

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
4 January 2001 (04.01.2001)

PCT

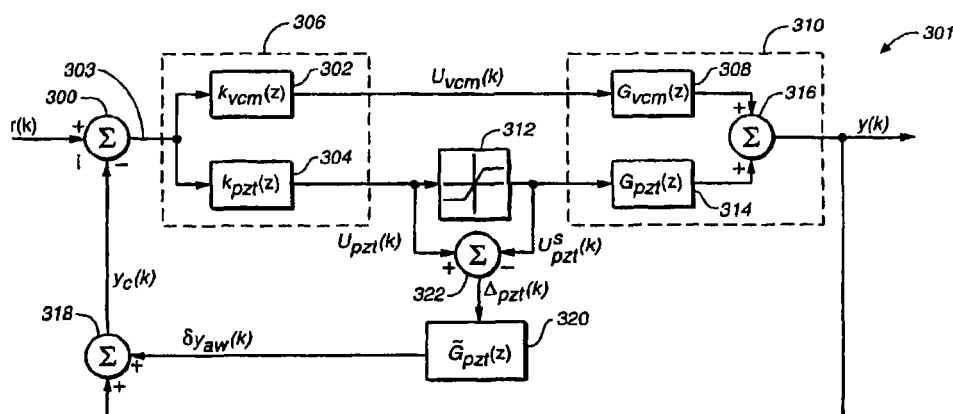
(10) International Publication Number
WO 01/01401 A1

- (51) International Patent Classification⁷: G11B 5/55 (72) Inventors: MITTAL, Samir; 10750 Brunswick Road South, #204, Bloomington, MN 55438 (US). MORRIS, John, C.; 5045 Oliver Avenue South, Minneapolis, MN 55419 (US).
- (21) International Application Number: PCT/US99/30825
- (22) International Filing Date:
27 December 1999 (27.12.1999) (74) Agents: MAGEE, Theodore, M.; Westman, Champlin & Kelly, P.A., Suite 1600 - International Centre, 900 Second Avenue South, Minneapolis, MN 55402-3319 et al. (US).
- (25) Filing Language: English
- (26) Publication Language: English (81) Designated States (national): CN, DE, GB, JP, KR, SG.
- (30) Priority Data:
60/140,870 24 June 1999 (24.06.1999) US
Published:
— With international search report
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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



G00001

(54) Title: METHOD AND APPARATUS FOR MAINTAINING SERVO STABILITY DURING ACTUATOR SATURATION



(57) Abstract: A method and apparatus are provided for positioning a head (110) over a disc (106) in a disc drive (100) while maintaining servo loop stability. The apparatus includes an actuator-head assembly (310) having a large scale actuator (308) and a micro-actuator (314) that are both able to move the head over the disc. An anti-windup compensation component (312, 322, 320) detects when a micro-actuator controller (304) is producing a micro-actuator control value that will saturate the micro-actuator (314). Using the micro-actuator control value, the anti-windup compensation component generates a saturation tracking error signal $\delta y_{aw,k}$. A summing component (318) then combines a position value that the head generates based on its position over the disc with the saturation tracking error signal to form a position error value that masks the saturation of the micro-actuator.



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