

Dell E2223HN

Dell Display Manager User's Guide



Monitor Model: E2223HN
Regulatory Model: E2223HNr



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

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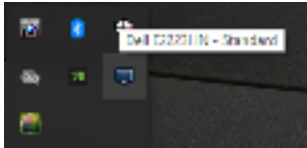
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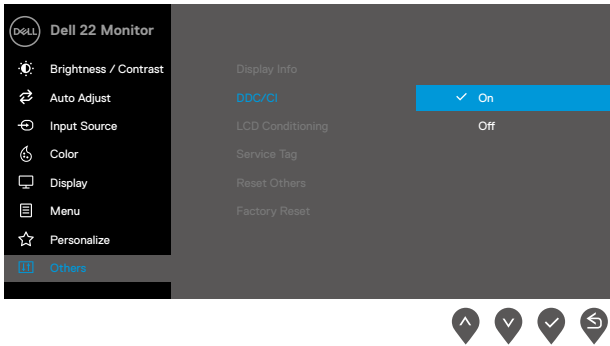


Overview

Dell Display Manager is a Microsoft Windows application used to manage a monitor or a group of monitors. It enables manual adjustment of the displayed image, assignment of automatic settings, energy management, window organization, image rotation, and other features on selected Dell monitors. After installation, Dell Display Manager runs each time the system starts and places its icon in the notification tray. Information about monitors connected to the system is available when hovering over the notification tray icon.

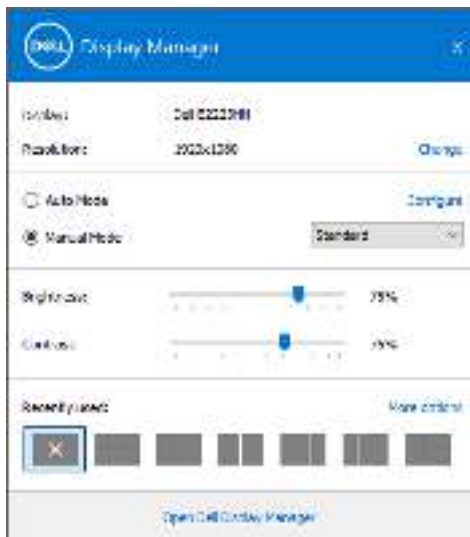


NOTE: Dell Display Manager uses DDC/CI channel to communicate with your monitor. Ensure that DDC/CI is enabled in the menu as below.



Using the Quick Settings Dialog

Click the Dell Display Manager's notification tray icon to open the **Quick Settings** dialog box. When more than one supported Dell model is connected to the computer, a specific target monitor can be selected using the menu. The **Quick Settings** dialog box enables convenient adjustment of the monitor's brightness and contrast levels. You can select **Manual Mode** or **Auto Mode**, and the screen resolution can be changed.



The **Quick Settings** dialog box also provides access to Dell Display Manager's advanced user interface that is used to adjust basic functions, configure auto mode and access other features.



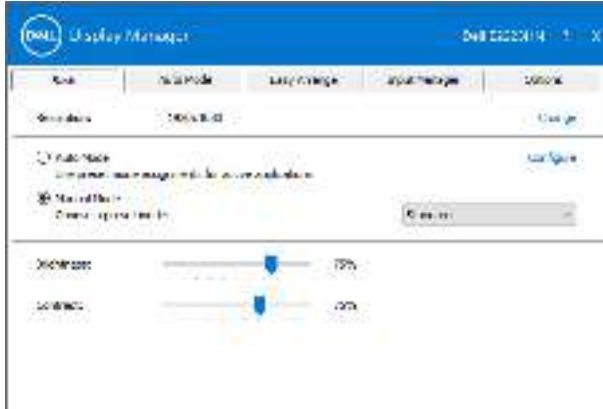
**NOTE:**

Feature	Function	Description
Quick DDM Access	Quick key to call up DDM UI	<ul style="list-style-type: none">• Ctrl+Shift+D• Use Page Up/Page Down key or click on ">" to flip through all Easy Arrange layouts.
	Control individual monitor in multiple monitor setup	<ul style="list-style-type: none">• From dropdown box to select monitor, selected monitor has Dell logo shown.• Perform monitor self-test feature check.• Move DDM UI to the monitor to be controlled.• Press Ctrl+Shift+D to bring up the miniUI under the mouse pointer.

