

Title (en)

Active matrix light modulators, use of an active matrix light modulator, and display

Title (de)

Lichtmodulatoren mit aktiver Matrix, Verwendung eines Lichtmodulators mit aktiver Matrix und Anzeige

Title (fr)

Modulateurs de lumière à matrice active, utilisation d'un modulateur de lumière à matrice active, et dispositif d'affichage

Publication

EP 0875881 A2 19981104 (EN)

Application

EP 98303334 A 19980429

Priority

GB 9708707 A 19970430

Abstract (en)

An active matrix light modulator, such as a thresholdless antiferroelectric active matrix liquid crystal display, comprises an active matrix of control elements 18 disposed at intersections of data lines 22 and scan lines 20, and an array 10 of pixels which are selectively addressable by data and scan signals applied to the control elements 18 by a data driver 12 and a scan driver 14. Such addressing is controlled so that a voltage is applied to each pixel during a corresponding addressing frame by the application of data and scan signals to an associated one of the control elements 18 in order to select the optical level of the pixel for each frame, and bipolar switching is applied to control the voltage applied to the pixel during successive subframes such that, when one optical level is selected for the frame, a positive voltage is applied to the pixel during one subframe of the frame and a negative voltage of equal magnitude but opposite polarity is applied to the pixel during another subframe of the frame and, when another optical level is selected for the frame, an intermediate voltage (preferably zero voltage) is applied to the pixel during both of the subframes of the frame, so as to provide DC balancing within the frame. The required grey level within each frame is accurately reproduced and is substantially independent of the previous state of the pixel. The use of such modulators to reduce the effects of asymmetrical optical performance and colour-sequential displays are also disclosed. <IMAGE> <IMAGE>

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G09G 3/36

IPC 8 full level

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