select a monitor target from a list in the main window (see page 5-1). A monitor target defines the colors to be measured, the target values and the tolerances.


ORIS Certified Monitor provides predefined monitor targets for various standard printing conditions (see page 9-2). You can modify them and create new targets.

Click on  to open the DEFINE MONITOR TARGET dialog (see Fig. 2-1).


Fig. 2-1 'Define Monitor Target' Dialog




Creating New Monitor Targets

1. Click on NEW... in the list labeled MONITOR TARGETS (see Fig. 2-1).
2. Enter a name into the TARGET NAME box.
3. Specify the reference values, target values and tolerances. You can also define your own color bar. Refer to page 9-1 for more details.
4. Click  to save the new monitor target. The name appears in the list on the left.

Modifying Monitor Targets

1. Select a monitor target from the list labeled MONITOR TARGETS.
2. If you do not want to overwrite the original monitor target, enter a new name into the TARGET NAME box.
3. Make your modifications (see page 9-1).
4. Click  to save the monitor target.



Restoring Predefined Monitor Targets

If you have modified or deleted a predefined monitor target, you can easily restore it. Simply select it from the list labeled PREDEFINED MONITOR TARGETS and click on the  button (see Fig. 2-1).

This adds the predefined monitor target to the list labeled MONITOR TARGETS. It can then be modified and is available in the main window.

Step 2: Create List of Monitors

Before starting to measure, the user has to select the monitor name from a list in the main window (see page 5-1).

Click on  to open the SETTINGS dialog, then click on  to display the MONITOR SETUP options (see Fig. 2-2).

Adding Monitors





To add a monitor name to the list, enter it into the input box and click . Using the  button you can remove monitor names from the list.

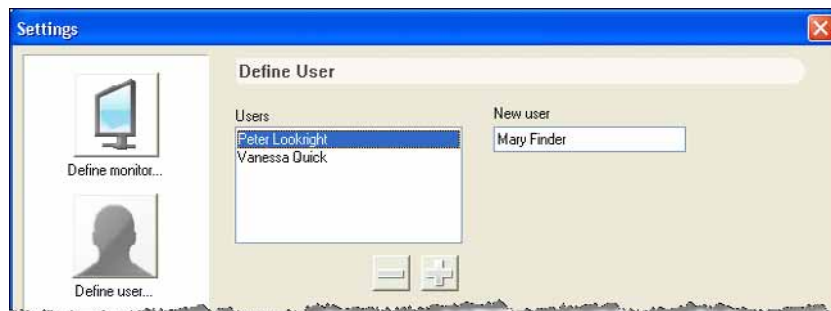
Fig. 2-2 'Settings' Dialog – 'Monitor Setup'


Step 3: Create List of Users


Create a list of the persons performing the measurements. Before starting to measure, the user has to select his/her name from a list in the main window (see page 5-2).

1. Click the  button in the SETTINGS dialog (see Fig. 2-3).
2. To add a name to the list, enter it into the input box and click .

Using the  button you can remove selected names.

Fig. 2-3 'Settings' Dialog – 'Define User'


Step 4: Configure Measurement Device

Click on  in the SETTINGS dialog (see Fig. 2-4) and select the measurement device connected to your computer. You can configure and test the measurement device here (see page 9-14).

For EIZO CG245W monitors you can choose between using the built-in sensor device or an external measurement device. Click on CORRELATE to correlate the sensor to the measurement results of an external device.

This correlation is also required if the monitor has been reset to the factory settings (ALL RESET). Otherwise an error message appears and measuring fails.

Fig. 2-4 'Settings' Dialog – Measurement Device



3 Calibrating Monitors and Light Booths

Overview

Monitor Calibration

ORIS Certified Monitor supports both hardware calibration and software calibration. We recommend to calibrate the monitor once a week.

Hardware calibration runs fully automatically for DDC/CI compliant monitors and EIZO monitors connected via USB cable (see page 1-2).

Scheduled self-calibration of EIZO CG245W monitors with the built-in sensor is fully supported. ORIS Certified Monitor allows you to match the built-in sensor to the calibration results of an external device. This is convenient in environments with multiple CG245W monitors, if one measurement device must be used as a standard for all calibrations.

The functions for CG245W monitors are available under SETTINGS | SETUP MEASUREMENT DEVICE. Select the measurement device 'EIZO built-in sensor', then click on SCHEDULE or CORRELATE, respectively.

Monitor Profiling

After the calibration process, an ICC profile is created automatically. The ICC profile is automatically set as your computer's default monitor profile and thus used by color management aware applications. This ensures that colors are always reproduced accurately on the screen.


Light Booth Calibration

ORIS Certified Monitor supports *Color Communicator* light booths from JUST Normlicht. These devices can be calibrated to a luminance value. The luminance and white point measured in the light booth are used automatically as default values for the subsequent monitor calibration.

Step 1: Before You Begin

- Make sure the monitor is set to millions of colors and disable the screen saver.
- If you are going to hardware-calibrate your monitor, uninstall any monitor calibration software from other vendors. Otherwise the calibration data created with ORIS Certified Monitor may be overwritten. EIZO ColorNavigator, for example, automatically loads its own calibration data into the monitor and installs its own default monitor profile. Instead of uninstalling this program you can also switch off the ColorNavigator Agent in the PREFERENCES dialog.
- Make sure the screen is not exposed to a direct light source. This would cause incorrect measurement results.

Step 2: Start Calibration Function

Click the  button at the left of the main window.

The CREATE MONITOR PROFILE wizard appears (see Fig. 3-1). It will guide you step by step through the calibration and profiling process. Always click NEXT to proceed with the next step and PREVIOUS to return to the previous step. You can resize the window by dragging the border.

Note: ORIS Certified Monitor removes the previous calibration from the graphics card. You may therefore notice a change in the monitor appearance.

Multiple monitor setup with extended desktop:

If the desktop stretches across multiple monitors, move the CREATE MONITOR PROFILE dialog to the monitor that should be calibrated and profiled. The dialog's title bar indicates the monitor number (1 or 2).

Step 3: Select Calibration Methods

ORIS Certified Monitor supports various calibration methods which can also be combined. They will be performed in the following order:

1. Light booth calibration (optional)
2. Hardware calibration – automatic or manual (optional)
3. Software calibration (optional)

Having concluded the selected calibration processes, the program will automatically create an ICC profile for the monitor.

SCREEN TYPE

Select the type of monitor you are about to calibrate and profile:

- LCD – Flat screen monitor with LCD display
- CRT – Cathode ray tube monitor with RGB phosphors

HARDWARE CALIBRATION

Select this method if colors should be adjusted by changing the output of the monitor itself. Hardware calibration provides better results than software calibration. There are two hardware calibration methods:

MANUAL

The program measures the contrast, white point and luminance and indicates the actual and target values. You have to adjust the actual values using the controls on the monitor's front panel (on-screen display).

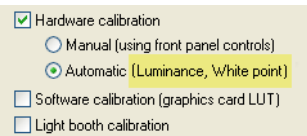
AUTOMATIC

This method is only available for particular monitor types (see page 1-2). These monitors can be calibrated without any user intervention:

- DDC/CI compliant monitors:
The program automatically measures and adjusts the contrast, luminance and white point.
- EIZO monitors connected via USB cable:
The program automatically measures and adjusts the luminance and white point. It also performs a grayscale calibration, creates gradation curves from this data and loads them into the monitor.

Some monitors may not allow you to automatically calibrate the white point via DDC/CI if it is set to a standard value like D50. In this case change the white point to a user-defined value.

The monitor may not support all of these adjustments. The supported adjustments are indicated next to the AUTOMATIC setting. Example:



A screenshot of a calibration software interface showing a list of options. The 'Hardware calibration' option is checked. Under it, 'Automatic (Luminance, White point)' is selected with a radio button. Other options include 'Manual (using front panel controls)', 'Software calibration (graphics card LUT)', and 'Light booth calibration'.

- Hardware calibration
 - Manual (using front panel controls)
 - Automatic (Luminance, White point)
- Software calibration (graphics card LUT)
- Light booth calibration

SOFTWARE CALIBRATION

Select this method if colors should be adjusted by manipulating the color output of the computer's graphics card. The program performs the software calibration automatically before calculating the ICC profile. It calculates gradation curves from the calibration data and loads them into the graphics card.

If EIZO monitors are hardware-calibrated automatically, it is usually not required to additionally perform software calibration. Disable the SOFTWARE CALIBRATION option in this case.

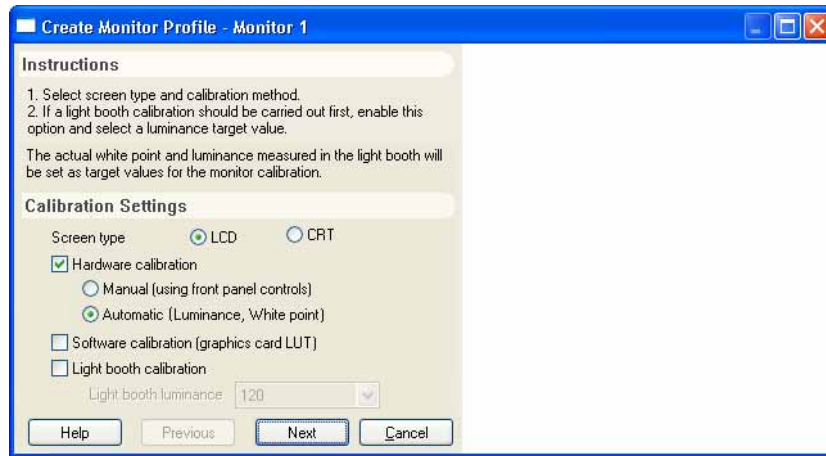
If the SOFTWARE CALIBRATION option is grayed out, your computer may be unable to load the gradation curves into the graphics card. This may occur if you are working on a virtual machine. In this case it is not possible to perform software calibration.

LIGHT BOOTH CALIBRATION

This option is available if a *Color Communicator* light booth from JUST Normlicht is connected to your computer via USB. Enable this option to calibrate the monitor to the luminance and white point of the light booth.

If the light booth should first be calibrated to a particular luminance, select a target value from LIGHT BOOTH LUMINANCE list (see page 3-7). Select NO TARGET VALUE to leave the light booth luminance unchanged.

The actual luminance and white point must then be measured in the light booth. The measured values will be used as default target values for the subsequent monitor calibration.

Fig. 3-1 Selecting a Calibration Method


Step 4: Calibrate Measurement Device

Eye-One and older versions of Eye-One Display need to be calibrated. If so, a button labeled CALIBRATE I1 appears at the bottom of the dialog.

1. Place the Eye-One Display on a dark planar surface. Make sure no light is entering the sensor. – Place the Eye-One on its base.
2. Click on the CALIBRATE I1 button.
3. If the calibration fails, make sure no light is entering the sensor during calibration. Then click CALIBRATE I1 to restart the calibration process.

Step 5: Light Booth Calibration

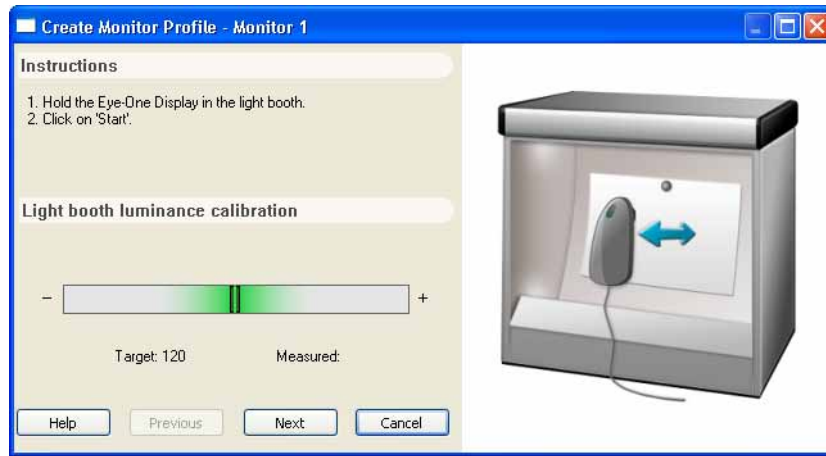
1. Attach the ambient light head to the measurement device.
2. If you have set the LIGHT BOOTH LUMINANCE to NO TARGET VALUE:
Switch on the light booth and adjust the luminance to the required level.
3. Hold the measurement device in the light booth. The device should be held approximately 30 cm away from and facing the back wall.
4. Click on the START button.

Now the light booth's luminance is calibrated automatically to the specified target value. Then the white point is measured.

The luminance calibration is omitted if you have not specified a target value. In this case the program only measures the light booth's actual luminance and white point.

Note: The luminance and white point measured in the light booth are used automatically as default target values for the subsequent monitor calibration.

Fig. 3-2 Light Booth Luminance Calibration



Step 6: Make Calibration Settings

Use this dialog to define the target values for the monitor calibration.

