

datacolor VIEWPORT



Quick Start Guide

This Quick Start Guide shall familiarize the user with the initial set-up routines and general use of the Datacolor VIEWPORT system. For more detailed information, please refer to the user tutorial video materials, provided on www.datacolor.com.

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1 System Components

Depending on the chosen system configuration, the Datacolor VIEWPORT system consists of up to three major components.

- a.) The Imaging System
- b.) The Desktop Application
- c.) The Monitor

After the assembly and set-up of the Imaging system, please get familiar with its individual parts and their purpose:



1. Light Cabinet

Datacolor VIEWPORT is an objective, instrumental alternative to the visual color approval process. Therefore an important component of the system is a reliable Light Cabinet.

2. Camera Arm with build-in Camera

The camera system captures color calibrated images and is an integral part of the system, to serve as the objective replacement to the visual, human observer¹.

3. Luminaire

To provide color assessment under different illuminants and to allow for metamerism analysis, the Light Cabinet is equipped with four light sources (Day-, Home- and two Store-Light²) of which three are used in each imaging sequence³.

4. Illuminant switch panel

The five buttons at the switch panel provide standby on/off, initializing an Image Sequence and individual switching between the three Light Sources⁴.

¹ The camera arm is equipped with a release bar to flip the camera-arm in an upwards position when the system is used for visual assessment only.

² See next chapter for selection of Store-Light type.

³ Replacement lamps must be obtained from Datacolor and annually providing, is included in the service contract. Other lamps than the specified ones result in uncontrolled image results.

⁴ If the lamps remain switched on for a longer duration, their Temperature can reach a level that prevent instant imaging, if detected by the Temperature-Control function of the system.

5. Sample tray

The sample tray accommodates samples up to A4 size and provides a support bar for secure sample placement. Magnetic stripes are provided to secure samples on the tray⁵.

6. Color-Calibration Chart

The 60-colors calibration chart must be present in each imaging sequence and can be covered with a flap to avoid damages when not in-use. Based on a comparison of the actual color data from each image to the reference data (provided on the calibration data CD), an accurate image correction can be provided⁶.



A replacement card is provided every 6 months as part of the service contract.

1.1 Additional Components and Connectors

The connector-panel on the back side of the system provides the main power inlet and main-power switch plus the USB connector.

Additionally the selection switch for selecting the type of store-light can be found on that panel.



To ensure even illumination at each point of the sample tray, the intensity of light on the sample tray needs to be controlled and calibrated. To perform the light-intensity calibration, a homogenous grey-card is provided with the system.



The grey-card shall be stored in its box as it is essential to provide it in an undamaged and immaculate status for the grey-card calibration. One replacement card per year is provided with the service contract.

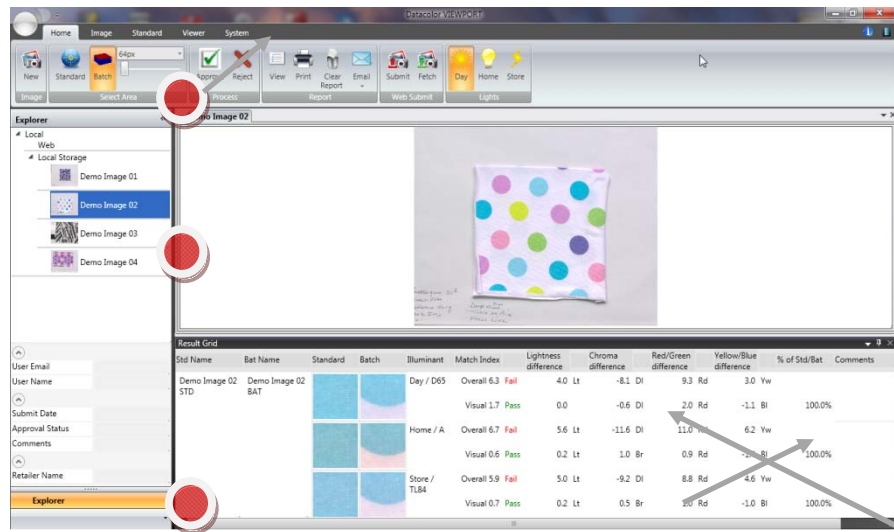
⁵ The dimensions of the captured images are slightly smaller than the A4 area on the tray. The color-calibration chart-width, define the max width of the captured area.

