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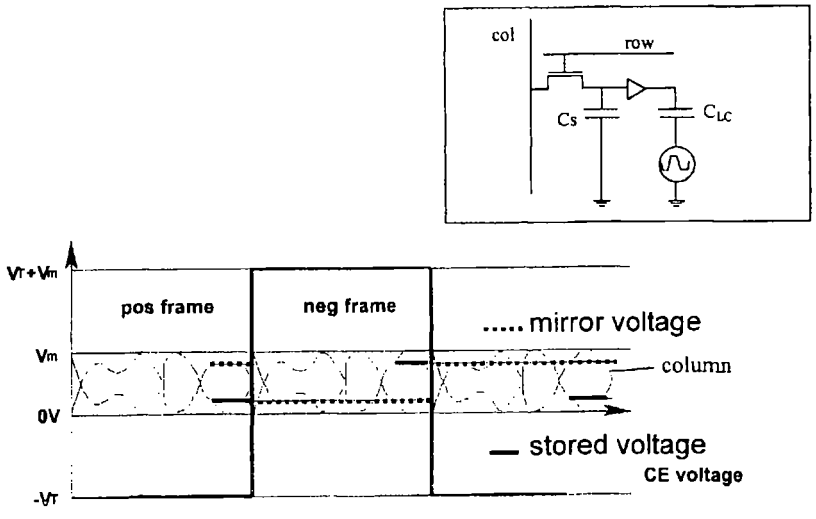
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(54) Title: REFRESH PIXEL CIRCUIT FOR ACTIVE MATRIX



(57) Abstract: The present invention provides an array of pixels, each pixel comprising: a pixel element, a pixel refresh circuit, a first memory element and a first switch element. Each pixel element comprises a first pixel electrode for individual control of the pixel element and a second pixel electrode, the second pixel electrode linking substantially all pixel elements in the array and being connected to a common counter-electrode. The first and second pixel electrode form a first capacitor. The pixel element has a threshold voltage and a modulation voltage. The pixel refresh circuit is intended for transferring electric charge related to a pixel data value from a data input of the pixel to the first pixel electrode via a charge transfer path. The first memory element is coupled to the pixel data input for storing electric charge related to the pixel data value. The first switch element is located between the first memory element and the first pixel electrode, and is for controlling charge transfer from the first memory element through the charge transfer path to the first pixel electrode. According to the present invention, the first switch element and the first memory element co-operate to transfer charge related to the pixel data value passively along the charge transfer path to the first capacitor. According to the present invention, the array further comprises means for applying a dynamically changing voltage to the common counter-electrode, the dynamically changing voltage changing between a first driving value and a second driving value so that the pixel data value is a signal comprised between zero volts and a data voltage value, the data voltage value being not smaller than the modulation voltage and smaller than the sum of the modulation voltage and the threshold voltage of any of the pixels elements. The present invention also provides a method for refreshing pixel values of an array of pixels.

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