

Title (en)  
Electrochromic flat panel display

Title (de)  
Elektrochromer Flachbildschirm

Title (fr)  
Dispositif d'affichage à écran plat électrochromic

Publication  
**EP 1043621 A1 20001011 (DE)**

Application  
**EP 00105347 A 20000317**

Priority  
DE 19912307 A 19990319

Abstract (en)  
[origin: DE19912307A1] Reversible coloration is obtained from pH or redox sensitive dyes. Preferred features: The paper is impregnated with electrolytes having little or no tendency to evaporate. Further additives, such as preservatives, stabilizers and/or auxiliary reagents for the coloring reaction are included. Redox or pH gradients required to show colors, are produced by microelectrodes. A high density of microelectrodes is applied to the paper, each individually controlled in defined manner. The control is in terms of voltage, or current flowing, to achieve desired pH value. The electrodes are employed to measure pH or separate electrodes are incorporated for the purpose. Regular measurement is used for control, maintaining a desired base level of pH. By similar means, a desired basic level of redox value is controlled and maintained. The screen is pH sensitive and/or redox sensitive. Alternatively other dyes influenced directly or indirectly by electrical current are used. Dyes do not bleed. A large variety of variations, based on the foregoing principles, is described. Salient details include: use of thin wire electrodes on either side, making contact dynamically. The paper is lined with a film, conferring stated beneficial properties. CMYK systems are used, optionally with an insulating interlayer. Impregnation or printing is pixilated. Using a fabric, warp and weft, form intersecting electrodes. Further fabric variants, and variants of the invention are described.

Abstract (de)  
Die Erfindung betrifft einen Flachbildschirm mit a) einem flächenhaften Substrat (1) aus Papier oder einem papierartigen Material, b) einem elektrochromen Stoff, der in das Substrat (1) eingebracht und/oder auf das Substrat (1) aufgebracht ist, c) Elektroden (3), die mit dem elektrochromen Stoff elektrisch leitend verbunden sind, d) und Gegenelektroden (7), die mit dem elektrochromen Stoff elektrisch leitend verbunden sind, e) wobei die Elektroden (3) und die Gegenelektroden (7) derart angeordnet und mit dem Substrat (1) verbunden sind, dass jede der Elektroden (3) mit einer der Gegenelektroden (7) und jede der Elektroden (3) mit einer anderen der Gegenelektroden (7) eine elektrochrome Zelle (10) bildet, f) und wobei die Elektroden (3) in das Substrat (1) ragen. <IMAGE>

IPC 1-7  
**G02F 1/153**; **G02F 1/155**

IPC 8 full level  
**G09F 9/30** (2006.01); **G09F 19/22** (2006.01)

CPC (source: EP US)  
**G09F 9/30** (2013.01 - EP); **G09F 19/22** (2013.01 - EP US); **G09F 19/226** (2013.01 - EP)

Citation (search report)

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