

DELL Color Management Software

User Manual

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Regulatory model: Color Management



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Contents

Introduction	4
DELL Color Management	5
Common UI Elements	5
Dashboard	7
Advanced	10
CAL 1 CAL 2 Management	12
Settings	13
Task Tray Menu	14



Introduction

DELL Color Management software is a Windows application that manages the color spaces of the DELL UltraSharp UP3221Q display. DELL Color Management software allows quick selection of the color spaces stored in the display, creation and management of ICC profiles (v2 and v4.3), and uploading of customized color spaces created with Calman[®], the industry standard color calibration software for professionals.

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DELL Color Management

Supported operating system:

- Microsoft Windows 7, Windows 10

Hardware:

- DELL UltraSharp UP3221Q display

Communication:

- USB – For setup information refer to DELL UltraSharp UP3221Q Quick Start Guide

Common UI Elements

The application has two views, Dashboard and Advanced. The top and bottom borders for both views have common elements.

Table 1 – Top Border

	<p>Monitor Model and Service Tag</p> <p>The display model and service tag are shown. For multi-monitor configurations (up to four displays) the multi-monitor drop-down menu displays all UP3221Q displays attached to the system. Selecting a display from the menu will make it the active display to control.</p>
	<p>Identify</p> <p>Shows the OSD Monitor overlay for each attached monitor with numeric value.</p>
	<p>Settings</p> <p>Opens the Settings overlay to access Run at startup, Application Window Focus, Reset Warning Dialogs, Check Update, and About.</p>



	<p>Minimize</p> <p>Closes the UI and minimizes the application to the task bar. If the Hardware Lock has been enabled, the monitor can be power cycled when the application is minimized.</p>
	<p>Close</p> <p>Closes the UI and minimizes the application to the task tray. If the Hardware Lock has been enabled, the monitor can be power cycled when the application is closed.</p>

Table 2 – Bottom Border

	<p>Lock monitor while under Software Color Management Control</p> <p>Displays the current state of the Hardware Lock. When Enabled, the OSD will be locked and cannot be accessed when the application is running.</p>
	<p>Calman</p> <p>When Calman Studio or Ultimate is installed selecting the Calman logo will launch Calman.</p>
	<p>DELL Store</p> <p>Link to the DELL store.</p>



Dashboard

When launched, the Dashboard is the home page for DELL Color Management. The Dashboard provides a detailed view of all color spaces stored in the display. The radio button and highlighted row indicate the active color space. Click any row to make the color space in that row active.

COLOR SPACE	RED _{x,y}	GREEN _{x,y}	BLUE _{x,y}	WHITE _{x,y}	GAMMA	LUMINANCE cd/m ²	HOURS SINCE LAST CALIBRATION	10/30 LUT	ICC VERSION
S1 DCl-P3	0.680, 0.320	0.265, 0.690	0.150, 0.060	0.313, 0.329	2.4	100	0	10	v2
S2 BT-709	0.640, 0.330	0.300, 0.600	0.150, 0.060	0.313, 0.329	-	100	28	10	v2
S3 BT-2020	0.708, 0.292	0.170, 0.797	0.131, 0.046	0.313, 0.329	-	100	28	10	v2
S4 sRGB	0.640, 0.330	0.300, 0.600	0.150, 0.060	0.313, 0.329	sRGB	120	0	10	v2
S5 Adobe RGB D65	0.640, 0.330	0.210, 0.710	0.150, 0.060	0.313, 0.329	2.2	160	0	10	v2
S6 Adobe RGB D50	0.640, 0.330	0.210, 0.710	0.150, 0.060	0.346, 0.359	2.2	160	9	10	v2
Native	--	--	--	--	--	--	--	10	v2
H1 sRGB 10 D65	0.708, 0.292	0.170, 0.797	0.131, 0.046	0.313, 0.329	ST-2080	1000	30	30	v4
H2 HDR D65 HL-G	0.708, 0.292	0.170, 0.797	0.131, 0.046	0.313, 0.329	HL-G	1000	30	30	v4
User 1	--	--	--	--	--	150	--	10	--
User 2	--	--	--	--	--	150	--	10	--
User 3	--	--	--	--	--	150	--	10	--