⁶ For high accuracy of the images, it is important to have an immaculate chart in place. Any damages, fingerprints or scratches on the color-calibration chart require its replacement.

2 Software

The Datacolor VIEWPORT desktop application is designed for easy obtaining accurate images and quickly assessing the color quality of non-solid color materials.

The user interface provides five main areas of interest. This section of the quick start guide is to familiarize the user with the basic functionality.



1. Menu Ribbon Bar

Five menus are provided to the user. Depending on the selected Menu, the related system functions are provided in the ribbon-bar

2. Data Explorer

Overview of Images on the local system

3. Image display area

Display the actual active Image and allow selection of Standard and Batch areas for individual color assessment

4. Result Data Grid

Indicates the color difference information of the active Standard and Batch(es)

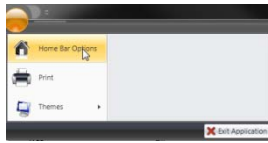
5. Image Property Display

Provide instant visibility to the defined properties of the active image.

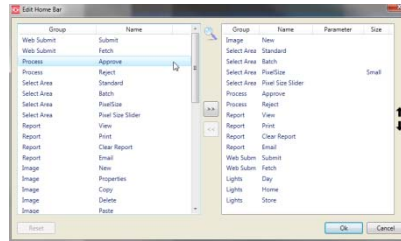
2.1 Menu options

Depending on the users intention the appropriate selection of sub-menus from the main-menu is made. The Home-Menu-Bar can be modified to serve the individual users needs for most frequently used tasks.

Click the **Home Button** and select **Home Bar Options**



The choice of available software functions and actually selected functions within the **Home Bar** are displayed and can be modified by using the left-/right-arrows. The sort-order of appearance in the Home Bar can be modified by using the up-/down-arrows



The individual Menu Bar functions are described herewith:

Home: ⁷ Capture new Images and perform color assessment within one image. Change Image Approval Status and create color assessment reports. Communicate images and view Image under different Illuminants.

Take a new Image

Select Standard and Batch area within image

Defines size of Standard and Batch area

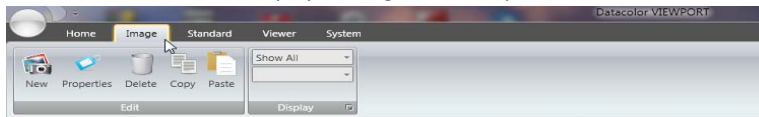
Change the Image approval status

Create and print reports. Clear the result grid

Communicate Images

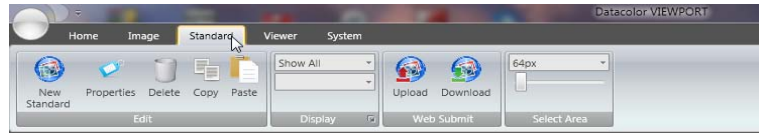
View Image under different Illuminants

Image: To capture, delete copy/paste Images and modify image properties⁸. Apply filters, to reduce the number of displayed Images in the Explorer.



⁷ Only the per default defined functions are described

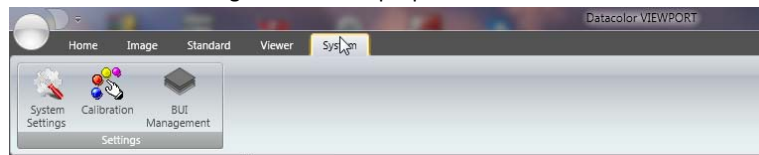
Standard: To define permanent Standards, modify Standard’s properties, delete and copy/paste permanent Standards. Filter functions for Standards to be displayed in the Explorer. Communicate Standards and define the size of a permanent Standard.



