

**OPTIMAL READER-TO-WRITER OFFSET MEASUREMENT OF A HEAD IN A
DISC DRIVE FOR REDUCED TRACK MISREGISTRATION**

Abstract of the Disclosure

5 A method of and apparatus for generating a reader-to-writer offset for a head
positioned over a track on a disc in a disc drive having a plurality of tracks is disclosed. A
reader and a writer are mounted on the head in a non-overlapping manner with a gap between
the reader and the writer, which is known as the reader-to-writer offset. A disc drive
controller is operably connected to the reader and the writer. The disc drive controller
10 determines the reader-to-writer offset of the head for each track by computing the difference
between a first head position x_1 and a second head position x_2 . The first head position x_1 is
an optimal head position for writing information on the track and the second head position x_2
is a midpoint of an off-track capability (OTC) of the head. The OTC is a portion of a track
pitch over which the reader is expected to read information that is free of an incorrigible bit
15 error such that the writer-to-reader track misregistration (TMR) is minimized as the head is
radially displaced the reader-to-writer offset to read information written on the track or to
write information on the track.

FIG.8