Figure 1 - Dashboard SDR

COLOR SPACE	RED _{x,y}	GREEN _{x,y}	BLUE _{x,y}	WHITE _{x,y}	GAMMA	LUMINANCE cd/m ²	HOURS SINCE LAST CALIBRATION	10/30 LUT	ICC VERSION
S3 BT-2020	0.708, 0.292	0.170, 0.797	0.131, 0.046	0.313, 0.329	-	100	28	10	v2
S4 sRGB	0.640, 0.330	0.300, 0.600	0.150, 0.060	0.313, 0.329	sRGB	120	0	10	v2
S5 Adobe RGB D65	0.640, 0.330	0.210, 0.710	0.150, 0.060	0.313, 0.329	2.2	160	0	10	v2
S6 Adobe RGB D50	0.640, 0.330	0.210, 0.710	0.150, 0.060	0.346, 0.359	2.2	160	9	10	v2
Native	--	--	--	--	--	--	--	10	v2
H1 HDR 10 D65	0.708, 0.292	0.170, 0.797	0.131, 0.046	0.313, 0.329	ST-2084	1000	30	30	v4
H2 HDR D65 HL-G	0.708, 0.292	0.170, 0.797	0.131, 0.046	0.313, 0.329	HL-G	1000	30	30	v4
User 1	--	--	--	--	--	150	--	10	--
User 2	--	--	--	--	--	150	--	10	--
User 3	--	--	--	--	--	150	--	10	--
CAL1 DCl-P3 00212..	0.680, 0.330	0.265, 0.690	0.150, 0.060	0.346, 0.359	1.6	100	0	30	v2
CAL2 DCl-P3 00212..	0.680, 0.330	0.265, 0.690	0.150, 0.060	0.346, 0.359	1.6	100	0	30	v2

Figure 2 - Dashboard HDR



Table – Column Fields

Color Space	<ul style="list-style-type: none">• DCI-P3 – Digital Cinema D65• BT.709 – Standard definition video• BT.2020 – Ultra high definition video• sRGB – RGB for computer monitors, print, and internet viewing• Adobe RGB D65 – Adobe RGB, D65 white point• Adobe RGB D50 – Adobe RGB, D50 white point• Native – No color correction. Hours since last calibration will be null.• HDR 10 D65 – HDR 1000 nites D65.• HDR D65 HLG – Hybrid Log-Gamma D65.• Custom 1/2/3 – Temporary preset locations. Targets are set in the OSD. Hours since last calibration will be null. No ICC profile.• CAL 1/CAL 2 – User calibrations created either in Calman or from the OSD of the display. Null fields indicate no calibration has been uploaded.
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Chromaticity	Red, Green, Blue, White x, y coordinates
Gamma	Target gamma formula for the color space
Luminance	SDR 45 – 350 range HDR – 1000 nits
Hours since last calibration	<ul style="list-style-type: none"> • Hourly counter since last calibrated. Hours are color coded. • Grey - Normal 0-99 hours • Yellow - Exceed 100 hours, 100-149 hours • Orange - Approaching 200 hours, 150-199 hours • Red - 200 or more hours of use since last calibration
1D/3D LUT	Calibration with 1D, 3x3 matrix, or 3D calibration.
ICC Version	Version 2 or Version 4.3 MHC compliant associated with the color space. Profiles are generated each time the color space has been calibrated.



Advanced

The Advanced view provides the ability to quickly change modes, manage ICC profile settings, set preferences, and upload imported calibrations from Calman®.

