

MAGNETIC RECORDING DISK WITH IDENTICAL SERVO PATTERNS FORMED ON EACH DISK SURFACE BY SINGLE MASTER TEMPLATE AND DISK DRIVE USING THE DISK

ABSTRACT OF THE DISCLOSURE

A magnetic recording disk in a disk drive has identical pre-patterned servo patterns on its front and back surfaces. The servo patterns on each disk surface are pre-patterned with a single master template, resulting in the identical pattern on each disk surface. The servo sectors on the two disk surfaces can form identical patterns of angularly spaced arcuate-shaped lines or straight lines that extend radially across the data tracks. However, because the lines on at least one of the disk surfaces do not replicate the path of the recording head, the sampling rate of the servo sectors on that surface is not constant but varies with radial position of the head. To accommodate this, the disk drive's servo control system calculates a timing adjustment from an estimate of the radial position of the head and uses this timing adjustment to adjust the time to open a time window to allow detection of the servo sectors.

Figure 3