ABSTRACT OF THE DISCLOSURE

The present invention relates to a track address pattern suitable for being applied to a magnetic disk apparatus which positions a head to a track with a desired address by a sector servo system, for example, wherein a gray code of a plurality of bits corresponding to a track address of the magnetic disk apparatus is divided per 2 bits thereof into groups, the respective groups of 2 bits are converted into codes of 3 bits (001), (010), (100) and (111) depending on the values thereof, respectively, whereby the converted codes are recorded on the magnetic disk

obtained by extending the gray code with a ratio of 2 : 3 is recorded on the magnetic disk by satisfying such a condition that a run-length is a finite number and so on, so that a code rate (an amount of original data/an amount of data on the magnetic disk) is increased with decreasing a ratio of an address pattern to thereby increase an amount of normal data to be recorded and also increase a speed of the seek operation at a high-speed seek operation. Further, the present invention intends to attain the similar effects by a manner that a code of 1 bit is converted into codes (C11, C10) of 2 bits according to a predetermined rule and codes of (m - 1) bits are converted into codes (C2m-1, C2m-2, ..., C21, C20) of m bits according to a predetermined rule, whereby a code which is converted from the gray code of m bits into a code of (m + 2) bits is recorded on the magnetic disk the track address pattern. Furthermore, the present invention intends to attain the similar effects by combining the above-described 2 : 3 conversion and the (m - 1) : m conversion.