

Title (en)

LIQUID CRYSTAL DISPLAY CELL USING PHOSPHOR EMITTERS

Title (de)

FLÜSSIGKRISTALLANZEIGEZELLE MIT PHOSPHOREMITTERN

Title (fr)

CELLULES D'AFFICHEUR A CRISTAUX LIQUIDES UTILISANT DES PHOTOEMETTEURS AU PHOSPHORE

Publication

**EP 0894283 A1 19990203 (EN)**

Application

**EP 97919502 A 19970418**

Priority

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- GB 9608090 A 19960419

Abstract (en)

[origin: WO9740416A1] A liquid crystal display device comprises a modulatable liquid-crystal layer (1) between transparent substrates (2, 3) in the usual way for modulating light (12) at a first (preferably UV) wavelength so that according to the voltage applied via electrodes (4, 5) it selectively reaches an array of phosphor emitters (10) in between the liquid crystal layer and the upper substrate (3). The phosphors (or other photoluminescent material) emit or reflect light at visible wavelengths when excited by light at the first wavelength. The significant feature is that the phosphors (10) are located inside the cell, which means that no special collimating measures are needed, and this is achieved by configuring the phosphors to have a surface of a smoothness comparable to that of the glass, for instance by suspending them in a spun polymer layer, or by applying a planarisation layer, or by using fluorescent glass.

IPC 1-7

**G02F 1/1335**

IPC 8 full level

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