

Dell Calibration Assistant

User's Guide

Model: Calibration Assistant
Regulatory model: Calibration Assistant



Notes, cautions, and warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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2019 - 10

Rev. A00

Contents

Overview	4
Before you begin	4
Using the Dell Calibration Assistant	5
Dashboard	6
Report	8
Calibrated by CalMAN Ready	10
Scheduler	11
Resync Display Clock	12
Troubleshooting	13

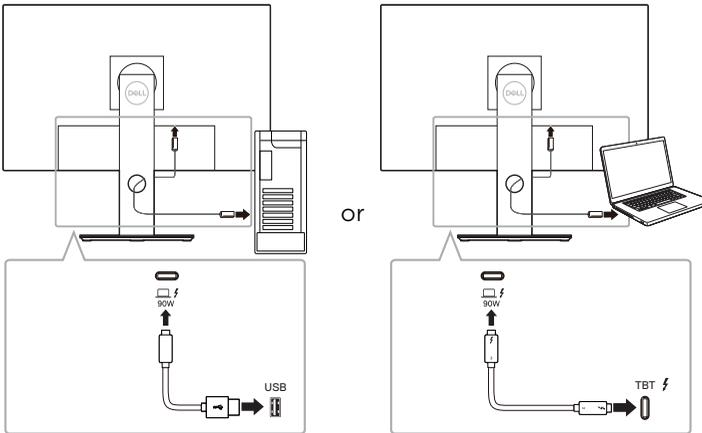


Overview

Dell Calibration Assistant is an application designed for scheduling internal calibration and validation, review calibration and validation results, and generate calibration and validation reports into HTML format for web posting.

Before you begin

- 1 You must have a Dell UP2720Q monitor connected to your computer.
- 2 Download the Dell Calibration Assistant software from the following site: <https://www.dell.com/UP2720Q>.
- 3 Ensure that the Thunderbolt™ 3 Active cable is connected from the Thunderbolt™ 3 Upstream Port of the monitor to the computer or the Notebook.
- 4 If you are connected using HDMI or DP connection, ensure that the USB Type-C to A cable is connected from the Thunderbolt™ 3 Upstream Port of the monitor to your computer.



NOTE: If you do not have the Thunderbolt™ 3 Active cable or USB Type-C to A cable connected when you launch the Dell Calibration Assistant, the following appears:



Using the Dell Calibration Assistant

- 1 Click on the Application icon to launch the Dell Calibration Assistant.



NOTE: For Ubuntu, Dell Calibration Assistant is only supported in 64-bit versions.

- 2 The application communicates with the monitor connected to the host and establishes a link to sync with the monitor OSD.



NOTE: This process may take a few minutes.



NOTE: Close Dell Calibration Assistant before conducting internal calibration or validation. Relaunch the software after internal calibration or validation is complete.



NOTE: To refresh information on Dashboard and Report, close and relaunch Dell Calibration Assistant.



NOTE: Open and use only one of the following software programs at any given time: Dell Calibration Assistant, Dell Color Management Software, or CalMAN Ready.



Dashboard

The Dashboard page allows you to select the target Color Space to schedule task for calibration, validation, or calibration and validation.

To select Color Space for calibration and/or validation, do the following:

- 1 If multiple monitors are connected, select the target monitor from the monitor list.

The screenshot shows the Dell Calibration Assistant interface. The top navigation bar includes 'DASHBOARD', 'REPORT', and 'SCHEDULER'. The main content area is titled 'Select Color Space for Calibration and/or Validation' and displays a table with the following data:

Cal.	Val.	Color Space	Last Calibration Date	Last Validation Date
<input type="checkbox"/>	<input type="checkbox"/>	DCI P3 D65 G2.4 L100	--	--
<input type="checkbox"/>	<input type="checkbox"/>	BT.709 D65 BT1886 L100	--	--
<input type="checkbox"/>	<input type="checkbox"/>	BT.2020 D65 BT1886 L100	--	--
<input type="checkbox"/>	<input type="checkbox"/>	sRGB D65 sRGB L250	--	--
<input type="checkbox"/>	<input type="checkbox"/>	Adobe RGB D65 G2.2 L250	--	--
<input type="checkbox"/>	<input type="checkbox"/>	Adobe RGB D50 G2.2 L250	--	--
<input type="checkbox"/>	<input type="checkbox"/>	CAL 1	--	--
<input type="checkbox"/>	<input type="checkbox"/>	CAL 2	--	--

Below the table, the device information is displayed:

Device Name: UP2720Q
Service Tag: F60609B
Status: Device connected.
Software Version: 1.0.4.8

A 'Send to Display' button is located at the bottom right of the interface.

