The End of Monochrome Displays
Prismview full color displays provide a far better solution

Overview

The first LED displays were text-only devices, produced with red light emitting diodes. It was understood at the time that there was a trade-off in going from incandescent lamps to LED. In exchange for lower energy and a consistent image, there was a sacrifice in the readership of the display. Simply put, red illumination on a black field does not read well. The high contrast ratio of the white lamp was exchanged for the efficiency of the red diode.

Over time, a variety of additional colors were developed, culminating in the modern, full color display with a virtually limitless palette of colors. Yet, the red on black display is still the most common option for text displays, in spite of the obvious contrast ratio problems.

Night viewing of a red display is most often exacerbated by over-brightness. Few display operators recognize the peril of excessive brightness on a red display. Beyond minimum illumination, the color forms a halo effect which blurs the image, making it nearly impossible to read from greater distances.

So, why does the red text display remain as the most common example of message center technology? Habit, ignorance, and the presumption of cost savings are the predominant reasons. This paper offers a rebuttal to the misunderstood view that a full color display is not a good option for text imaging.

A Habit of Poor Presentation

In every city in America, the majority of electronic displays are monochrome in nature with red text presented on a black field. It has become such an accepted product that customers and sales people alike rarely consider other options. This habit, offers an opportunity for an astute buyer to distinguish his company with a better, more easily read message.

Even the lowest resolution displays offer the opportunity to present text in different colors on a variety of backgrounds. The Prismview PV software makes it simple to create backgrounds in a single color or pattern. By changing the presentation formats frequently, the display remains exciting, vibrant, and easy to read, regardless of the actual message. Even the simple time and temperature messages appear better in a multi-color format.

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Is a Red Display less Expensive?

Generally, no. Prismview, LLC is one of the world's most productive producers of full-color display systems. As such, the company has developed exceptional purchasing resources for premium, full-color display pixels, balanced in red, green, and blue. Because the company's product line is exclusively focused on full-color display systems, the purchase price of a full-color system is lower than the price at which most red, monochrome displays are purchased.

Pixel Pitch, Color and Image Quality

All displays are offered in a variety of pixel pitches. Pitch measures the distance from the center of one pixel to the center of the next. A smaller pitch means that the pixels are closer together. Prismview offers pixel pitches from 1/4" (6 mm) to .9" (25 mm). Any display may be produced in any pitch. The lower the pitch number the greater the resolution and the higher the corresponding cost. In a traditional monochrome display a pixel may be comprised of a single red diode. For more pronounced letters, or for greater brightness, additional red diodes are added to each pixel.

In a Prismview full-color display, a pixel is comprised of one red, one blue, and one green diode. The computer tells each diode in each pixel at what degree of brightness to illuminate. Because there are thousands of different illumination levels available for each diode in each pixel, the number of available colors exceeds those which can be perceived by the human eye.

When selecting a pixel pitch for a monochrome message display, one usually measures the number of lines of word copy which will need to be displayed. This factor is merged with other information such as available space and viewing distance. Monochrome display formulas calculate at least 8 pixels tall for each line of text. If, for example, a display cabinet is to be 36" tall, then there is space for four lines of text, each 7" tall with 2" spacing between lines using a 1" pitch. The monochrome display for such an application would have 1" pixel pitch and 32 pixels in height.

The Prismview solution for such a display would be 32 pixels tall at 1" pixel pitch with the capability to display the same words in a limitless variety of colors on an equally limitless number of backgrounds. The characters could be presented in any size character, up to 32" tall with the full spectrum of colors available. Further, the display will have the capability to display a wide variety of graphics, logos, and designs in conjunction with the text messages.

Monochrome only applications

Certainly, there are applications for monochrome displays, such as gas price changers and other price indicators or variable single-line text imaging for industrial applications. But, for advertising messages, there is no longer the need to be limited to a single color. The modern, full-color display from is comparably priced, more versatile, easier to read and demands more attention from the public.

Be a discriminating buyer, choose color for better advertising results.

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