Raster Scan System

Definition

A raster scan system is a type of computer display that employs a beam of electrons to draw images on a screen. The beam is scanned across the screen in a left-to-right and top-to-bottom pattern, with the beam's intensity modulated to create the desired image. Raster scan systems are widely used in various applications, including televisions, computer monitors, and medical imaging devices.

Advantages

* **High resolution:** Raster scan systems can generate images with high resolutions, reaching up to 4K and even 8K.
* **Accurate color reproduction:** These systems effectively reproduce a diverse range of colors, making them suitable for applications that demand color accuracy.
* **Fast refresh rates:** Raster scan systems possess fast refresh rates, allowing for smooth image display without flickering.
* **Low cost:** They are relatively inexpensive to manufacture, providing a cost-effective solution for various applications.

Disadvantages

* **Limited viewing angle:** Raster scan systems have a restricted viewing angle, limiting the range of angles from which they can be viewed.
* **Moiré patterns:** These systems may produce moiré patterns, which appear as interference patterns within the image.
* **Screen door effect:** Raster scan systems can exhibit a screen door effect, visible as a grid of lines in the image.

In summary, raster scan systems offer a versatile and cost-effective display solution, suitable for a broad range of applications. Their advantages include high resolution, accurate color reproduction, and fast refresh rates, while their disadvantages include limited viewing angles, potential moiré patterns, and the screen door effect.