(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 21 December 2007 (21.12.2007)

(51) International Patent Classification:

G03G 15/06 (2006.01) **G03G 21/20** (2006.01) **G03G 15/08** (2006.01)

(21) International Application Number:

PCT/US2007/013921

(22) International Filing Date: 14 June 2007 (14.06.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

11/453,218 14 June 2006 (14.06.2006) US 11/565,728 1 December 2006 (01.12.2006) US

(71) Applicant (for all designated States except US): EAST-MAN KODAK COMPANY [US/US]; 343 State Street, Rochester, NY 14650-2201 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SLATTERY, Scott Thomas [US/US]; 1069 White Road, Brockport, New York

(10) International Publication Number WO 2007/146358 A3

14420 (US). **BUCKS, Rodney Ray** [US/US]; 1442 Fieldcrest Drive, Webster, New York 14580 (US). **GEORGE, Richard Allen** [US/US]; 536 Oakdridge Drive, Rochester, New York 14617 (US).

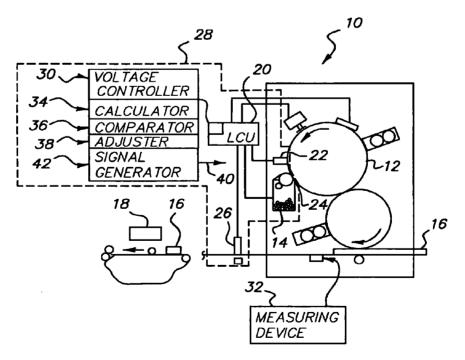
(74) Common Representative: EASTMAN KODAK COM-PANY; 343 State Street, Rochester, NY 14650-2201 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: PRINT QUALITY MAINTENANCE METHOD AND SYSTEM



(57) Abstract: A system and related method for maintaining print quality based on development potential measurements that include comparing the current process measurements to a toner concentration related set-point; calculating a quality adjustment range based on current process measurements and the toner concentration related set-point, or a derivative thereof, indicative of print quality; and adjusting current process conditions related to the current process measurements to trend towards a new set point within the quality adjustment range so that a rate of change is proportional to the difference between the current process measurements and the set point.



WO 2007/146358 A3



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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

Published:

with international search report

(88) Date of publication of the international search report:

14 February 2008

INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/013921

CLASSIFICATION OF SUBJECT MATTER INV. G03G15/06 G03G15/08 G03G21/20 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) G03G Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. EP 1 598 710 A (FUJI XEROX CO LTD [JP]) X 1-16 23 November 2005 (2005-11-23) paragraphs [0115], [0173]; figure 2 X US 6 121 986 A (REGELSBERGER MATTHIAS H 1 - 15[US] ET AL) 19 September 2000 (2000-09-19) cited in the application column 9, line 60 - column 10, line 10 column 14, lines 32-40,55-61; figures 1,6a,6b X US 5 504 557 A (MORITA TETSUYA [JP]) 1,9,16 2 April 1996 (1996-04-02) column 6, line 19 - column 7, line 24; figures 1,4 column 9, lines 16-27 -/-χl Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention *E* earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled other means document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 12 December 2007 20/12/2007 Name and mailing address of the ISA/ **Authorized officer** European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Van Ouytsel, Krist'l Fax: (+31-70) 340-3016

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/013921

		PCT/US2007/013921	
C(Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X	JP 08 123110 A (FUJI XEROX CO LTD) 17 May 1996 (1996-05-17) abstract; figures 1,2	1	
X	EP 1 439 431 A (XEROX CORP [US]) 21 July 2004 (2004-07-21) paragraphs [0016], [0040], [0049], [0055], [0056]; figures 1,4	1-16	
X	US 2004/197110 A1 (BESSHO YUJI [JP] ET AL) 7 October 2004 (2004-10-07) paragraphs [0031], [0058] - [0061], [0069], [0071]; figure 1	 1 (BESSHO YUJI [JP] ET AL) 1,9 2004-10-07) 1, [0058] - [0061],	
Α	JP 11 249408 A (MITA INDUSTRIAL CO LTD) 17 September 1999 (1999-09-17) abstract; figures 1,2	1	
ļ			

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/013921

Patent document cited in search report		Publication date	Patent family Publication member(s) date
EP 1598710	Α	23-11-2005	KR 20060041777 A 12-05-2006 US 2005254831 A1 17-11-2005
US 6121986	Α	19-09-2000	NONE
US 5504557	Α	02-04-1996	JP 3026687 B2 27-03-2000 JP 6124031 A 06-05-1994
JP 8123110	Α	17-05-1996	NONE
EP 1439431	A	21-07-2004	JP 2004220030 A 05-08-2004 US 2004136737 A1 15-07-2004
US 2004197110	A1	07-10-2004	CN 1527158 A 08-09-2004 JP 2004271834 A 30-09-2004
JP 11249408	A	17-09-1999	JP 3451188 B2 29-09-2003