

US 20020044115A1

(19) United States (12) Patent Application Publication (10) Pub. No.: US 2002/0044115 A1

Jinda et al.

(10) Pub. No.: US 2002/0044115 A1 (43) Pub. Date: Apr. 18, 2002

(54) LIQUID CRYSTAL DISPLAY DEVICE

Publication Classification

(57) ABSTRACT

While image data is written into either one of first, second, third frame memories 1, 2 and 3, image data are repetitively read two times from the remaining two memories in one vertical synchronization interval and transferred to an arithmetic unit 4, and this operation is executed with the frame memories changed sequentially. An arithmetic unit 4 refers to a look-up table on the basis of two inputted data values and, when the data value of the current image signal is greater than the data value of the previous image signal, the unit 4 transfers image data of a value greater than the data value of the current image signal, the unit 4 transfers image data of a value greater than the data value of the current image signal to a liquid crystal display device 5. Thus, the step response characteristic is improved for the improvement of the dynamic image display quality.



(34) LIQUID CRYSTAL DISPLAY DEVICE DRIVING METHOD

(76) Inventors: Akihito Jinda, Kitakatsuragi-gun (JP);
 Koichi Miyachi, Souraku-gun (JP);
 Hidekazu Miyata, Nagoya-shi (JP)

Correspondence Address: Dike, Bronstein, Roberts & Cushman, LLP 130 Water Street Boston, MA 02109 (US)

- (21) Appl. No.: 09/922,183
- (22) Filed: Aug. 2, 2001

(30) Foreign Application Priority Data

| Aug. 3, 2000 | (JP) | 2000-235633 |
|---------------|------|-------------|
| Jun. 11, 2001 | (JP) | 2001-175453 |



Fig.2



KE Α R M Find authenticated court documents without watermarks at docketalarm.com.



Fig.4

Δ

R

Μ

| -1g.4 | | DATA VALUE OF PREVIOUS IMAGE SIGNAL | | | | | |
|--|----|--|----|----|----|----|----|
| | | 10 | 20 | 30 | 40 | 50 | 60 |
| DATA VALUE OF CURRENT IMAGE SIGNAL | 10 | 10 | 8 | 6 | 4 | 2 | 0 |
| | 20 | 22 | 20 | 18 | 16 | 14 | 12 |
| | 30 | 34 | 32 | 30 | 28 | 26 | 24 |
| | 40 | 46 | 44 | 42 | 40 | 38 | 36 |
| | 50 | 58 | 56 | 54 | 52 | 50 | 48 |
| | 60 | 70 | 68 | 66 | 64 | 62 | 60 |

F

Find authenticated court documents without watermarks at docketalarm.com.



Α



Α

DOCKET



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