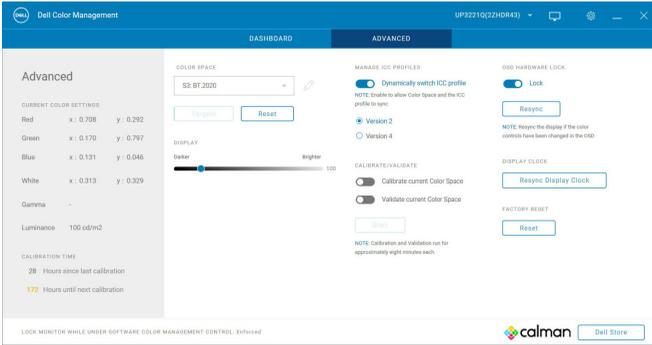


Figure 3 - Advanced

Table – Column Fields

Left Gray Panel	Shows the current color space settings. This area is only for information, not for making changes.
Color Space	Drop-down menu to select any color space.
Color Space Reset	Resets the current color space to its default settings. Reset is not available when CAL 1 or CAL 2 is selected.
Targets	Only available when CAL 1 or CAL 2 is selected. When selected the Target button is enabled. Selecting Target opens the Calman Studio Calibrated Targets pane for managing and uploading calibrations.
Display Slider	Adjusts the luminance for the current color space. If luminance is changed for a calibrated color space, an alert will appear under the Display Slider “A change in luminance will take the display out of the current calibrated state.” Luminance slider is not available when in HDR mode.



Rename	Allows CAL 1, CAL 2, User 1/2/3 to be renamed to a descriptive name.
Calibrate/Validate	Calibrates and/or Validates the current selected color space.
OSD Hardware Lock	When enabled, this setting locks both the Power and the monitor OSD buttons when DELL Color Management software is open. Minimizing to the task bar or task tray allows the power button to function. Exiting the application allows the monitor OSD buttons to function. The Hardware Lock status is shown in the bottom border.
Resync	Selecting Resync synchronizes the application to the OSD. This is required if changes to the display have been made while the application is running (e.g., making adjustments using the OSD buttons or using another application, such as Calman, to adjust the display).
Manage ICC Profiles	<p>When enabled, the application synchronizes the system ICC profile with the active color space. Selecting Version 2 or Version 4.3 associates the color space with that version. When the application is launched, it will check the calibration status for each color space. If the color space has been recalibrated, the application generates a new ICC profile. Custom 1/2/3 color spaces do not have ICC profiles.</p> <p>NOTE: Some applications do not recognize a changed ICC profile while running. The application needs to be closed and reopened to apply the changed ICC profile.</p>



Calibration Time	Shows the calibration hours in color. <ul style="list-style-type: none"> • Grey - Normal 0-99 hours • Yellow - Exceed 100 hours, 100-149 hours • Orange - Approaching 200 hours, 150-199 hours • Red - 200 or more hours of use since last calibration
Resync Display Clock	Reads the display's clock to sync it to the application and updates the calibration hours.
Factory Reset	Resets all color spaces to the factory settings.

CAL 1 CAL 2 Management

DELL Color Management software can import any calibration that has been created in Calman by uploading the calibration directly into CAL 1 or CAL 2 in the display. The ability to store and upload Calman calibrations allows unlimited calibrations to be saved to the system so any calibration can be uploaded that is best suited for the workflow. An ICC profile for the calibration is created whenever a calibration is uploaded.

 **NOTE: Calibrations for CAL 1 and CAL 2 can also be created from selecting targets within the OSD. These calibrations can NOT be downloaded to Color Management software for future use.**

1 In the Advanced view, select either CAL 1 or CAL 2 from the Color Space drop-down menu.

2 Select Targets button – The Calman Studio Calibrated Targets will be displayed.

Import – Imports a calibration and adds it to the list of available Calman calibrations. Selecting Import will open Explorer to navigate to the calibration file. Calman calibrations have the file extension CCEX.

Load – Loads the selected calibration into the display. A warning message will appear stating that the calibration will overwrite the existing color space data in the display. Note that the calibration file name will not replace CAL 1 or CAL 2. The descriptive name is only shown in the application.

