H.W. Sands Corp. is an authorized partner/distributor for GSSC SI® Security products and services. GSSC has provided its patented security technology to government-authorized security printing firms and major corporations for more than thirty years. SI® was patented in 1977 with GSSC founded in 1981.
Thanks to the H.W. Sands Corp. alliance with GSSC, we can now offer consistent quality and seamless, unobtrusive integration into your product or package design and production process.

When printing SI®, integration can generally be done regardless of the technology you use: digital, thermal, etching, flexography, gravure, holography, intaglio, letterpress, lithography, silk screen, dye-sub, etc.

Additionally, SI® can also be etched, engraved, embossed and stamped in many substrates, including: paper, metal, plastic & leather.
Encoding System

Static Encoded Images
- All printed documents have the same, fixed encoding

Encoding existing artwork
- IR
- UV
- Varnish
- Minimum Density Structure

Anti-Scanning Layers
- Stealth SI®
- Indigram® (Holograms, Kinegrams, OVD)

Inditone™ (preprinted paper stock)

Variable Encoded Images
- Each printed document has personalized encoding

VIP™
- (encoding variable personal information into the photo)

Doc-U-Lok®
- (encoding variable information into the non-photo area)

Printed Documents
- Electronic Documents
Decoding System

Decoding Systems
  - Optical Decoder Lens
    - Traditional Rigid Decoder
    - Flexible Decoder
  - Digital Decoder (printed materials)
    - UV Spectrum
    - IR Spectrum
    - Visible Spectrum
  - Software Decoder (electronic documents)
    - On-Site decoding
    - Remote decoding

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Compatible Printing Processes

...and much more!

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Doc-U-Lok® is a Scrambled Indicia® based technology designed specifically to protect “one of a kind” documents. Doc-U-Lok® software generates a personalized image file, which contains encrypted variable information (client name, account number, document ID, etc.) that uniquely identifies the document. The file is inserted into the document prior to printing and then printed with it.
What It Does (cont.)

Safe & Secure Encoding

Invisible to the naked eye.
Cannot be copied or cannibalized.

Trouble-Free Authentication

Easily reveal differences.
Can be decoded optically or digitally.

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How It Works

Prevents...

✓ Tampering with variable data in document
✓ Fraudulent alteration of electronic documents
✓ Unauthorized printing of electronic documents
✓ Tracking the document/label origination

Contracts, checks, mortgage coupons, payment receipts, identity documents, birth certificates, tax receipts, hazmat trip permits, labels...

Doc-U-Lok® Strip
Variable data from document is encrypted in a Doc-U-Lok® strip. Anti-tamper static data is encrypted at a different angle in the same Doc-U-Lok® strip.
How It Works

Document contains Doc-U-Lok strip encrypted with data that matches the document.

Other information on the document, such as a barcode or serial number can also be protected.
Our proprietary software embeds hidden images and information in photo identification documents. The hidden information in the document is directly linked to the visual data printed on the document.

The only security feature that protects against all forms of document fraud:

- Counterfeiting
- Alteration
- Photo Substitution
- Cannibalization

*Does not affect facial recognition software.
How It Works

Variable data is revealed in photo and compared to data on card.

Static “VALID” message is revealed in hologram.

Static logo and name are revealed throughout the card.
Seamlessly integrated product and packaging security.

• Can be layered with overt identifiers such as color-shifting ink and holograms.

• Won’t affect existing graphics.

• Can be etched, stamped or embossed in metal, plastic and paper.

• Easily decoded optically or digitally.

• Special inks such as UV, IR, varnish, etc.

• Tamper-proof and copy-resistant.

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Minimum Density Structure

• Special version of Scrambled Indicia that can be printed using a very low density image (3% - 7%).

• Can be printed in combination of carbon and non-carbon inks to make it completely hidden.

• Can be printed using other security inks (UV, near IR, custom frequency, etc.)

• Can be decoded by using SI Lens, IR scanner and SI Digital Decoding Software or iDetector.

• Extremely resistant to counterfeiting due to the covert nature of IR and low density of indicia.
How It Works

Multi-layered SI allows for additional data to be encrypted at other angles.

Place optical decoder over nameplate to reveal encrypted SI data.

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Multi-layered SI allows for additional data to be encrypted at other angles.
How It Works (cont.)

Printed, engraved, embossed or laser etched SI nameplate.

