

# SafetyLock™ Encryption

## PRODUCT INFORMATION

SafetyLock™ Encryption was developed to protect text, image, audio, video and other digital files. SafetyLock™ cyber security technology offers virtually unbreakable protection when files are stored, retrieved or transmitted over local area networks or the Internet.

Our 10-tier process uses a proven Feistel block cipher structure. Built around a 3D Quadratic Matrix, SafetyLock™ Encryption can be used in conjunction with legacy Advanced Encryption Standard (AES) processes.

### Key Features

SafetyLock™ Encryption provides:

- Ultra-fast (<.01s/MB) encode / decode process
- Keys that are 1 million to 17 billion+ bits
- No single key that opens all files
- Multiple keys, offering multi-level security / compartmentalization of data and metatags in images
- Optional use of biometrics or passwords for additional levels of security

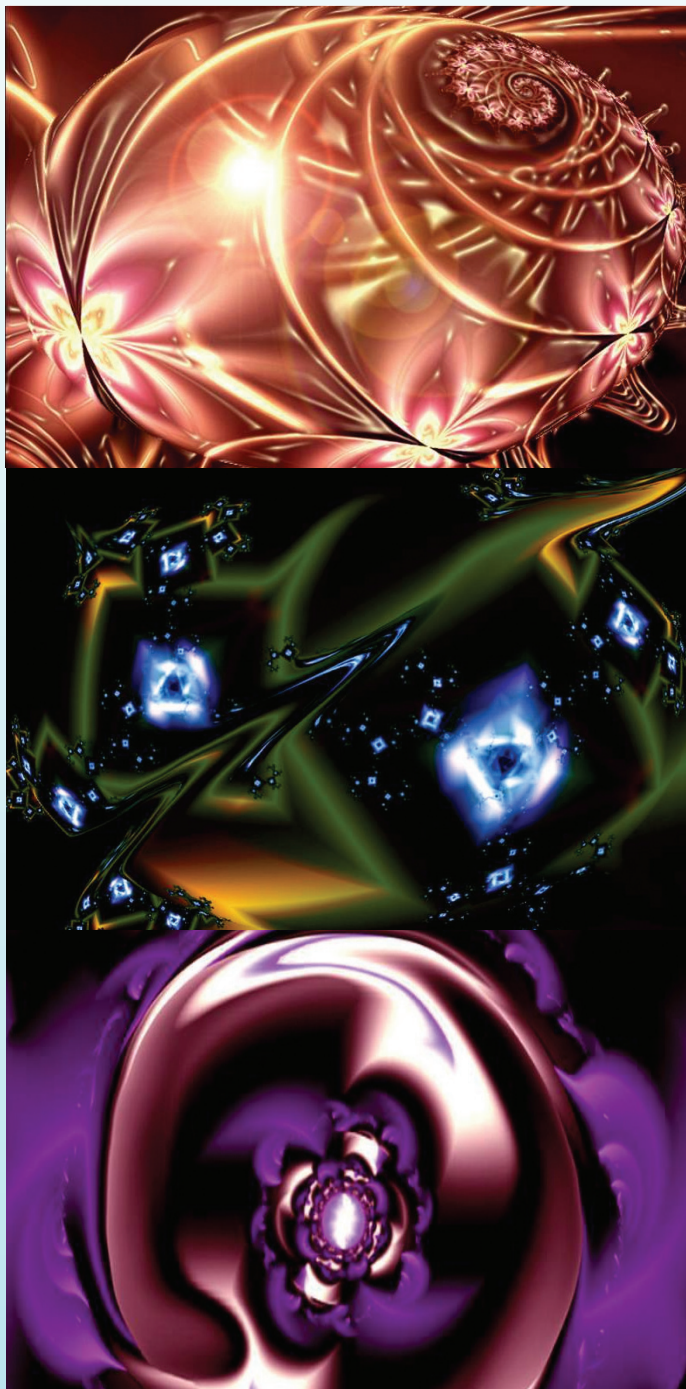
### Product Performance

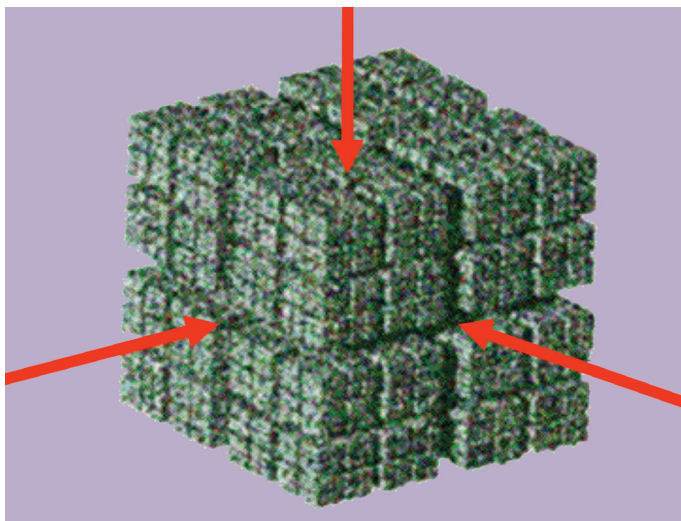
SafetyLock™ Encryption is designed to withstand quantum computer attacks. Even with a quantum computer aggressor, successful brute force attack is mathematically improbable through our approach.

- No key is sent with secured files, only protected file “pointers.” (See visual of matrix and pointers on next page.)
- Every file is secured differently, with 9 to 9,999 variable-length keys and a Quadratic Matrix required for solution.
- These multiple keys may be of any length up to 16,384 bits per key.
- An astronomical number of solution sets are possible, but only one is correct.
- Pointers only define the address location in the Quadratic Matrix, not the decoding solution.

### Fractal Basis

SafetyLock™ Encryption's protection is derived from fractal images, some examples of which are shown below.





The SafetyLock™ Encryption process generates random encoded pointers for each solution key. The point of entry can be from any spatial aspect orientation to the Quadratic Matrix.

## Applications

SafetyLock™ Encryption has many applications, including protection of:

- Creative or other intellectual property (e.g., music, films, games, entertainment)
- Confidential records (e.g., corporate trade secret documentation, personal information about employees or clients)
- Video programming for entertainment delivered to PC, laptop, cell phone or home TV
