

**Flying Null, a British maker of magnetic tagging technologies, has unveiled an ID label that is just three microns thick.**

Aug. 14, 2002 -- Flying Null, a Cambridge, U.K., maker of magnetic tagging technologies, has unveiled an identification tag that is just three microns thick, or 25 times thinner than a human hair. It is billing the product as an ideal way to prevent counterfeiting.

The tags use a unique method of identifying objects using magnetic technology. The system isn't compatible with any existing RFID or bar code technology, but since the tags could cost as little as a penny and can be read through paper, cardboard, plastic and even aluminum, it could provide benefits other auto-ID technologies can't provide.

Flying Null is a spinout from Scientific Generics Ltd., an international consulting and investment group that develops technologies for its clients. Scientific Generics has done a lot of work with magnetic sensors and electronic article surveillance tags. The Flying Null technology emerged out of that work.

The "null" referred to in the company's name is the space between two magnets with opposite polarity. The company uses a specially developed alloy that is highly sensitive to magnetism. By placing material on the alloy, a reader can pick up a code that can be converted into a number.

The new FN Transfer Tag is based on Flying Null's existing electromagnetic identification technology, but uses hot foil stamping to press a thin layer of the alloy either into a layer of cardboard for a box or onto the surface of packaging. Companies can use standard stamping equipment to apply the labels during production.

The tag provides a unique ID for each item. Unlike most RFID tags, the magnetic ID tag is immune to radiation, can withstand temperatures of up to 200°C, and can be read through aluminum packaging. And because they are so thin, they could be used behind an existing label on, say, bottles of alcohol or perfume.

The tags do have their limitations. They cannot be read simultaneously or used on metals that can be magnetized. They have to be read from within a few centimeters, and the reader has to pass over the entire length of the label to pick up the serial number.

Rob Karsten, Flying Null's director of sales and marketing, says the company's magnetic tags complement bar codes or RFID tags. "There's a big gap between the bar code and RFID," he says. "We think the FN tag offers value for companies that want some of the functionality of RFID, but at a much lower cost."

Karsten envisions companies using FN tags to track lower-cost items that might be used once and thrown away. At the same time, they may use RFID tags to track pallets or reusable containers with the individual items in them.

The cost of the FN tag depends on the tag size, which in turn depends on the amount of data you want to put on it. But Karsten says a simple tag in high volume can cost a penny or less. More complex tags can cost upwards of ten cents. The low-cost and thinness of the product mean it could be embedded in paper for use on passports and other documents for security.

Karsten says Flying Null has several large consumer packaged goods that are currently testing the technology. Because it is resistant to radiation, it could be ideal for use on foods that are irradiated or on medical and pharmaceutical products, where radiation is commonly used.

The company has developed a handheld reader and is working with companies to integrate the magnetic reader with bar code scanners and PDAs.