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ABSTRACT

DISK FILE WITH LIQUID FILM HEAD-DISK INTERFACE

A disk file is described with substantially reduced head-disk spacing and corresponding improvement in recording performance which uses a disk coated with a film of conventional high viscosity lubricant, a lubricant reservoir for replenishing the lubricant on the disk over the life of the file, and a transducer carrier with feet which ski on the high viscosity liquid film. The file does not include any means for recirculating the lubricant since the lubricant spins off the disk at a relatively low rate due to its high viscosity. The lubricant reservoir contains a very small amount of lubricant and thus may be maintained inside the substantially sealed disk file. In one embodiment of the invention, the sealed disk file is essentially evacuated. The operation of the disk file in a near vacuum environment is possible because, unlike conventional disk files, air is not required to support an air-bearing head-disk interface and the high vapor pressure of the relatively high molecular weight lubricant prevents its evaporation.

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