- Proprietary video programming for education, medical consultation and training
- Commercial and educational video conferencing via the Internet

## Software & Support

SafetyLock™ Encryption is available in software form. Though SafetyLock™ technology has wide application in many industries, each customer's needs may be different. So Onyx's team will confer with you to define your requirements and to integrate SafetyLock™ cyber security appropriately. On-going technical support assures optimal performance after integration.



## Extended Product Line

Onyx offers a suite of additional information technology tools that complement SafetyLock™ Encryption software. Each provides a powerful solution independently, but attains even greater effectiveness and efficiency when combined. For example, employing Onyx's VideoCrunch Compression with SafetyLock™ Encryption software provides high levels of video content protection while maximizing bandwidth capacity or minimizing digital storage requirements. The comprehensive product line includes:

### Software

- ImageCrunch Compression, using our Symbolic Transmittance Image Format (STIF)
- VideoCrunch Compression, using our Symbolic Transmittance Image Video (STIV) Format
- High-speed Transfer Protocol
- Specialty Tools, including PixGen, Spy Glass, DAT Map and Artificial Intelligence Pixel Recognition

### Hardware

- Set-Top Box

## About Onyx

Onyx Scientific Inc. specializes in making connections, both scientific and intellectual, to move from science to engineering products and then to the marketplace. Our team provides an uncommon cross-disciplinary perspective, with knowledge ranging from particle physics to aerospace engineering, from product prototyping to information systems and from advanced mathematics to materials science. We collaborate widely with individuals and businesses whose proprietary technologies offer pioneering innovations, but that provide even greater marketplace value in combination with one another.

Onyx offers innovations in image compression, video compression and cyber security that bridge technical barriers and operational needs within both legacy and new systems' architecture.

## Contact Us

To learn more about our Information Systems technologies or to obtain current pricing information, please contact us.

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