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(71) Applicant: **Samsung Electronics Co., Ltd.**
Suwon-si, Gyeonggi-do (KR)

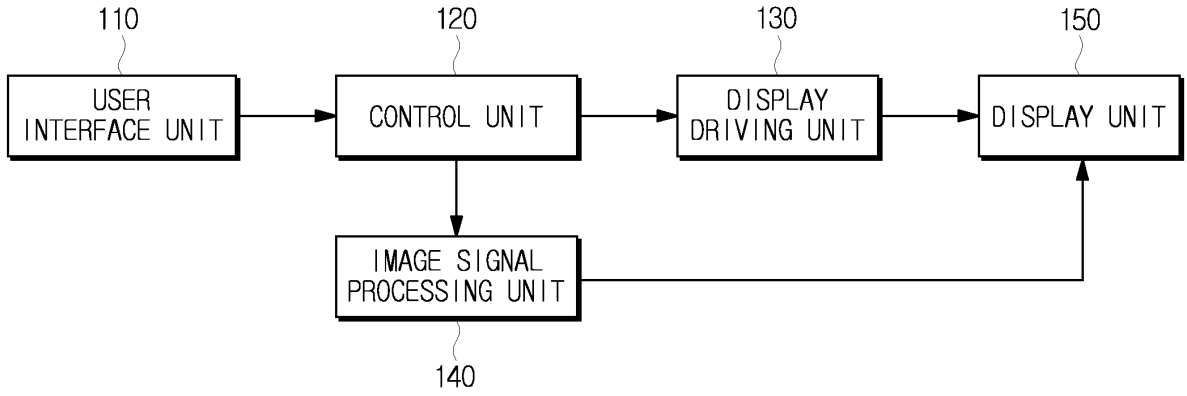
(72) Inventor: **Lee, Joong-keon**
Gyeonggi-do (KR)

(74) Representative: **D'Halleweyn, Nele Veerle Trees Gertrudis et al**
Arnold & Siedsma
Sweelinckplein 1
2517 GK The Hague (NL)

(54) Image display device for displaying small-sized image and method thereof

(57) An image display device capable of displaying a small-sized image and a method thereof are provided. The image display device includes a display unit, a display driving unit which controls an operation state of the display unit, a user interface unit which receives an input of a user's selection command, an image signal processing unit which receives an image signal and converting the received image signal into a designated size in accordance with the user's selection command, and a control unit which controls the display driving unit to display the converted image signal by activating a designated region on the display unit and inactivating the remaining region in accordance with the user's selection command. The image display device can be implemented by an LCD device or a PDP device. Accordingly, a small-sized image can be displayed in accordance with a user's selection, and power consumption can be reduced.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 07 11 5600

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	EP 1 617 404 A (SAMSUNG ELECTRONICS CO LTD [KR]) 18 January 2006 (2006-01-18) * paragraphs [0018], [0027] - [0030], [0040]; figures 2,4a,4b * -----	1,6-10, 15-18 2,3,11, 12	INV. G09G3/34 G09G3/28
X Y	EP 0 540 294 A (CANON KK [JP]) 5 May 1993 (1993-05-05) * abstract * * page 4, line 30 - page 7, line 38; figures 4-8 * -----	1,6,10, 15 2,3,11, 12	
X Y	EP 1 225 762 A (PACE MICRO TECH PLC [GB]) 24 July 2002 (2002-07-24) * abstract * * paragraphs [0005], [0010], [0039] - [0042]; figures 1-4 * -----	1,10 2,3,11, 12	
X Y	EP 0 609 843 A (NIPPON ELECTRIC CO [JP]) 10 August 1994 (1994-08-10) * abstract * * column 6, line 37 - column 7, line 12; figures 14-16 * -----	1,10 2,3,11, 12	TECHNICAL FIELDS SEARCHED (IPC) G09G
Y	US 2004/140972 A1 (HIROTA SHOUICHI [JP] ET AL) 22 July 2004 (2004-07-22) * paragraphs [0040], [0041], [0051], [0052], [0056], [0064]; figures 1-4 * -----	2,3,11, 12	

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
Munich	5 June 2009	Wolff, Lilian

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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Application Number
EP 07 11 5600

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-3, 6-12, 15-18

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 07 11 5600

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-3,6-12,15-18

Display driving unit controling an LCD backlight display unit, via a user interface unit , an image signal processing unit converting the received image signal into a designated size in accordance with the user's selection command, and a control unit controling the display driving unit to display the converted image signal by switching on the backlighting of the designated region on the display unit and by switching off the backlighting of the remaining region in accordance with the user's selection command; in addition, in accordance with the user's selection command based on a first interface for selecting a display mode, and a control unit controling the display driving unit to activate the whole region of the display unit if a normal display mode is selected through the first user interface, and to activate the designated region if a small-size display mode is selected through the first user interface.

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2. claims: 1,4,10,13

Display driving unit controling a plasma display unit, via a user interface unit , an image signal processing unit converting the received image signal into a designated size in accordance with the user's selection command, and a control unit controling the display driving unit to display the converted image signal by activating a designated region on the display unit and inactivating the remaining region in accordance with the user's selection command by intercepting an address signal that is supplied to PDP discharge cells.

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3. claims: 1,5,10,14

Display driving unit controling a plasma display unit, via a user interface unit , an image signal processing unit converting the received image signal into a designated size in accordance with the user's selection command, and a control unit controling the display driving unit to display the converted image signal by activating a designated region on the display unit and inactivating the remaining region in accordance with the user's selection command by reducung a frequency of a sustain signal supplied to PDP discharge cells.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 11 5600

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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05-06-2009

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	用于显示小尺寸图像的图像显示装置及其方法		
公开(公告)号	EP1939849A3	公开(公告)日	2009-10-14
申请号	EP2007115600	申请日	2007-09-04
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	SAMSUNG ELECTRONICS CO.，LTD.		
当前申请(专利权)人(译)	SAMSUNG ELECTRONICS CO.，LTD.		
[标]发明人	LEE JOONG KEON		
发明人	LEE, JOONG-KEON		
IPC分类号	G09G3/34 G09G3/28 G09G3/288 G09G3/291 G09G3/294		
CPC分类号	G09G3/342 G09G3/2096 G09G3/291 G09G3/294 G09G3/3426 G09G2330/021 G09G2330/022 G09G2340/14		
优先权	1020060131887 2006-12-21 KR		
其他公开文献	EP1939849A2		
外部链接	Espacenet		

摘要(译)

提供了一种能够显示小尺寸图像的图像显示装置及其方法。该图像显示装置包括显示单元，控制显示单元的操作状态的显示驱动单元，接收用户选择命令的输入的用户接口单元，接收图像信号的图像信号处理单元和转换图像信号的图像信号处理单元。根据用户的选择命令接收图像信号到指定大小，以及控制单元，控制单元控制显示驱动单元通过激活显示单元上的指定区域显示转换后的图像信号，并根据用户的指令停用剩余区域选择命令。图像显示设备可以由LCD设备或PDP设备实现。因此，可以根据用户的选择显示小尺寸图像，并且可以降低功耗。