



# Apple Displays FAQ

Q. What monitors is Apple introducing?

A. We're introducing the exciting Apple Cinema Display, the largest flat-panel monitor available, and relaunching our award-winning CRT-based Apple Studio Displays with a new look to match the design of the Pentium-crushing\* Power Mac G4.

\* In processor and Photoshop tests.

## Apple Cinema Display

Q. Is the Apple Cinema Display the largest flat-panel display available on the market?

A. Yes. Creative professionals have often told us that their dream display would provide a huge virtual workspace while taking up very little physical space. In addition, it wouldn't compromise on color reproduction quality or force trade-offs like having to squint at undersized, deformed text and images. The Apple Cinema Display is this dream come true. With the largest panel available commercially, it offers over 1.6 million pixels in a stunning 22-inch (diagonal) screen that provides twice the brightness, twice the sharpness, and three times the contrast ratio of a traditional CRT-based display. The Apple Cinema Display supports a true 16.7 million colors and has a pure digital interface that delivers distortion-free images every time. Put all this into an elegant industrial design and pair it with the awesome performance of the Power Mac G4 with Velocity Engine, and you have the creative professional's dream system.

Q. How do the screen size and density of the Apple Cinema Display benefit creative professionals?

A. The Apple Cinema Display was designed from the ground up with the creative professional in mind. It supports a resolution of 1,600 by 1,024 pixels. That's over 1.6 million pixels on the screen simultaneously—from 25% to 63% more pixels than the most popular resolutions on 21-inch displays provide. The benefit of this design is the sheer amount of information that can be displayed at once. The dream of seeing two full pages side by side is a reality with the Apple Cinema Display. The wide format (16:10 aspect ratio) is also ideal for creative projects such as double-page spreads and tabloid-size printed materials. But just as important, the Apple Cinema Display has been designed to display its 1.6 million pixels at a screen density that doesn't require users to squint at small, deformed text. Because it's a full 22 inches in size, the display can be used comfortably at its native 1,600- by 1,024-pixel resolution day in and day out.



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Q. Why are the screen size and aspect ratio of the Apple Cinema Display important for video and film professionals?

A. The upcoming HDTV standard is based on the 16:9 aspect ratio, and most films are shot in aspect ratios favoring a wide format. With the Apple Cinema Display, video and film professionals working with wide formats can fill the entire screen without distorting the image or having to shrink it greatly to fit. Even for editors working with the traditional 4:3 aspect ratio, the Apple Cinema Display offers a distinct advantage, providing plenty of room for both the video workspace and tool palettes.

Q. What advantage does the digital graphics interface have over traditional display interfaces?

A. Cathode-ray tube (CRT) displays require an analog interface because they create light and color from an electron beam. To create an analog signal for the CRT display from the digital data in graphics memory, the computer's graphics controller must perform a digital-to-analog conversion. Because the Apple Cinema Display is a digital device, it does not require this process of conversion to analog form, which can lead to image degradation. Instead it receives the digital signal distortion-free from the graphics controller. Not only does this mean that all 1.6 million pixels are displayed with razor-sharp precision, but it eliminates the need to make any adjustments to the display. Customers will use the online Apple Store build-to-order program to order the Apple Cinema Display in conjunction with a Power Mac G4 that's specially equipped with a digital graphics connector.

Q. How accurate is the color on the flat-panel Apple Cinema Display?

A. Managing color accuracy on an LCD-based display is no easy feat, but Apple has addressed the major issue that affects how well LCD-based displays can reproduce color: their inherent viewing-angle limitations. The Apple Cinema Display uses an advanced technology that delivers up to 160° viewing angles in both vertical and horizontal dimensions. The benefit of this wide viewing angle is that the Apple Cinema Display delivers much better color uniformity than any other flat-panel display available today. On most LCDs, users experience sometimes severe color shift if they are even a little off-axis to the image they are viewing. The Apple Cinema Display virtually eliminates this problem. Add to this extrawide viewing angle a color gamut as wide as that of a CRT display and support for 16.7 million colors with no dithering, and you can see why the Apple Cinema Display will be an excellent choice for many graphics professionals.