Viewer: To define swatches, decide if they shall be shown or not. Zoom-in/out and move Images. Reduce Images to one single color, show multiple images in parallel, view Images under different Illuminants.



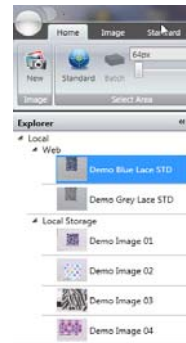
System: Change System Settings, perform grey-card calibration and create user defined fields as additional Image or Standard properties.



2.2 Data Explorer

The Data Explorer is the workspace to list Images and permanent Standards, stored on the system’s Hard Disc. The Explorer is separated into an area of Images/Standards that were taken with the connected System [Local Storage] and data that was retrieved from another VIEWPORT System via data exchange [Web].

Based on the active main Menu the shown data content varies. If Home, Image or Viewer is active, only Images are shown.



⁸ The same functions plus Image submission are provided as a right-click-menu in the Explorer area

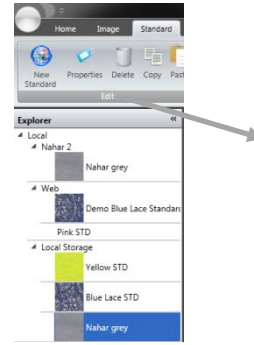
If **Standard** is the active menu only **Standards** are shown.

The name of the active **Image** is shown as first entry.

If for the active Image a **Standard** got defined, the

Standard's name and a thumbnail is shown as next entry.

Standards stored on the local system are divided into downloaded Standards [Web] and Standards created on the local System [Local Storage].



2.3 Image Display Area

The Image Display Area shows the active Image. By selecting **Standard** or **Batch** from the **Select Area** Option of the **Home Menu**, the user defines which areas of an image shall be compared numerically. The selection of the Standard and the Batch can also be done across different Images.

If the **Viewer** Menu is selected, the Result Data Grid is hidden from the Display Area and individual **Swatches** can be defined within an Image. Multiple Images⁹ can be displayed simultaneous by activating the **Pin to Viewing Area** function from the right-mouse-click menu in the Explorer area.

Defined Swatches can be compared visually by selecting the **Show all** function. Swatches can be moved and overlaid in the Viewer.

2.4 Result Data Grid

After the definition of a Batch area to a defined Standard (temporary or permanent¹⁰) the numerical color deviation results are displayed in the grid.

- Standard and Batch Name¹¹ can be modified by a double click on them
- A double click on the thumbnail, indicates the area in the Image where the Standard and Batch were defined
- The Illuminants the Image was captured under are shown and vary, based on the selected Store-Light selection¹²

⁹ Up to four

¹⁰ Defined Permanent Standards are activated by the right-click menu option **Use as reference** in the Explorer area at **active Standard Menu**

¹¹ Default Standard and Batch Names are their Image's name

¹² Images with different Store-Light Type cannot be compared

Two lines of results are displayed and accommodate different Material type needs for color assessment.

- Overall:** These differences take into account all pixels color data within the defined Standard and Batch areas for comparison. It is the appropriate information to analyze when larger areas of non solid materials are compared and the general color acceptance of the Batch to the Standard is of interest. The overall Match Index shall be looked at when Standard and Batch represent similar appearance. It provides the color difference of the arithmetic mean of all colors in the Standard and Batch area. It is not the arithmetic mean of the differences.

The overall method can provide smaller color differences than the visual method, if in multi colored Standards and

Batches only a small number of pixel deviate.



Comparing a solid color Standard to a multi-colored Batch will result in high overall differences and the visual data shall be looked at.



