ABSTRACT OF THE DISCLOSURE

LIQUID CRYSTAL DISPLAY DEVICE, ELECTROLUMINESCENT DISPLAY DEVICE, METHOD OF DRIVING THE DEVICES, AND METHOD OF EVALUATING SUBPIXEL ARRANGEMENT PATTERNS

An active matrix liquid crystal display device has a plurality of unit pixels being arranged in a matrix configuration, each unit pixel being divided into a plurality of subpixels. Each of the subpixels has a subpixel electrode, a pixel transistor connected to the subpixel electrode, and a voltage controlling capacitor connected to the subpixel electrode. A voltage controlling capacitor line for supplying a compensation voltage signal is connected to the voltage controlling capacitor so that after the writing to the subpixel has been completed, the potential of the compensation voltage signal is varied to modulate the potential of the subpixel electrode to be a predetermined voltage, using the voltage controlling capacitor. Such combining of spatial dithering attained by a pixel-dividing technique and a capacitively-coupled driving method eliminates the need for digital-to-analog converter circuits, attains gray scale display based on a digital image signal, and achieves a reduction in power consumption.

Fig. 1