

초소형 광디스크 드라이브용 조동구동기의 동특성 평가 및 2-와이어 미세 구동기의 개발

Evaluation of Dynamic Characteristics of Coarse Actuator and Design of a 2-Wire Fine Actuator for Small Form Factor ODD

박 세 준* · 이 강 녕** · 이 동 주** · 박 노 철** · 박 영 필***

Se-June Park, Kang-Nyung Lee, Dong-Ju Lee, No-Cheol Park and Young-Pil Park

Key Words : Coarse Actuator (조동구동기), Fine Actuator (미세구동기), PID Controller(PID 제어기),
Mass Center (무게중심), 2-Wire Suspension Actuator (2-와이어 서스펜션 구동기)

ABSTRACT

For greeting the era of ubiquitous network, data storage devices have been essentially attached to mobile data devices. As a result, the minimization of the storage device has arisen as major interests in the next generation data storage technology. So, there are many researches for the small form factor ODD. In this paper, we propose a pick up that consists of a linear VCM and 2-wire focusing actuator for a small form factor ODD. For the sake of checking performance of the coarse actuator, PID controller is designed. Experiment with controller and DSP board shows its propriety as a fine tracking actuator. And, 2-wire suspension actuator is designed in order to be contained in a coarse actuator and to satisfy the thickness of a PCMCIA type. Through the experiment of designed actuator, it verifies performance as a focusing actuator.

* 연세대학교 정보저장기기연구센터
E-mail : sjunep@hotmail.com
Tel : (02) 2123-4677, Fax : (02) 365-8460
** 연세대학교 정보저장기기연구센터
*** 연세대학교 기계공학과