

MAGNETIC TRANSDUCER WITH WEAR INDICATOR IN A MAGNETIC DATA STORAGE SYSTEM

ABSTRACT

A wear indicator is incorporated on the slider (38) of a magnetic transducer (50, 52) in a storage system for in operation on-the-fly detection of the state of wear of the transducer. The wear indicator involves monitoring a change in an electrical property of an electrical circuit structure as the transducer (50, 52) is worn by abrasion against the magnetic disk. In one embodiment, the resistance (or conductance) of the circuit is monitored during disk drive operations. Part of the resistance (conductance) circuit structure is mounted on the slider (38) and it is physically worn along with the wearing of the transducer (50, 52). A predetermined change in resistance (or conductance) gives an indication of the predetermined wear limit at which the transducer (50, 52) should be replaced prior to its actual failure. In one embodiment, the circuit is configured such that an open circuit (infinite resistance or zero conductance) indicates that the wear limit has been reached.

Fig. 3.