Tech Info Library

Video Displays: Brightness and Color Uniformity (2/93)

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TOPIC ----------

This article discusses brightness and color uniformity in large-screen monitors.

DISCUSSION ----------

Color and brightness uniformity is a specification that measures the overall distribution of color purity and brightness on a monitor when viewing an all-white raster.

The specification for color uniformity is quite complex and must be tested under laboratory conditions with specialized equipment. Color uniformity imperfections appear as hazy colored areas on an otherwise all-white raster. These color "patches" may appear in different locations on each CRT, but they usually appear around the edges of the monitor and are more likely to occur on large-screen monitors.

Environmental conditions may also contribute to color purity imperfections. Both the earth's magnetic field as well as other stray magnetic fields can affect monitor performance. This is true even for monitors with automatic degaussing circuits, such as Apple's 21-inch RGB monitor.

Brightness uniformity imperfections are similar to those of color uniformity. The only difference is that when viewing an all-white screen, brightness uniformity imperfections appear as grayish cloud-like patches.

While it may be objectionable to some customers, it is normal for CRTs to exhibit some color uniformity and/or brightness uniformity imperfection somewhere on the display screen. No 21-inch RGB monitor from any manufacturer will present a pure white screen when viewing an all-white raster.

Therefore, CRT replacement is not the solution to color and brightness uniformity imperfections. It is important that customers understand the limitations that exist in the design of large-screen CRTs.

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