



## More convenience, less clutter

Twice as many USB ports  
More streamlined cable management\*

## Less power-hungry

3% less electricity used  
lowers operating expenses\*

\*compared to the HP EliteDisplay E243

# Give your employees flexibility and convenience while reducing power usage with the new Dell P-Series displays

## Executive summary

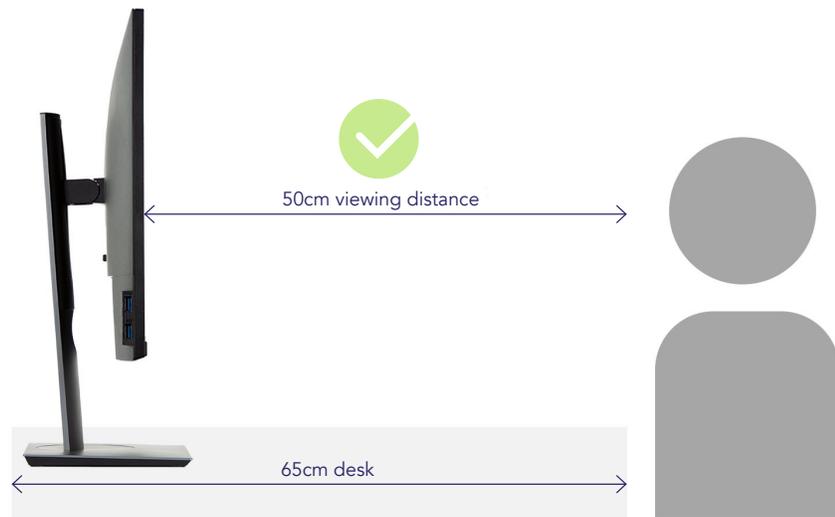
Selecting the right display can provide a better experience for employees. We compared two 24-inch displays, the Dell 24 Monitor - P2419H and the HP EliteDisplay E243, and found several potential advantages the Dell display offers users:

- The 29 percent smaller base of the Dell 24 Monitor - P2419H increases users' chances of obtaining the recommended viewing position of 50 to 100 cm.
- It uses Dell Display Manager, which has an "Easy Arrange" feature that lets users efficiently position all open windows in a predefined or custom layout.
- It has twice as many USB ports, some of which are in locations that are easier for users to access.
- Its design provides a more streamlined approach to managing cables.
- It offers a greater range of vertical adjustability when in the portrait orientation.

It also uses less power, which means choosing the Dell display can help you cut down on operating expenses.

Read on to learn more about how the Dell and HP displays compared, and why choosing the Dell 24 Monitor - P2419H could offer benefits for your organization.

A user with a desk 65cm deep could position the Dell 24 Monitor - P2419H at the optimal viewing distance of 50 cm or greater.



## A smaller display footprint saves space and can contribute to a better user experience

Many employees spend long hours at their computers each day and this can threaten their physical well-being. According to The Vision Council, an independent authority in the optical industry, the symptoms of digital eye strain that Americans report experiencing include the following:<sup>2</sup>

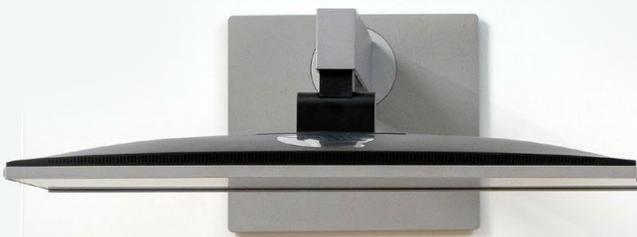
- eye strain (reported by 32.6 percent)
- dry eyes (reported by 22.7 percent)
- headache (reported by 21.4 percent)
- blurred vision (reported by 22.0 percent)
- neck and shoulder pain (reported by 30.8 percent)

Positioning one's screen correctly can help prevent digital eye strain. The U.S. Occupational Safety and Health Administration (OSHA)<sup>3</sup> states that the preferred viewing distance is between 20 and 40 inches (50 and 100 cm). As offices grow smaller (see box below) and shared spaces become more common, a smaller footprint becomes increasingly important to help workers work ergonomically and minimize wasted space.

The Dell 24 Monitor - P2419H boasts a smaller base than many other models on the market. Its footprint of 53.2 square inches is 29.4 percent smaller than the 75.3 square inches taken up by the base of the HP EliteDisplay E243. This smaller base lets employees place the Dell display farther away, increasing their ability to meet the minimum viewing distance OSHA recommends. The extra 22 square inches of desk surface that the Dell display frees up also give an employee more room for other work items.

From the vantage point of the company, displays with smaller footprints present another win: They can save by purchasing smaller desks.

