# TRIM CIRCUITRY AND METHOD FOR ACCURACY IMPROVEMENT IN CURRENT SENSING FOR A VOICE COIL DRIVER OF THE TYPE USED TO MOVE READ/WRITE HEADS IN A HARD DISK DRIVE, OR THE LIKE

## ABSTRACT OF THE DISCLOSURE

A circuit (10) and method for providing a drive current to a voice coil (20) to position a head (13) of a disk drive (14) includes driver circuitry (68, 70) for controlling currents flowing in the voice coil (20) and at least one sense current circuit (92), which may include FET devices (112, 114, 116, 118), for sensing and controlling the currents in a current path (26) of the driver circuit (10). Programmable circuitry (170) is connected to adjust at least one of the sense current circuits (112, 114 or 116, 118) to control a current flowing through the voice coil (20) to position the head (13) to a desired location. A trim capability is implemented by providing one or more trim FETs (145-148, 155-158) that are selectively connectable in parallel with current mirroring FETs (120, 126), which may be, for example, FETs connected to mirror a current in one of the current flow paths (26) of the drive circuit (10). By such selective connection, an effective channel width provided by the FET devices (120, 145-148 or 126, 155-158) can be selectively provided, thereby enabling the current in the voice coil (20), and therefore the position of the head (13) controlled by the voice coil (20) to be adjustable.

Figure 1