SYSTEM AND METHOD FOR DETERMINING WHEN HARD DISK DRIVE POWER AMPLIFIER IS SATURATED

Abstract

In a hard disk drive (10), a head actuator periodically is caused to undertake a calibration seek such that the power amplifier (32) that energizes the head actuator is saturated. The predicted distance moved by the head (26) during the calibration seek is compared to the actual distance moved, and the ratio of the two distances is then used to determine the saturation current of the power amplifier (32). For a subsequent seek, if the saturation current is less than the current requested for the subsequent seek, the saturation current is input into the head position prediction model. Otherwise, the requested current is used.

Fig. 1