



## EIZO Releases Color Vision Deficiency Simulation Monitor

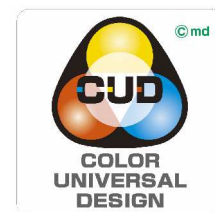
*Hardware-based color simulation solution allows designers to verify in real time how color is perceived by those with colorblindness*

Hakusan, Japan, October 2, 2006 – Eizo Nanao Corporation (“EIZO”) today unveiled the FlexScan L797-U, the world’s first color vision deficiency simulation monitor. The FlexScan L797-U combines EIZO’s hardware and software expertise for a practical solution that will allow designers to check in real time that the colors in their designs can be accurately perceived by those with color vision deficiency – specifically protanopia and deuteranopia<sup>1</sup>.

Color has always been used as a means to convey information, but its use is becoming increasingly common with the spread of low-cost color printing and color screens for electronic devices. To avoid creating inconveniences and even dangers for those with color vision deficiency, now thought to number more than 200 million people worldwide, care must be taken when choosing color schemes for everyday items such as maps, road signs, web sites, and power indicator lights on electronic devices. To resolve this issue, a new design system called “Color Universal Design” (CUD) has been developed. CUD is a user-oriented design system in which color schemes are based on what can easily be identified by people with all types of color vision rather than on what is aesthetically pleasing. Working in accordance with CUD principles requires tools that can simulate how color appears to people with a color vision deficiency.

The use of color that ensures nobody is disadvantaged is now being mandated by law. For example, both Section 508 of the Rehabilitation Act in the USA, enacted in 1998, and Phase III of the Disability Discrimination Act in the UK, which went into effect in 2004, call for consideration of people with disabilities such as color vision deficiency.

EIZO brings to market the first monitor that can simulate color vision deficiency. In developing the FlexScan L797-U, EIZO worked closely with the non-profit Color Universal Design Organization (CUDO)<sup>2</sup> based in Tokyo, Japan, in conducting experiments with colorblind test subjects to improve the ability to identify difficult to distinguish colors. The FlexScan L797-U is the first monitor to be certified as a CUD compliant product by CUDO.



The FlexScan L797-U simulates two types of red-green color vision deficiency – protanopia and deuteranopia. The L797-U is equipped with an EIZO-developed image processing integrated circuit that does all the color conversion processing in real time – even moving images. With the bundled UniColor Pro software<sup>3</sup> – also developed by EIZO – the designer can instantly switch from a normal viewing mode to the Protanopia and Deuteranopia viewing modes. Until now, tools available for simulating color vision deficiency have been software based so the color conversion process can be time consuming depending on the size and



Original Mode

Protanopia Mode

Deuteranopia Mode



quantity of images to be converted, making these tools of limited practical use.

The FlexScan L797-U is equipped with a Super-IPS (in-plane switching) panel with a native resolution of 1280 x 1024. Viewing angles are a very wide 170° horizontal and vertical with minimal color shift when viewed from off-center, 280 cd/m<sup>2</sup> brightness, and 450:1 contrast ratio. It is backed by a limited five-year warranty<sup>4</sup>.

#### Availability

The FlexScan L797-U will be available through EIZO's network of distributors beginning in November.

#### About EIZO

Eizo Nanao Corporation is a leading global manufacturer of high-end visual display products with a wide range of LCD monitors. The image quality, long-term reliability, and innovative features of EIZO monitors make them the products of choice in many financial trading rooms, hospitals, back offices, and design studios throughout the world. EIZO is based in Japan and represented in over fifty countries by a network of exclusive distributors.

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<sup>1</sup>This product simulates, but does not show colors exactly how they appear to a person with protanopia (shades of red are reduced or not distinguishable in depth and luminosity) or deuteranopia (differences between red and green are difficult to distinguish). Current monitor technology cannot reproduce all the colors visible to the human eye. Furthermore, people with color vision deficiency are more sensitive to differing levels of luminance and saturation than those with normal color vision; hence some differences in color perception will remain when looking at a simulated image. What this product can do is make it easier to identify which colors and color schemes will be difficult for protanopes and deuteranopes to distinguish.

<sup>2</sup>The Color Universal Design Organization (CUDO) is a Japanese non-profit entity dedicated to improving the way color is used in society so that it is easily understood by people with various types of color vision. CUDO evaluates products and facilities for CUD compliance and awards a label for those that pass its tests, publishes educational materials and holds seminars and symposiums about CUD, and conducts scientific research on color vision.

<sup>3</sup>UniColor Pro is compatible with Windows XP and 2000 only, but other operating systems can be used. Install UniColor Pro on a Windows PC and connect it via a USB cable to the L797-U. A second PC with another operating system can then be connected to the L797-U via a video cable and used as the simulation PC.

<sup>4</sup>The usage time is limited to 30,000 hours or less, and the warranty period of the LCD panel and backlight is limited to three years from the date of purchase.

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