What is HDR10+?

HDR has quickly become one of the most marketed features on displays of all shapes and sizes - from mobile screens to TVs. However, new variations and implementations of HDR appear from time to time, which can make it confusing to figure out what you're buying.

HDR10+ is one of the latest versions, building on the promise of HDR10 and aiming to deliver even better images. but what exactly does that mean?

What is HDR10+?

Developed in partnership with 20th Century Fox, Panasonic and Samsung, HDR10+ first launched in 2017. It builds on the same feature set as HDR10 but with two key improvements.

First, it increases the maximum brightness to 10,000 lumens. This means you get much better contrast because the display panel has more brightness to work with.

Samsung has gone a step further by implementing HDR10+ Adaptive technology on its TVs, allowing them to detect the brightness of the viewing space and make changes to the TV's brightness, contrast, and accordingly, for the best possible viewing experience regardless of the lighting around you.

Second, HDR10+ improves information processing by carrying "dynamic" metadata. Previously, HDR10 carried "static" metadata for content. This means there is only one set of values ??such as brightness, contrast, saturation, etc. for the entire content. So while this metadata may work for most movies, some scenes will appear too dark, too bright, or too saturated.

Dynamic metadata means that the format now carries metadata for each specific frame. It continuously changes display values ??as content plays, giving each frame its own color, brightness, and contrast values, among other

things. This makes each frame look much more realistic and detailed, with accurate colors and lighting.

These changes combined ensure that you get the best possible color accuracy and dynamic range from your content. Other benefits of HDR10+ include support for 8K resolution and up to 16-bit signals, allowing for a staggering 280 trillion colors. The HDR10+ whitepaper is a great place to start if you want to learn the important technical details.

This also applies to the gaming industry, in addition to benefits such as no impact on game performance, better visuals (and therefore more immersion), and ease of implementation and optimization.

What do you need to get HDR10+?

Like any other HDR format, you need a few things to watch content that supports HDR10+:

1. One source supports HDR10+. This can be anything from Blu-ray discs or streaming services like Amazon Prime Video, Apple TV+ or Hulu, and even games.
2. A device capable of reading HDR10+ format. This could be your media streaming device, Blu-ray player, PC or smartphone.
3. Display panels, TVs compatible with HDR10+ or ??others.
4. One HDMI 2.1 cable.

While TVs are still the mainstay of HDR10+, the technology is starting to become more accessible on other devices, such as smartphones and laptops. Most flagship phones, including the Samsung S24 Ultra, Google Pixel 8/8Pro, and even the Xiaomi 13T Pro, support HDR10+. Currently, iPhone 15 Pro/Plus only supports HDR10.

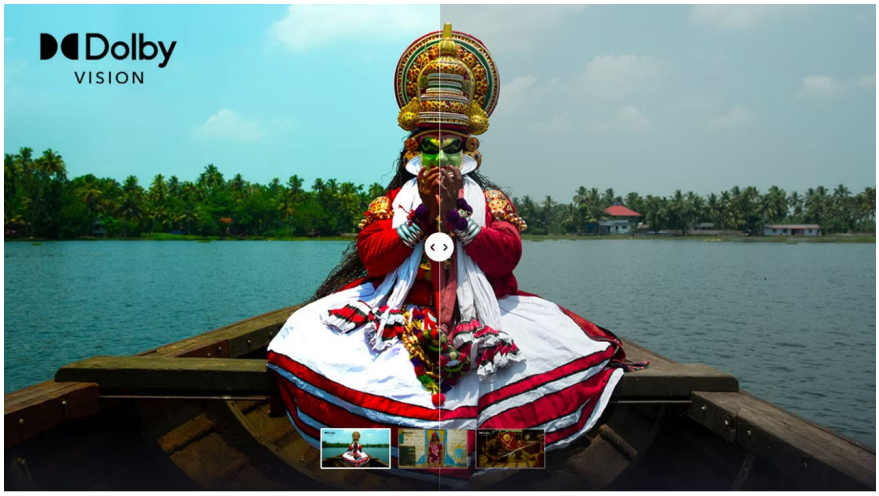
Nvidia has also partnered with HDR10+ to support the format with its GeForce RTX line of graphics cards. However, on a PC, you'll need a compatible monitor from Alienware, Benq, Dell, and Lenovo. HDR10+ adoption is growing, so expect this list to grow. Currently, this format has been adopted by more than 150 people.

As for laptops, expect the flagship machines from the companies mentioned above to have compatible displays, but unless otherwise stated, you'll most likely end up with an HDR10 panel.

The HDR10+ website has a full list of certified products that you can check to make sure the device you're buying supports the format. However, finding a device in that list can be a tiring task since it's 972 pages of serial code, but at least it's an option.

Is HDR10+ better than Dolby Vision?

If you look at the spec sheet, Dolby Vision and HDR10+ are practically the same, except that Dolby Vision can only use 12-bit signals for up to more than 68 billion colors. Realistically speaking, you'll need superhuman eyes to spot the difference.



However, Dolby Vision is currently the more popular of the two formats (launched in 2014). It has received many updates since then, transforming it into the format it is today, and it has thus gained a large portion of the market in the process.

Thankfully, we're not embroiled in another format war here. Unlike previous conflicts in the video industry such as Blu-ray versus HD-DVD, HDR10+ and Dolby Vision are not mutually exclusive. This means display manufacturers can support both formats at the same time to provide maximum compatibility for users.

In general, it's quite easy to find a combination of HDR10 and Dolby Vision on many consumer TVs today, with HLG also included.

Feature	HDR10+	Dolby Vision
Maximum brightness	Up to 10,000 nits	Up to 10,000 nits
Color depth	Up to 16-bit (280 trillion colors)	Up to 12 bits (68.7 billion colors)
Resolution support	Up to 8K	Up to 8K
Dynamic metadata	Yes, per frame	Yes, per frame

Feature	HDR10+	Dolby Vision
Static metadata	Are not	Have
Backwards compatibility	HDR10, SDR	HDR10, HLG, SDR
Year of introduction	2017	2014

However, although it is relatively easy to support different HDR formats, very few manufacturers actually do it. Therefore, you should check the product specifications and supported HDR formats before purchasing a new monitor, TV, etc.

HDR10+ sources work in a similar way. For example, streaming services like Amazon Prime Video or Apple TV can support both Dolby Vision and HDR10+. You can also find it on streaming devices from Amazon Fire TV, Roku, Apple TV, and even Google Chromecast. Even Unreal Engine natively supports both HDR10+ and Dolby Vision (along with Dolby Atmos), and there are many other ways you can find HDR content.

Regardless, just read the instructions carefully and you'll be able to set it up to greatly enhance your viewing experience. Since you don't necessarily have to choose between two formats, you also have a variety of sources and hardware to choose from.