

Abstract

5 APPARATUS AND METHOD OF COMPENSATING FOR DISTURBANCE USING
LEARNING CONTROL IN OPTICAL RECORDING/REPRODUCING APPARATUS
AND OPTICAL RECORDING MEDIUM DRIVE SERVO SYSTEM USING THE
APPARATUS AND METHOD

10 An apparatus and method of compensating for disturbances using learning
control is provided. An optical recording medium drive servo system of an optical
recording/reproducing apparatus, the system including an actuator for moving the
position of a head for recording data on a recording medium or reproducing the
recorded data from the recording medium, an error detector for detecting the
15 difference between the reference position on the recording medium and the actual
position of the head, that is, a position error, a compensator for receiving a value
from the error detector and producing a value for driving the actuator, a first memory
for storing a control input for compensating for the position error of the actuator due
to a periodic disturbance such as eccentricity, a second memory for converting the
20 content of the first memory according to phase and storing the converted content, a
timing controller for generating addresses for the first memory and addresses for the
second memory according to phase, and an adder for applying the content of the
first or second memory together with the output of the compensator to the actuator.
Accordingly, a periodic disturbance component including the eccentricity can be
25 rapidly and effectively compensated for using a previously-learned control result
regardless of a variation in cycle such as a variation in the speed of a spindle due to
a variation in the reproduction speed of a recording medium.

Figure 5