- 2 Select the Color Space you wish to schedule for internal calibration, validation, or calibration and validation.

The screenshot shows the Dell Calibration Assistant interface with the 'Select Color Space for Calibration and/or Validation' table. In this view, several options are selected with checkboxes:

Cal.	Val.	Color Space	Last Calibration Date	Last Validation Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>	DCI P3 D65 G2.4 L100	--	--
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BT.709 D65 BT1886 L100	--	--
<input checked="" type="checkbox"/>	<input type="checkbox"/>	BT.2020 D65 BT1886 L100	--	--
<input type="checkbox"/>	<input checked="" type="checkbox"/>	sRGB D65 sRGB L250	--	--
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Adobe RGB D65 G2.2 L250	--	--
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Adobe RGB D50 G2.2 L250	--	--
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CAL 1	--	--
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CAL 2	--	--

The device information remains the same as in the previous screenshot:

Device Name: UP2720Q
Service Tag: F60609B
Status: Device connected.
Software Version: 1.0.4.8

The 'Send to Display' button is still present at the bottom right.



- You can edit color space parameters for **CAL 1** or **CAL 2** by clicking on the hyperlink.

The screenshot shows the Dell Calibration Assistant interface. At the top, there's a navigation bar with 'DASHBOARD', 'REPORT', and 'SCHEDULER' tabs. The 'DASHBOARD' tab is active. Below the navigation bar, there's a section titled 'Select Color Space for Calibration and/or Validation'. This section contains a table with columns: 'Cal.', 'Val.', 'Color Space', 'Last Calibration Date', and 'Last Validation Date'. The table lists several color spaces, including 'CAL 1' and 'CAL 2', which are highlighted in blue. Below the table, there's a form for 'CAL 1' configuration. The form includes fields for 'Color Space' (set to 'Custom'), 'White Point' (set to 'Custom'), 'Gamma' (set to '1.6'), and color coordinates for 'RED', 'GREEN', and 'BLUE' (x,y). There are also 'SAVE' and 'CANCEL' buttons, and a 'Send to Display' button at the bottom right.

- Click **Send to Display** to update the OSD.

The screenshot shows the Dell Calibration Assistant interface. At the top, there's a navigation bar with 'DASHBOARD', 'REPORT', and 'SCHEDULER' tabs. The 'DASHBOARD' tab is active. Below the navigation bar, there's a section titled 'Select Color Space for Calibration and/or Validation'. This section contains a table with columns: 'Cal.', 'Val.', 'Color Space', 'Last Calibration Date', and 'Last Validation Date'. The table lists several color spaces, including 'CAL 1' and 'CAL 2', which are highlighted in blue. Below the table, there's a form for 'Device Information'. The form includes fields for 'Device Name' (UP2720Q), 'Service Tag' (F60609B), 'Status' (Device connected), and 'Software Version' (1.0.4.8). There is a 'Send to Display' button at the bottom right.

- Click on the Date and Time hyperlink on the upper right corner to go to the **Scheduler** page to set calibration, validation, or calibration and validation schedule.

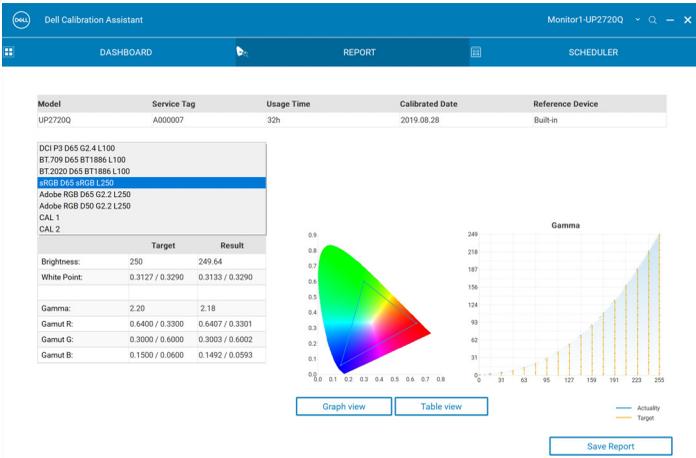
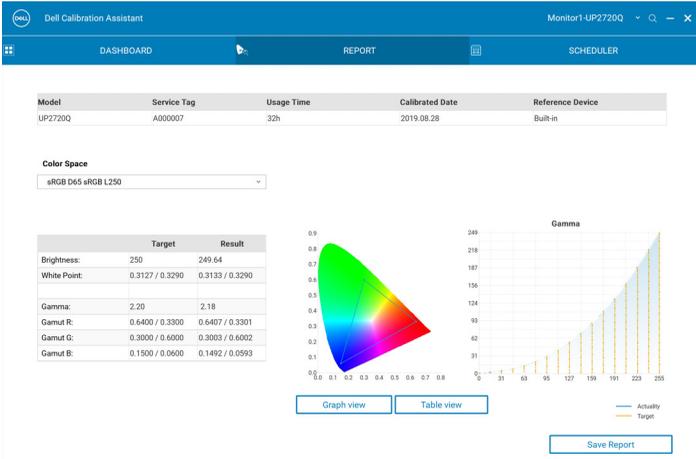


