THIS SHEET HAS BEEN REPLACED



# READ ERROR COMPENSATED IN DATA STORAGE SYSTEMS

## ABSTRACT

A data storage system using a moving storage medium quickly measures and accurately compensates for thermal and mechanical errors in the position of the data detector with respect to the written data. This is accomplished by measuring the error rate of the written data as a function of the read offset of the detector. Error rates become increasingly large as the sensed noise to signal ratio becomes large. The number of errors detected in reading written data for various read offsets when the data storage system is initially activated is counted. When the number of errors reaches a target rate, the read offset required to produce the target rate is saved. This procedure is performed on either side of the data track. The detector is then centered between the two offsets. During the operation of the storage system, thermal and mechanical errors are introduced into the detector position compensation means. The present invention compensates for this by periodically determining a new offset for each side of the data track. The new offset which corresponds to the target error rate is found by interpolating between measured offsets for error rates which are higher and lower respectively than the target error rate. The new measured read offsets are obtained by reading back written data in a similar manner as was used to obtain the initial read offsets. The detector is then recentered with respect to the write transducer position between the new offsets on either side of the data track.

This Sheet Has Been Replaced

