

SYSTEM AND METHOD FOR IDENTIFYING AND FILTERING A HEAD
SUSPENSION ASSEMBLY RESONANCE FREQUENCY

ABSTRACT

A method and apparatus for identifying and filtering a resonance frequency of a support structure (116) supporting a read/write head (102) in proximity with a data storage medium (104) involves obtaining a particular sample of a position error signal (PES) frequency transform, preferably using Goertzel's algorithm (120). The velocity of the data storage medium (104) is varied, and the magnitude of a particular PES frequency transform sample is computed at each of the velocities. A resonance frequency of the support structure (116) is calculated using the velocity associated with the particular sample having a maximum magnitude. The effects of one or more resonance frequencies associated with a read/write head suspension may be cancelled in a position error signal using one or more programmable filters (112) provided in each servo loop.

FIG 5