(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
20 February 2003 (20.02.2003)

PCT

(10) International Publication Number
WO 03/015066 A3

(51) International Patent Classification[7]: G09G 3/20

(21) International Application Number: PCT/US02/24994

(22) International Filing Date: 8 August 2002 (08.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/311,138	8 August 2001 (08.08.2001)	US
60/312,955	15 August 2001 (15.08.2001)	US
60/312,946	15 August 2001 (15.08.2001)	US
60/313,054	16 August 2001 (16.08.2001)	US
60/314,622	23 August 2001 (23.08.2001)	US
60/318,129	7 September 2001 (07.09.2001)	US
10/051,612	16 January 2002 (16.01.2002)	US
10/150,355	17 May 2002 (17.05.2002)	US

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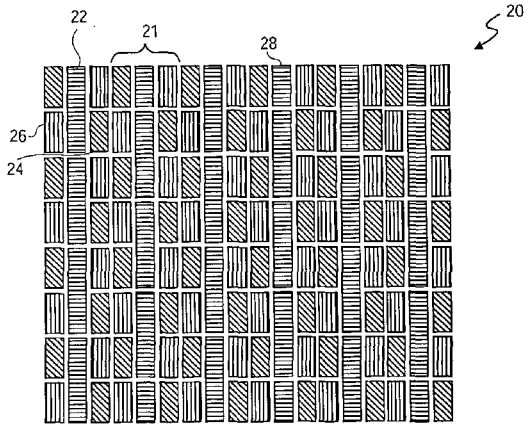
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) Title: METHODS AND SYSTEMS FOR SUB-PIXEL RENDERING WITH GAMMA ADJUSTMENT AND ADAPTIVE FILTERING



(57) Abstract: Thus, methods and systems for sub-pixel rendering with gamma adjustment are disclosed. The gamma adjustment allows the luminance for the sub-pixel arrangement to match the non-linear gamma response of the human eye's luminance channel, while the chrominance can match the linear response of the human eye's chrominance channels. The gamma correction allows the algorithms to operate independently of the actual gamma of a display device. The sub-pixel rendering techniques disclosed with gamma adjustment can be optimized for a display device gamma to improve response time, dot inversion balance, and contrast because gamma correction and compensation of the sub-pixel rendering algorithm provides the desired gamma through sub-pixel rendering. These techniques can adhere to any specified gamma transfer curve. Processing data for a display including pixels, each pixel having color sub-pixels, comprises receiving pixel data. Once the pixel data is received, processing data for a display includes converting the pixel data to sub-pixel rendered data, the conversion generating the sub-pixel rendered data for a sub-pixel arrangement including alternative red and green sub-pixels on at least one of a horizontal and vertical axis. Next processing data for a display includes correcting the sub-pixel rendered data if a condition exists and outputting the sub-pixel rendered data.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
24 December 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.