IMPROVEMENTS IN SELF-SERVOWRITING TIMING PATTERN GENERATION

ABSTRACT

The present invention discloses improved placement of timing patterns in self servo writing which includes correcting for random and systematic errors due to geometric effects. In a disk drive (8) having a recording head (10) with separate read (46) and write elements (48), the separation between the elements (46, 48) can be determined and such errors corrected as a function of skew angle between the head (10) and the disk. Errors resulting from misalignment and non-parallelism of the elements (46, 48) as well as misalignment of the head (10) on it its actuator (12) are also detected and corrected. Errors due to changes in rotational velocity of the disk and misplacement of timing patterns with respect to adjacent timing patterns are detected and corrected. In general, a single revolution process can be used to both write and detect random errors on each track and corrected on subsequent tracks.

Figs. 3.