

Title (en)
SELF-REFERENCED HALF-TONE LIQUID CRYSTAL DISPLAY

Title (de)
SELBSTREFERENZIERTE HALBTONFLÜSSIGKRISTALLANZEIGE

Title (fr)
AFFICHAGE A CRISTAUX LIQUIDES A DEMI-TEINTE AUTOREFERENCES

Publication
EP 0686272 A1 19951213 (EN)

Application
EP 94909739 A 19940228

Priority

- US 9401857 W 19940228
- US 2353393 A 19930226

Abstract (en)
[origin: WO9419720A1] Self-referenced half-tone, gray scale liquid crystal display having pixels that are subdivided into subpixels (A1...AN). Each of the subpixels have transparent electrodes (31-39) with a liquid crystal material sandwiched between the electrodes. The electrodes of each subpixel and the liquid crystal dielectric constitute the subpixel capacitor which also functions as a control capacitor for the control capacitor. Each of the subpixel electrodes on one end of the dielectric overlap another subpixel but the electrode on the other end overlaps still another subpixel. The structure is such that the subpixel capacitors are electrically connected in series. The subpixels have electrodes of various areas and thus the subpixel capacitors of the pixel have different values. Application of a voltage across all of the series-connected subpixels of the pixel may result in the activation of none, one, or more subpixels of the pixel, in accordance with the magnitude of the voltage; the subpixels having the lower capacitances turning on first as the applied voltage is increased from zero, since the greater voltage drop occurs across the smaller-valued capacitors. Thus, each pixel of the display has a gray scale capability that is a function of the applied voltage.

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IPC 8 full level
G02F 1/133 (2006.01); **G02F 1/1343** (2006.01)

CPC (source: EP)
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