PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G11B 5/55, 21/10 — A1

(11) International Publication Number: WO 00/63893

(43) International Publication Date: 26 October 2000 (26.10.00)

(21) International Application Number: PCT/US00/10410

(22) International Filing Date: 18 April 2000 (18.04.00)

(30) Priority Data:
60/130,316 21 April 1999 (21.04.99) US

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

(72) Inventors: HAMPSHIRE, Randall, D.; 125 Edgemont, San Marcos, TX 78766 (US). KAMONPET, Patiwat; 4401 N.W. 39th, Apt. 318, Oklahoma City, OK 73112 (US).

(74) Agents: DEMPSTER, Shawn, B.; Seagate Technology LLC, Intellectual Property Dept.–SHK2LG, 1280 Disc Drive, Shakopee, MN 55379–1863 (US) et al.

(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.

(54) Title: SERVO PROCESSOR CODE EVALUATION USING A VIRTUAL DISC DRIVE

(57) Abstract

Method and apparatus for evaluating programming used by a programmable processor device (142) in a disc drive (100) to carry out servo control of a head (118) with respect to a rotatable disc (108). The programming is first generated (302) as a series of instructions executable by the programmable processor device. Processor emulation software is provided (304) to simulate execution of the instructions in a computer. A dynamic model of electrical and mechanical portions of the disc drive is generated (306) using plant simulation software. A dynamic linking program is configured (308) to synchronize and transfer data between the processor emulation software and the plant simulation software. All three programs are thereafter simultaneously executed (314) in the computer to evaluate realtime operation of the programming (316).