Q. Besides its stunning look, what other important design attributes does the Apple Cinema Display offer?

A. We've designed the Apple Cinema Display to offer an enormous virtual desktop while taking up very little physical desktop space. To minimize the display's footprint, Apple designed a support stand that allows users to adjust the display effortlessly to different viewing angles. We've also designed a uniquely functional cable for the Apple Cinema Display. A single cable leaves the display and passes through the stand so that it sits perfectly on the desktop. Eventually the cable separates into power, USB, and graphics signals to be attached to the appropriate connectors. A clever ring design at this separation point serves as a security attachment point so you can protect your valuable possession. The Apple Cinema Display includes a two-port USB hub to provide users with a convenient way to connect desktop peripherals such as the keyboard and digital audio speakers.



Q. When will the Apple Cinema Display be available, and where can customers buy one?

A. The Apple Cinema Display is expected to be available worldwide in October through the online Apple Store. It is ordered in conjunction with a specially configured Power Mac G4 via the Apple Store's build-to-order program. Quantities will be limited into next year.

### **CRT-based Apple Studio Displays**

Q. What are new features of the award-winning CRT-based Apple Studio Displays?

A. The new 17-inch (16-inch viewable) Apple Studio Display and 21-inch (19.8-inch viewable) Apple Studio Display with ColorSync technology have been modified to complement the design of the new Power Mac G4. In addition, the 17-inch display joins the 21-inch Apple Studio Display in supporting the strict TCO 99 standard for image performance, low power consumption, low emissions, and recyclability.

Q. How does the design of the Apple Studio Displays benefit creative professionals?

A. The design of the Apple Studio Displays is as functional as it is stunning. The plastic bezel around the screen is achromatic, to minimize any influence on the user's perception of colors on the screen. The design also meets strict standards for the amount of light reflectivity it generates, reducing eyestrain when you sit in front of the display for hours on end. Both Apple Studio Displays feature a tripod base that lets you easily tilt and swivel the monitor, with space underneath for keyboard storage. The 21-inch display also has a four-port USB hub, making the connection of desktop peripherals extremely easy.

Q. Why is color calibration important for the 21-inch Apple Studio Display?

A. A display's performance varies due to many factors, such as changes in electronic components, phosphor aging, and ambient light conditions. Without compensating for these variations, you cannot confidently use the screen as a reference for how color images will look when they're printed or viewed on other displays, or even on the same display over time. A calibrated display works with Apple's ColorSync software to achieve higher-quality screen-to-screen and screen-to-print matching. The 21-inch Apple Studio Display with ColorSync technology is the most affordable monitor available that provides integrated, professional-quality color accuracy and consistency, day after day, week after week, year after year.

Q. How does the Apple Studio Display with ColorSync technology differ from other calibrated monitors?

A. Compensating for monitor variability requires a measurement and control system. Traditional display measurement systems use an external photometric "puck," or light sensor, that is placed on the front of the screen. Apple designed a system that doesn't require this cumbersome and expensive external device. Rather than measuring the light output of the monitor, the internal system in the Apple Studio Display measures the electron beam current. Because beam current is ultimately responsible for generating the colors on the screen, this provides an accurate measurement of the color your eye actually sees. The difference is that the Apple Studio Display with ColorSync technology can achieve a high level of color consistency, is much easier to use, and is much more affordable than competing monitors.



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Q. It sounds like the flat-panel Apple Cinema Display outperforms CRT displays in brightness, contrast, and sharpness while providing good color accuracy. Does it eliminate the need for a CRT-based display?

A. While there's no doubt that many customers will covet the size, graphics performance, small footprint, and leading-edge technology of the Apple Cinema Display, these features come at a relatively steep price (and in lower available quantities) compared with the more mature CRT technology used in the Apple Studio Displays. Color professionals will also value the controlled color accuracy that the Apple Studio Display with ColorSync delivers via its patented internal calibration system.

Q. When will the Apple Studio Displays be available, and where can customers buy them?

A. The Apple Studio Displays are available immediately through all Apple distribution channels, including national and regional Apple resellers, direct sales to education accounts, and the Apple Store on the World Wide Web.

## For More Information

For more information about Apple's new displays, visit [www.apple.com/products](http://www.apple.com/products).

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