Tip: If you want to calibrate multiple monitors you should choose the same white point, gamma and luminance value for each monitor. The target luminance should be the luminance of the weakest monitor.

WHITE POINT

Select the white point to which you want to calibrate your monitor:

- D50, D55, D65, D75, D93

These are standard lighting conditions. D50 means a color temperature of 5000° Kelvin. This setting is recommended for proofing.

- DEVICE WHITE POINT

The white point will remain unchanged, i.e. as defined by the monitor hardware.

Use this setting if you want to preserve the overall brightness of your monitor or if your monitor does not have the capability to adjust the red, green and blue channels.

GAMMA

Select the gamma to which you want to calibrate your monitor.

We recommend a gamma of 2.2. This value is close to the native gamma of a monitor and therefore provides the best calibration results. If you feel that you need more details in the shadows, however, a lower gamma value like 1.8 is a good choice, too.

The GAMMA option is unavailable if SOFTWARE CALIBRATION is disabled and one of the following is true:

- HARDWARE CALIBRATION is set to MANUAL. – or:
- HARDWARE CALIBRATION is set to AUTOMATIC, but gamma calibration is not supported.

LUMINANCE

Select the luminance to which you want to calibrate your monitor. We recommend the following settings:

- LCD monitors: 120 cd/m²
- CRT monitors 100 cd/m²
- Laptop screens 90 cd/m²

Select NO TARGET VALUE if the luminance value should not be changed. The LUMINANCE option is unavailable if hardware calibration is disabled.

Fig. 3-3 Setting Calibration Target Values



Step 7: Place Measurement Device on Screen

1. Move the CREATE MONITOR PROFILE dialog to a suitable position on the screen. The dialog area with the icon of a measurement device should be in the center of the screen, if possible.

When you move the dialog towards the edge of the screen, the white area flips to the other side. Make sure the white area does not cover the position of the monitor's on-screen display (OSD). Some monitors allow you to reposition the OSD.

2. Place the measurement device on the screen. The sensor must be inside the white area with the icon.

When using Eye-One Display, make sure the counter weight is attached securely to the USB cable. Place the device on the screen and hang the counter weight over the monitor as shown in Fig. 3-4.

In order to avoid color shifts in the measuring area, do not press the suction cups onto the LCD screen.

Fig. 3-4 Eye-One Display Placed on Screen



Step 8: Hardware Calibration

Automatic Mode

The following processes will run fully automatically:

- Contrast calibration
For DDC/CI compliant monitors only.

- Luminance calibration
Omitted if the setting NO TARGET VALUE was selected.
- White point calibration
Omitted if the setting DEVICE WHITE POINT was selected.
- Grayscale calibration
For EIZO monitors connected via USB only.
Gradation curves are created and loaded into the monitor.

Wait until these processes have completed. Then continue with **Step 9**. See also *Monitors Supported for Automatic Calibration* (page 1-2).

Manual Mode

If hardware calibration is performed manually, adjust the monitor settings until they match the target values. The details are explained below.

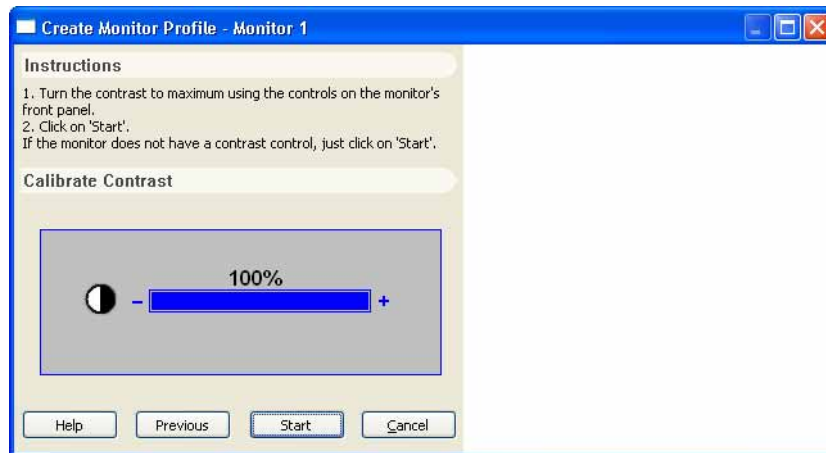
Step 8.1: Set Contrast to Maximum

The first step on calibrating your monitor is finding the best contrast. Click NEXT to proceed to this step (see Fig. 3-5).

Increase the contrast to the maximum using the controls on your monitor's front panel. Then click the START button at the bottom of the dialog.

If your monitor does not have the capability to adjust contrast, just click the START button.

Fig. 3-5 Setting Contrast to Maximum



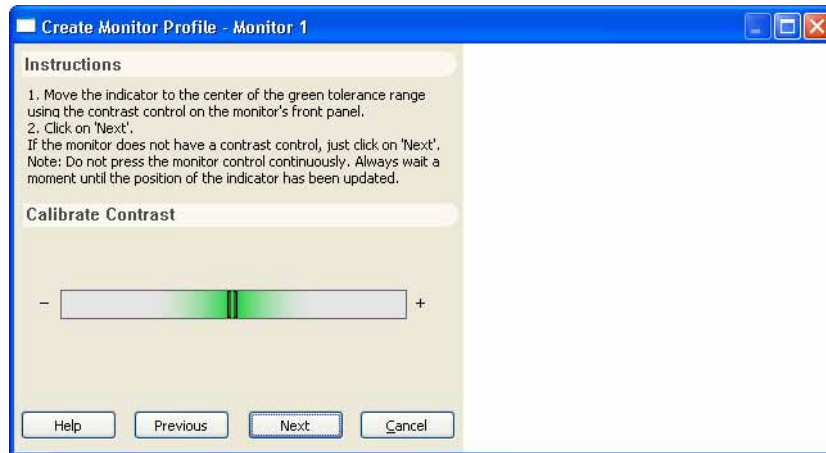
Step 8.2: Calibrate Contrast

Using the controls on your monitor's front panel, adjust the contrast setting until the indicator is in the center of the green tolerance range displayed in the dialog (see Fig. 3-6).

ORIS Certified Monitor constantly measures and updates the screen. Do not repeatedly press the monitor control too frequently. Always wait a moment until the position of the indicator has been updated. Otherwise the indicator may move far beyond the desired position.

Click NEXT at the bottom of the dialog when the indicator is in the center of the tolerance range. Also click NEXT if your monitor does not have the capability to adjust contrast.

Fig. 3-6 Contrast Calibration



Step 8.3: Calibrate White Point

The next step is adjusting the white point to the target value (color temperature) you have specified in the beginning (see page 3-6). This step is omitted if you have selected the setting DEVICE WHITE POINT.

First ORIS Certified Monitor measures red, green and blue and displays the measured white point as well as the target value (see Fig. 3-7).

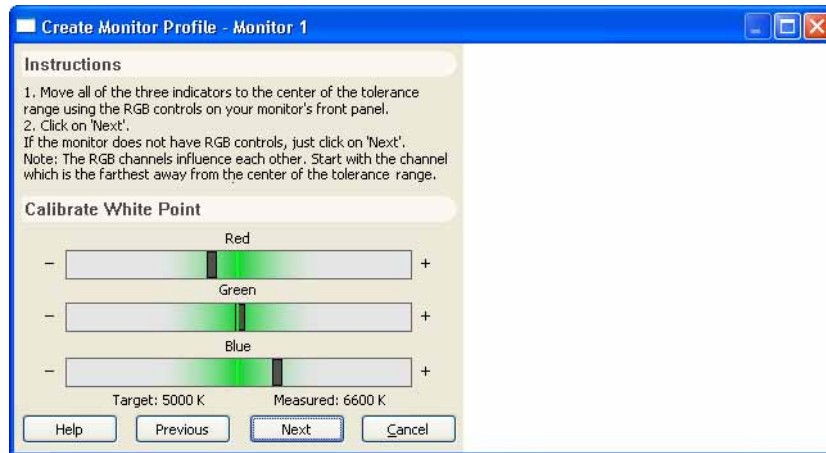
Then, using the controls on your monitor's front panel, adjust the red, green and blue channel until all of the three indicators are in the center of the green tolerance range displayed in the dialog. The measured value should approach the target value as closely as possible.

The RGB channels influence each other. Therefore, start with the channel which is the farthest away from the center of the tolerance range. Then adjust the next channel which is then the farthest away from the center. Finally, make fine adjustments to the three indicators.

Click NEXT when you have found the best possible adjustment.

Skip this step by clicking NEXT if your monitor does not have the capability to separately adjust the red, green and blue channel.

Fig. 3-7 White Point Calibration



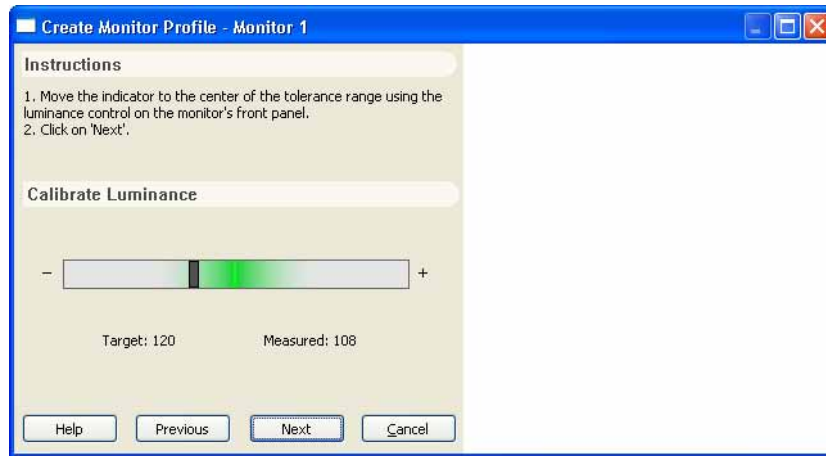
Step 8.4: Calibrate Luminance

The last step in calibrating your monitor is adjusting the luminance to the target value (see Fig. 3-8). This step is omitted if you have selected the setting NO TARGET VALUE.

Using the controls on your monitor's front panel, adjust the luminance until the indicator is in the center of the tolerance range in the dialog. The measured value should approach the target value as closely as possible.

Click NEXT when you have found the best possible adjustment.

Now you have successfully concluded the hardware calibration process.

Fig. 3-8 Luminance Calibration

Step 9: Software Calibration and Profiling

Now ORIS Certified Monitor is ready to perform the software calibration (if this has been specified). Then it will create the ICC monitor profile.

Click the **START** button at the bottom of the dialog. A series of colors will be displayed and measured automatically. Please wait until this process has finished. The wizard will then automatically proceed to the next step.

You can interrupt the measuring process by clicking the **STOP** button.

You can change the colors that are displayed when the ICC profile is created. Do this as follows:



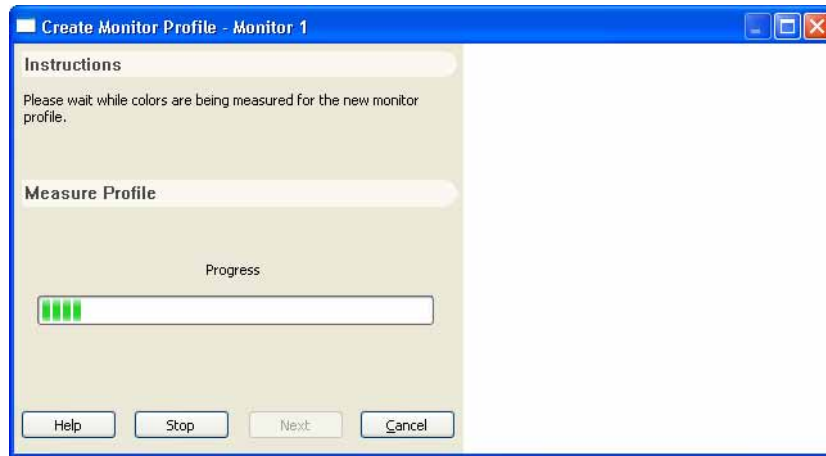
Click on  and then on . Use the **BROWSE** button of the **MONITOR PROFILE REFERENCE** option to select another reference file (see page 9-13).

Fig. 3-9 Measuring for Profile Creation

Step 10: Install ICC Profile

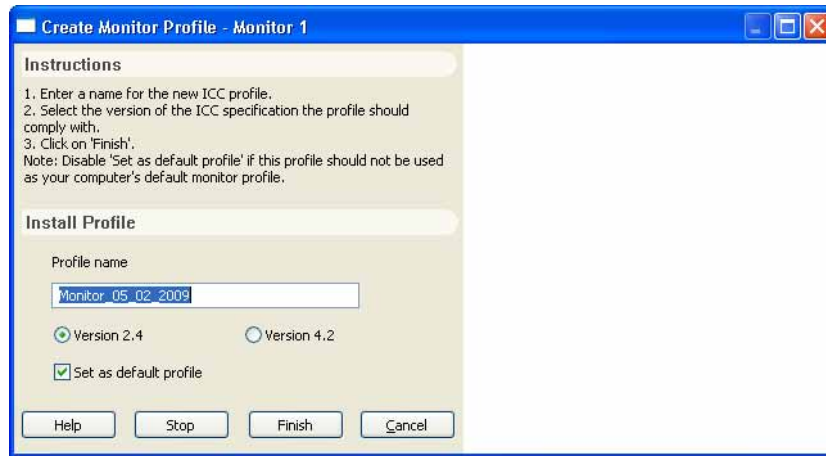
A new ICC profile has been created for your monitor. The last step in this wizard is specifying options for this ICC profile (see Fig. 3-10).

