

ANTIFERROMAGNETICALLY COUPLED MAGNETIC RECORDING MEDIA WITH CoCrFe ALLOY FIRST FERROMAGNETIC FILM

Abstract of the Disclosure

A magnetic recording medium for data storage uses a magnetic recording layer having at least two ferromagnetic films exchange coupled together antiferromagnetically across a nonferromagnetic spacer film. In this antiferromagnetically-coupled (AFC) recording layer
5 the magnetic moments of the two ferromagnetic films are oriented antiparallel, and thus the net remanent magnetization-thickness product (Mrt) of the AFC recording layer is the difference in the Mrt values of the two ferromagnetic films. This reduction in Mrt is accomplished without a reduction in thermal stability of the recording medium. The lower ferromagnetic film in the AFC recording layer is a ferromagnetic CoCrFe alloy that does not
10 require a nucleation layer between it and the Cr alloy underlayer. The medium with the CoCrFe alloy as the first or lower ferromagnetic film in the AFC recording layer has reduced intrinsic media noise.

Figure 2