- Visual:** Based on image processing procedures, looking for the Standard's color within the Batch, the system is not averaging all pixels like in the overall method. The visual method resembles the human assessment and allows identification of small pixel areas within the defined Batch for their difference to a solid Standard. The first step of the system's analytic is to find the closest color within the Batch area to each Standard color. By weighting the pixel counts the result is provided.

2.5 Image Properties Display

The defined properties¹³ of the active Image or Standard are displayed under the Explorer view to provide the user instant visibility to defined and important properties.

Two properties are important for the data exchange with user VIEWPORT systems¹⁴:

For Images

- User Name
- Retailer Name

For Standards

- Retailer

¹³ The selection of individual properties is provided as a System Settings option

¹⁴ The definition of User Name and Retailer name is accessible by the communication administrator only and has to be provided to all users that shall exchange data

3 System Settings

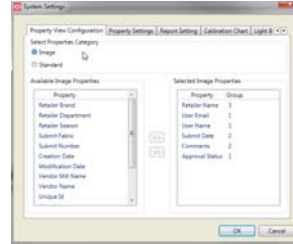
The System Settings menu provides access to various settings and default definition options that make the use of Datacolor VIEWPORT Desktop Software more comfortable and adjusted to individual user's needs.

A dialog with nine individual TABs guides the user through the individual settings:

1.) Property View Configuration

Properties¹⁵ provide useful information about an Image or a Standard. Next to the creation/modification date and name of the user, who generated a data set, relevant information for the data exchange (Retailer Name) can be displayed on the software's main user interface.

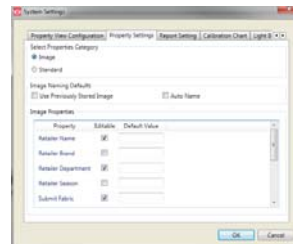
This dialog allows the user to select from the list of available properties, which one and in which sort order (Group) the properties shall be displayed. There is an individual selection of properties for Images and Standards.



2.) Property Settings

For each defined property a default value can be defined. This minimizes the need for entering recurring properties every time an Image or Standard is created.

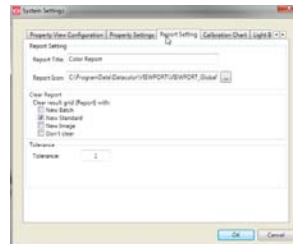
Two checkboxes allow pre-defining the naming of Images and Standards. The previous stored data name can be proposed or Images and Standards are automatically named by the system with incremental numbers. The user has the choice if a property shall be editable.



3.) Report Settings

In this dialog, the user defines

- The header of generated PDF reports
- Which Icon shall be printed on reports
- In which cases the Result Data Grid shall be cleared
- What the system-wide Tolerance for the Pass/Fail decision by the system should be.

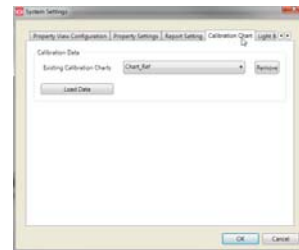


¹⁵ See page 5

4.) Calibration Chart

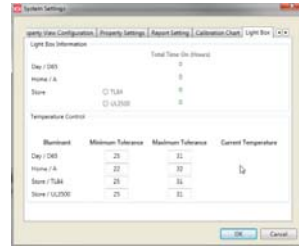
Loading the valid color calibration chart data is provided with this dialog¹⁶.

Every time a new color calibration chart is used, the appropriate chart-data must be loaded in this dialog.



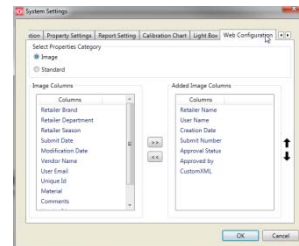
5.) Light Box

The actual operating-hours of each Lamp are displayed. Additionally the defined operating temperatures for each lamp are shown¹⁷. Please consult the additional user documentation for details on changing and using the temperature control function.



