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[54] **GRAY SCALES METHOD AND CIRCUITRY FOR FLAT PANEL GRAPHICS DISPLAY**

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[51] **Int. Cl.**[5] **G09G 3/20**

[52] **U.S. Cl.** **340/793**; 340/805

[58] **Field of Search** 340/723, 767, 793, 805, 340/812; 358/240, 241, 455, 456, 457, 458, 459

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[57] **ABSTRACT**

A controller for providing O to N gray scales at a monochrome display. The monochrome display is of the type having an array of pixels energized by a display voltage over time to generate the gray scales. The controller generates a baseline time and uses the baseline time to provide gray scales at the display. In particular, each pixel is energized at least the baseline time for any gray scale above level 0 to reduce flicker in the display. In one embodiment, the baseline time corresponds to a point on the intensity response curve for the display at which the display exhibits a linear intensity response for a given display voltage versus time. In one embodiment, the baseline time is used to generate pixel on/off data to provide gray scales at the display. In yet another embodiment, the baseline time information is used to generate weighted clock information to provide gray scales at the display. In another aspect, the controller includes a plurality of programmable gray scale generators which provide pixel on/off data, weighted clock information, and black/white pixel data to provide gray scales at the display. One of the gray scale generators is selected and programmed depending on the identity of the display device.

6 Claims, 4 Drawing Sheets