- Modify the default PROFILE NAME if you want to.
- Specify whether the profile should comply with VERSION 2.4 or 4.2 of the ICC specification. We recommend to use only ICC profiles of the same version for color management.
- We recommend to leave the SET AS DEFAULT PROFILE option enabled. The profile will then automatically be set as the computer's default profile for your monitor. Thus it will be used automatically by color management aware applications.

Having specified these options, click FINISH to close the wizard. The monitor profile will be saved to a dedicated system folder. This is ...\\Windows\\system32\\spool\\drivers\\color\\ on Windows XP systems.

Do not change your monitor's gamma, luminance, white point or RGB settings anymore. You would have to recreate the ICC profile.

Fig. 3-10 Monitor Profile Options



About Automatic Calibration Loading

Having software-calibrated the monitor, ORIS Certified Monitor loads the gradation curves into the computer's graphics card. It additionally saves these curves to the default monitor profile. Thus the monitor calibration can be restored when you restart your computer.

Whenever you start your computer, ORIS Certified Monitor extracts the gradation curves from the computer's default monitor profile and loads it into the graphics card.

A warning appears when you start your computer, if there is no default monitor profile assigned or if the assigned profile does not contain any gradation curves created with ORIS Certified Monitor. In this case select YES to start ORIS Certified Monitor and create a new ICC monitor profile.

If you manually assign a default ICC profile to your monitor using the Windows Control Panel, the gradation curves are *not* automatically loaded into the graphics card. You first have to restart your computer.


4 Verifying Monitor Uniformity

ORIS Certified Monitor allows you to verify monitor uniformity according to the ISO 12646 standard for soft proofing.

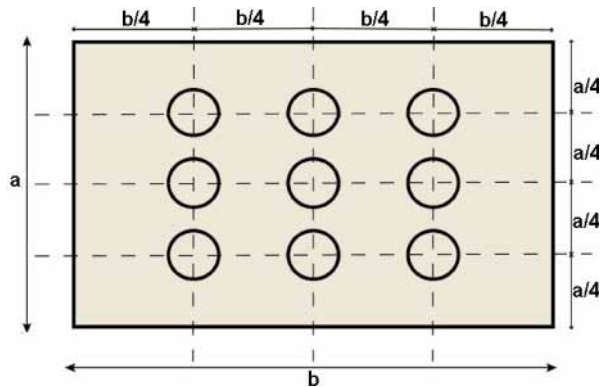
Nine areas on the screen are measured and compared to the area in the center. The program determines the deviations in luminance and chromaticity and displays the result in the main window. You can also create detailed reports and trend analyses.

The built-in EIZO calibration sensor cannot be used for this functionality.

Step 1: Start Uniformity Function

1. Click on  in the main window. The screen turns black and nine squares appear (see Fig. 4-2).
2. In the bottom left corner of the screen, select the type of monitor:
 - LCD – Flat screen monitor with LCD display
 - CRT – Cathode ray tube monitor with RGB phosphors
3. By default, the squares are in the position defined by the ISO 12646 standard (see Fig. 4-1). Using the slider named MOVE FIELDS you can adjust the distance to each other and to the edges of the monitor.

Drag the slider to the right to move the squares towards the edges of the monitor. Drag the slider to the very left (DEFAULT) to revert to the ISO 12646 position.

Fig. 4-1 Screen Areas for ISO 12646 Uniformity MeasurementsKey: **a** = height of display, **b** = width of display

Step 2: Calibrate Measurement Device

Eye-One and older versions of Eye-One Display need to be calibrated. If so, a button labeled CALIBRATE I1 appears in the bottom right corner.

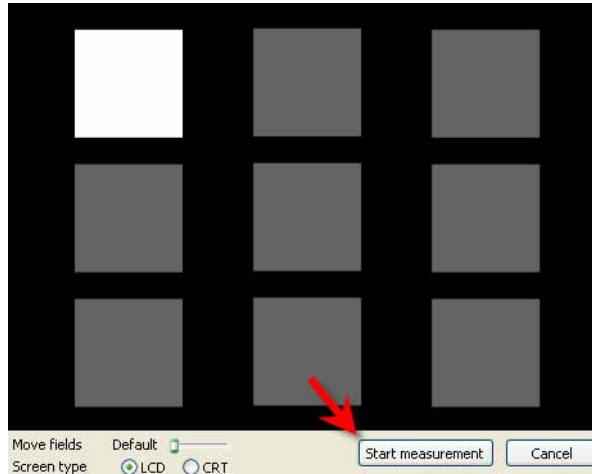
1. Place the Eye-One Display on a dark planar surface. Make sure no light is entering the sensor. – Place the Eye-One on its base.
2. Click on the CALIBRATE I1 button.
3. If the calibration fails, make sure no light is entering the sensor during calibration. Then click CALIBRATE I1 to restart the calibration process.

Step 3: Start Measuring Process

1. Place the measurement device on the screen. The sensor must be inside the white area at the top left.
2. Click the START MEASUREMENT button in the bottom right corner of the screen (see Fig. 4-2). The button changes to STOP MEASUREMENT allowing you to cancel the measuring process.
3. The following colors are measured automatically in the current screen area. Wait until the measuring process has completed:
 - White = RGB 255 (all channels at 100%)
 - Gray = RGB 127 (all channels at about 50%)
 - Black = RGB 63 (all channels at about 25%)
4. The next of the nine areas is displayed in white. Place the measurement device on this area and relick the START MEASUREMENT button. The same colors are measured in this screen area now.

- Repeat this process for the other screen areas. Having measured the last area, the main window reappears automatically.

Fig. 4-2 Starting Uniformity Measurements






Step 4: Evaluate Result

Having completed the measurement, the program checks the values of the eight outer areas against those measured in the center of the screen. The result appears in the main window.

The tolerances defined by the ISO 12646 standard for soft proofing are used: Luminance 5% (strict) and 10% (standard), chromaticity ± 0.01 .

Pass/Fail Indication

The icon at the bottom of the main window indicates the overall result:

 (green)	OK	All measurements within the <i>strict</i> tolerance limits
 (yellow)	Caution	All measurements within the <i>standard</i> tolerance limits, but one or more outside the <i>strict</i> limits
 (red)	Error	One or more values outside the <i>standard</i> tolerance limits

Deviation Values

The maximum deviation in luminance and chromaticity is indicated together with the respective tolerance values. Out-of-tolerance values are indicated in red (see Fig. 4-3).

Further details about these values are available in the report. To open it, click the button displayed on the right (see page 6-1).

To see a trend analysis, click the button displayed on the right. Then select the target name MONITOR UNIFORMITY (see page 7-1).



Fig. 4-3 Uniformity Deviation Values

Results			
	Strict tol.	Stand. tol.	Deviations
Max. luminance	5%	10%	11.35%
Max. chromaticity	-----	0.01	0.0062

Monitor Quadrants

Each of the nine screen areas (see Fig. 4-1) measured for the three colors is displayed in green, yellow, or red according to the pass/fail status.

Fig. 4-4 Deviations from Center of Screen



If you place the cursor on one of these color boxes, the L*u*v* values are displayed in a small yellow window. The meaning of these values is, from top to bottom:

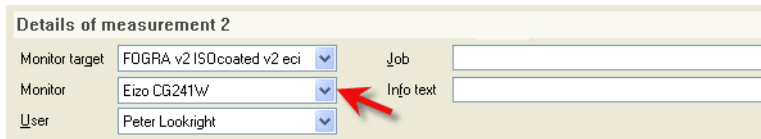
- Target values (of the area in the center of the screen)
- Actual values (measurements)
- Deviations in luminance and chromaticity

5 Certifying Monitors

Step 1: Select Monitor

Select the name of your monitor from the list in the main window.

Fig. 5-1 Selecting Monitor Name



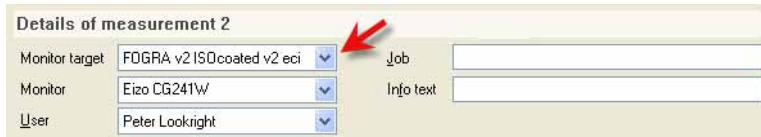
Details of measurement 2			
Monitor target	FDGRA v2 ISOcoated v2 eci	Job	
Monitor	Eizo CG241W	Info text	
User	Peter Lookright		

- » RELATED TOPICS:
 - ADDING MONITORS (PAGE 2-2)
 - DEFINE MONITOR (PAGE 9-12)

Step 2: Select Monitor Target

Select the monitor target which defines the colors to be measured as well as the target values and tolerances.

Fig. 5-2 Selecting Monitor Target



Details of measurement 2			
Monitor target	FDGRA v2 ISOcoated v2 eci	Job	
Monitor	Eizo CG241W	Info text	
User	Peter Lookright		

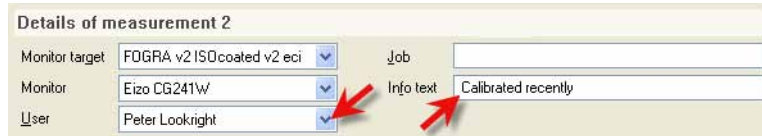
Note: The selected monitor target is indicated on the title bar of the main window.

- » RELATED TOPICS:
 - CREATE OR MODIFY MONITOR TARGETS (PAGE 2-1)
 - 'DEFINE MONITOR TARGET' DIALOG (PAGE 9-1)

Step 3: Select User Name

Select your name from the list labeled USER. You can also enter a comment into the INFO TEXT box.


Fig. 5-3 Specifying User Name and Comment



Details of measurement 2

Monitor target	FOGRA v2 ISOcoated v2 eci	Job	
Monitor	Eizo CG241W	Info text	Calibrated recently
User	Peter Lookright		

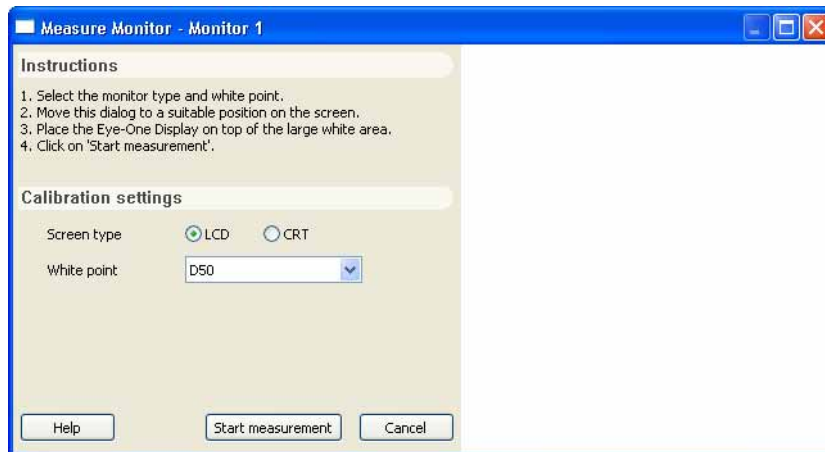
Step 4: Select Measuring Function

Click on  in the main window. The MEASURE MONITOR dialog appears (see Fig. 5-4). You can resize this dialog by dragging the border.

Multiple monitor setup with extended desktop:

If the desktop stretches across multiple monitors, move the MEASURE MONITOR dialog to the monitor that should be measured. The dialog's title bar indicates the monitor number (1 or 2).

Fig. 5-4 'Measure Monitor' Dialog



Measure Monitor - Monitor 1

Instructions

1. Select the monitor type and white point.
2. Move this dialog to a suitable position on the screen.
3. Place the Eye-One Display on top of the large white area.
4. Click on 'Start measurement'.

Calibration settings

Screen type: LCD CRT

White point: D50

Buttons: Help, Start measurement, Cancel

Step 5: Select Measuring Options

1. Select the type of monitor:
 - LCD – Flat screen monitor with LCD display
 - CRT – Cathode ray tube monitor with RGB phosphors
2. Select the white point to which your monitor is set (e.g. D50). The colors will be calculated relative to this white point.
Select MEASURED WHITE POINT if the white point should be measured.

Step 6: Calibrate Measurement Device

Eye-One and older versions of Eye-One Display need to be calibrated. If so, a button labeled CALIBRATE I1 appears at the bottom of the dialog.

