ABSTRACT

Hitherto, when optical information is recorded, there has arisen the problem that the rear end of a mark is rapidly cooled and therefore the mark's rear end becomes large and a reproduced jitter is unsatisfactory and that signal degradation occurs due to thermal damage caused by performing a multi-cycle. Therefore, in mark length modulation recording, laser light irradiation at a bias power is performed between a recording pulse train, which adds a mark's rear end correction pulse train to a recording pulse train, and the laser light irradiation at a cooling power or the mark's rear end correction pulse train. Furthermore, cooling-power irradiation start time, cooling-power irradiation width, and the configuration of the mark's rear end correction pulse train are varied in accordance with the length of a record mark. Also, in CAV mode, cooling-power irradiation time and cooling-power start time are varied according to the radius of a disk. Furthermore, in the case where the recording pulse train comprises a start edge pulse, an end edge pulse, and pulses between the start edge and end edge pulses, laser light irradiation at the bias power is performed between the recording pulse train, where laser light irradiation at the cooling power is performed, and the cooling power. Moreover, in the case where, in the recording pulse train, the laser light irradiation start time is varied according to the length of the mark and the space between the marks, the timing of the laser light irradiation start time at the cooling power is

performed based on the quantity of delay of the end edge pulse or a clock.