

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte TOSHIAKI YOSHIHARA, AKIHIRO MOCHIZUKI,  
HIRONORI SHIROTO, TETSUYA MAKINO and YOSHINORI KIYOTA

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Appeal No. 2004-0045  
Application No. 09/044,421

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HEARD: May 6, 2004

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Before BARRETT, RUGGIERO, and LEVY, Administrative Patent Judges.  
RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1, 2, 4-10, and 12-16. Claims 3, 11, and 17 have been canceled. Claim 18 has been indicated by the Examiner to be allowable subject to being rewritten in independent form.

The disclosed invention relates to a liquid crystal display (LCD) device and method utilizing dual scan writing and erasing. During a display writing scan, an amount of voltage is applied to

each pixel of the display to properly display an image. During the erasing scan, just enough voltage in a reverse polarity is applied to a particular pixel to erase the voltage applied to the particular pixel in the display writing scan.

Claim 1 is illustrative of the invention and reads as follows:<sup>1</sup>

1. A display control method for a liquid crystal display unit which includes two polarizing plates, each polarizing plate having a polarizing axis, the polarizing plates being disposed in directions along which the respective polarizing axes cross at right angles with each other; a liquid crystal panel sandwiched between the polarizing plates, the liquid crystal panel having a plurality of pixels; a back light disposed at the back of the liquid crystal panel, the back light being composed of a light source, and a light-emitting region, the light-emitting region guiding red, green, and blue light emitted from the light source into the liquid crystal panel; a plurality of switching elements, at least one switching element being provided for each one of the plurality pixels, selective ones of the switching elements being ON/OFF driven in response to red, green, and blue data of selected ones of the plurality of pixels during a period of respective display cycles, and at the same time, red, green, and blue light of the back light being emitted in a time-sharing manner in synchronism with the ON/OFF driving of corresponding ones of the plurality of switching elements during the period of respective display cycles, said method comprising:

a first scanning for displaying individual ones of the plurality of pixels of the liquid crystal panel; and

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<sup>1</sup>Claim 1 in the Appendix to Appellants' Brief is an incorrect copy of appealed claim 1. The following is a correct copy of appealed claim 1 as it appears in the amendment filed May 14, 2001.

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a second scanning for erasing the display of said individual ones of the plurality of pixels are carried out in this order, during each period in which the back light emits red, green, blue light in a time-sharing manner;

wherein an electric field is applied to respective ones of said pixels of said liquid crystal panel at each of said first scanning and said second scanning, a direction of said electric field applied to each of said pixels during said first scanning being opposite direction of said electric field applied to each of said pixels respectively during said second scanning, and a magnitude of said electric field applied to each of said pixels during said first scanning is equivalent to a magnitude of said electric field applied to each of said pixels respectively during said second scanning.

The Examiner relies on the following prior art:

Hunter	5,359,345	Oct. 25, 1994
Kanbe et al. (Kanbe)	5,877,739	Mar. 02, 1999 (filed May 25, 1995)

Claim 1, 2, 4-10, and 12-16, all of the appealed claims, stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Hunter in view of Kanbe.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs<sup>2</sup> and the Answer for the respective details.

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<sup>2</sup> The Appeal Brief was filed October 11, 2002 (Paper No. 24). In response to the Examiner's Answer mailed January 16, 2003 (Paper No. 25), a Reply Brief was filed March 24, 2003 (Paper No. 26), which was acknowledged and entered by the Examiner in the communication dated June 18, 2003 (Paper No. 27).

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as recited in claims 1, 2, 4-10, and 12-16. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive

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at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to the Examiner's 35 U.S.C. § 103(a) rejection of appealed independent claims 1 and 9, Appellants assert that the Examiner has failed to establish a prima facie case of obviousness since all of the claimed limitations are not taught or suggested by any of the applied prior art references. In particular, Appellants contend that the Examiner has misinterpreted the disclosure of Kanbe as providing a description of the claimed display and erasing scanning features as set forth in each of the appealed independent claims 1 and 9. In Appellants' view, Kanbe does not provide for

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the claimed "pixel-by-pixel" erasing feature in which an electric field is applied to "a particular one" of the pixels during the erasing scan and having the same electric field magnitude as applied during the display scan but opposite in polarity.

After reviewing the Kanbe reference in light of the arguments of record, we are in general agreement with Appellants' position as stated in the Briefs. Our interpretation of the disclosure of Kanbe coincides with that of Appellants, i.e., Kanbe provides for "line-by-line" erasing in which an electric field of a certain magnitude is applied to an entire line of pixels at a time, and not to each pixel individually as claimed.

It is noteworthy that the Examiner does not dispute Appellants' characterization of the operation of the circuitry disclosed by Kanbe but, rather, suggests (Answer, page 7) that applying an electric field to an entire line of pixels also applies such electric field to the individual pixels in that line as claimed. We can find no basis on the record before us for the Examiner interpreting the claim language in this manner. While the Examiner is correct that claims are to be given their broadest possible interpretation, any such interpretation must be consistent with the specification. Appellants' specification (e.g., page 15) makes it clear that respective pixels in a line are erased on an

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individual basis with an electric field of a reverse polarity and of a same magnitude as that applied to the respective individual pixel during the display scan.

We further agree with Appellants (Reply Brief, page 7) that for the Examiner's asserted correspondence of the disclosure of Kanbe to the claimed invention to be correct, all pixels in a line would have to show the same display. As asserted by Appellants, such a scenario would result in an impractical blank screen display and one which is at odds with Kanbe's own disclosure (e.g, Figure 11A) which describes pixels in a line having different values.

It is apparent to us that the only reasonable interpretation of the language of the claims before us requires a "pixel-by-pixel" erasing scan procedure, a concept not taught or suggested in Kanbe, nor in Hunter for that matter. It is also apparent from the Examiner's line of reasoning in the Answer that, since the Examiner has mistakenly interpreted the disclosure of Kanbe as disclosing the "pixel-by-pixel" erasing scan feature, the issue of the obviousness of this feature has not been addressed. In our view, the Examiner's implication that Kanbe's line-by-line erasing scan procedure is somehow equivalent to that required by Appellants' claims can only be supported by an unreasonable interpretation of the language of the appealed claims.

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Since all of the claim limitations are not taught or suggested by the applied prior art, it is our opinion that the Examiner has not established a prima facie case of obviousness with respect to the claims on appeal. Accordingly, we do not sustain the Examiner's 35 U.S.C. § 103 rejection of independent claims 1 and 9, nor of claims 2, 4-8, 10, and 12-16 dependent thereon. Therefore, the Examiner's decision rejecting claims 1, 2, 4-10, and 12-16 is reversed.

REVERSED

LEE E. BARRETT	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
JOSEPH F. RUGGIERO	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
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	)	
STUART S. LEVY	)	
Administrative Patent Judge	)	

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