Durable, easily-integrated security label with SI.

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SI° Examples

USPS Stamps

Holograms

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Digital Decoding

[Image of software interface for decoding]

Angle#1 Decoded

Angle#2 Decoded

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Web Decoding

Scanned Image

Angle #1
John S. Doe
123 Meadow Lane
Anytown, U.S. 12345

Angle #2

Inspector: Steven Buchanon
Product: Example Tablets
Product SN: NJ16240P3
Scan Date/Time: 7/17/2005 12:00 AM
Location: GSSC Office
Address: 4450 Jog Road
City: Lake Worth
Region: Florida
Zip Code: 33467
Verified As: ok
Note: Supervision ✓
Product is authentic.

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Below is a list of some of our clients for your reference:

- United States Postal Service
- U.S. Passport
- New York City Welfare Stamps
- General Motors, Chrysler & Toyota automobiles
- Gift Certificates for Macy’s & Boots, etc.
- Belgium Passport
- Lotteries in Costa Rica, Honduras, Guatemala
- Hong Kong Passport
- Zaire Passport
- Currencies of Uruguay, Oman and others
- Transportation Passes for multiple countries
- Tariff Stamps for multiple countries
- Hang Tags for numerous designer clothing companies
- Pharmaceutical packaging
- Land certificates
- Birth certificates
- Shipping documents

*Due to the nature of our business and the non-disclosure agreements we abide by, we can only provide document protection type clients. In the brand protection area, it is important to keep a tight lip when current client discussions arise. Brand owners invest a lot of time, energy and money into protecting their intellectual property and we need to help them keep the technology used in their products under the radar. In the case of most document protection projects, we are typically in an open-bid environment and it is public knowledge who is offering what.*
What It Does

• World’s first compact portable forensic lab, available anytime & anywhere
• 3 in 1 device. Standard Digital Camera & and a High Power Microscope and UV LED
• Built in Adjustable LED Lighting
• High Resolution 6 mega-pixel Canon Camera
• 10x, 20x and 30x objective lenses available giving a magnification range of 10x to 150x
• Cost Effective Offering with Powerful Functions
• Instant on-site authentication
• Excellent decoding
• Independent Light Source
• No need for a PPC removal
• On-site quality control of printed encoded images
• Enables usage of a non existing optical frequencies and Minimum Density Structure Infra-Red option

www.hwsands.com
Coming Soon...

iDetector® for iPhone

www.graphicsecurity.com

www.hwsands.com
## Security Technologies Comparison

<table>
<thead>
<tr>
<th>Security Level</th>
<th>Covert Level</th>
<th>Variable Information</th>
<th>Printing Process Change</th>
<th>Ease of Integration</th>
<th>Availability</th>
<th>Authentication Process</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSSC Scrambled Indicia</td>
<td>★★★</td>
<td>★★★★★</td>
<td>★★★★★</td>
<td>★★★★</td>
<td>Proprietary</td>
<td>Optical Web-Based Digital/ Mobile</td>
<td>$$</td>
</tr>
<tr>
<td>Special Inks (UV, OVI, Thermal)</td>
<td>★★</td>
<td>★★★</td>
<td>★★★</td>
<td>★</td>
<td>Available</td>
<td>Optical</td>
<td>$ - $$</td>
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<tr>
<td>Holograms</td>
<td>★★</td>
<td>★</td>
<td>-</td>
<td>★</td>
<td>Widely Available</td>
<td>Optical</td>
<td>$$$</td>
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<tr>
<td>Security Fibers and Threads</td>
<td>★★</td>
<td>★★</td>
<td>-</td>
<td>★</td>
<td>Available</td>
<td>Optical</td>
<td>$$$</td>
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<tr>
<td>Digital Watermarks</td>
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<td>★★★</td>
<td>★★★</td>
<td>★</td>
<td>Proprietary</td>
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<tr>
<td>Microtext</td>
<td>★</td>
<td>★★</td>
<td>★★</td>
<td>★★★★</td>
<td>Widely Available</td>
<td>Optical</td>
<td>$</td>
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<tr>
<td>Taggants</td>
<td>★★</td>
<td>★★</td>
<td>-</td>
<td>★</td>
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<td>Digital</td>
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<td>-</td>
<td>★</td>
<td>Available</td>
<td>Forensic L-III</td>
<td>$$$</td>
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