

Title (en)  
TOUCH SCREEN LIQUID CRYSTAL DISPLAY

Title (de)  
TOUCHSCREEN-FLÜSSIGKRISTALLANZEIGE

Title (fr)  
ÉCRAN D'AFFICHAGE TACTILE À CRISTAUX LIQUIDES

Publication  
**EP 2027527 A2 20090225 (EN)**

Application  
**EP 07812072 A 20070608**

Priority

- US 2007070725 W 20070608
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- US 88387907 P 20070108
- US 76003607 A 20070608
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Abstract (en)  
[origin: WO2007146780A2] Disclosed herein are liquid-crystal display (LCD) touch screens that integrate the touch sensing elements with the display circuitry. The integration may take a variety of forms. Touch sensing elements can be completely implemented within the LCD stackup but outside (not between) the color filter plate and the array plate. Alternatively, some touch sensing elements can be between the color filter and array plates with other touch sensing elements not between the plates. In another alternative, all touch sensing elements can be between the color filter and array plates. The latter alternative can include both conventional and in-plane- switching (IPS) LCDs. In some forms, one or more display structures can also have a touch sensing function. Techniques for manufacturing and operating such displays, as well as various devices embodying such displays are also disclosed.

IPC 8 full level  
**G06F 3/041** (2006.01)

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**G02F 1/13338** (2013.01 - EP KR); **G02F 1/133514** (2013.01 - KR); **G02F 1/133528** (2013.01 - KR); **G02F 1/134309** (2013.01 - KR); **G02F 1/134363** (2013.01 - EP KR); **G02F 1/1362** (2013.01 - KR); **G06F 3/0412** (2013.01 - EP GB KR US); **G06F 3/04164** (2019.05 - EP US); **G06F 3/04166** (2019.05 - US); **G06F 3/04184** (2019.05 - EP); **G06F 3/044** (2013.01 - GB); **G06F 3/0443** (2019.05 - EP US); **G06F 3/0444** (2019.05 - EP US); **G06F 3/0445** (2019.05 - EP KR US); **G06F 3/0446** (2019.05 - EP US); **G06F 2203/04102** (2013.01 - KR); **G06F 2203/04103** (2013.01 - EP KR); **G06F 2203/04112** (2013.01 - EP KR)

Citation (examination)

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- US 5648642 A 19970715 - MILLER ROBERT J [US], et al
- EP 1422601 A1 20040526 - SHARP KK [JP]
- See also references of WO 2007146780A2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

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**WO 2007146780 A2 20071221**; **WO 2007146780 A3 20080912**; AU 2007257866 A1 20071221; AU 2007257866 B2 20110303; AU 2008101178 A4 20090108; AU 2008101178 B4 20090716; DE 112007001291 T5 20090409; DE 112007003360 A1 20100218; EP 2027527 A2 20090225; EP 2259172 A2 20101208; EP 2259172 A3 20110413; GB 0820661 D0 20081217; GB 2451210 A 20090121; GB 2451210 B 20100922; GB 2451210 B8 20110302; KR 20090019902 A 20090225; KR 20090028627 A 20090318

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