1. Place the Eye-One Display on a dark planar surface. Make sure no light is entering the sensor. – Place the Eye-One on its base.
2. Click on the CALIBRATE I1 button.
3. If the calibration fails, make sure no light is entering the sensor during calibration. Then click CALIBRATE I1 to restart the calibration process.

Step 7: Place Measurement Device on Screen

If an external measurement device is used (not EIZO's built-in calibration sensor), do the following:

1. Move the MEASURE MONITOR dialog to a suitable position on the screen.
When you move the dialog towards the edge of the screen, the white area flips to the other side.
2. Place the measurement device on the screen. The sensor must be inside the dialog's large white area.
When using Eye-One Display, make sure the counter weight is attached securely to the USB cable. Place the device on the screen and hang the counter weight over the monitor as shown in Fig. 5-5.

Fig. 5-5 Eye-One Display Placed on Screen



Step 8: Start Measuring Process



Click the START MEASUREMENT button in the MEASURE MONITOR dialog.

If EIZO CG245W is used, the built-in calibration sensor swings down automatically from the monitor's upper bezel and the MEASURE MONITOR dialog moves under the sensor.

Now all colors of the color bar are displayed and measured. The button changes to STOP MEASUREMENT allowing you to cancel the measuring process. The result appears in the main window (see Fig. 5-7).

Using EIZO's built-in calibration sensor:

If the monitor has been reset to the factory settings (ALL RESET), an error message may appear and measuring fails. If this occurs, correlate the sensor to an external measurement device or restore the factory correlation.



To do so, click on , then click , select EIZO BUILT-IN SENSOR, from the list of instruments and click on CORRELATE.

Step 9: Evaluate Result




Having completed the measurement, the program displays the result in the main window and checks it against the target and tolerance values.

Pass/Fail Indication

The icon at the bottom of the main window indicates the overall result:

-  OK – All values are within the tolerance limits
-  Error – One or more values are out of tolerance

If two-level tolerances have been defined, there is an additional icon:

-  OK – All measurements within the *strict* tolerance limits
-  Caution – All measurements within the *standard* tolerance limits
-  Error – One or more values outside the *standard* tolerance limits.

» RELATED TOPICS:

- CREATE OR MODIFY MONITOR TARGETS (PAGE 2-1)
- TOLERANCE INPUT BOXES (PAGE 9-10)
- 2-LEVEL TOLERANCES (PAGE 9-12)

Deviation Values

There is a list of characteristic delta E and delta H values (see Fig. 5-6).

The names of color patches with maximum values are indicated in parentheses. The character after a parenthesis indicates the color name.

Out-of-tolerance values are indicated in red. Further details about these values are available in the report (see page 6-1).



Note: dH values can also be negative. This depends on the direction of the hue angle deviation in the LCh color space. The absolute value (without the sign) indicates the degree of this deviation.

Fig. 5-6 Deviation Values

dE	Tolerances		Deviations
White point	3	6	1.02
Average	4	8	0.16
Maximum	10	20	3.00 (K60)
Primary colors	5	10	0.40 (K100) K
dH prim. colors	2.5	5	-1.88 (A1) C
dH Ø CMY gray	1.5	3	2.23

Color Bar

The color bar displays the target values and the actual values you have measured. The color with the largest deviation is underlined in red.

If you place the cursor on a color patch, the Lab values are displayed in a small yellow window. The target values appear at the top, the actual values and the color deviation below.

Fig. 5-7 Color Bar with Target and Actual Colors



Step 10: View Report

A report with various diagrams allows you to analyze the measurement results in detail. Refer to page 6-1 for more details.



- » RELATED TOPICS:
 - ABOUT MEASUREMENT FILES (PAGE 8-1)
 - LONG-TERM CONTROL AND TREND ANALYSIS (PAGE 7-1)

6 Reports

ORIS Certified Monitor can create a detailed report for every measurement. It allows you to precisely inspect the measurement results.

Click  to open the REPORT dialog. It provides two tabs:

- DATA See *Data Table* below.
For certification and uniformity measurements.
- COLOR SPACES See *Color Space Diagram* (page 6-4).
Only available for certification measurements.

Data Table

The data table allows you to precisely inspect the measurement values and color deviations of every color patch. This table is provided online (REPORT dialog) and also included in the printed report.

The online table can be sorted by clicking on any of the column headers. The sorting order is maintained when the table is printed.

Note: You can continue working with the main window while the REPORT dialog is open. When you click on a color patch in the main window (see page 4-4 and 5-6), the table row corresponding to the selected patch is highlighted. Likewise, when you click on a table row, the corresponding color patch in the main window is underlined in black.

Certification Measurements

In reports for monitor certification measurements (see page 5-1), the following is displayed for every color patch:

- Patch color and name
- CMYK or RGB reference values (printed table only)
- CIE Lab values (TGT = target, ACT = actual)

- Lab differences (delta E, delta L, delta a, delta b)
- Deviations in hue (dH) and chromaticity (dC)
- Tolerance values (printed table only)
- Pass/fail indication in green or red (see page 5-5)

Fig. 6-1 Report – Online Data Table

Color	Patch	L-Tgt	a-Tgt	b-Tgt	L-Act	a-Act	b-Act	dE	dL	da	db	dH	dC
A1	54.97	-36.97	-49.98	54.35	-36.40	-49.44	1.00	-0.62	0.57	0.54	0.14	-0.77	
A2	95.01	-0.01	-2.07	93.66	0.15	-3.48	1.96	-1.35	-1.11	1.41	0.13	1.41	
A3	47.97	73.97	-2.95	46.93	71.91	-4.31	2.68	-1.04	-2.06	-1.36	-1.46	-1.99	
A4	89.00	-5.01	92.96	87.82	-5.50	91.56	1.90	-1.18	-0.93	1.11	0.57	-1.37	
A5	15.96	-0.04	-0.00	15.87	0.65	1.59	1.74	-0.09	0.70	1.59	-0.44	1.68	
A7	44.52	-0.38	-1.83	44.21	-0.90	-1.03	1.00	-0.31	-0.52	0.80	-0.81	-0.50	
A11	62.56	-29.14	-42.04	61.61	-28.75	-42.00	1.03	-0.95	0.39	0.04	0.30	-0.25	
A12	45.51	-0.09	-0.85	46.12	0.37	-0.75	0.77	0.61	0.46	0.10	0.47	-0.02	
A13	55.79	58.51	-5.45	55.21	58.51	-6.59	1.32	-0.58	-1.00	-0.64	-0.74	-0.93	
A14	89.73	-4.86	73.51	88.68	-4.98	71.69	2.10	-1.05	-0.12	-1.82	0.74	-1.81	
A15	36.60	-0.04	-0.58	37.40	0.42	-0.53	0.92	0.80	0.46	0.05	0.45	0.09	
A16	66.85	-24.73	-37.07	65.67	-24.72	-37.65	1.31	-1.18	0.01	-0.58	0.33	0.48	
A17	61.39	0.07	-2.39	60.87	0.10	-3.14	0.91	-0.52	0.03	-0.75	0.01	0.75	
A18	60.83	50.61	-6.71	60.10	49.82	-7.07	1.13	-0.73	-0.75	-0.36	-0.46	-0.73	
A19	30.33	-4.71	62.53	29.44	-4.81	61.08	1.70	-0.83	-0.10	-1.45	0.21	-1.44	

The color markup in the online data table has the following meaning:

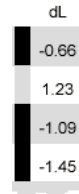
- The values of solid primary and secondary colors are displayed in the respective colors.
- A pink background is used for measurement values outside the tolerance limits (displayed for patch name, Lab values, and delta E).
- Deviations in luminance (dL) are highlighted in gray if the color is too dark, or not highlighted if the color is too bright.
- Deviations on the a axis are highlighted in red or green, respectively, depending on the color shift.
- Deviations on the b axis are highlighted in blue or yellow.

Fig. 6-2 Report – Printed Data Table

Patch	CMYK values				Target values			Actual values			Deviations					Tol.	OK	
	C	M	Y	K	L	a	b	L	a	b	dL	da	db	dH	dC			dE
A1	100	0	0	0	54.97	-36.97	-49.98	54.35	-36.40	-49.44	-0.62	0.57	0.54	0.14	-0.77	1.00	5	OK
A2	0	0	0	0	95.01	-0.01	-2.07	93.66	0.15	-3.48	-1.35	-1.11	1.41	0.13	1.41	1.96	3	OK
A3	0	100	0	0	47.97	73.97	-2.95	46.93	71.91	-4.31	-1.04	-2.06	-1.36	-1.99	2.68	5	OK	
A4	0	0	100	0	89.00	-5.01	92.96	87.82	-5.50	91.56	-1.18	-0.93	1.11	0.57	-1.37	1.90	5	OK
A5	0	0	0	100	15.96	-0.04	-0.00	15.87	0.65	1.59	-0.09	0.70	1.59	-0.44	1.68	1.74	5	OK
A7	68	57	56	0	44.52	-0.38	-1.83	44.21	-0.90	-1.03	-0.31	-0.52	0.80	-0.81	-0.50	1.00	6	OK
A11	90	0	0	0	62.56	-29.14	-42.04	61.61	-28.75	-42.00	-0.95	0.39	0.04	0.30	-0.25	1.03	6	OK
A12	0	0	0	70	45.51	-0.09	-0.85	46.12	0.37	-0.75	0.61	0.46	0.10	0.47	-0.02	0.77	6	OK
A13	0	80	0	0	55.79	58.51	-5.45	55.21	58.51	-6.59	-0.58	-1.00	-0.64	-0.74	-0.93	1.32	6	OK
A14	0	0	80	0	89.73	-4.86	73.51	88.68	-4.98	71.69	-1.05	-0.12	-1.82	0.74	-1.81	2.10	6	OK
A15	0	0	0	90	36.60	-0.04	-0.58	37.40	0.42	-0.53	0.80	0.46	0.05	0.45	0.09	0.92	6	OK
A16	70	0	0	0	66.85	-24.73	-37.07	65.67	-24.72	-37.65	-1.18	0.01	-0.58	0.33	0.48	1.31	6	OK

The colored bars in a printed report indicate the direction of the color shift:

- Red/green for shifts on the **a** axis
- Blue/yellow for shifts on the **b** axis
- Black/gray for shifts on the **L** axis (darker/lighter)



The dL indicators clearly show the overall shift in lightness (see figure on the right).

Uniformity Measurements

In reports for monitor uniformity measurements (see page 4-1), the following is displayed for each of the nine screen areas measured:

- Name and color of screen area
A5, B5 and C5 (Mid) refer to the area in the center of the screen. Measurements for this area act as target values.
- CIE L*u*v* values (TGT = target, ACT = actual)
- RGB reference values of target colors (printed table only)
- Deviations in luminance (DL%)
- Deviations in chromaticity (DC)
- Pass/fail indication in green, yellow, or red (see page 4-3)

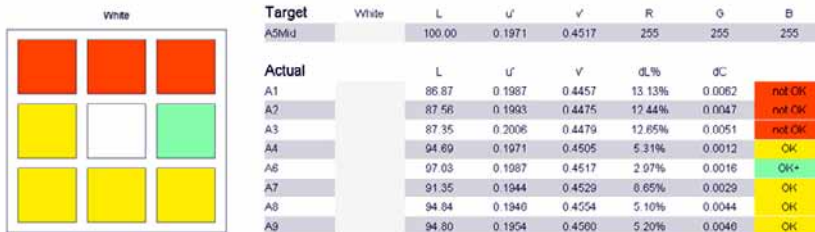
Fig. 6-3 Report – Online Data Table

Color	Patch	L-Tgt	u-Tgt	v-Tgt	L-Act	u-Act	v-Act	dL%	dC
	A1	100.00	0.1971	0.4517	86.87	0.1987	0.4457	13.13%	0.0062
	A2	100.00	0.1971	0.4517	87.56	0.1993	0.4475	12.44%	0.0047
	A3	100.00	0.1971	0.4517	87.35	0.2006	0.4479	12.65%	0.0051
	A4	100.00	0.1971	0.4517	94.69	0.1971	0.4505	5.31%	0.0012
	A5Mid	100.00	0.1971	0.4517	100.00	0.1971	0.4517	0.00%	0.0000
	A6	100.00	0.1971	0.4517	97.03	0.1987	0.4517	2.97%	0.0016
	A7	100.00	0.1971	0.4517	91.35	0.1944	0.4529	8.65%	0.0029
	A8	100.00	0.1971	0.4517	94.84	0.1946	0.4554	5.16%	0.0044
	A9	100.00	0.1971	0.4517	94.88	0.1954	0.4560	5.20%	0.0046
	B1	23.63	0.1883	0.4322	19.20	0.1886	0.4257	18.76%	0.0065
	B2	23.63	0.1883	0.4322	19.55	0.1894	0.4297	17.25%	0.0027
	B3	23.63	0.1883	0.4322	19.65	0.1902	0.4307	16.84%	0.0024
	B4	23.63	0.1883	0.4322	22.57	0.1887	0.4315	4.50%	0.0008
	B5Mid	23.63	0.1883	0.4322	23.63	0.1883	0.4322	0.00%	0.0000
	B6	23.63	0.1883	0.4322	23.25	0.1905	0.4325	1.61%	0.0022
	B7	23.63	0.1883	0.4322	21.30	0.1856	0.4323	9.85%	0.0027

The color markup in the online data table has the following meaning:

- A pink background is used for measurement values outside the (standard) tolerance limits (ACT columns).
- The background color in the DL% and DC column indicates the pass/fail status (see page 4-3).

