The use of electroplating in magnetic applications has seen considerable potential due to the advent of pulse electro-plating. This is increasingly important as the magnetic memories pack more information into smaller volumes. Mainly, the paper will discuss how the preparation conditions have an effect on the giant magnetoresistance. The structure of the deposit film can be varied by controlling the pulse potential in the single bath that contains both the cobalt and gold ions. In this paper, we show the results on studying the structure of a pulsed plated Co-Au alloy at different compositions. Also, we show the results of the effect of Co particle size in the alloy on the magnetic properties.