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(54) Gradation control for an active matrix EL display

(57) To provide an active matrix electronic device capable of performing clear color gray-scale display. The electronic device is characterized in that a plurality of pixels composing a pixel portion is surrounded by a source signal line, a first gate signal line. a second gate signal line, and a power supply line, and that the plurality of pixels have a switching TFT, an EL driving TFT, an eliminating TFT, and an EL element, respectively.

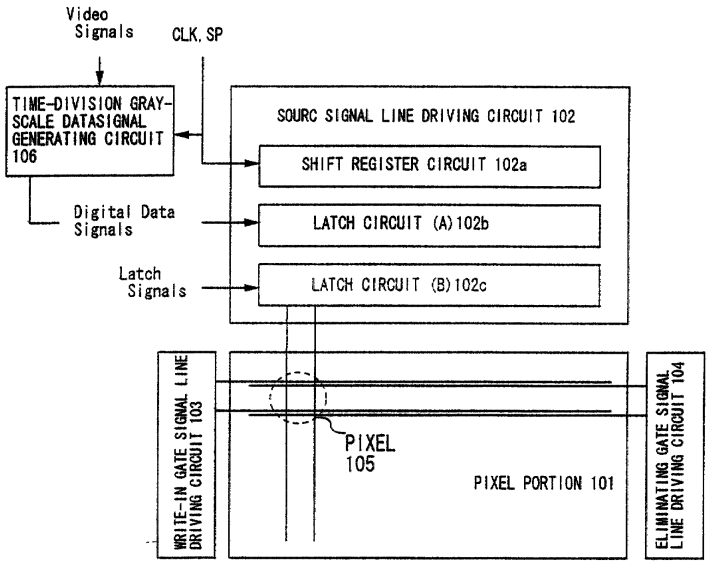

FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 00 12 6069

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A,P	* paragraph [0041] - paragraph [0048] * * paragraph [0078] * * paragraph [0086] * * figures 1,8,10 *	7,13,22, 30,41,49	
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	--- -/--		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	18 September 2002	Farricella, L

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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Application Number
EP 00 12 6069

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims 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 the first ten claims.

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:

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EUROPEAN SEARCH REPORT

Application Number
EP 00 12 6069

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	18 September 2002	Farricella, L

CATEGORY OF CITED DOCUMENTS

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Y : particularly relevant if combined with another document of the same category
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& : member of the same patent family, corresponding document

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European Patent Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 00 12 6069

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: 1-59

   An active matrix EL display device including an erasing transistor in the pixel wherein the erasing transistor is driven by a dedicated gate line.

2. Claims: 60-67

   An EL display device controlled by data lines and by two sets of gate lines and with digital drive.

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EUROPEAN SEARCH REPORT

Application Number
EP 00 12 6069

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	18 September 2002	Farricella, L

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

专利名称(译)	有源矩阵EL显示器的渐变控制		
公开(公告)号	EP1103946A3	公开(公告)日	2002-11-20
申请号	EP2000126069	申请日	2000-11-29
[标]申请(专利权)人(译)	株式会社半导体能源研究所		
申请(专利权)人(译)	SEL半导体能源研究所有限公司.		
当前申请(专利权)人(译)	SEL半导体能源研究所有限公司.		
[标]发明人	INUKAI KAZUTAKA		
发明人	INUKAI, KAZUTAKA		
IPC分类号	H01L51/50 G09F9/30 G09G3/00 G09G3/20 G09G3/30 G09G3/32 H01L27/15 H01L27/32 H01L31/12 H05B33/00 H05B33/14		
CPC分类号	G09G3/3258 G09G3/2022 G09G2300/0465 G09G2300/0842 G09G2310/0221 G09G2310/0251 H01L51/5246		
优先权	1999338786 1999-11-29 JP 2000086968 2000-03-27 JP		
其他公开文献	EP1103946B1 EP1103946A2		
外部链接	Espacenet		

摘要(译)

提供一种能够进行清晰的彩色灰度显示的有源矩阵电子器件。该电子器件的特征在于，构成像素部分的多个像素被源信号线，第一栅极信号线包围。第二栅极信号线和电源线，并且多个像素分别具有开关TFT，EL驱动TFT，消除TFT和EL元件。

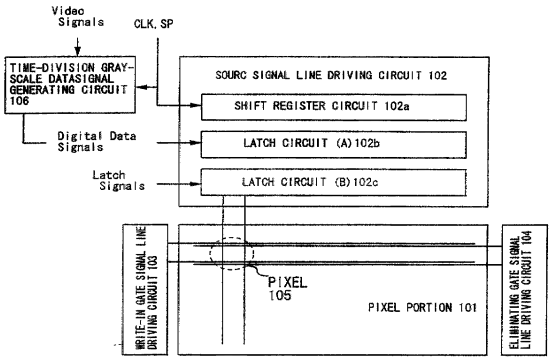

FIG. 1