

# ImageCrunch Compression

## PRODUCT INFORMATION

ImageCrunch Compression software was developed to address real-world challenges in storing, accessing and sharing digital image files. By creating a smaller file size, our technology enables fast movement of these files between databases or servers across networks to cell phone, Internet or intranet users. Even after compression, clarity and accuracy are preserved at a high level.

### Key Features

Employing our Symbolic Transmittance Image Format (or STIF), ImageCrunch Compression software:

- Maximizes bandwidth efficiencies
- Reduces file storage space requirements
- Preserves quality
- Enables enhancement of sourced formats

ImageCrunch technology provides:

- Fast compression and decompression processing
- Precise image dimensionality / geometry retention
- User-selectable lossless, visually lossless and lossy compression levels based on desired image quality
- Compliance with emerging as well as standard image formats, including 250 commercial, 184 DICOM and NITF satellite formats
- Ability to further compress JPEG-compressed images
- No decompression necessary to view images

### Applications

ImageCrunch Compression can be used in many environments, including:

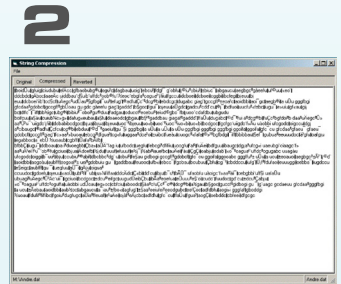
- Medical image archives
- University, library and museum image banks
- Magazine, newspaper, book publisher, stock photography and other graphic arts industry photo archives
- Commercial, government and military surveillance photo records
- Satellite photo archives

### How It Works

ImageCrunch Compression is derived from a proprietary file encoding and image analysis process, as mapped below.



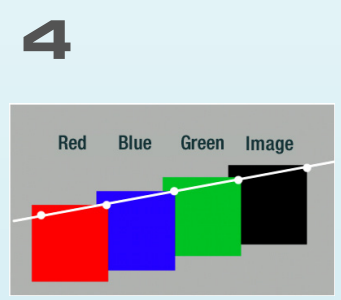
Original bitmap image



File encoding



Edge analysis



Multi-dimensional encoding



R-G, G-B and R-B analysis



RGB file differential



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File conversion, file size reduction, decompression and export



STIF compressed image

Original image size  
17,446,616 = 1:1

Visibly lossy image size (shown)  
17,792 = 980:1





Left: Original image, 3.36 MB

Right: Visually lossless compressed image, 66.3 KB

## Software & Support

ImageCrunch Compression is available in software form. Though this compression 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 ImageCrunch solutions within your architecture. On-going technical support assures optimal performance after integration.

## Extended Product Line

Onyx offers a suite of additional information technology tools that complement ImageCrunch Compression software. Each provides a powerful solution independently, but offers even greater effectiveness and efficiency when combined. The comprehensive product line includes:

### Software

- VideoCrunch Compression, using our Symbolic Transmittance Image Video (STIV) Format
- SafetyLock™ Encryption, derived from our 3D Quaternion Quantum Fractal (3DQQF) cyber security
- High-speed Transfer Protocol
- Specialty Tools
  - PixGen
  - Spy Glass
  - Artificial Intelligence Pixel Recognition
  - DAT Map

### 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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