NOTE: The Service Tag and Software Version numbers in this guide are illustrations only, and may differ from what are shown on your display. Please refer to your display for the correct Service Tag and Software Version numbers to your software.

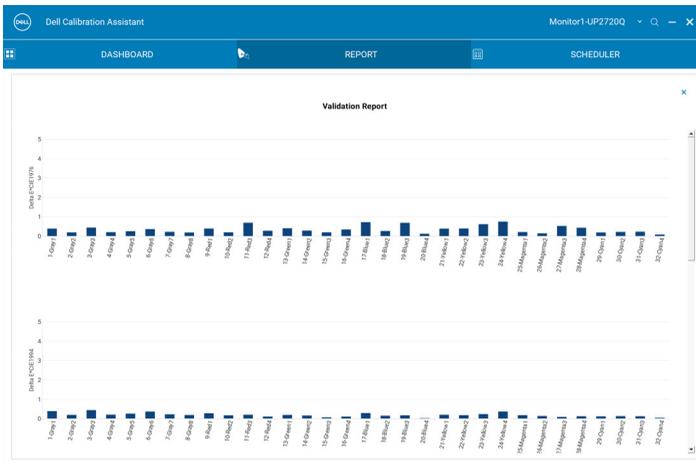


Report

The Report page shows the most recent calibration and/or validation results.



You can choose to review the report in different forms by clicking on **Graph View** or **Table View**.