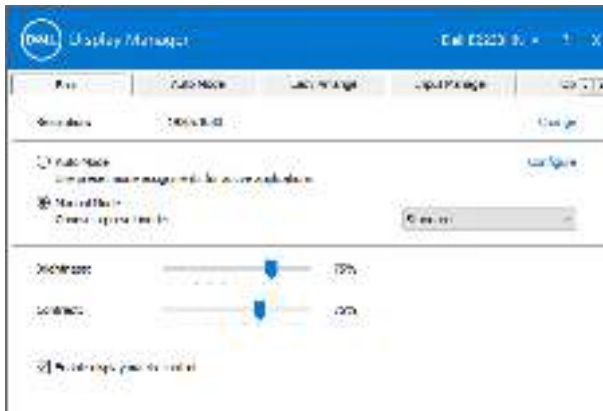


Setting Basic Display Functions

You can select **Manual Mode** that enables you to manually select a preset mode or select **Auto Mode** that applies a preset mode based on the active application. An on-screen message displays the current preset mode whenever it changes. The selected monitor's **Brightness** and **Contrast** can also be directly adjusted from the **Basic** tab.



NOTE: When multiple Dell monitors are connected, select “Enable display matrix control” to apply brightness, contrast and color presets controls to all monitors.



Assigning Preset Modes to Applications

The **Auto Mode** tab allows you to associate a specific **Preset Mode** with a specific application, and apply it automatically. When **Auto Mode** is enabled, Dell Display Manager automatically switches to the corresponding **Preset Mode** whenever the associated application is activated. The **Preset Mode** assigned to a particular application may be the same on each connected monitor, or it can vary from one monitor to another.

Dell Display Manager is pre-configured for many popular applications. To add a new application to the assignment list, simply drag the application from the desktop, Windows Start Menu or elsewhere, and drop it onto the current list.

 **NOTE: Preset Mode assignments for batch files scripts, loaders, and non-executable files such as zip archives or packed files, are not supported.**

You can also configure the Game preset mode to be used whenever a DirectX3D application runs in full-screen mode. To prevent an application from using mode, assign a different preset mode to it.



Organizing Windows with Easy Arrange

Easy Arrange helps you to effectively organize your application windows on the desktop. You first choose a pre-defined layout pattern which suits your work, then you just need to drag the application windows into the defined zones. Press “>” or use Page Up/Page Down key to find more layouts. To create a custom layout, arrange the open windows and then click **Save**.



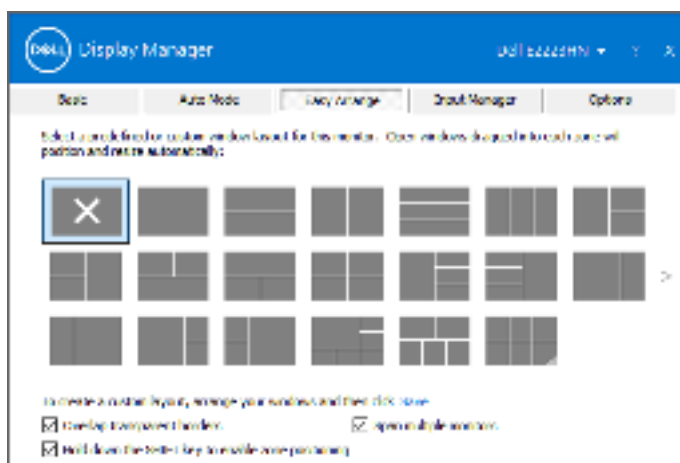
For Windows 10, you can apply different window layouts for each of the virtual desktops.

If you often use Windows snap feature, select the “**Hold down the SHIFT key to enable zone positioning**”. This gives Windows snap priority over **Easy Arrange**. You will then need to press the Shift key to use **Easy Arrange** positioning.





If you are using multiple monitors in an array or matrix, **Easy Arrange** layout can be applied across to all the monitors as one desktop. Select **“Span multiple monitors”** to enable this feature. You need to align your monitors properly to use it effectively.



NOTE: Some application requires a minimum effective resolution for its window. The application may not fit in an Ease Arrange zone if the zone is smaller than the required window size.



There are other advanced ways for the usage of **Easy Arrange**. Refer to table below.