Fig. 6-4 Report – Printed Data Table



On the left of a printed report, the pass/fail indication is provided graphically for each of the three colors. The nine screen areas measured are represented as 3 x 3 squares, each displayed in green, yellow, or red.

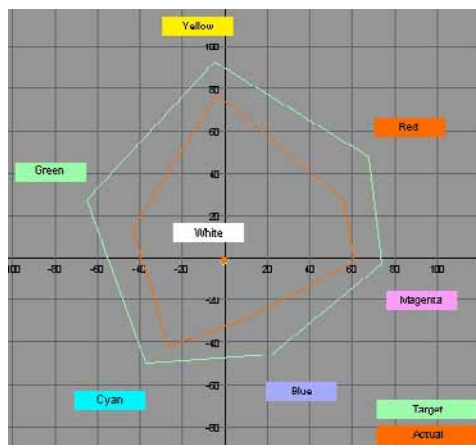
Color Space Diagram

Monitor certification measurements can be displayed as a diagram. This allows you to graphically compare the target and actual color space.

The color spaces are represented in a two-dimensional **ab** diagram. The borders of the target color space are represented by a green line. The primary and secondary colors as well as the white point are indicated.

A color space diagram is also included in printed reports. To print a report, click the DATA tab and then the PRINT button.

Fig. 6-5 Report: Color Space Diagram



Refer to page 6-7 for more examples.

Summary

These are the details identifying the measurement and, in a gray box, the color deviations of characteristic values. Green and red pass/fail indicators, the related patch names and the tolerance values are also displayed. This information is provided in printed reports only.

Fig. 6-6 Summary of Certification Measurement

Identification:	ID 6	30.03.2006 04:48:25
Measurement device:	Eye-One 1345380	
Measurement conditions:	2° Observer, Illuminant D50, Filter: None	
Target:	FOGRA ISOcoated v2 eci	
User:	Peter Lookright	
Job:	WD_060217_P013	
Monitor	Eizo ColorEdge G241W	
Info text:	Urgent	
Target:	ISOcoated v2 eci (FOGRA39).txt	

	Patch	dE	Tol.	OK
White point		2.49	3	OK
Average		2.28	3	OK
Maximum	G100	6.62	6	not OK
Maximum primary colors	A1	2.99	5	OK
		dH		
Maximum dH prim. colors	A1	-1.88	2.5	OK
Average dH CMY gray	(G10-G100)	1.75	1.5	not OK

Fig. 6-7 Summary of Uniformity Measurement

Identification:	ID 5	02.09.2009 12:00
Measurement device:	Eye-One Display 102742	
Measurement conditions:	2° Observer, Illuminant D50, Filter: None	
Target:	Monitor Uniformity	
User:	Peter Lookright	
Job:	Monitor Uniformity	
Monitor:	Eizo ColorEdge G241W	
Info text:	If monitor is not uniform, replace it	
Target:	Uniformity Target.txt	

	Patch	Dev.	Tol.+	Tol.	OK
Max. luminance	B7	18.50%	5%	10%	not OK
Max. chromaticity	C8	0.0067	---	0.01	OK

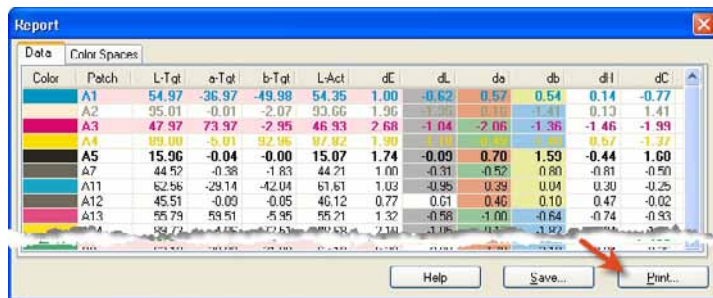
Printing Reports

To print a report, click the PRINT button at the bottom of the dialog (see Fig. 6-8). We recommend to use A4-sized paper and PORTRAIT orientation. Reports include a summary of characteristic color deviations in addition to the data table.

Using the SAVE button you can duplicate the measurement file to a directory of your choice.

- » RELATED TOPICS:
 - SUMMARY (PAGE 6-5)
 - DATA TABLE (PAGE 6-1)
 - ABOUT MEASUREMENT FILES (PAGE 8-1)

Fig. 6-8 Buttons in 'Report' Window



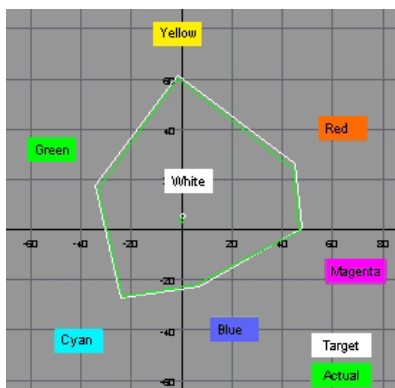
Examples of Monitor Color Spaces

The following examples show color space diagrams for an Eizo CG21 monitor calibrated using *Eizo Navigator* and *Eye-One*. The measurements are compared with two different ISO printing conditions: *ISOnewspaper26_sb* and *ISOcoated (FOGRA27)*.

ISOnewspaper26_sb

In this example, the target values of the newspaper printing standard *ISOnewspaper26_sb* are used.

Fig. 6-9 Monitor Colors Compared with *ISOnewspaper26_sb*



The curves of the actual and target color space are almost on top of each other. This is confirmed by an average delta E value of 1.64 calculated over all patches of the FOGRA color bar.

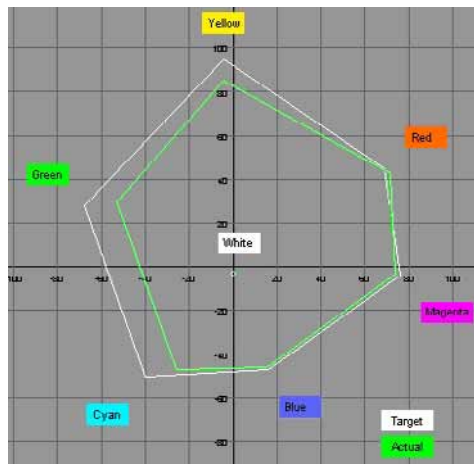
dE	Tolerances	Deviations
White point	3	1.80
Average	4	1.64
Maximum	10	2.54 (A12)
Primary colors	5	2.36 (K100)K

The delta E values are considerably lower than the FOGRA tolerances for printing.

ISOcoated (FOGRA27)

In this example target values of FOGRA ISOcoated are used.

Fig. 6-10 Monitor Colors Compared with ISOcoated (FOGRA27)



The curves of the actual and target color space are close to each other in the blue, magenta and red area. There is a considerable deviation in cyan, green and yellow.

dE		
	Tolerances	Deviations
White point	3	0.81
Average	4	3.19
Maximum	10	15.71 (B15)
Primary colors	5	14.49 (A1) C

Delta E for the monitor white point is way below the FOGRA tolerance. The average delta E value of 3.19 calculated over all patches of the FOGRA color bar is also within the tolerance limit.

The delta E value measured for the primary color cyan (14.49, patch A1), however, and the maximum delta E of 15.71 (patch B15, dark green) are considerably higher than the respective tolerances.

7 Long-Term Control and Trend Analysis

It is not only important to analyze individual measurements, but also to monitor color quality over time. With ORIS Certified Monitor you can easily keep track of color drifts and find out when recalibration is required.


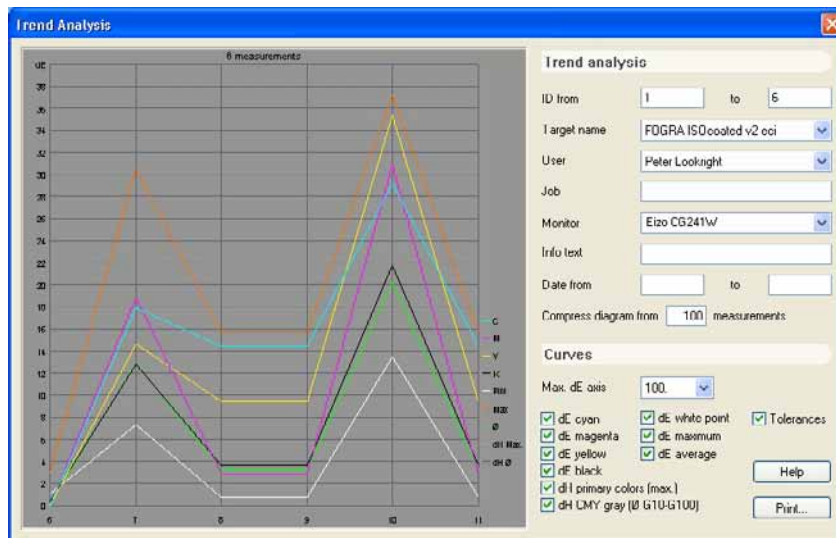
Click  in the main window to open the TREND ANALYSIS dialog.

Fig. 7-1 'Trend Analysis' Dialog



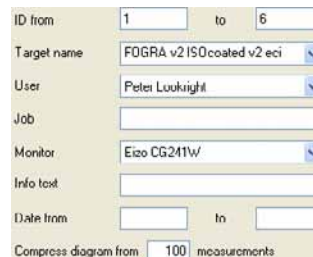
Selecting Measurements

Use the options at the top right to select the measurements to be included in the trend analysis (see figure). The delta E curves will be updated automatically.

Note that the input boxes are case sensitive. Only measurements which meet all of the specified criteria are displayed.

To analyze uniformity (see page 4-1), select the target name MONITOR UNIFORMITY.

In the diagram, the measurements are displayed on the x-axis (the IDs are listed if there is enough room) and the delta E values on the y-axis. The total number of selected measurements is displayed at the top. The measurement date and ID appear in a small yellow window when you place the cursor next to a measurement.



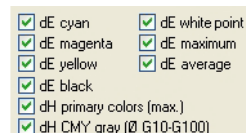
Compressed Diagrams

If you have selected more measurements than specified under COMPRESS DIAGRAM FROM..., a certain number of measurements will be combined and displayed as one. In this case the heading of the diagram reads ...MEASUREMENTS (COMPRESSED).

To see all measurements individually, enter the number of measurements you have selected into the COMPRESS DIAGRAM FROM... box. However, this may cause the diagram to become extremely difficult to read.










Hiding and Displaying Curves

Use the options at the bottom right to select the delta E curves that should be displayed on the left. These options are not available for uniformity measurements.



Every curve is displayed in a different color.

The meaning of these colors is explained by abbreviations which appear to the right of the diagram.

	C	Delta E of cyan
	M	Delta E of magenta
	Y	Delta E of yellow
	K	Delta E of black
	PW	Delta E of white point
	Max	Maximum delta E
	Ø	Average delta E
	dH Max	Maximum delta H of primary colors (absolute values)
	dH Ø	Average delta H of CMY gray (G10–G100)

Use the TOLERANCES option to display the tolerance limits. They are represented as dashed lines in the color of the respective delta E curves. This option is only available if the same standard tolerances were used for all of the selected measurements.

RGB Curves

Trend curves for red, green and blue are displayed, if a monitor target with an RGB reference file is selected in the TARGET NAME box.

If the trend analysis is created for *all* monitor targets (TARGET NAME ---), these dE curves are represented as CMY curves (cyan = red, green = magenta, blue = yellow).

dH Curves

Delta H curves are only displayed if measurements with 'ISO 12647-7 color bar' tolerances are selected (see page 9-7) and if they were created with a monitor target that uses a CMYK (no RGB) reference file.

Delta H values are always displayed as positive numbers, even if they are negative.

Zooming In

By default, the scale used for the y-axis is set such that all delta E curves are completely visible. To closely inspect lower delta E values, you can set the maximum delta E value displayed on the y-axis to a lower value.

Select this value from the list titled MAX dE AXIS (see Fig. 7-1). The diagram becomes more detailed, since more intermediate delta E values are displayed.

Printing Trend Chart

Click the PRINT button to output the color trend chart on a printer.

Fig. 7-2 *Printing a Trend Chart*



8 Measurement Tips

About Measurement Files

Save Location


All measurements are automatically saved to the following directory:

Windows ...\\Program Files\\CGS\\ORIS Certified Monitor\\Measurements\\

Mac OS ...Applications:ORIS Certified Monitor:Measurements

The names of measurement files are <monitor target> <job name> ID <n>.TXT, where <n> is the measurement ID (see page 5-2).