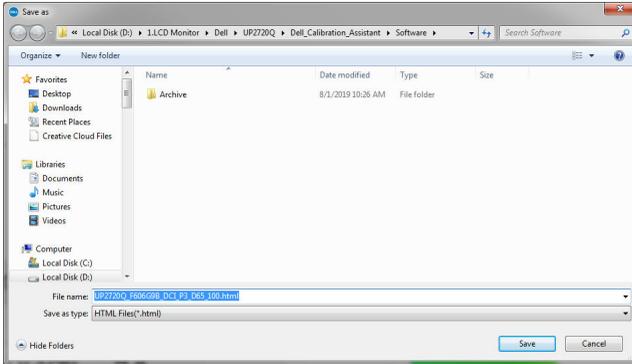


Select Target

No.	Color Patch	Target	Measured	Δ Eab	Δ E94	Δ E2000	Δ Hab
1	(192, 80, 80)	(75.76, -14.52, 55.06)	(75.82, -14.29, 55.27)	0.22	0.15	0.15	0.09
2	(192, 192, 80)	(79.29, -47.85, 39.61)	(79.27, -47.70, 39.67)	0.32	0.17	0.18	0.28
3	(96, 192, 96)	(72.22, -28.19, -8.70)	(72.24, -28.14, -8.70)	0.17	0.10	0.08	0.14
4	(96, 192, 192)	(55.92, 15.12, -33.41)	(56.01, 15.12, -33.35)	0.05	0.03	0.03	0.02
5	(128, 128, 192)	(62.04, 33.96, -23.45)	(62.16, 33.96, -23.41)	0.13	0.10	0.10	0.03
6	(192, 128, 192)	(100.00, 0.00, 0.00)	(100.00, -0.04, 0.20)	0.13	0.12	0.11	0.03
7	(255, 255, 255)	(12.25, 0.00, 0.00)	(12.65, 0.00, 0.01)	0.20	0.20	0.21	0.00
8	(32, 32, 32)	(27.09, 0.00, 0.00)	(27.28, -0.04, 0.05)	0.40	0.40	0.25	0.00
9	(64, 64, 64)	(40.73, 0.00, 0.00)	(40.80, 0.44, 0.05)	0.20	0.20	0.17	0.00
10	(96, 96, 96)	(53.99, 0.00, 0.00)	(53.65, 0.20, 0.01)	0.45	0.45	0.66	0.00
11	(128, 128, 128)	(65.87, 0.00, 0.00)	(65.91, 0.26, -0.03)	0.21	0.21	0.31	0.00
12	(160, 160, 160)	(77.70, 0.00, 0.00)	(77.68, 0.37, 0.05)	0.26	0.26	0.39	0.00
13	(192, 192, 192)	(89.18, 0.00, 0.00)	(89.26, 0.02, 0.22)	0.37	0.37	0.55	0.00
14	(224, 224, 224)	(100.00, 0.00, 0.00)	(100.01, -0.02, 0.19)	0.23	0.23	0.22	0.00
15	(255, 255, 255)	(25.53, 48.06, 38.04)	(25.76, 47.90, 38.33)	0.20	0.20	0.20	0.00
16	(128, 0, 0)	(45.97, 51.11, 28.66)	(46.14, 51.17, 28.74)	0.40	0.29	0.26	0.32
17	(192, 64, 64)	(53.23, 80.12, 27.18)	(53.36, 80.37, 27.82)	0.21	0.18	0.17	0.05
18	(255, 0, 0)	(68.21, 48.20, 22.69)	(68.28, 48.48, 22.73)	0.70	0.21	0.23	0.34
19	(255, 128, 128)	(46.23, -51.68, -49.88)	(46.25, -51.41, -50.19)	0.29	0.11	0.11	0.08
20	(0, 128, 0)	(68.87, -59.30, 52.45)	(68.99, -59.21, 52.70)	0.42	0.20	0.17	0.41
21	(64, 192, 64)	(87.74, -86.15, 83.15)	(87.76, -86.07, 83.34)	0.29	0.17	0.14	0.25
22	(0, 255, 0)	(90.63, -99.88, -49.69)	(90.61, -99.53, -49.66)	0.21	0.07	0.06	0.19
23	(128, 255, 128)	(12.96, 47.50, -64.72)	(13.09, 46.78, -64.64)	0.35	0.11	0.10	0.20
24	(0, 0, 128)	(35.12, 40.23, -46.98)	(35.23, 39.98, -47.03)	0.73	0.30	0.32	0.53
25	(64, 64, 192)	(32.28, 79.18, -107.88)	(32.12, 79.58, -108.44)	0.28	0.16	0.18	0.24
26	(0, 0, 255)	(59.19, 33.08, -63.46)	(59.20, 33.10, -63.59)	0.70	0.18	0.16	0.01
27	(128, 128, 255)	(51.87, -12.92, 56.65)	(51.92, -12.58, 56.85)	0.13	0.04	0.05	0.04
28	(128, 128, 0)	(75.63, -15.55, 61.60)	(75.75, -15.40, 61.96)	0.40	0.21	0.23	0.37



You can also **Save Report** in HTML format for web posting.



Calibrated by CalMAN Ready

If your monitor is calibrated using CalMAN Ready software, the Report page will show that the monitor is “Calibrated by CalMAN Ready”.

Model	Service Tag	Usage Time	Calibrated Date	Reference Device
UP2720Q	A000007	11h	2019.08.29	None

Color Space: CAL 1

Calibrated by CalMAN Ready.

	Target	Result
Brightness:	--	--
White Point:	--	--
Gamma:	--	--
Gamut R:	--	--
Gamut G:	--	--
Gamut B:	--	--

Gamma

Buttons:



NOTE: This software will not display reports generated by CalMAN Ready. Please use CalMAN Ready software to view these reports.



Scheduler

The Scheduler page allows you to set calibration, validation, or calibration and validation schedule.

To set calibration and/or validation schedule, do the following:

1. Select the schedule:
 - **Based on Usage Hours**—Sessions based on usage time.
 - **Periodic**—Sessions based at a set interval.

The screenshot shows the Dell Calibration Assistant interface. The top navigation bar includes 'DASHBOARD', 'REPORT', and 'SCHEDULER'. Under 'Schedule Sessions:', the 'Based on Usage Hours' radio button is selected. The 'Start Time' is set to 09:00 AM. The 'Periodic pattern' section is currently disabled. The 'Operation Mode' section has 'Prompt before starting session' selected. At the bottom, there are buttons for 'Resync Display Clock' and 'Send to Display'.

2. For **Periodic** calibration, validation, or calibration and validation, set your preferred periodic pattern and start time.

