# Invisible yellow dots block **documents leaks**

*A recent articles in The Washington Post and other US papers spoke of some home and office printers that could add invisible marks on each printed page, without informing the users. The hideen marks could be used to identify the printer in case of leaks of secret documents or of other fraudulent printing.*

Aside from the obvious political and legal implications, this shows that with today's technologies and equipment it is possible to print invisible information with normal ink and standard printing machines.

Swiss company AlpVision demonstrated at the Rhodes Intergraf security printers' event an innovation, which provides both author and recipient with invisible identification for any printed document with only a few mouse clicks. Confidential printed documents are then protected against leaks. The same technology is easily adapted to fight any tampering or counterfeiting for all printed documents.

## How it works

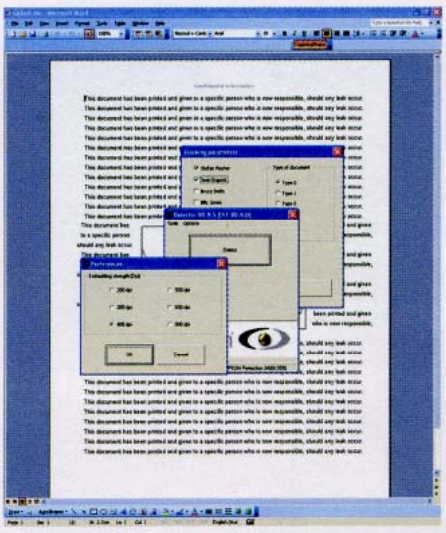

*Image 1: graphic user interface*

The technology uses a standard MS Office program plus the leak protection software. The image (left) shows the basic graphic user interface in Microsoft Word. To initiate the process, the user clicks on the Track & Trace option in the MS Word menu bar and selects the distribution list by ticking the appropriate boxes of the recipients who should receive a confidential printed copy. Next is the selection of the type of document (optional) and the decision, whether the recipient's name is to appear on each individual copy, folowed by printing.

The solution is built on the Cryptoglyph (Crypto = Encryption, Glyph = Mark) patented covert solution of AlpVision which already protects millions of value documents and packaging (brand protection). Cryptoglyph is formed using a large number of very small dots (20-30 microns) which are invisible to the naked eye, which may be printed on the entire document or only part of it. The dots contain information, which is encrypted with a 128 bit cipher key. It will make a Cryptoglyph protected document as unique as a fingerprint.

This camouflage feature is one of the unique aspects of AlpVision technology. The detection software is based on advanced signal detection capabilities that have very low signal-to-noise ratios and built-in conceptual redundancies. The technology surpasses other technologies, such as the 2D bar code (DataMatrix), because the bar code requires contrasts in visible black-and-white. It is also more efficient compared to other covert technologies, as it does not require any special security elements such as special ink, taggant or suchlike.

The solution runs on any office printer (inkjet, laser). For black and white documents, it will produce a light grey background generated by the printed dots containing the ciphered information. For colour documents, the dots will be printed in yellow and be invisible to the naked eye.

Any simple flatbed scanner driven by the AlpVision detection software is enough to detect the hidden information in the document, even many years after the document was printed. The technology resists photocopying as well. Just a small fragment of a document is enough to retrieve the information necessary to immediately identify the possible source of an unauthorized disclosure as well as authenticating an original compared to a fraudulent copy.

AlpVision will license companies and provide the client software to be integrated in the MS Office or other automated office environments. The software can easily be deployed throughout an entire organization using standard deployment tools. Various options are possible considering the nature of the documents needing protection.

AlpVision proposes also customized development based on specifications, with integrating the solution in the client's IT system. For example, in cooperation with SGS Société Générale de Surveillance in Geneva and its Trade Assurance Services (TAS), a document security program was developed for the Ethiopian Government. The solution generates automatically a single and unique Cryptoglyph dot pattern, based on typed and visible information in the printed document. Comparing the encrypted and invisible information with the visible one will immediately reveal tampering or counterfeiting.

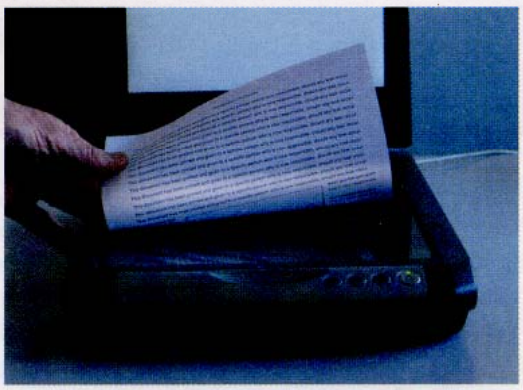

*Image 2: flatbed scanner detection*