ABSTRACT

The present invention provides a multi-channel multiplexing method and device for a disc storage medium. The method includes: S1) recording holograms at holographic positioning marks of the storage medium by a reference light beam and a signal light beam, S2) rotating the storage medium in a circumferential direction and repeatedly performing step S1 until the holograms have been recorded at all the holographic positioning marks on optical tracks, S3) translating the storage medium to switch an optical head to another optical track, S4) repeating steps S1-S3 until recording of one cross channel is completed, S5) changing a relative angle of the center of the storage medium with respect to the optical head, and repeating steps S1-S4 to complete recording of another cross channel, S6) repeating steps S1-S5 until recording of all cross channels is completed, and S7) reproducing the holograms at any channel or recording position of the storage medium by using the same beam of reference light. Each cross channel consists of all the holograms recorded by the optical head at the same relative angle with respect to the medium. The method and device improve the hologram storage capacity of the storage medium and the signal-to-noise ratio of the holograms.

[FIG. 2]