

**A Read Channel For At Least Partially Offsetting Nonlinear
Signal Effects Associated With The Use Of Magneto-Resistive Heads**

Abstract

In accordance with one aspect of the invention, a device
5 for use in a magnetic recording read channel (READ CHANNEL 1000) adapted to
be coupled to a magneto-resistive (MR) read head (2000) comprises: an integrated
circuit adapted (1100, 1105) so as to introduce a controllable amount of second-order
nonlinearity into the magnetic recording read channel signal path to at least partially
offset nonlinearity associated with use of the MR read head. In accordance
10 with another aspect of the invention, a method of reducing nonlinear signal
effects in a magnetic recording read channel signal path associated with use of a
magneto-resistive (MR) read head comprises the step of: introducing into the read
channel signal path a scalable square of the read channel signal.