Feature	Function	Description
Enhanced Easy Arrange	Custom layouts	<ul style="list-style-type: none">• Save and name 5 customized Easy Arrange patterns.• Configure x*y patterns.
	6 MRU (most-recently-used) layouts	<ul style="list-style-type: none">• Press Ctrl+Shift+Home to cycle among the last 6 MRU layouts.
	On the fly partition resizing	<ul style="list-style-type: none">• Hold down Ctrl while resizing current Easy Arrange layout to adjust the size and numbers of cells in a layout.• Newly formed Easy Arrange pattern is saved into the Easy Arrange icon position.• Hold down Ctrl while clicking on a modified layout icon to restore it to default layout.

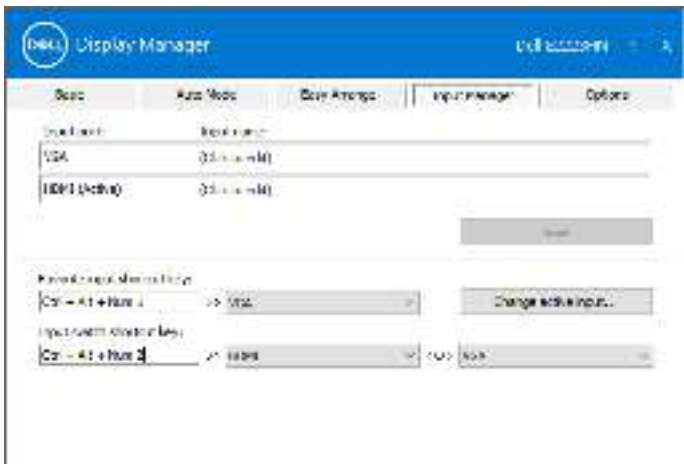


Managing Multiple Video Inputs

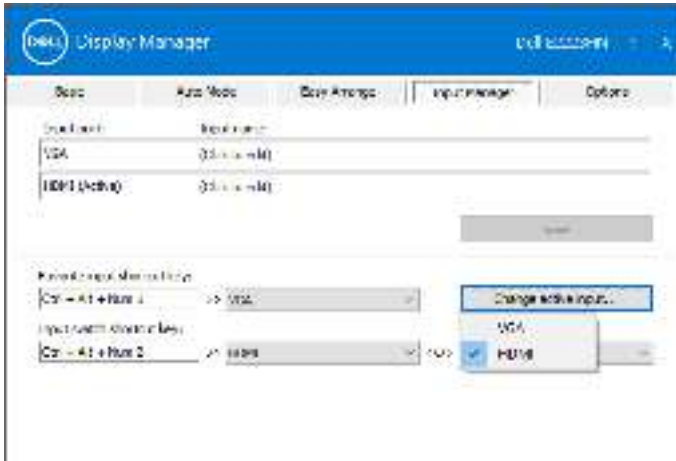
The **Input Manager** tab provides convenient ways for you to manage multiple video inputs connected to your Dell monitor. It makes it easy to switch between inputs while you work with multiple computers.

All video input ports available to your monitor are listed. You can give each input a name as you like. Save your changes after editing.

You can define a shortcut key to quickly switch to your favorite input and another shortcut key to quickly switch between two inputs if you often work between them.



You can use the dropdown list to switch to any available input source.

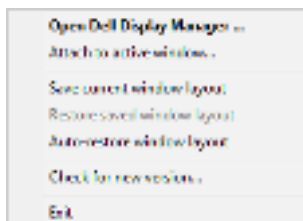


NOTE: DDM communicates with your monitor even when the monitor is displaying video from another computer. You can install DDM on the computer you frequently use and control input switching from it. You may also install DDM on other computers connected to the monitor.

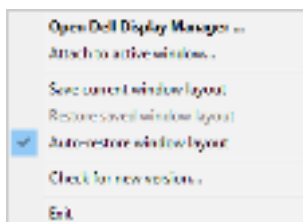


Restoring Application Positions

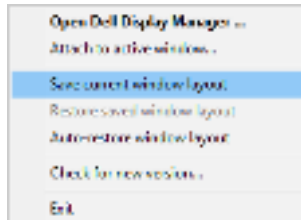
DDM can help you restore application windows into their positions when you reconnect your computer to the monitor(s). You can quickly access this feature by right-clicking on DDM icon in the notification tray.



If you choose **“Auto-restore window layout”**, your application windows' positions are tracked and remembered by DDM. DDM automatically puts the application windows into their original positions when you reconnect your PC to your monitor(s).



If you want to go back to a favorite layout after you have moved the application windows around, you can first **“Save current window layout”** and later **“Restore saved window layout”**.