HP EliteDisplay E243



Dell 24 Monitor - P2419H



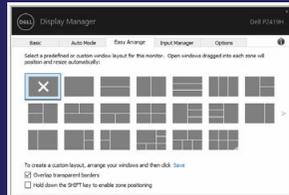
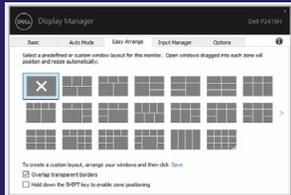
## The shrinking American office

Since 2010, the amount of office space per U.S. employee has been declining steadily.<sup>4</sup> In the private sector, so-called creative office environments are gaining in popularity. These creative alternatives include "hot desking," where many workers share one desk on a rotating schedule, and "benching," where a group of employees share a single large table rather than individual desks.<sup>5</sup> With these arrangements, and with the private offices in traditional setups shrinking, every square inch counts.

## Dell Display Manager with Easy Arrange

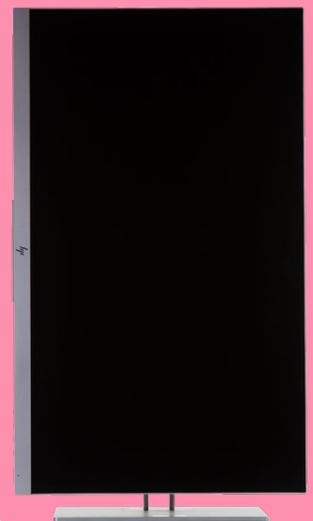
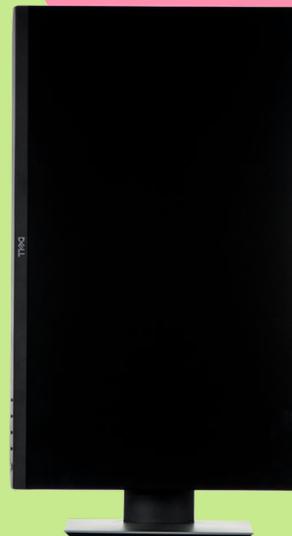
Dell Display Manager is a Microsoft® Windows® application supported by the Dell P-Series display model. According to the Dell Display Manager User's Guide,<sup>6</sup> it allows users to manually adjust the displayed image, assign automatic settings, manage energy usage, organize windows, rotate images, and more. The "Easy Arrange" feature lets users efficiently position all open windows in a predefined or custom layout.

The HP display we tested comes with the HP Display Assistant.<sup>7</sup> This application includes the "Desktop Partition" feature, which offers similar but less robust functionality similar to that in Easy Arrange. For example, HP Display Assistant offered only nine presets for arranging windows and did not support creating custom window arrangements.



## Portrait of a more adjustable display

Many users find that rotating their displays 90 degrees to portrait orientation makes for less wasted screen space and improves efficiency.<sup>8</sup> After all, web content and word docs are designed to be read like books, not played like video games. In fact, we found the Dell P-Series display has a big advantage over the HP display in portrait mode—it has a greater range of vertical adjustability in terms of height from the desk. The Dell display has a vertical adjustment range of 1.75 inches (44.4 mm), more than twice the HP display's adjustment range of only 0.84 inches (21.4 mm). That means that for workers who prefer the portrait orientation, the Dell is more likely to bring the content on the display to eye level.



## Power savings

When we tested the overall energy consumption of the two display models, out of the box with default settings and no accessories attached, we found that in addition to the advantages we have already explored, the Dell 24 Monitor - P2419H used 18.25 watts per hour, 3 percent less power than the 18.80 watts per hour the HP EliteDisplay E243 used. This savings can quickly add up across hundreds or thousands of users and reduce operating expenses.

## USB-C connectivity

The Dell 24 USB-C Monitor - P2419HC, a USB-C-enabled variant of the standard model, allows users to plug peripheral accessories like mice, keyboards, and external storage into the display and use a single USB-C cable as the main connection between laptop and display. This means users deal with only one cable when connecting and disconnecting their laptops to go to meetings, move to another desk, or take their computers home at night. Another PT study of Dell P-Series displays<sup>9</sup> found that connecting and disconnecting a laptop and peripheral accessories took up to 72 percent less time with the new Dell 24 USB-C Monitor - P2419HC than it did with the older Dell 24 Monitor - P2414H. We did not test power, but according to Dell, the P2419HC display adheres to USB-C standards and delivers up to 65W of power.<sup>10</sup>

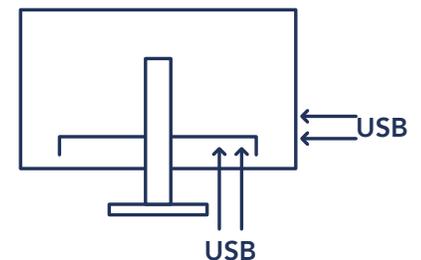
## The convenience of having plenty of ports and the peace that comes with eliminating visual clutter

In addition to the advantages we've noted so far, we found two other ways that the Dell 24 Monitor - P2419H can improve office life for workers. Boasting twice as many USB ports, the Dell display offers more options for the many items modern workers often find themselves needing to plug in. These include the peripherals they use to do their jobs, such as keyboards, mouse devices, and external storage, and also personal items such as phone charging cables and the various USB-powered gadgets popping up on the market (personal fans are popular).