Duplicating

You can duplicate a measurement file to a directory of your choice by clicking on  and then on SAVE.


Contents

Measurement files store the actual and target values, CMYK or RGB reference values, tolerances and color deviations. They also include the measurement details entered by the user (see page 5-2).

Loading Measurements

Using the  button you can load measurement files, e.g. those of previous measurements or measurements made with another program. These files must comply with the IT8.7 or CGATS.5 file format.

When you load a measurement file, the monitor target used for measuring will be selected automatically, provided that it is available. The monitor target does not change if you load a uniformity measurement file.

Using  the measurements you have loaded can be added to the data records collected for creating trend analyses (see page 7-1).

Strip Scanning with Eye-One

1. Place the scanning ruler on the printed sample and align the guide slot on the upper row of color patches.
2. Place the measuring head of the Eye-One on the white area to the left of the color bar.
3. Press the instrument button and wait for a beep to signal that the device is ready. Instructions on how to perform the measurement are displayed at the bottom of the dialog.
4. Hold the device button pressed down and move the measuring head slowly and steadily over the color patches (in about 6 seconds).
5. Release the button when you have reached the end of the row. If the measurement was successful, the color patches you have measured are displayed in the dialog.
6. If the color bar consists of multiple strips, measure the next strip in the same way.

Note: If a color bar has to be measured in the single-patch mode, make sure to do this in the correct order. Start with the strip at the top and measure the patches from left to right.


Color Bar Geometry for Eye-One

Color bars can only be scanned automatically with Eye-One if they have a particular geometry:

- There must be a white area to the left and right of every strip. The minimum width of this area must be the width of a color patch.
- Color patches must have a minimum width of 8 mm. If neighboring patches are similar in color, there must be a gap between them.

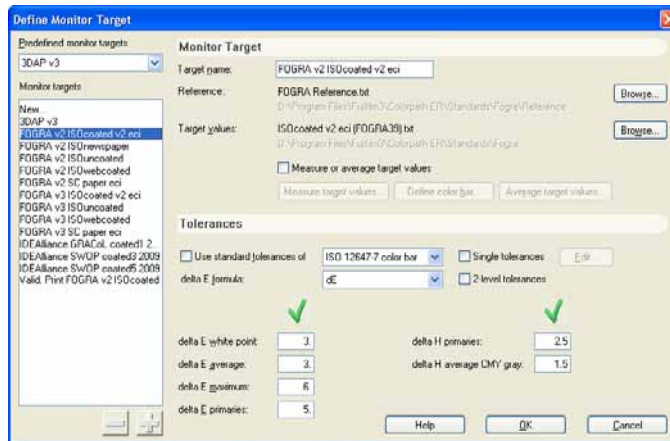
9 Dialog Reference

'Define Monitor Target' Dialog

This dialog can be opened by clicking the  button in the main window. Use it to create or modify *monitor targets*. A monitor target defines the colors to be measured as well as the target values and tolerances.

Users have to select a monitor target before starting to measure, except when measuring uniformity.

Fig. 9-1 'Define Monitor Target' Dialog



PREDEFINED MONITOR TARGETS

This is the list of predefined monitor targets installed with ORIS Certified Monitor. Predefined monitor targets cannot be modified or deleted.

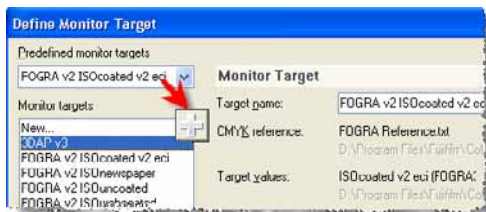
By default, the predefined monitor targets are also available in the list of monitor targets displayed below this list. If you have modified or deleted a predefined target there, you can easily restore it.



To do so, select the predefined monitor target and click on the button. This adds the monitor target to the other list (see Fig. 9-2). It can then be modified and is available in the main window.

The following predefined monitor targets are available:

Monitor Target Name	Target Value File	Reference File
3DAP v3	3DAPv3 LAB Target Values PT1-2.txt	3DAPv3 CMYK Wedge.txt
FOGRA v2 ISOcoated v2 ECI	ISOcoated v2 eci (FOGRA39).txt	FOGRA Reference.txt (two rows of patches)
FOGRA v2 ISOnewspaper	ISOnewspaper26v4 (IFRA26L).txt	
FOGRA v2 ISOuncoated	ISOuncoated (FOGRA29).txt	
FOGRA v2 ISOwebcoated	ISOwebcoated (FOGRA28).txt	
FOGRA v2 SC PAPER ECI	SC paper eci (FOGRA40).txt	
FOGRA v3 ISOcoated v2 ECI	FOGRA v3 ISOcoated v2 eci (FOGRA39).txt	FOGRA v3 Reference.txt (three rows of patches)
FOGRA v3 ISOuncoated	FOGRA v3 ISOuncoated (FOGRA29).txt	
FOGRA v3 ISOwebcoated	FOGRA v3 ISOwebcoated (FOGRA28).txt	
FOGRA v3 SC PAPER ECI	FOGRA v3 SC paper eci (FOGRA40).txt	
IDEAlliance GRACoL COATED1 2009	GRACoLCoated1_ISO12647- 7_ControlStrip2009.txt	IDEAlliance ISO12647- 7_ControlStrip2009 CMYK.txt
IDEAlliance SWOP COATED3 2009	SWOPCoated3_ISO12647- 7_ControlStrip2009.txt	
IDEAlliance SWOP COATED5 2009	SWOPCoated5_ISO12647- 7_ControlStrip2009.txt	
VALID. PRINT FOGRA v2 ISOcoated	ISOcoated v2 eci (FOGRA39).txt	FOGRA Reference.txt (two rows of patches)
More details:	See page 10-1	See page 10-5


Fig. 9-2 Adding a Predefined Monitor Target


MONITOR TARGETS

This is the list of monitor targets that can be selected in the main window (see page 5-1).

Click on a name in this list to select the monitor target to be modified or deleted. Click on NEW... to create a new monitor target.

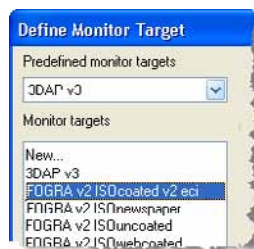
The following buttons appear underneath the list of monitor targets:

 – Saves a new or modified monitor target

 – Deletes the selected monitor target


Changes are saved automatically when you close the dialog using **OK**.

The CANCEL button discards all changes except for those saved with .



TARGET NAME

Having clicked on NEW, enter a name for the new monitor target into this box. The names are not case sensitive.

To duplicate and modify a monitor target, overwrite the name in this box, then save your changes using the  button.

The name of the selected monitor target is displayed on the title bar of the main window.

REFERENCE

Use this option to select the file describing the layout and CMYK or RGB values of the color patches to be measured.

Reference files for predefined monitor targets are available under

Windows ...\Program Files\CGS\ORIS Certified Monitor\Standards\...\Reference\

Mac OS ...Applications:ORIS Certified Monitor:Standards:...:Reference

If you measure without a reference file, the program will not be able to calculate the delta E value of the white point and primary colors and to compare color spaces graphically (see page 6-4). A reference file is mandatory if the target values are specified with an ICC profile.

TARGET VALUES

Click BROWSE to load the target values to which your measurements will be compared. To specify target values, you can use files of the following type:

- The target value files available in the installation directory

Windows ...\Program Files\CGS\ORIS Certified Monitor\Standards\

Mac OS ...Applications:ORIS Certified Monitor:Standards

These files characterize standard printing conditions (see page 10-1).

- ICC profiles, e.g. CMYK profiles characterizing additional printing standards or RGB profiles for monitors.

We recommend to use the target value files in the installation directory. Only use ICC profiles if no measurement files are available.

- Measurements made in the main window or with the MEASURE TARGET VALUES and DEFINE COLOR BAR functions.

Measurements made in the main window are automatically saved to:

Windows ...\Program Files\CGS\ORIS Certified Monitor\Measurements\

Mac OS ...Applications:ORIS Certified Monitor:Measurements

- Measurement files created with other programs (e.g. ProfileMaker), provided that the file format complies with IT8.7 or CGATS.5.

MEASURE OR AVERAGE TARGET VALUES

Use this option to enable the buttons MEASURE TARGET VALUES, DEFINE COLOR BAR and AVERAGE TARGET VALUES.

MEASURE TARGET VALUES

Click this button if you want to use your corporate target values. You can then measure a color bar printed according to your company's standard. Make sure Eye-One is selected (see page 9-14).

1. Specify whether strips or single patches should be measured.
2. Click START MEASUREMENT and measure the color bar (see page 8-2).
3. Click SAVE TARGET VALUES to save the measurement file.

By default, the file is saved to the installation directory `Standards` under the name of the monitor target and with the file extension `TXT`.

The target value file you have saved will automatically be assigned to the current monitor target. The current target value file will be discarded.

This function is only available if MEASURE OR AVERAGE TARGET VALUES is enabled. It requires a REFERENCE file (see page 9-4).

Various color bars and reference files are available in the installation directory (see page 10-5):

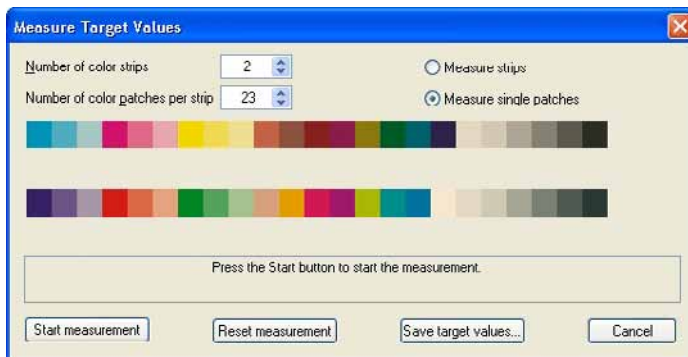
Windows

...\Program Files\CGS\ORIS Certified Monitor\Standards

Mac OS

...Applications:ORIS Certified Monitor:Standards

Fig. 9-3 'Measure Target Values' Dialog



DEFINE COLOR BAR

This function is only available if the MEASURE OR AVERAGE TARGET VALUES option is enabled. Make sure Eye-One is selected (see page 9-14).

Click this button if you are using a color bar for which no reference file is available. You can define the color bar geometry and measure the target values of the individual color patches. The dialog for measuring target values appears (see Fig. 9-3).

1. Select the number of strips and the number of patches per strip.
2. Specify whether strips or single patches should be measured.
3. Click START MEASUREMENT and measure the color bar (see page 8-2).
4. Click SAVE TARGET VALUES to save the measurement file.

By default, the file is saved to the installation directory `Standards` under the name of the monitor target and with the file extension `*.TXT`.



The target value file you have saved will automatically be assigned to the current monitor target. The current target value file and reference file will be discarded.

AVERAGE TARGET VALUES

This function averages the measurement values of several files and saves the result as a single file. It is only available if the MEASURE OR AVERAGE TARGET VALUES option is enabled.

Using the MEASURE TARGET VALUES function, for example, you may have created several target value files for the same color bar. By averaging the target values you can minimize measurement errors and compensate for inaccuracies of the measurement device.

Clicking on AVERAGE TARGET VALUES opens the dialog shown in Fig. 9-4.

Use the  and  buttons to add or remove the files to be averaged. You can also select multiple files at the same time. Then click on AVERAGE AND SAVE and specify the name and save location of the new file.

The target value file you have saved will automatically be assigned to the current monitor target. The current target value file will be discarded.

Fig. 9-4 'Average Target Values' Dialog


USE STANDARD TOLERANCES

Enable this option to use the tolerances and DELTA E FORMULA of a particular printing standard. The available standards are listed below.

Disable it if you want to enter your own tolerance values or to use another DELTA E FORMULA. Enter the tolerances into the input boxes further down below. The selected DELTA E FORMULA determines whether color deviations are interpreted as delta E, dE94, or dE2000.

Note: Some of the tolerance input boxes are unavailable if SINGLE TOLERANCES are enabled (see page 9-11).

3DAP

This Australian standard defines the following tolerance values:

dE average: 2
 dE maximum: 5
 dE formula: dE94

FOGRA, SWOP

These are the tolerances used by FOGRA (Germany) and SWOP (USA) until early 2007. They have been replaced by the ISO 12647-7 tolerances.

dE white point 3 (a)
 dE average: 4
 dE maximum: 10
 dE primaries: 5 (b)
 dE formula: dE

Annotations:

- (a) Deviation from white point of monitor
- (b) Maximum deviation for primary colors

ISO 12646 SOFTPROOF

These tolerance values are identical to those of ISO 12647-7 COLOR BAR. However, color deviations are calculated according to the DELTA E 2000 formula, which is more suitable for soft proofing than DELTA E.

