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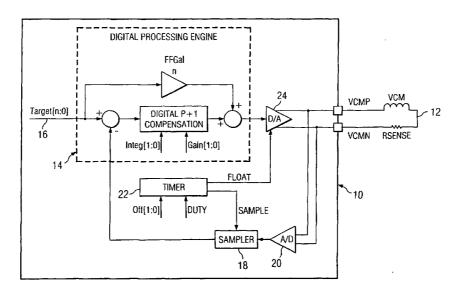
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[Continued on next page]

(54) Title: DIGITAL ACTUATOR CONTROL AND METHOD



(57) Abstract: Methods and apparatus for digital control of a head-disk assembly (HDA) actuator with dynamic velocity compensation. The actuator voltage in an HDA is sampled and a velocity error (36, 56) is determined. The voltage applied to the actuator is compensated for the velocity error. This includes by measuring the actual voltage at the actuator motor (12), and alternatively, by calculating the actuator motor voltage using digital processing techniques. A digital voltage command is then provided for applying compensated voltage (40, 60) to the actuator motor. Implementing the invention methods includes using a sampler (18) for sampling an actuator motor voltage, a timer (22), and a digital processing engine (14) for receiving a target actuator voltage command (16) and the digital actuator motor voltage sample and for outputting a digital voltage command for controlling the actuator motor.





Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, F1, 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, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, 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, F1, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap		Relevant to claim No.
X	US 6,184,645 B1 (BRITO et al) 06 February 2001 (06.02.20O1), Figures 3-5.		1-3, 5-7
X	US 2002/0033687 A1 (ABE et al) 21 March 2002 (21.03.2002), Figure 5.		8-10, 12
A	US 2002/0180392 A1 (HILL) 05 December 2002 (05.12.2002), Figures 3-4 and 6.		1-7, 13-22
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