

하이브리드형 광픽업 액추에이터의 고온 특성

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Characteristics of hybrid optical pickup actuator at high temperature

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Key Words : Actuator, Optical Pickup, Hybrid Blade, Thermal Management

Abstract : A new type actuator has been designed and investigated to overcome thermal problems in slim optical disc drives adopted in mobile storage devices. As the size of optical disc drives decreases, it is more difficult to remove the heat inside a drive and the temperature of an actuator increases. As a result, the second resonance of an actuator moves down to a lower frequency band and the performance of optical parts also deteriorates. To manage these thermal problems, in this paper an actuator with a hybrid blade, which is composed of vectra and magnesium, has been suggested and verified. Despite the high temperature environment, the proposed actuator showed good dynamic performance.

포커싱 에러를 최소화하기 위한 광디스크 형상설계

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Design of Optical Disk Profile for Minimizing the Focusing Error

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Key Words : ADS(최적화 프로그램), Orthogonal Array(직교배열표), ANOM(평균분석기법)

Abstract : Optical disk is the media which is used generally in data storage device, but it has a disadvantage in the vibration by the spinning and the shock. For overcoming these disadvantage, we must control the optical disk to minimize the focusing and tracking error. The present study investigates the disk profile for minimizing the focusing error subjected to environmental shock and weight of the disk. In this study, the disk is assumed to be a cantilever beam to determine the disk profile for the minimum displacement as to the shock considering only the first mode. Also, for the optimally determined profile by ADS program, this paper recalculate the robust cantilever profile by using orthogonal array and ANOM