ISO 12647-3 NEWSPAPER

Tolerances for offset newspaper printing according to ISO 12647-3:

dL paper:	3	
da paper:	2	
db paper:	2	
dE primary and secondary colors:	8	(a)

Annotation:

- (a) IFRA recommends 4 dE

ISO 12647-7 COLOR BAR

These tolerances were introduced by FOGRA in early 2007. They have been adopted by SWOP and GRACoL. These values are used for verifying *proofs* according to ISO 12647-7 by measuring a color bar.

dE white point	3	
dE average:	3	
dE maximum:	6	
dE primaries:	5	
dH primaries:	2.5	(a)
dH average CMY gray:	1.5	(b)
dE formula:	dE	

Annotations:

- (a) Maximum deviation in hue for primary colors
dH values can be positive or negative. This depends on the direction of the deviation. The hue angle may deviate towards the red/green or yellow/blue axis in the LCh color space.
- (b) Average deviation in hue for CMY gray (G10–G100)

ISO 12647-7 TEST CHART

These tolerances were introduced by FOGRA in early 2007. They are used for verifying *proofing systems* according to ISO 12647-7 by measuring the IT8/7.3, IT8/7.4 or ECI2002 test chart. FOGRA recommends to use the *random layout* version of the IT8/7.4 test chart.

dE 95% quantile	6	(a)
dE average:	4	
dE Ø outer gamut:	4	(b)
dE formula:	dE	

Annotations:

- (a) 95% of all dE values, arranged in ascending order, must be less than or equal to the specified tolerance value.
- (b) Average dE of all color patches located on the surface of the CMYK color space. These are colors with one or more 100% values such as C10M100Y34K20 or C15M100Y100K40.

ISO 12647-7 VALIDATION PRINT

Tolerance values for FOGRA Validation Print. This is an ISO 12647-7 based certification standard for the creative design phase with a less stringent set of tolerance values.

The tolerance values are identical to those of ISO 12647-7 COLOR BAR. There is only one exception: The tolerance for maximum dE is 8 (not 6).

SICOGIF

This French standard defines two-level tolerances, i.e. a set of standard and strict (lower) tolerance values (see also page 9-12).

	Strict	Standard
dE white point	3	3
dE average:	4	5
dE maximum:	10	12
dE primaries:	4	5.5
dE gray tones max.	5	6
dE gray tones Ø	3	4
dE skin tones max.	5	6
dE skin tones Ø	3	4
dE formula:	dE94	

DELTA E FORMULA

The DELTA E FORMULA defines the calculation method for color deviations. This option is only available if the USE STANDARD TOLERANCES option is disabled.

Delta E

Numerical value that represents the 'distance' between two colors in the CIE Lab color space. This formula was introduced in 1976 and is therefore also known as 'Delta E 1976'.

Delta E 94

A variant of the Delta E color distance formula published in 1994. It gives more weight to chroma, which comes closer to what the human eye perceives.

Delta E 2000

Revision of the Delta E 94 formula, released in 2000.

Unlike Delta E 94, which assumes that L* correctly reflects the perceived differences in lightness, delta E 2000 varies the weighting of L* depending on where in the lightness range the color falls.

Delta E CMC

Color difference formula adopted by the Colour Measurement Committee of the Society of Dyers and Colourists of Great Britain in 1984. It describes color differences in the CIE LCh color space.

The human eye is more sensitive to chroma. Therefore, this formula uses an equation which allows the setting of lightness and chroma factors. CMC 2:1 means that lightness has twice the weighting of chroma.

Tolerance Input Boxes

Enter the tolerance values here. A tolerance is the maximum deviation from the target value that is still acceptable.

If the USE STANDARD TOLERANCES option is enabled, the tolerance values defined by the respective printing standard are used automatically. If you disable this option, you can adjust the tolerance values according to your requirements.

delta E <u>white point</u>	<input type="text" value="3"/>
delta E <u>average</u> :	<input type="text" value="3"/>
delta E <u>maximum</u> :	<input type="text" value="6"/>
delta E <u>primaries</u> :	<input type="text" value="5"/>
delta I I <u>primaries</u> :	<input type="text" value="2.5"/>
delta H <u>avg. CMY gray</u> :	<input type="text" value="1.5"/>

- » RELATED TOPICS:
- USE STANDARD TOLERANCES (PAGE 9-7)
 - SINGLE TOLERANCES (PAGE 9-11)
 - 2-LEVEL TOLERANCES (PAGE 9-12)

SINGLE TOLERANCES

Enable this option and click the EDIT button to open the SINGLE TOLERANCES dialog (see Fig. 9-5). It allows you to enter a separate tolerance value for every patch. This applies to delta E tolerances.

This option is only available if USE STANDARD TOLERANCES is disabled. Some of the tolerance input boxes, such as delta E of white point or primaries, become unavailable if single tolerances are defined.

'Single Tolerances' Dialog

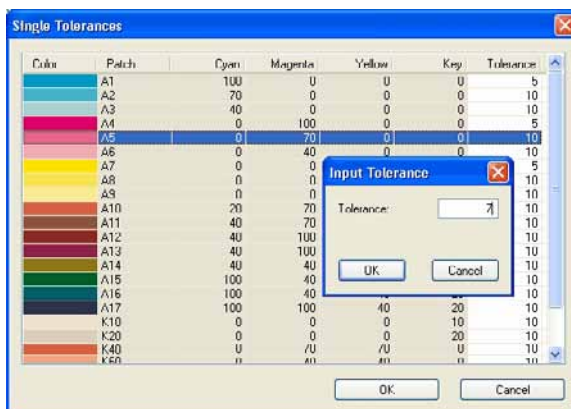
1. Click on a table row (see Fig. 9-5). This will automatically open an input box. If a table row is selected already, you have to double-click it.

You can also use the  and  keys to select the next or previous color patch.

2. Enter a tolerance value for the selected color patch.

If the 2-LEVEL TOLERANCES option is enabled, you can enter two different tolerance values (see page 9-12).

Fig. 9-5 'Single Tolerances' Dialog



2-LEVEL TOLERANCES

Enable this option to define two sets of tolerance values (see Fig. 9-6):



- ✓ Low value, strict tolerance limit
- ⚠ High value, standard tolerance limit

If you have defined two-level tolerances, one of the following icons appears after you have completed a measurement:


- ✓ All measurements are within the *strict* tolerance limits
- ⚠ All measurements are within the *standard* tolerance limits
- ! One or more values are outside the standard tolerance limits

Note: Two-level tolerances are used automatically for the SICOGIF standard.


Fig. 9-6 Two-Level Tolerances


	 Strict	 Standard
delta E _w white point:	1.5	3.
delta E _a average:	2.	4.
delta E _m maximum:	5.	10.
delta E _p primaries:	2.5	5.

'Settings' Dialog

This configuration dialog can be opened by clicking the  button in the main window. Select a category using the buttons on the left-hand side.




DEFINE MONITOR

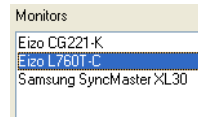
This dialog (Fig. 9-7) opens when you click the  button on the left. Use it to create a list of monitor names which users have to select from before starting to measure in the main window. See also page 2-2.

Changes are saved automatically when you close the dialog using **OK**. The CANCEL button discards all changes except for those saved with .

MONITORS

The list on the left displays the monitor names that have been defined.

To add a monitor name, enter it into the MONITOR NAME box and click . To modify a name, overwrite the MONITOR NAME box, then click . To remove a monitor name from the list, select it and click the  button.



MONITOR PROFILE REFERENCE

Use this option to select the reference file to be used for creating monitor profiles. It defines the RGB colors that will be displayed and measured on the screen. Click the BROWSE button if you want to select another reference file.


» RELATED TOPICS:

- CALIBRATING MONITORS AND LIGHT BOOTHS (PAGE 3-1)
- SOFTWARE CALIBRATION AND PROFILING (PAGE 3-12)

Fig. 9-7 'Settings' Dialog – 'Monitor Setup'



DEFINE USER

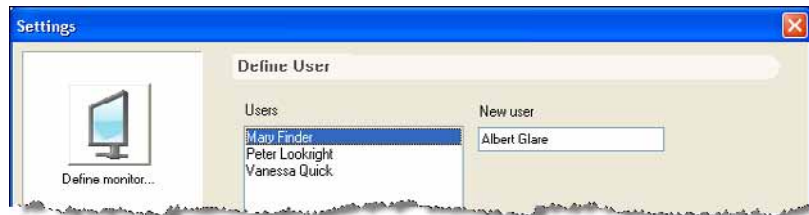
This dialog (Fig. 9-8) opens when you click the  button on the left.

Use it to create a list of the persons performing the measurements. These name can then be easily selected in the main window.


To add a name, enter it into the NEW USER box and click on . To remove a name, select it and click on .

Changes are saved automatically when you close the dialog using **OK**.

Fig. 9-8 'Settings' Dialog – User



SETUP MEASUREMENT DEVICE

This dialog (Fig. 9-9) opens when you click the  button on the left.

Use this dialog to select and configure the measurement device. You can also test whether the device is capable of communicating with your computer. The following parameters can be set here:

MEASUREMENT DEVICE SETUP

From the list named INSTRUMENT, select the measurement device connected to your computer. For EIZO CG245W monitors you can choose between using the built-in measurement device or an external device.

See also *Supported Measurement Devices* (page 1-3).

INSTRUMENT PROPERTIES

- RESPONSE STATUS
Standard to be used for measuring color density, e.g.
ANSI (ISO) T used in the USA
ANSI E, DIN 16536 used in Europe
- FILTER
This box indicates whether the measurement device has a built-in filter.
- ILLUMINANT
Color temperature (default is D50)

- **STANDARD OBSERVER**
Observation angle (default is 2°)
- **DEVICE SIGNAL ON**
If you disable this option, the device will not send any 'beep' signals.

The following options are only available if you have selected the built-in calibration sensor of CG245W monitors:

- **SENSOR CORRELATION**
Click the **CORRELATE** button to match the built-in sensor to the calibration results obtained from an external measurement device. This is convenient in environments with multiple CG245W monitors, if one measurement device must be used as a standard for all calibrations.
- **MONITOR RECALIBRATION**
Click the **SCHEDULE** button to set up automatic self-calibration for the EIZO CG245W monitor. Specify the calibration time and interval as well as the target values (white point, gamma, luminance). Note that the monitor's ICC profile will not be recreated.
You can schedule the monitor to self-calibrate while you are not working. The computer need not be on during the calibration process.

EIZO BUILT-IN SENSOR CORRELATION

Use this dialog to calibrate the EIZO monitor's built-in sensor in a way that it measures in virtually the same way as the external measurement device connected to your computer. Proceed as follows:

1. Select the external measurement device.
2. Eye-One and older versions of Eye-One Display need to be calibrated. Place the Eye-One Display on a dark planar surface. Place the Eye-One on its base. Then click the **CALIBRATE I1** button.
3. Place the measurement device on the screen. The best place is the center.
4. Click **START CORRELATION**.
The built-in sensor swings down. Various colors are displayed on the screen and measured automatically.
5. Click **FINISH** when the process has completed.

To reverse the correlation of the built-in sensor:

1. Activate the **RESTORE FACTORY CORRELATION** option.
2. Click **START CORRELATION**.
3. Click **FINISH** when the process has completed.

MONITOR SELF CALIBRATION SCHEDULE

Use this dialog to define the schedule for the EIZO CG245W monitor's self-calibration process performed with the built-in sensor.

START CALIBRATION

- NEVER
Use this setting to switch the self-calibration function off.
- IN POWER SAVING MODE ONLY
With this setting, self-calibration is only performed while you are not working. The program does not start the self-calibration process until the monitor has entered the energy saving mode. The computer need not be on during the calibration process.
- ALWAYS
Self-calibration is always performed according to the schedule, even if you are currently using the monitor.

INTERVAL

Specify the self-calibration interval, e.g. every 100 USAGE HOURS. If you specify WEEKS, enter a day of the week and the time. If you specify MONTHS, additionally enter the week of the month.

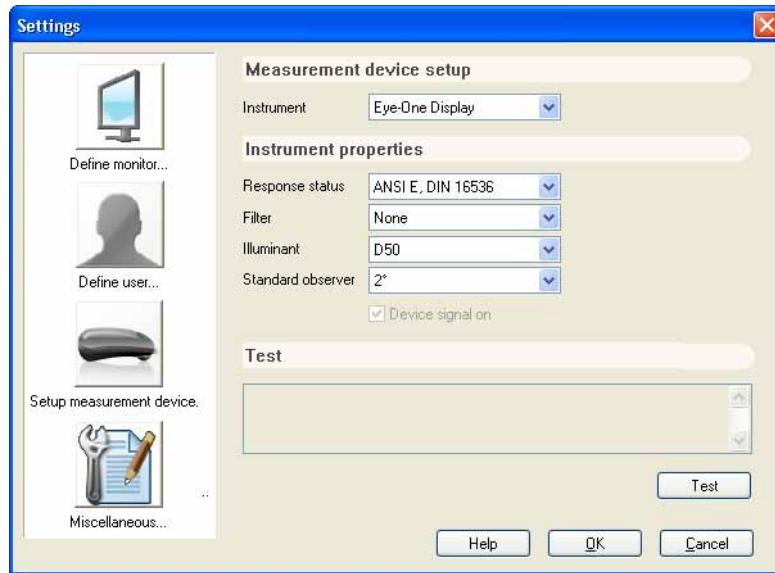
Note: The self-calibration does not recreate the monitor's ICC profile.

