

Backlash Brews Over Blue LEDs By Simon Burns

Story location: <http://www.wired.com/news/technology/0,1282,67574,00.html>

02:00 AM May. 26, 2005 PT

When Australian applications consultant Martin Pot bought an LCD monitor last December, he got an unwanted extra: a dazzlingly bright blue LED, or light-emitting diode, just below the screen. Pot found the LED "distracting" and "annoying," and finally resorted to covering it up just to get some work done.

A rare sight only five years ago, blue LEDs now seem to be everywhere: on laptops, DVD players, air ionizers and even toothbrushes. And they have some consumers seeing red.

Product reviews on sites like [Epinions.com](#) are peppered with [complaints](#) about [dazzling](#) blue LEDs.



[See photo](#)

While red and green LEDs have been available for decades, blue LEDs only became practical in the 1990s. Novelty value has helped make them a popular choice in modern product design.

"Research has shown us that consumers prefer blue LEDs over other colors because it's a relatively new color and hence makes the product more unique," said Pamela McCracken, a spokeswoman for [Logitech](#), which uses blue LEDs in several products, including speakers and webcams. "Consumers also feel blue LEDs provide a more high-tech look, and associate the blue LED with high-end products."

"Blue LEDs had, and maybe still have, that appeal of looking great on a store shelf," said Brandon Eash, an electrical engineer at [Design Continuum](#), a product design house with offices in Boston, Italy and South Korea.

"They sure looked cool when they were first out," wrote [Norman Li](#), a technology enthusiast from Chicago, in an e-mail. After buying a PC case in May 2004, Li recalled, "I was actually impressed.... The blue light lit up the entire room." But by the time he bought his third product with an intense blue indicator, he'd had enough, and taped a piece of cardboard over it.

Blue LEDs really are brighter than their old-fashioned red and green counterparts. Barney O'Meara, vice president of Canadian LED manufacturer [The Fox Group](#), said blue LEDs have at least 20 times the luminous intensity of old-fashioned red and green indicators. O'Meara said his company has developed technology to manufacture low-intensity blue LEDs.

"Blue tends to cause more discomfort and disability glare than other, longer wavelengths," said Dr. David Sliney, an expert on the harmful effects of bright light sources at the [U.S. Army Center for Health Promotion and Preventive Medicine](#) in Maryland.

Sliney said the eye's lens cannot focus sharply on the blue lights. While red or green light is focused precisely onto the retina, blue light is focused slightly in front of it, which causes a distracting halo around bright blue lights.

In addition, blue scatters more widely than other colors as it passes through the eyeball,

Sliney said. Together, these two effects cause the intense blue light from a point source, like an LED, to spread out across the retina, interfering with other parts of the scene. It's called **dispersion**: Blue's shorter wavelength makes it refract at a greater angle than, say, red or green.

Also, human vision becomes far more sensitive to blue when ambient light levels are low, a phenomenon known as the Purkinje shift. So a blue light that is merely eye-catching on a brightly lit store shelf can become dazzling when the lights are low, such as when watching a movie on a laptop in a dimly lit room.

Some researchers report that, at night, even low-level blue light may be enough to **trigger** recently discovered **receptors** in the retina that can depress melatonin production, disrupt sleep patterns and suppress the **immune system**.

Sliney, who advises consumer electronics manufacturers in the use of LEDs, said he would not recommend the use of bright blue LEDs in products that might be on all night.

Buyers are taking matters into their own hands, and have devised a variety of methods to tame their LEDs, including covering them with tape or card, disconnecting them and coating them with layers of **black ink**.

"There are a lot of products out there that aren't designed intelligently at all," lamented designer Eash. "It strictly comes from the manufacturing floor. I think those companies will continue to place LEDs wherever they see fit, without much thought. But if companies get designs from a design house, I think you will see less of it, because designers are becoming aware of this."

Overuse of glaring blue LEDs on gadgets is beginning to give them negative value. "I think the color blue has really run its course," said Eash. "We're not seeing as much demand from our clients. Its cool factor has kind of worn off."

Some manufacturers are responding to consumer gripes. Although complaints have been few, according to McCracken, Logitech is redesigning some products to move bright blue LEDs out of users' line of sight, she said.

But not everybody moans about the blue menace. In fact, some hard-core hardware enthusiasts can't get enough of them.

"Our customers don't complain that the lights are too bright," said Selina Chang, a representative of Taiwanese PC case and cooling fan manufacturer **Cooler Master**. "They complain that they're not bright enough."



Ads by Google

superbrightleds.com	Superluminescent Diodes	Strobes N' More	LongBow LED Flashlights
Low cost Super Bright LEDs,	Broad selection of SLEDs and Lasers	Emergency Strobe and LED Lighting	High quality LED flashlights
LED car bulbs and products	Available in die, CoS, and Pkg.	True Low Price Leader	Assessories. Dealer information.
superbrightleds.com	www.COVEGA.com	www.strobesnmore.com	www.longbowgear.com

Wired News: Staff | Contact Us | Advertising | RSS | Blogs | Subscribe | Jobs

We are translated daily into Korean and Japanese

© Copyright 2005, Lycos, Inc. All Rights Reserved.

Your use of this website constitutes acceptance of the Lycos **Privacy Policy** and Terms & Conditions