DISK DRIVE WITH A THERMAL ASPERITY REDUCTION CIRCUITRY USING A MAGNETORESISTIVE SENSOR

ABSTRACT

A disk drive system having a magnetoresistive (MR) sensor (400) having four leads (438, 440), two leads for providing sense current to an MR layer and two leads (448, 450) for providing current to a soft adjacent layer (SAL) (454). The MR layer as well as the hard bias layers (442, 444) are electrically insulated from the SAL (454) by an insulator (452). The voltages developed across the MR layer (voltages due to the presence of thermal asperities and voltages due to the presence of data fields) and the SAL (454) (voltages due to the presence of thermal asperities) are applied to the inputs of a differential amplifier for substantial elimination of the thermal asperity signal.

Fig. 4A