

# Protecting The Brand

## Invisible Digital Security Technology

The Cryptoglyph invisible brand protection solution is a breakthrough in fighting counterfeit products, as it does not require any additional elements such as special inks, holograms, taggant or special labels. The Cryptoglyph (Crypto = encryption, glyph = marks) is simply integrated and printed during the standard process of the packaging production with standard inks. It is therefore a cost effective solution, accessible to all brands and is easy to implement. It protects documents and packaging against counterfeiting and identifies fraudulent re-importation (grey market).



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### Visible and Invisible Security Processes

Security features, such as holograms, embossing, special inks and 2D bar codes are visible features that have lower security and also require training for effective authentication. One example of low security is that hologram duplication is available at very low prices through various Asian companies. Many "security" duplication services are easily accessible with a few clicks on the internet.

Usually invisible security features, which are not visible to the naked eye, require dedicated detection means to place

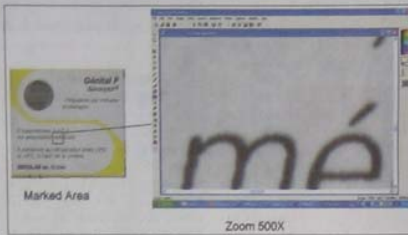


Fig. 1: Magnified packaging surface with Cryptoglyph

in hands of the field controllers. The most popular solution is invisible ink, such as UV ink (visible under ultra violet light) or IR ink (visible under infrared light). To authenticate these inks, the inspector needs a lamp emitting light with the required wavelength. The drawback of these inks is that they can be bought very easily on the market by anyone. There are other chemical tracers or ink additives providing counterfeiting security, such as DNA or magnetic tracers. The problem with such special inks or ink additives is the related logistics and manufacturing procedures, such as press cleaning, temperature and pressure sensitivity, as well as interaction with other chemicals. Although somewhat efficient and effective, their implementation and secure deployment are quite costly. Also, additives and special inks are more difficult to integrate and the detection process may alter or even destroy packaging.

Considering the latter problem of identifying invisible or covert solutions without damaging the product for sale, the Cryptoglyph covert security technology represents a breakthrough. It only requires affordable and easily available consumer electronics equipment that can be used by anyone who can click a mouse or button on a screen.

### How It Works

The Cryptoglyph is formed by printing a large number of very small dots (20–30 µm), which are invisible to the naked eye. The dots are not easily identifiable with magnifying equipment because they

are hidden in the imperfections of the printed material. The

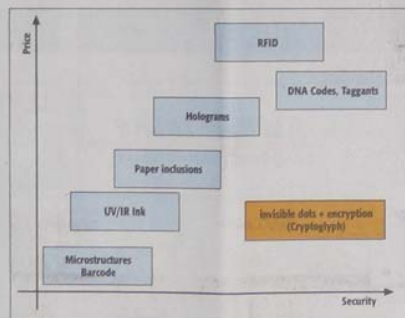


Fig. 2: Cryptoglyph comparison with other overt or covert processes

color of the dots is chosen in relation with the printed support material of the packaging.

on any printable material, such as paper, carton, aluminum or polymer foils for blister packs. The dots contain information that is encrypted with an unbreakable 128-bit cipher key. It makes every single Cryptoglyph-protected package as unique as a finger print (fig. 1).

This camouflage feature, using the imperfections of the printed material, 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. This software, based on image processing and



Fig. 3: Scanning or shooting of a pharmaceutical packaging protected by Cryptoglyph

These very small dots may be printed on the entire primary or secondary packaging as well as on leaflets within the packaging. The dots can be printed

mathematical analysis, is a way to retrieve significant encrypted information, such as a batch serial number or any other valuable information

attached to the product. This information is hidden inside a very large amount of insignificant data or "noise," but the AlpVision authentication software is capable of retrieving it. This process is protected by international patents filed by AlpVision. When comparing various solutions in term of cost and efficiency, it is important to consider the whole chain of costs and not simply the purchase of a single security element.

A security policy should be seen as a chain of processes that involves internal managerial expertise as well as suppliers. The weakest link of this chain determines the solidity of the whole chain. Therefore a solution is better and more secure with fewer people or organizations involved in its deployment.

The Cryptoglyph solution does not require any management, purchase and stocking of sensitive security elements. It is also a way to minimize the number of people and organizations involved in deploying the security.

### Covert and Overt Security Features

Visible security features are easy to identify; this also holds true for counterfeiters. Up to now, invisible security process-

es have been dedicated for field controllers' specialists or forensic authorities. This was because they required special tools and expertise to reveal

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Regarding the latter, it is well known that often any developing country's first communication infrastructure consists of mobile and wireless communication networks. This infrastructure is much easier to deploy compared to fixed networks. Therefore, the AlpVision camera phone solution can already be used in developing countries as well, where pharmaceutical counterfeiting is a serious problem (fig. 3).

This is the only process in the world providing an invisible marking with standard ink and standard printing processes (offset, rotogravure, flexo, laser, inkjet, etc). It can be easily integrated into any current packaging production line without any modification. The invisible Cryptoglyph file is simply embedded in the pre-press digital packaging image file. It requires no packaging design modification and introduces no constraints limiting the packaging designer's creativity.

### Track And Trace Capability

Because of the encrypted information contained in the technology, tracking and tracing product batches are also possible, helping brand manufacturers to counter product diversion or grey market, a practice where authentic products are sold through unauthorized channels.

Cryptoglyph is a very affordable solution sold by AlpVision under license agreements. Its deployment is extremely rapid (typically two to three weeks). Today already millions of fast-moving consumer goods and pharmaceutical products are protected by Cryptoglyph. It also helps manufacturers show evidence to legal entities that counterfeit products have been involved when faced with consumer prejudice or even physical damage caused by fake, low-quality products.

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