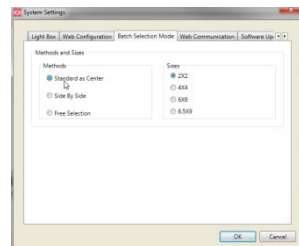
6.) Web Configuration

In this dialog the columns that are displayed in the data retrieval dialog and their sort order are defined¹⁸. There is an individual selection of data fields for Standards and Images.



7.) Batch Selection Mode

For highest performance of accuracy the area within an image where a Batch can be selected in relation to the defined Standard can be limited¹⁹. The user can chose whether the Standard shall be in the center to the Batch or Standard and Batch are selected side by side. Different area sizes in relation to the Standard are available for selection.



¹⁶ Upon initial use of the system, the user is directed to this dialog before the first image can be taken.

¹⁷ The system provide best accuracy results only, while lamps are operated within this temperature limits

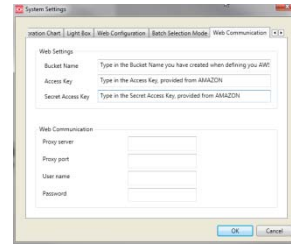
¹⁸ If no data is communicated with other systems, this dialog is not relevant

¹⁹ If Standard and Batch are selected from different Images, the *Free Selection* must be enabled

8.) Web Communication

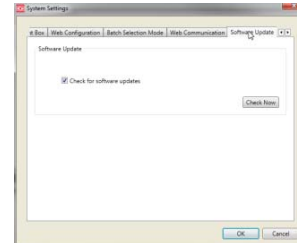
For users who want to exchange data with other VIEWPORT systems, in this dialog the therefore important settings are entered. The strings to be entered are defined and provided during the AWS account setup²⁰.

If users have to communicate to the Internet using Proxy Servers, the relevant settings are entered herein.



9.) Software Update

To keep your Datacolor VIEWPORT software up-to-date and benefit from software updates, included in the support contract, the installation can automatically search for available newer versions of the product on the Datacolor Server upon start-up of the software.



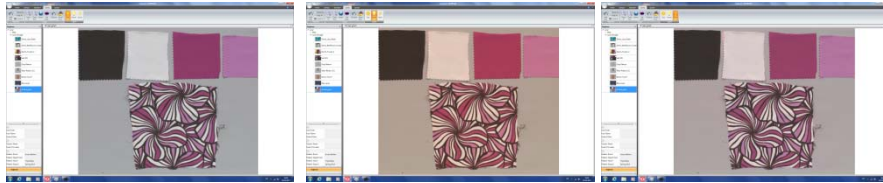
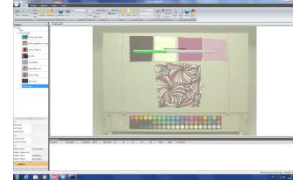
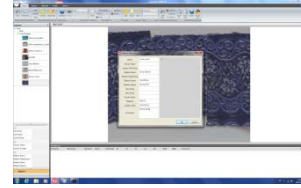
²⁰ Please consult the separate Data Exchange section of this user guide and Datacolor Support for detailed information.

4 Working with the System

Taking accurate, color-calibrated images and assessing the color quality is done with a few, simple steps.

4.1 Capturing new Images

- Select the **New** button in either the **Home** or **Image** menu²¹
- The opening dialog is to enter you new Image properties. The only mandatory field is the Image's name. Entering User Name and Retailer Name is mandatory if the taken image shall be exchanged, using the AWS.
- If the detected temperature of the lamps is not within the defined temperature range, a dialog will inform you and taking the image is suspended until the defined temperatures are reached.
- A dialog will inform you about the progress of the image capturing process for all three light sources²².
- Once all images are taken a short image-processing time has to be passed before the taken image is displayed under day-light.
- You can view the taken images under each light source, by selecting the desired light source from the related menus (Home or Viewer).



