

VideoCrunch Compression

PRODUCT INFORMATION

VideoCrunch Compression was developed to address real-world challenges in transmitting and storing digital video files. The software uses a revolutionary video compression process integrating artificial intelligence (AI)-derived algorithmic analysis and enhanced compression of video content. Using our Symbolic Transmittance Image Video (or STIV) format, this technology has capabilities not available in other video coder-decoders (CODECs), including compression that is unmatched by any other video standard.

Key Features

VideoCrunch Compression software:

- Maximizes bandwidth efficiencies
- Reduces file storage space requirements
- Preserves and/or enhances video quality

Product Performance

VideoCrunch Compression substantially surpasses both MPEG-2 and MPEG-4 V.10 (H.264) in compression performance and video image quality with virtually no artifacts. Our technology offers:

- Lossless video compression (up to 10:1 compression ratio for 1080p HD video)
- Audio contained in the compressed video bandwidth
- Selectable compression from visually lossless to high lossy compression levels at 40 to 60% higher ratios than MPEG or H.264 AVC
- Conversion of standard video into HD 1080p-quality video
- Powerful video delivery capabilities
 - Live, full screen TV or live video broadcasting as low as 128 kilobits per second (Kbps) over the Internet
 - Smooth high-action motion, high-quality live or streaming video at 50 Kbps (including stereo audio) over cell phones
 - Transmission of HD 1080p-quality video over the Internet at 1.3 to 5 megabits per second (Mbps)
 - Delivery of HD1080p video [24 frames per second (fps), full-frame] at 3 Mbps with full stereo sound (vs. MPEG-2 TS at 11 Mbps)
 - Delivery of HD1080p video at 5Mbps with ACC5.1 surround sound



- Further compression of MPEG-2 and 4 compressed videos
- Compressed sensory video and transmission of 6 to 8 fps over new Link-16 (the standard military inter-computer data exchange format of NATO), dedicated 20 kilohertz channel
- Ability to compress and re-broadcast live MPEG video at 700 Kbps with less than 3 seconds delay

Standards Compliance

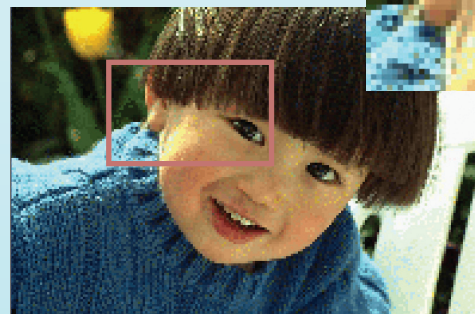
- Compliant with open systems standards and formats
- Direct viewing via Active X, desktop player or plug-in
- Platform implementation is customizable to many specialty and/or proprietary platforms
- Works with Windows 2000, XP and Vista operating systems and can be adapted to Linux and JAVA

The VideoCrunch Difference

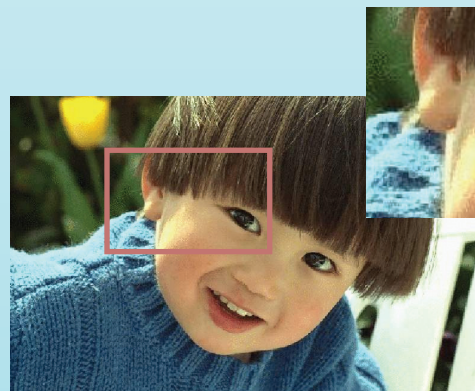
STIV video trans-coding almost totally eliminates macro-block artifacting (or blockiness).



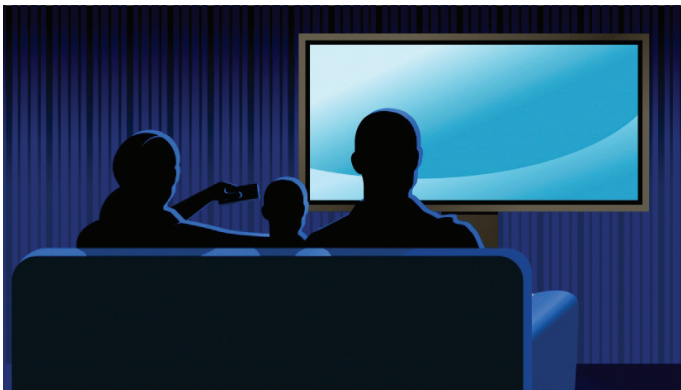
300 x 200 video frame
as encoded



Video frame
expanded to
800 x 600
using typical
macro blocking



Same video
frame expanded
to 800 x 600
using STIV
software



Standard D-1 (720x480) video can be scaled into high-resolution High Definition-like (HDL) – or 1920x1080p – video with our Real Time Pixel Generator, a proprietary pixel generation technique that utilizes true square pixel generation to increase pixel density to deliver increased resolution while maintaining exact aspect ratios. Coupled with VideoCrunch Compression, the Real Time Pixel Generator can turn a standard video library into high-resolution videos that can be efficiently stored or transmitted at lower bandwidths.

Applications

VideoCrunch Compression has many applications, including:

- Video programming delivery to PC, laptop, cell phone or home TV
- Internet video programming for entertainment, education, medical consultation and training
- Commercial and educational videoconferencing via the Internet
- Digital filmmaking
- Efficient media storage (e.g., medical videos, entertainment)
- Video surveillance
- Wireless digital signage

Software & Support

VideoCrunch Compression is available in software form. Though our 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 the VideoCrunch solution appropriately. On-going technical support assures optimal performance after integration.



Extended Product Line

Onyx offers a suite of additional information technology tools that complement VideoCrunch Compression software. Each provides a powerful solution independently, but offers even greater effectiveness and efficiency when combined. For example, employing SafetyLock™ Encryption software with VideoCrunch Compression software provides high levels of video content protection on media or over the Internet. The comprehensive product line includes:

Software

- ImageCrunch Compression, using our Symbolic Transmittance Image Format (STIF)
- SafetyLock™ Encryption, derived from our 3D Quaternion Quantum Fractal (3DQQF) cyber security
- 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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