The screenshot shows the Dell Calibration Assistant interface. Under 'Schedule Sessions:', the 'Periodic' radio button is selected. The 'Start Time' is set to 09:00 AM. The 'Periodic pattern' section is active, showing 'Quarterly' selected with a dropdown menu set to 'Feb - May - Aug - Nov', 'Week' set to '1', and 'Day' set to 'Mon'. The 'Operation Mode' section has 'Prompt before starting session' selected. At the bottom, there are buttons for 'Resync Display Clock' and 'Send to Display'.



3 Select the Operation Mode:

- **Prompt before starting session**—prompts the user for approval to start the process.
- **Carry out in sleep mode**—starts the process automatically when the monitor is in sleep mode.

4 Click **Send to Display** to update the schedule of the OSD.

Resync Display Clock

Resync Display Clock allows you to sync the date and time of the computer to your monitor. You are advised to **Resync Display Clock** when one of the following occur:

- Setting up the monitor for the first time
- Monitor has been disconnected from power for more than 10 days.

The screenshot shows the 'Scheduler' tab in the Dell Calibration Assistant application. The window title is 'Monitor1-UP2720Q'. The interface includes a navigation bar with 'DASHBOARD', 'REPORT', and 'SCHEDULER' tabs. The main content area is titled 'Schedule Sessions:' and has two radio buttons: 'Based on Usage Hours' (unselected) and 'Periodic' (selected). Below this, the 'Start Time:' is set to '09:00 AM'. The 'Periodic pattern:' section has four radio buttons: 'Quarterly' (selected), 'Monthly', 'Weekly', and 'Daily'. To the right of these are three dropdown menus: 'Quarterly' (set to 'Feb - May - Aug - Nov'), 'Week' (set to '1'), and 'Day' (set to 'Mon'). At the bottom, the 'Operation Mode:' section has two radio buttons: 'Prompt before starting session' (selected) and 'Carry out in sleep mode' (unselected). A small asterisked note at the bottom left states: '*Scheduler will not proceed while the execution of Dell Calibration Assistant.' At the bottom right, there are two buttons: 'Resync Display Clock' and 'Send to Display'.



Troubleshooting

Common Symptoms	What You Experience	Possible Solutions
Monitor not detected	Application cannot detect monitor, and a connection error message appears.	<ul style="list-style-type: none">• Ensure you are using Dell UP2720Q monitor with built-in colorimeter.• Follow Before you begin to check if a Thunderbolt™ 3 Active cable or USB Type-C to A cable is properly connected between the UP2720Q monitor and the computer.• For Windows, ensure you have Visual C++ Redistributable Packages for Visual Studio 2013 (x86 32bits) installed. https://www.microsoft.com/en-us/download/details.aspx?id=40784.• For Linux, ensure you have the following steps completed:<ol style="list-style-type: none">1 Create a new file <code>/etc/udev/rules.d/99-dellmonitor2.rules</code> with the following statement (case sensitive):<pre>SUBSYSTEM=="usb", ATTR{idVendor}=="0424", ATTR{idProduct}=="274c", MODE="0666"</pre>2 Create a new file <code>/etc/udev/rules.d/99-dellmonitor3.rules</code> with the following statement (case sensitive):<pre>SUBSYSTEM=="usb", ATTR{idVendor}=="413c", ATTR{idProduct}=="b072", MODE="0666"</pre>
Cannot select Color Space	No response when trying to select Color Space	<ul style="list-style-type: none">• Ensure a Thunderbolt™ 3 Active cable or USB Type-C to A cable is properly connected between the UP2720Q monitor and the computer.• Close and restart the application.



Cannot edit the Scheduler	Scheduler is grayed out and cannot be edited	<ul style="list-style-type: none"> • Ensure a Thunderbolt™ 3 Active cable or USB Type-C to A cable is properly connected between the UP2720Q monitor and the computer. • Select Periodic to enable the Start Time and Periodic pattern options on the Scheduler tab. • Close and restart the application.
Calibration and/or validation did not start at scheduled time	Colorimeter did not start at scheduled time	<ul style="list-style-type: none"> • If you have selected Carry out in sleep mode and your monitor is active at the scheduled time, the calibration and/or validation will not start until your monitor is in sleep mode. • Resync the monitor clock with your computer clock. See Resync Display Clock.
Connection lost between Dell Calibration Assistant and the monitor after the monitor is activated from Sleep or Off mode	Connection between the Dell Calibration Assistant and the monitor is lost or interrupted	<ul style="list-style-type: none"> • Close and relaunch Dell Calibration Assistant software.