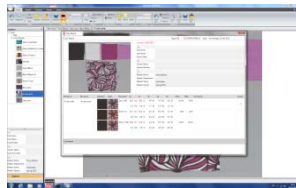
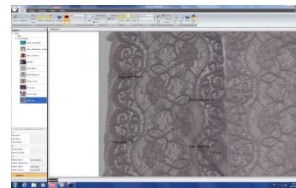
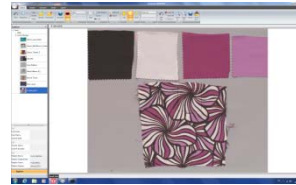
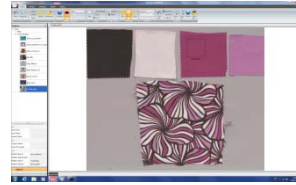
²¹ Pressing the Image Button on the Hardware opens the same, next dialog

²² You'll notice the individual lamp-stabilization phase after the lamps are switched on individually by the system, before taking the individual images

4.2 Assessing the Color Quality

In order to do a color comparison, the Standard and Batch region within taken images must be defined.

- Press the Standard button in the Home menu.
- Select the appropriate size of the Standard area you want to define by using the predefined sizes or the slider.
- After defining the area that shall be used as a Standard²³, the Batch area definition button is activated automatically.
- Define the relevant Batch area or adjust the Batch area size before.
- Once the Batch is defined, the results of comparing the Batch area to the defined Standard area are displayed in the result grid.
- You can zoom in the image and select small details to be compared.
- A double-click on the area's thumbnail will indicate the area within the image.
- You can select multiple Batch areas to be compared to the defined Standard area, until a new Standard area is defined.
- Reports can be viewed, printed or e-mailed and contain the data according the Report Settings from the System Settings.

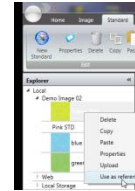


If the Standard is represented by a different Image than the Batch, you have to select the Standard area in the relevant Image in the same way as described above. Then proceed with the Batch area selection in the Batch Image.

²³ The Standard area is indicated by a square once you move the mouse over the image

4.3 Working with permanent Standards

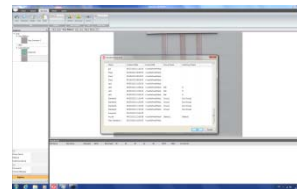
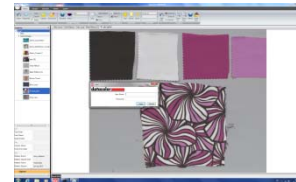
If a Batch from a new taken image shall be compared to an already defined Standard, select this Standard by choosing the Standard Menu and open the right mouse-click menu on the desired Standard. Select **Use as Reference** from the menu and continue with the Batch area selection from the desired image as described above.



4.4 Working with Images, taken on other Systems

Datacolor VIEWPORT provides the option for sharing Images amongst supply chains by utilizing AWS and could data repositories.

- To get an **Image**, taken on a different System, from the cloud, select the **Fetch** button from the **Home** menu.
- If you need to download a **predefined Standard**, select the **Download** button from the **Standard** menu.
- After logging in with your provided credentials, you'll see the available data on the cloud, made accessible to you.
- Select the desired Image/Standard and press OK. After completing the download²⁴, the Image/Standard is accessible on your local system from the relevant areas of the Data Explorer²⁵.



²⁴ A progress-bar is displayed in the lower right corner of the user interface and a completion message is provided.

²⁵ See section 2.2 of this Quick Start Guide.

5 Set-up for Data exchange²⁶

Datacolor VIEWPORT provides the ability to exchange Images and Standards with other VIEWPORT system, using **Amazon Web Services**. The file-size of the highly accurate, calibrated, high resolution Images, captured by the VIEWPORT system require reliable, secure and data size-independent storage and communication methods. Utilizing an established and proven method for large data amount storage and world-wide immediate access, made Datacolor choosing the **AWS** as default and embedded data-exchange method.

