

## Anti-glare Filters

It is estimated that there are more than 15 million cathode ray tube (CRT) information systems operating in the United States and the number is growing rapidly. Widespread use of CRTs poses an occupational hazard for some.

In a survey of CRT operators conducted by the National Institute for Occupational Safety, 95 percent of those interviewed complained about screen glare and 65 percent cited specific problems: blurred vision, itching or burning eyes, eyestrain, fatigue and headaches.

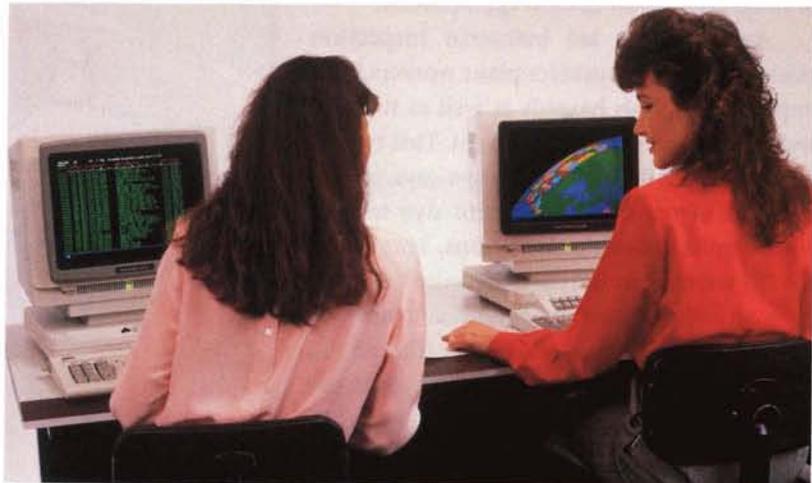
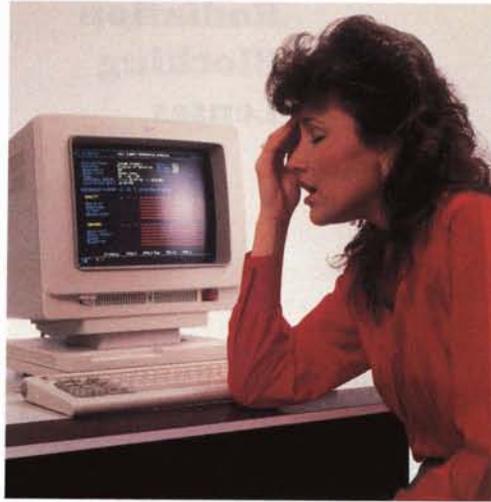
To guard against loss of operator productivity, computer manufacturers and CRT-using businesses are employing a variety of anti-glare devices and techniques. A particularly effective technique is use of a patented coating known as HEA® (for high efficiency antireflection), developed by Optical Coating Laboratory Inc.(OCLI), Santa Rosa, California in the early 1960s as a means of improving visible light transmission in aerospace vehicles. It was used to coat the windows of the Gemini two-man spacecraft in 1963 and it has been employed on all subsequent manned spacecraft from Apollo to the Space Shuttle.

OCLI now sells HEA-coated panels to many original equipment manufacturers in the computer industry, who bond the panels directly to their CRTs. Additionally, OCLI offers a line of retrofit products, anti-glare filters known as Glare/Guard®, which employ the same thin film coating technology. The coating minimizes the reflected brightness to which the human eye is most sensitive; in addition to significant glare reduction, it provides enhanced image-to-background contrast, high resolution and improved readability. In an evaluation of 10 types of retrofit anti-glare filters by Virginia Polytechnic Institute and State University, a team of visual scientists judged that Glare/Guard filters provided the best display image.



At left, a HEA-coated demonstration disc shows how the filter eliminates glare from the Compaq SLT 286 laptop computer. At right top, the glare is evident in an unfiltered CRT; the model is simulating the associated eye-strain. In the middle photo she is illustrating a solution: use of a Glare/Guard filter, which can be installed in minutes. The bottom photo shows CRTs equipped with two different types of OCLI filters, the Vantage™ on the left and the Professional Plus™.

Produced in 28 sizes to fit more than 2,000 types of monitors, Glare/Guard filters are OCLI's first consumer products, but for more than 40 years the company has been a leading producer of thin film coated products for defense, space, industrial and scientific applications. In addition to the Glare Guard line, OCLI sells HEA under the name Invisiglass®, used in multielement optical systems; readout panels for medical diagnostic and test equipment such as x-ray machines, heart rate monitors and breath analyzers; oscilloscope windows for scientific test equipment and portable analyzers; and energy-efficient lens systems for projectors, copiers and large screen video systems.



\*HEA, Glare/Guard and Invisiglass are registered trademarks of Optical Coating Laboratory Inc.

™Vantage and Professional Plus are trademarks of Optical Coating Laboratory Inc.