10 JUL 2003

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G11B 5/596, 21/08	A1	(11) International Publication Number: WO 00/42603
		(43) International Publication Date: 20 July 2000 (20.07.00)

(21) International Application Number: PCT/US00/01014

(22) International Filing Date: 14 January 2000 (14.01.00)

(30) Priority Data:

60/116,071	15 January 1999 (15.01.99)	US
09/467,989	20 December 1999 (20.12.99)	US

(71) Applicant: SEAGATE TECHNOLOGY, INC. [US/US]; 920 Disc Drive, Building 15, Scotts Valley, CA 95066 (US).

(72) Inventors: LIU, Xiong; Blk 248, Bukit Batok East Ave. 52, #07–52, Singapore 650248 (SG). LIU, Joseph, C.; 35 Mount Sinsi Ave., #12–01, Singapore 276955 (SG). GOMEZ, Kevin, A.; Blk 327, Jurong East Street 31, #04–170, Singapore 600327 (SG). DING, Mingzhong; Blk 534, Bukit Batok #04–18, Singapore 650534 (SG).

(74) Agent: DEMPSTER, Shawn, B.; Seagate Technology, Inc.–SHK2LG, 1280 Disc Drive, Shakopee, MN 55379–1863 (US).

(81) Designated States: CN, DE, GB, JP, KR, SG.

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

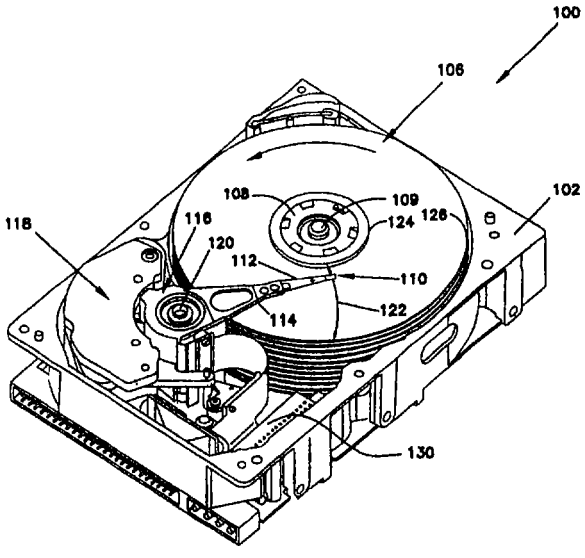


G00002



162162

(54) Title: METHOD AND APPARATUS FOR ADAPTIVE FEEDFORWARD CANCELLATION



(57) Abstract

A method and apparatus are provided for generating an adaptive feedforward cancellation signal for a next sector of a disc in a disc drive. The cancellation signal includes at least one tap weight multiplied by at least one trigonometric function. To form the cancellation signal, the method and apparatus first determine a servo loop transfer function relative to a feedforward cancellation component in the disc drive. The transfer function is then inverted to form filter parameters. A position error value is then measured for a current signal and is passed through a filter formed from the filter parameters. This creates a filtered position error value that is used with the tap weights of a current sector to determine the tap weights for the cancellation signal of the next sector.