Especially globally sourcing companies need to exchange Standard and Image data with their supply chain. In this scenario, it is up to the Retailer, Specifier or Brand to set-up the AWS in order to define and control the access to the communicated data. Individual suppliers must not set-up their own AWS accounts in order to participate in a data-exchange program, set-up by their customer. Login credentials to the Server Space [Bucket] and individual user-logins for suppliers are provided by the AWS account managing Retailer.

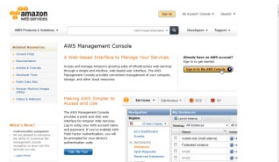
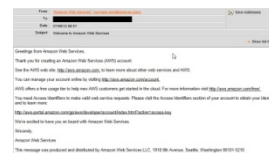
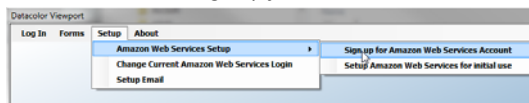
Signing-in for, and setting-up an AWS account²⁷ for Retailers and Brands is done in three easy steps²⁸:

- 1.) Start the ViewportWebModule²⁹ and select *“Sign up for Amazon Web Services Account”*.

You'll be directed to the AWS login-website

from Amazon, to enter your general Amazon-Account-Login and signing in their secure server. Follow the individual steps for your AWS account creation and receive an e-mail notification as successful activation confirmation.

- 2.) The e-mail notification will provide you a link to access and manage your newly created AWS account³⁰. Follow the link and enter to the AWS Management Console. Select **“S3”** from the provided list of Amazon Web Services.



²⁶ For users not intending to exchange data, this section is not of relevance

²⁷ An Amazon Account is prerequisite to make use of the Amazon Web Services [AWS]

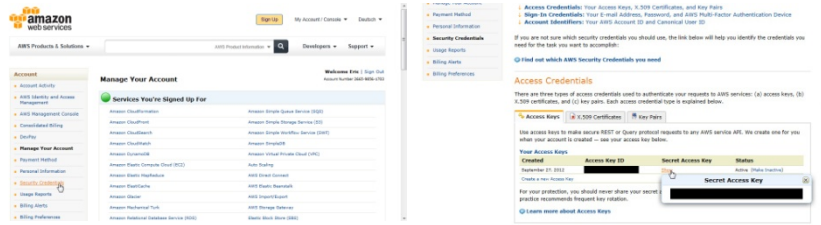
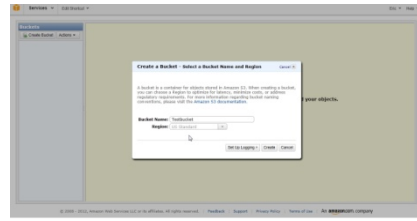
²⁸ Please contact the Datacolor Support for detailed assistance in this set-up

²⁹ The executable can be found in the installation directory of Datacolor VIEWPORT

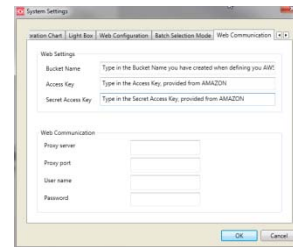
³⁰ If an active AWS account is already accessible, please proceed with step 3

You will be asked to create a bucket³¹. Enter a bucket-name and select a region according to the provided information from Amazon.

In the management options of your created AWS account you can retrieve the security credentials, necessary to be entered into the Web-Communication System-Settings of the VIEWPORT Software³².



- 3.) Enter the **Bucket name** you have earlier defined in step 2.)
Copy/paste the **Access Key ID** and **Secret Access Key** into the appropriate dialog in the Datacolor VIEWPORT Web Communication dialog in the System Settings.
Keep these credentials stored, for later submission to your Suppliers.



Now you can start creating your users from within the Datacolor VIEWPORT Web Module.

³¹ A bucket-name must be unique to the entire Amazon Cloud. Chose a name you remember.

³² See page 12 of this user guide