

ABSTRACT

**LAMINATED ANTIFERROMAGNETICALLY
COUPLED MEDIA FOR DATA STORAGE**

A configuration for laminated antiferromagnetically coupled magnetic recording layers for a magnetic recording medium is described. For this purpose, a stabilization layer (top layer) is put on top of the main magnetic recording layer (middle layer) and another stabilization layer (bottom layer) is put under the main magnetic recording layer. The top layer, middle layer and bottom layer are antiferromagnetically coupled. This configuration can double the antiferromagnetic coupling on the recording layer and thus increase the thermal stability. This configuration can also further reduce the remnant magnetization thickness product ($M_r\delta$), which is critical for low noise media. A traditional or new intermediate layer, underlayer and seedlayer can be used under magnetic layers of the present invention. Further, a traditional or new overcoat and lubricant can be used over the magnetic layers of the present invention. A disk fabricated in accordance with the present invention can support a very high density of data storage.

(Figure 3(a))