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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

| (51) International Patent Classification 6 : | | (11) International Publication Number: |
|---|---|---|
| G02F 1/136, G09F 9/35 | A3 | WO 96/00926 |
| | | (43) International Publication Date: 11 January 1996 (11.01.96) |

(21) International Application Number: PCT/US95/08176

(22) International Filing Date: 30 June 1995 (30.06.95)

(30) Priority Data:
08/268,590 30 June 1994 (30.06.94) US

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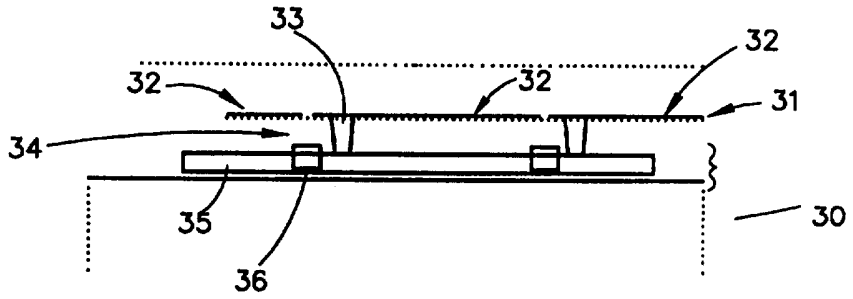
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(81) Designated States: CA, JP, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

**Published**
*With international search report.*
*Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.*

(88) Date of publication of the international search report:
15 February 1996 (15.02.96)

(54) Title: HIGH APERTURE AMLCD ARCHITECTURE




(57) Abstract

An approach for constructing active matrix liquid crystal light valves having very high aperture ratio is described. This is achieved by burying the pixel addressing elements beneath a planarized array of nearly contiguous pixel electrodes and minimizing the footprint of opaque structures in the light valve. Undesirable field-induced disclinations and deformations of the liquid crystal are minimized by shielding the addressing structures with the pixel electrodes. Embodiments are provided which utilize the approach to improve transmittance, image quality, yield, design flexibility and functionality of the display.

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# INTERNATIONAL SEARCH REPORT

Intern. ɔnal application No.
PCT/US 95/08176

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: G02F 1/136, G09F 9/35
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: G02F, G09G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DIALOG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X | EP, A2, 0417852 (N.V. PHILIPS' GLOEILAMPENFABRIEKEN), 20 March 1991 (20.03.91), see the whole document | 1-25,26-28, 29-36,40-42 |
| Y | -- | 37-38 |
| A | EP, A1, 0565125 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.), 13 October 1993 (13.10.93), figure 1, abstract | 1,26,29,40 |
| | -- | |

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 8 December 1995 | 10. 01. 96 |
| Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. ( + 31-70) 340-2040, Tx. 31 651 epo nl, Fax: ( + 31-70) 340-3016 | Authorized officer Lars Jakobsson |

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Interna. ial application No.
PCT/US 95/08176

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | EP, A2, 0347790 (HONEYWELL INC.), 27 December 1989 (27.12.89), see the whole document | 37-38 |
| X | | 39 |

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

30/10/95

International application No.
PCT/US 95/08176

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
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| EP-A2- 0417852 | 20/03/91 | DE-D,T- 69018547 | 02/11/95 |
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| | | JP-A- 3131824 | 05/06/91 |
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| | | DE-D,T- 68913084 | 14/07/94 |
| | | ES-T- 2050188 | 16/05/94 |
| | | JP-A- 2110430 | 23/04/90 |
| | | US-A- 4886343 | 12/12/89 |