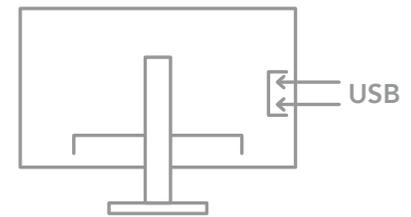
For some laptop users, their display functions as a USB hub, with their peripheral devices plugged in all the time. When they arrive at work in the morning, they simply connect their computer to the display and they're ready to go. Clearly, having four USB ports, the number the Dell 24 Monitor - P2419H provides, is more convenient than having only the two ports the HP EliteDisplay E243 offers. Further convenience comes from the positioning of the Dell USB ports: Two are on the side edge of the display and two are on the back of the display. In contrast, both of the HP display's USB ports are on the back, which can be more difficult to access.

We also observed that the Dell 24 Monitor - P2419H manages cables better. The Dell stand is a single wide bar, with the opening for routing cables located above the bottom of the screen. The HP stand is made up of two slim bars, with the opening for routing cables located below the bottom of the screen. The streamlined Dell design means there is less visual clutter with the Dell display and when someone adjusts the display height, the cables don't get in the way as they do with the HP display. As the photos below show, the Dell 24 Monitor - P2419H design hides the cables from the user while they are working, whereas the HP EliteDisplay E243 design keeps the cables visible and creates visual clutter. Not having to deal with or look at a distracting clump of cables can improve a user's focus and productivity.<sup>11</sup>

Dell 24 Monitor - P2419H



HP EliteDisplay E243



Dell 24 Monitor - P2419H



HP EliteDisplay E243



Dell cables are not visible when viewed from the front, while the HP cables are.



## Conclusion

All buyers have choices when selecting the displays that the employees across their organizations will use.

As we've seen, the Dell 24 Monitor - P2419H offers many advantages over the HP EliteDisplay E243 we tested. Its base is 29 percent smaller, which lets it fit more comfortably on a smaller desktop and gives users a better chance of achieving the optimal viewing distance. In portrait orientation, it offers a greater range of vertical adjustability than the HP display. The Dell display also boasts twice as many USB ports and a more elegant approach to cable management that reduces visual clutter. Finally, the Dell 24 Monitor - P2419H used 3 percent less power in our tests than the HP EliteDisplay E243. Consider these factors as you select your next display purchase.

- 1 "Computer Workstations eTool," accessed July 9, 2018, [https://www.osha.gov/SLTC/etools/computerworkstations/components\\_monitors.html](https://www.osha.gov/SLTC/etools/computerworkstations/components_monitors.html)
- 2 "Digital Eye Strain," accessed July 20, 2018, <https://www.thevisioncouncil.org/content/digital-eye-strain>
- 3 "Computer Workstations eTool."
- 4 Adrian Ponsen, "Trends in Square Feet per Office Employee: An Update," accessed July 9, 2018, <https://www.naiop.org/en/Magazine/2017/Fall-2017/Marketing-Leasing/Trends-in-Square-Feet-per-Office-Employee-An-Update>
- 5 Adrian Ponsen, "Trends in Square Feet per Office Employee: An Update."
- 6 "Dell Display Manager User's Guide," accessed July 9, 2018, [https://downloads.dell.com/manuals/all-products/esuprt\\_display\\_projector/esuprt\\_display/dell-u2415\\_user%27s%20guide2\\_en-us.pdf](https://downloads.dell.com/manuals/all-products/esuprt_display_projector/esuprt_display/dell-u2415_user%27s%20guide2_en-us.pdf)
- 7 "HP Display Assistant," accessed August 28, 2018, <https://support.hp.com/us-en/drivers/selfservice/swdetails/hp-elitedisplay-e243-23.8-inch-monitor/17210316/switemId/ir-182116-1>
- 8 Mike Wehner, "The Case for the Vertical Desktop Monitor," accessed July 19, 2018, <https://www.dailydot.com/debug/vertical-monitor-setup/>
- 9 Improve productivity with the new Dell P-Series displays in a dual-display configuration, accessed November 12, 2018, <http://facts.pt/lg4li4>
- 10 Dell 24 USB-C Monitor: P2419HC, accessed November 7, 2018, <https://www.dell.com/en-us/shop/dell-24-usb-c-monitor-p2419hc/apd/210-aqco/monitors-monitor-accessories>
- 11 Arielle Kimbarovsky, "How Clutter Affects Your Productivity, And What You Can Do About It," accessed July 20, 2018, <https://www.crowd-spring.com/blog/how-clutter-affects-your-productivity-and-what-you-can-do-about-it/>

Read the science behind this report at <http://facts.pt/t637q0> ►



Facts matter.®

Principled Technologies is a registered trademark of Principled Technologies, Inc. All other product names are the trademarks of their respective owners. For additional information, review the science behind this report.

This project was commissioned by Dell Technologies.