TEST


Having completed the setup, click this button to check whether ORIS Certified Monitor and the measurement device are capable of communicating with each other. If so, information about the device such as the version and serial number appears in the dialog.

If the built-in EIZO calibration sensor has been selected, the settings specified for automatic self-calibration are displayed here.

- » RELATED TOPICS:
 - SUPPORTED MEASUREMENT DEVICES (PAGE 1-3)
 - MEASUREMENT TIPS (PAGE 8-1)

Fig. 9-9 'Settings' Dialog – Measurement Device

MISCELLANEOUS

This dialog (Fig. 9-10) opens when you click the  button on the left.

CMM TO BE USED...

Use this option to select the color matching module (CMM) to be used after restarting the program. This option is only available in the Windows version of ORIS Certified Monitor.

Fig. 9-10 'Settings' Dialog – Miscellaneous

10 File Reference

Characterization Data for Printing Conditions

Characterization files for various standard printing conditions are available in the ORIS Certified Monitor installation directory

Windows ...\Program Files\CGS\ORIS Certified Monitor\Standards\

Mac OS ...Applications:ORIS Certified Monitor:Standards

These files can be loaded as target value files when defining a monitor target (see page 9-1). There is a subdirectory for every printing standard.

3DAP

Australian printing standard

3DAPv2 LAB Target Values.txt

Target values for 3DAP Version 2

3DAPv3 LAB Target Values PT1-2.txt

Target values for 3DAP Version 3

Fogra

German printing standard. There are two variants of most characterization files. The files beginning with FOGRA v3 are for three-row color bars, the other files for color bars with two rows.

Offset Printing

ISOcoated v2 eci (FOGRA39).txt

FOGRA v3 ISOcoated v2 eci (FOGRA39).txt

Commercial printing, paper type 1 or 2, i.e. gloss or matt coated, 115 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004/Amd 1

- ISOcoated (FOGRA27).txt
FOGRA v3 ISOcoated (FOGRA27).txt
Commercial printing, paper type 1 or 2, i.e. gloss or matt coated, 115 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004
- ISOcofcoated (FOGRA31).txt
FOGRA v3 ISOcofcoated (FOGRA31).txt
Continuous forms printing, paper type 2, i.e. matt coated offset, 115 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004
- ISOcofuncoated (FOGRA32).txt
FOGRA v3 ISOcofuncoated (FOGRA32).txt
Continuous forms printing, paper type 4, i.e. white uncoated offset, 80 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004
- ISOnewspaper26v4 (IFRA26L).txt
Newspaper coldset offset printing according to ISO 12647-3:2004, standard newsprint, screen ruling 40 l/cm ± 2 l/cm
- ISOuncoated (FOGRA29).txt
FOGRA v3 ISOuncoated (FOGRA29).txt
Commercial printing, paper type 4, i.e. uncoated white offset, 120 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004
- ISOuncoated_yw (FOGRA30).txt
FOGRA v3 ISOuncoated_yw (FOGRA30).txt
Commercial printing, paper type 5, i.e. uncoated slightly yellowish offset, 120 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004
- ISOwebcoated (FOGRA28).txt
FOGRA v3 ISOwebcoated (FOGRA28).txt
Commercial printing, paper type 3, i.e. glossy coated web, 60 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004
- FOGRA v3 PSO_MFC (FOGRA41).txt
Heat-set web offset printing, MFC paper
- FOGRA v3 PSO_SNP (FOGRA42).txt
Heat-set web offset printing, standard newsprint paper
- FOGRA v3 PSO_Coated_NP (FOGRA43).txt
Commercial printing, paper type 1 or 2, i.e. gloss or matt coated paper, non-periodic screening

- FOGRA v3 PSO_Uncoated_NP (FOGRA44) .txt
 Commercial printing, paper type 4, i.e. uncoated white paper, non-periodic screening
- FOGRA v3 PSO_LWC_improved (FOGRA45) .txt
 Heatset web offset printing on improved LWC paper (paper type 3), characterization data FOGRA45L
- FOGRA v3 PSO_LWC_standard (FOGRA46) .txt
 Heatset web offset printing on standard LWC paper (paper type 3), characterization data FOGRA46L
- FOGRA v3 PSO_uncoated (FOGRA47) .txt
 Offset printing on uncoated white paper (paper type 4), characterization data FOGRA47L
- SC paper eci (FOGRA40) .txt
- FOGRA v3 SC paper eci (FOGRA40) .txt
 Commercial printing, SC paper (super calandered), i.e. glossy coated web, 60 g/m², positive-acting plates, periodic screen 60/cm, solids and TVI according to ISO 12647-2:2004

Gravure Printing

- FOGRA v3 ECI_PSR_LWC_PLUS_V2.txt
 Web-fed gravure, paper type LWC Plus (improved LWC paper) gloss coated, 70 g/m², according to ISO 12647-4
- FOGRA v3 ECI_PSR_LWC_STD_V2.txt
 Web-fed gravure, paper type LWC (light-weight coated), 51 g/m², according to ISO 12647-4
- FOGRA v3 ECI_PSR_SC_STD_V2.txt
 Web-fed gravure, paper type SC (super calandered), 56 g/m², according to ISO 12647-4
- FOGRA v3 ECI_PSR_SC_PLUS_V2.txt
 Web-fed gravure, paper type SC Plus (whiter super calandered), 52 g/m², according to ISO 12647-4
- PSRgravureHWC.txt
- FOGRA v3 PSRgravureHWC.txt
 Gravure printing, MFC paper, 70 g/m², according to PSR of ECI, target values from PSRgravureHWC_ECI2002.txt
- PSRgravureLWC_sb.txt
- FOGRA v3 PSRgravureLWC_sb.txt
 Gravure printing, paper grade LWC, according to PSR of ECI, target values from PSRgravureLWC_ECI2002.txt

PSRgravureMF_sb.txt

FOGRA v3 PSRgravureMF_sb.txt

Publication gravure, machine finished paper, according to process standard gravure of ECI

PSRgravureSC_sb.txt

FOGRA v3 PSRgravureSC_sb.txt

Gravure printing, paper grade SC, according to PSR of ECI, target values from PSRgravureSC_IS12642.txt

Screen Printing

SilkScreenPrint (FOGRA9).txt

Screen printing, gamut class 2, similar to offset paper grade 1, according to ISO 12647-5

IDEAlliance

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GRACoLCoated1_ISO12647-7_ControlStrip2009.txt

Sheet-fed commercial printing, paper grade 1, coated, ISO 12647-7

SWOPCoated3_ISO12647-7_ControlStrip2009.txt

Web offset publication printing, paper grade 3, coated, ISO 12647-7

SWOPCoated5_ISO12647-7_ControlStrip2009.txt

Web offset publication printing, paper grade 5, coated, ISO 12647-7

Monitor

Uniformity Target.txt

Target value file for uniformity measurements

Swop

SWOP and GRACoL are US printing standards.

ORIS_GRACoL2006_Coated1.icc

Sheet-fed commercial printing, paper grade 1, coated. Profile created using color characterization data GRACoL2006_Coated1 from IDEAlliance®.

ORIS_SWOP2006_Coated3.icc

Web offset publication printing, paper grade 3, coated. Profile created using color characterization data SWOP2006_Coated3 from IDEAlliance®.

ORIS_SWOP2006_Coated5.icc

Web offset publication printing, paper grade 5, coated. Profile created using color characterization data SWOP2006_Coated5 from IDEAlliance®.

Color Bars and Reference Files

Color bars (*.tif) are available in the subdirectories of the respective printing standards, i.e. under

Windows ...\Program Files\CGS\ORIS Certified Monitor\Standards\...\Proofing Bars\

Mac OS ...Applications:ORIS Certified Monitor:Standards:...:Proofing Bars

The file names indicate the measurement device to be used. When using DTP20, you first have to measure a *TID strip*. The names of these files are similar to those of the corresponding color bars (...TID.tif).

Reference files (*.txt) are available under ...\Standards\...\Reference\. These files define the number of patches to be measured and their CMYK color values. They can be loaded when creating a monitor target.

- » RELATED TOPICS:
- CREATE OR MODIFY MONITOR TARGETS (PAGE 2-1)
 - REFERENCE (PAGE 9-4)

3DAP

Australian printing standard

The software includes two reference files for color bars, but not the color bars themselves.

3DAPv2 CMYK Wedge.txt

Defines a color bar with two rows for 3DAP Version 2

3DAPv3 CMYK Wedge.txt

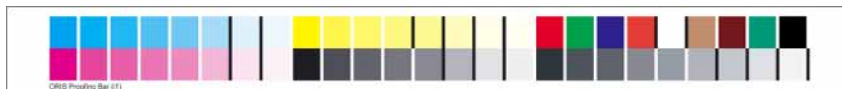
Defines a color bar with three rows for 3DAP Version 3

CGS

ORIS (DTP41-45).tif



ORIS (i1).tif



ORIS (iCColor).tif



ORIS (PULSE).tif



ORIS (PULSE) TID.tif



ORIS Reference.txt

Reference file defining these color bars.

Fogra

German printing standard

FOGRA Reference.txt

For color bars with two rows of patches

FOGRA v3 Reference.txt

For color bars with three rows of patches

FOGRA Proofing Bar

Internet shortcut to the FOGRA web site <http://www.fogra.org>.

FOGRA color bars are license-protected and must be purchased.

IDEAlliance

'International Digital Enterprise Alliance'

IDEAlliance ISO 12647-7_Control Strip 2009.pdf



IDEAlliance ISO12647-7_ControlStrip2009 CMYK.txt

Reference file defining this color bar.

Monitor

RGB Reference.txt

A collection of color patches that can be used for measuring monitor colors (see also page 5-1).

Monitor Reference.txt

Reference file used by default when creating ICC monitor profiles. It defines the RGB colors displayed and measured on the screen.

Uniformity Reference.txt

Reference file for uniformity measurements

» RELATED TOPICS:

- CALIBRATING MONITORS AND LIGHT BOOTHS (PAGE 3-1)
- MONITOR PROFILE REFERENCE (PAGE 9-13)

Sicogif

French printing standard

SICOGIF Reference.txt

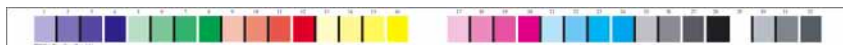
Swop

US printing standard

TR001 - 1 row (DTP41-45).tif



TR001 - 1 row (i1).tif



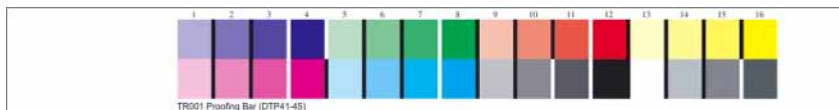
TR001 - 1 row (PULSE).tif



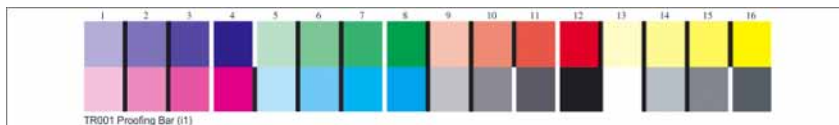
TR001 - 1 row (PULSE) TID.tif



TR001 - 2 rows (DTP41-45).tif



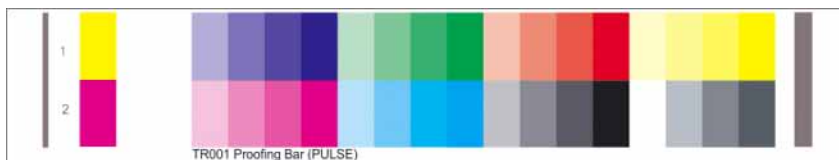
TR001 - 2 rows (i1).tif



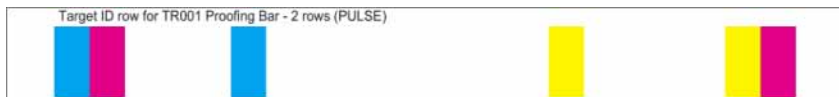
TR001 - 2 rows (iCColor).tif



TR001 - 2 rows (PULSE).tif



TR001 - 2 rows (PULSE) TID.tif



TR001 Reference - 1 row(i1).txt

TR001 Reference - 1 row.txt

TR001 Reference - 2 rows.txt

Reference files defining these color bars.

