

CAPACITY TUNING IN THE PRODUCTION PROCESS OF STORAGE DISC DRIVES

ABSTRACT OF THE DISCLOSURE

5 A disc drive production process automatically configures the disc drive
to a suitable capacity based upon the data transfer capability of each of the
head/disc surface combinations in the drive. The error rate of each of the
head/disc surface combinations is determined as a function of the bit density of
the disc surface. Based on the data transfer capability of the head/disc surface
10 combinations, one of three drive configuration schemes is selected. A variable
BPI (bits per inch) scheme reduces the data rate of a weak head/disc surface
combination while increasing the data rate of a strong head/disc surface
combination. If the drive contains one very weak head/disc surface
combination, a head depopulation scheme disables the very weak head. If the
15 drive contains two or more very weak heads, a de-frequency scheme reduces the
overall capacity of the drive.

FIG. 3