You may use monitors with different models or resolutions in your daily routine, and you may apply different window layouts on them. DDM is able to know the monitor you have reconnected and restore application positions accordingly.

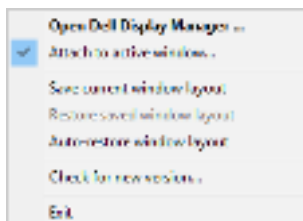
In case you need to replace a monitor in a monitor matrix configuration, you can save the window layout before replacement and restore the layout after a new monitor is installed.

 **NOTE: You should keep your applications running in order to benefit from this feature. DDM does not launch applications.**

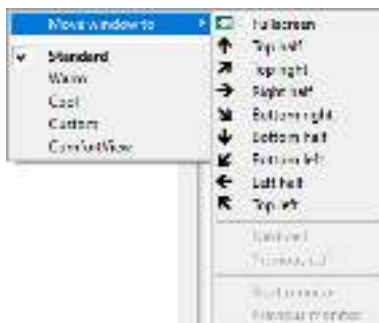


Attaching DDM to active windows (only Windows 10)

For Windows 10, you can add the DDM shortcut icon to the toolbar region of active windows. To activate this feature, right-click on the DDM icon in the notification tray and choose **Attach to active window** from the opened menu.



Once you right-click the icon in the toolbar, a quick menu of DDM appears, displaying options under **Auto Mode** and **Easy Arrange** for you to easily make adjustments.



Applying Energy Conservation Features

On supported Dell models, an **Options** tab is available that provides PowerNap energy conservation options. You can choose to set the monitor's brightness to the minimum level, or to put the monitor to sleep when the screensaver is activated.

Other Shortcut Keys

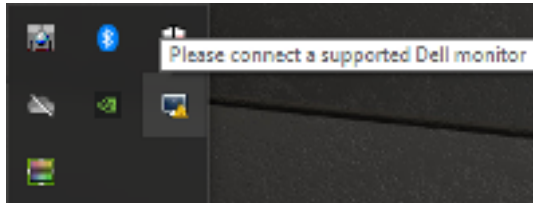
You can define the shortcut keys for quick access to the following DDM functions:

- **Program shortcut key:** to quickly open the **Quick Settings** dialog box.
- **Easy Arrange MRU shortcut key:** to quickly apply the 5 recently used window layouts.
- **Application window shortcut key:** to launch a quick menu for options under **Auto Mode** and **Easy Arrange**.

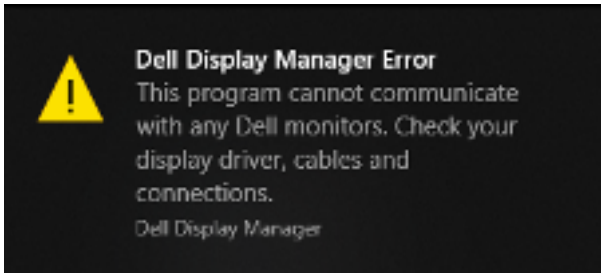


Troubleshooting

If DDM does not work with your monitor, DDM will show below icon in your notification tray.



Click on the icon, **DDM** shows a more detailed error message.



Please note that DDM only works with Dell branded monitors. If you are using monitors from other manufacturers, DDM does not support them.

If DDM is unable to detect and/or communicate with a supported Dell monitor, please take below actions to troubleshoot:

1. Make sure the video cable is properly connected between your monitor and your computer. Ensure the connectors are firmly inserted into position.
2. Check the monitor OSD to ensure DDC/CI is enabled.
3. Make sure you have the right graphics card driver from the vendor (Intel, AMD, NVIDIA, etc.). Graphics driver is often the cause of DDM failure.
4. Remove any docking stations, cable extenders, and converters between the monitor and the graphics port. Some low-cost extenders, hubs or converters may not support DDC/CI properly and can fail DDM. Update the driver of such device if the latest version is available.
5. Restart your computer.



DDM may not work with below monitors:

- Dell monitor models that shipped earlier than 2013 and D-series of Dell monitors. For more information see **www.dell.com/support/monitors**.
- Gaming monitors using Nvidia-based G-sync technology.
- Virtual and wireless displays do not support DDC/CI.
- Some early models of DP 1.2 monitors, it may be necessary to disable MST/DP 1.2 using the monitor OSD.

If your computer is connected to the Internet, you will be prompted to upgrade to a new version of DDM when it is available. It is recommended to download and install the latest DDM application.

You may check for new version by right clicking on DDM icon.

