

(19)



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(11)

EP 0 673 012 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
10.01.1996 Bulletin 1996/02

(51) Int Cl.⁶: G09G 3/36, G09G 3/20,
G09G 1/16

(43) Date of publication A2:
20.09.1995 Bulletin 1995/38

(21) Application number: 95301621.9

(22) Date of filing: 13.03.1995

(84) Designated Contracting States:
DE ES FR GB IT NL SE

(30) Priority: 11.03.1994 AU PM4401/94
11.03.1994 AU PM4405/94
11.03.1994 AU PM4406/94
11.03.1994 AU PM4410/94
11.03.1994 AU PM4411/94
11.03.1994 AU PM4414/94
11.03.1994 AU PM4415/94
11.03.1994 AU PM4402/94
11.03.1994 AU PM4413/94
11.03.1994 AU PM4409/94
11.03.1994 AU PM4408/94
11.03.1994 AU PM4404/94

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(54) Controller for a display with multiple common lines for each pixel

(57) There is disclosed a system (45, 55) for controlling a high resolution colour discrete level display device, wherein the display device can have multiple common lines (80, 81, 82) for each line of pixels. A frame buffer controller system (45) is disclosed which is adapted to utilise the multiple common lines in a number of different modes, producing a number of different output speeds for the display. Means (126, 127) are also disclosed for dithering the pixel data in accordance with the output modes. Further, the system is capable of displaying images, such as fonts or the like, at an increased resolution than that which would otherwise be possible.

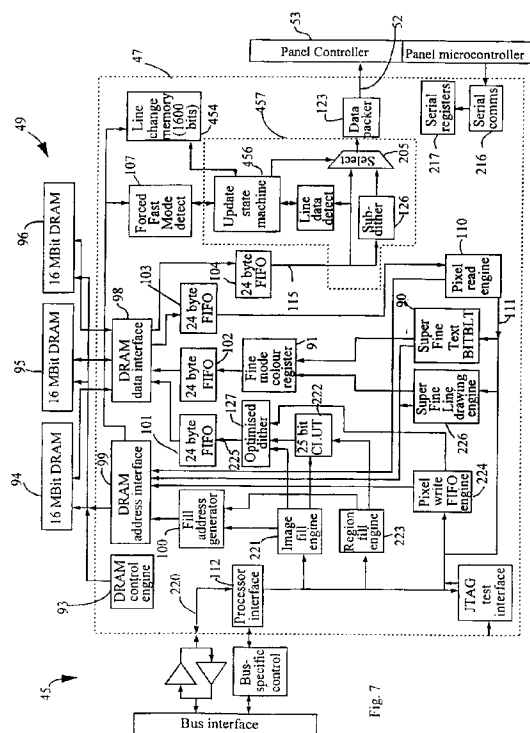


Fig. 7

CORRIGENDUM issued on 14.02.96

EP 0 673 012 A3



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EUROPEAN SEARCH REPORT

Application Number
EP 95 30 1621

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.6)
X	EP-A-0 526 135 (CANON K.K.) * Abstract * * page 4, line 35 - page 5, line 5; figures 1,9-11; table 7 *	1,2	G09G3/36 G09G3/20 G09G1/16
Y		3-8, 10-14, 21,22	
A		25,26,32	
A	EP-A-0 558 342 (CANON K.K.) * column 5, line 5 - line 25; figure 2 * * Abstract * * column 5, line 26 - column 8, line 46; figure 7 *	1,2	
Y		12,14, 21,22	
A		24,26	
Y	EP-A-0 361 981 (SHARP K.K.) * Abstract * * figure 9 *	3	
Y	EP-A-0 174 809 (TEKTRONIX INC.) * Abstract * * figure 1 *	4	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G09G
Y	EP-A-0 250 868 (I.B.M. CO.) * Abstract * * page 6, line 18 - line 28; figure 9 *	5	
Y	EP-A-0 573 822 (CANON K.K.) * Abstract * * page 4, line 38 - page 5, line 50; figures 2-4 * * page 6, line 7 - page 8, line 16; figures 6-13 *	6,12,13 23,24,26	
A			
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 9 November 1995	Examiner Corsi, F
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

EPO FORM 1503 01.82 (P04C01)



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CLAIMS INCURRING FEES

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

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees 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 claims:
- ☐ 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 requirement 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.
- ☐ 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 has 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 95 30 1621

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.6)
Y A	EP-A-0 579 359 (CANON K.K.) * Abstract * * page 5, line 40 - page 6, line 13; figures 2-4 * * page 6, line 31 - line 40; figures 12,13 * * page 9, line 38 - line 47; figure 20 * * page 10, line 22 - page 11, line 20; figures 25,26 * ---	7,8,10 15,20	
Y	EP-A-0 274 942 (THOMSON-CSF) * Abstract * * column 3, line 15 - line 19; figures 1,2 * * column 3, line 41 - column 4, line 13 * * column 5, line 3 - line 13 * -----	11	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
Place of search THE HAGUE		Date of completion of the search 9 November 1995	Examiner Corsi, F
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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- B -
EP 95301621.9

LACK OF UNITY OF INVENTION

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

1. Claims 1-22, 27-37:
Architecture of a driver for a discrete level display with multiple scan lines for each pixel that may be driven in unison.
2. Claims 23-26:
Sequence of line addressing steps in a method for updating a display with multiple scan lines per pixel.