

MAGNETO-RESISTIVE ASYMMETRY CORRECTION CIRCUIT

ABSTRACT

A circuit arrangement for correcting magneto-resistive head asymmetry includes a shift circuit (704) which receives a read signal (V_{in}) from a magneto-resistive head, and a polarity indicative of polarity of any asymmetry of the read signal (V_{in}). Depending on the polarity of the asymmetry, the shift circuit (704) either adds or subtracts a shift voltage (V_{shift}) to the read signal (V_{in}) to produce a shifted read signal ($V_{in} + V_{shift}$). The shift circuit (704) outputs the read signal (V_{in}), the shifted read signal ($V_{in} + V_{shift}$), and the shift voltage (V_{shift}). First, second and third gain circuits (701,702,703) are provided, which received the read signal (V_{in}), the shifted read signal ($V_{in} + V_{shift}$), and the shift voltage (V_{shift}), respectively, and which each receive a respective control signal. Then first, second and third gain circuits (701,702,703) provide respective outputs amplified proportionally based on the respective control signals. Control circuitry provides the polarity signal to the shift circuit (704) and the respective control signals to the first, second and third gain circuits (701,702,703), based on an amount of correction required. A common-mode-feedback circuit (705) adjusts for changes in the common-mode caused by the waveform shaping.

Fig. 7A