Remove – Removes the selected entry from the list of calibrated targets.

OK – Returns to the Advanced view.



Settings

Settings are available from the cog in the title bar.

Run at startup – When enabled, the application launches at system startup and is available in the Task Tray. If disabled, the application must be manually launched from the start menu or desktop shortcut.

Application Window Focus – When enabled, the application window appears at the forefront of the desktop.

Reset Warning Dialogs – When enabled, the application resets all hidden warning dialogs. All dialogs that have been set to “Do not show me this notification” will be displayed.

Check Update – Manually check for the latest released version of DELL Color Management software. Opens a new browser page. If a new version is available, it can be downloaded from the site. If no new version is available, a message is shown indicating “Your software is current”. Requires internet connection.

About – Displays About information.



Task Tray Menu

The Task Tray menu offers a quick way to manage the display settings without having to open the application. The most commonly used Color Management features are available when right-clicking of the application icon in the task tray.

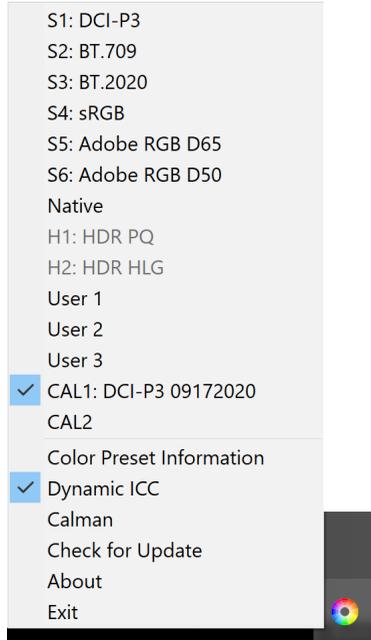


Figure 4 - Task Tray Icon and Menu

Right click

- **Select Monitor** – This entry is only shown when more than one supported display is attached to the system. A check mark indicates the active display. Selecting any other display entry from the fly-off makes the new selection the active display. The display is identified by model name and service tag. Entry is only available when more than one UP3221Q or UP2720Q are attached to the host.
- **Color Spaces** – Selecting any of the color space entries makes the selection the active color space. A check mark next to the color space name indicates the color space in use.
- **Load Target CAL 1/CAL 2** – The fly-off menu shows all custom calibrations stored in the system. Selecting any of the calibrations loads the data into the display.
- **Color Preset Information** – Displays a dialog of the active color space information: Luminance, gamma, gamut (with x:y RGB), preset name, and white point.



- **Dynamic ICC** – Enable or disable Dynamic ICC by selecting the entry. When enabled a check mark is shown indicating Dynamic ICC is On. Changing the color space changes the ICC profile associated with the color space. When Off, the default ICC profile is not changed when the color space is changed.
- **Calman** – Launches Calman Studio. This entry is only active when Calman is installed. When selected, Calman will launch.
- **Check for Update** – Manually check for the latest released version of DELL Color Management software. Opens a new browser page. If a new version is available, it can be downloaded from the site. If no new version is available, a message is shown indicating “Your software is current”. Requires internet connection.
- **About** – Shows the About box with version information.
- **Exit** – Closes the application and removes it from the task tray.

Left click

- Launches the application.

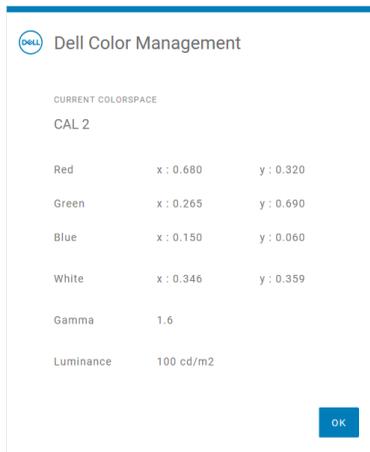


Figure 5 - Color Space Info Dialog

