

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 August 2003 (21.08.2003)

PCT

(10) International Publication Number
WO 03/069600 A1

(51) International Patent Classification⁷: **G11B 5/584**

(21) International Application Number: PCT/GB03/00438

(22) International Filing Date: 3 February 2003 (03.02.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/073,290 13 February 2002 (13.02.2002) US

(71) Applicant: **INTERNATIONAL BUSINESS MACHINES CORPORATION** [US/US]; New Orchard Road, Armonk, NY 10504 (US).

(71) Applicant (for MG only): **IBM UNITED KINGDOM LIMITED** [GB/GB]; PO Box 41, North Harbour, Portsmouth, Hampshire PO6 3AU (GB).

(72) Inventors: **EATON, James, Howard**; 18750 Castle Hill Drive, Morgan Hill, CA 95037 (US). **IMAINO, Wayne, Isami**; 198 Stillwater Lane, San Jose, CA 95139 (US).

PAN, Tzong-Shii; 1052 Lancer Drive, San Jose, CA 95129 (US).

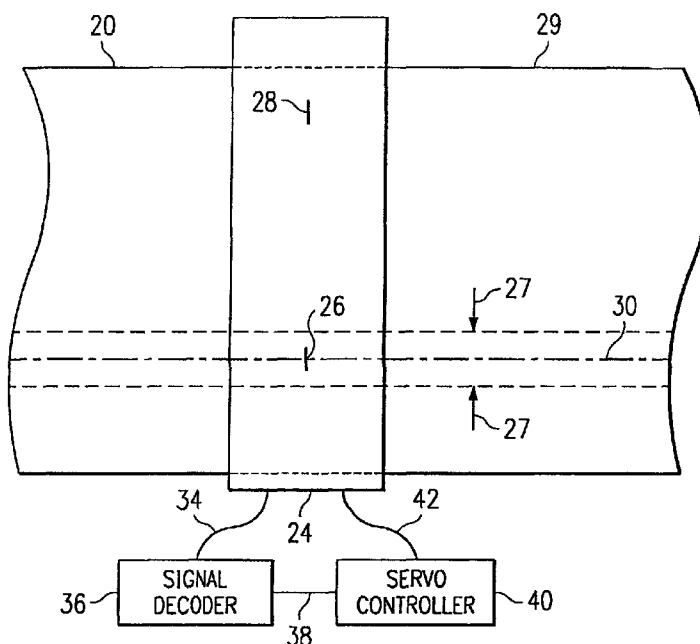
(74) Agent: **FOURNIER, Kevin, John**; IBM United Kingdom Limited, Intellectual Property Law, Hursley Park, Winchester, Hampshire SO21 2JN (GB).

(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, 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, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: TIMING BASED SERVO WITH FIXED DISTANCES BETWEEN TRANSITIONS



(57) Abstract: A servo writer generates a linear servo track timing based servo pattern comprised of transitions that extend laterally of the track. At least three spaced apart write elements, two of parallel azimuthal orientation, and at least one of a different azimuthal orientation, write patterns corresponding to the write elements, fixing both the distance between transitions having different azimuthal orientation, the "A" distance, and the distance between transitions having parallel azimuthal orientation, the "B" distance. The fixed distances provide precise sensing of lateral position based on a measure of time over the "A" distance compared to time over the "B" distance.



WO 03/069600 A1



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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.