



## Deliver H.264 video up to 500% faster without sacrificing quality!

If you're delivering H.264 content for the web, iPad, iPhone, iPod, or Blu-ray discs, you know how painful it can be to wait for the long encoding times needed to create high-quality video files using software only. You might even be tempted to sacrifice quality for speed. With Matrox MAX technology, you no longer need to even consider making that trade off.

Matrox MAX for Mac is a unique technology that implements faster than realtime H.264 encoding for resolutions ranging from iPod to HD. It is available in the Matrox CompressHD accelerator card and the Matrox MXO2 family of I/O devices. It uses a dedicated hardware processor to accelerate the creation of H.264 files for the web, mobile devices, and Blu-ray. By using specialized hardware acceleration, jobs are finished with amazing speed and system resources are liberated for other tasks. Quality and flexibility are ensured through direct integration with Apple Compressor and support for other applications on the Mac such as Telestream Episode, Final Cut Pro and QuickTime Pro through the QuickTime codec component.

### **Complete controls for highest quality, lowest bit rate deliveries**

Not only do you get superior speed and quality, you can also tweak the power of Matrox MAX to meet your specific needs. The vast array of fine-tuneable controls lets you optimize encoding speed and video quality. Web video publishers, in particular, will appreciate the ability of Matrox MAX technology to deliver superb quality video at low bit rates.

### **Key features**

- Faster than realtime creation of H.264 files, for resolutions ranging from iPod to HD
- A specialized, dedicated hardware processor liberates system resources for other tasks
- Accelerated encoding for Blu-ray, Apple TV, YouTube, Flash, web formats, and mobile devices including iPad, iPhone, and iPod from various video sources including SD, HD, and RED proxy files up to 2K
- Direct integration with Apple Compressor to simplify workflow
- Support for Telestream Episode, Final Cut Pro, and QuickTime Pro through the QuickTime codec component
- Customizable encoding parameters including VBR, CBR, constant quality, scene detection, noise filtering and many more
- Creation of Blu-ray H.264 files that can be authored in Apple Compressor, Adobe Encore, and Roxio Toast then burned without re-encoding
- Support for Apple Qmaster to take advantage of multiple systems with a Matrox MAX processing engine for distributed encoding across a network



### Complete controls for highest quality, lowest bit rate deliveries

Matrox MAX technology lets you customize the following setting parameters in any supported H.264 encoding application:

- Resolutions: even frame sizes from 64x64 to 1920x1088
- Bit rates: from 100 Kb/s to 50 Mb/s
- Baseline or main profile encoding
- CABAC or CAVLC entropy encoding
- GOP structure controls
- Constant bit rate to ensure that the bit rate remains stable. Quality varies depending on the complexity of each frame.
- Constant quality to deliver your desired quality on each frame at the lowest bit rate possible. Matrox MAX analyzes each video frame and delivers the targeted quality without regard to bit rate.
- Noise filtering to save bits by reducing high-frequencies in your video
- Hardware de-interlacing

Additional customizable encoding parameters are available in specific applications.

### Support for Apple Compressor

Matrox MAX technology taps into Apple Compressor to let you quickly and easily create H.264 files from a variety of video sources including SD, HD, and RED proxy files up to 2K. You can use the three categories of Matrox MAX presets – Fast Encode, High-Quality, and Blu-ray – or you can create your own customized settings.

Matrox Fast Encode presets and Matrox High Quality presets are used to create H.264 deliverables such as those destined for Apple TV, YouTube, Flash, the web, and mobile devices including iPhone, and iPod. Matrox Fast Encode presets use the MAX hardware and your CPU to deliver H.264 files faster than realtime. Quality is better than Compressor Single-pass. Matrox High Quality presets use the MAX hardware exclusively, thereby freeing up your CPUs for other tasks. Quality is comparable to Compressor Multi-pass. Matrox Blu-ray presets use the Matrox High Quality technology to create Blu-ray compliant H.264 files faster than realtime. The Matrox MAX hardware performs proper color space conversions from HD to SD and SD to HD as well as proper color space conversion from RGB to YUV to prevent gamma shift.

Matrox MAX technology lets you create Blu-ray H.264 video files, directly from Compressor that can be authored in Apple Compressor, Adobe Encore, or Roxio Toast and burned without re-encoding on either Blu-ray or DVD media. Use H.264 level 4.0 if you want to create Matrox MAX H.264 files intended for mass replication of Blu-ray discs. Use either H.264 level 4.0 or 4.1 if you want to author and burn individual copies that are compatible with Blu-ray disc players.

Additional customizable encoding parameters supported in Compressor include:

- Variable bit rate to squeeze out the highest quality possible at the target bit rate. Matrox MAX analyzes each video frame and determines which frames require more or less compression data to deliver the highest possible quality at the targeted bit rate. You set the minimum and maximum bit rate per job.
- Scene detection to give you multi-pass quality in a single pass
- Source video complexity adjustment that lets you redefine the low and high clipping limits
- Data rate slider control to produce smoother or more abrupt transitions
- Sample rate option to monitor compliance with targeted data rate
- Frame rates: 15, 23.98, 25, 29.97, 50, and 59.94

### Support for Telestream Episode, Final Cut Pro and QuickTime Pro

Matrox MAX technology is also accessible to all applications that support the QuickTime codec component such as Telestream Episode, Final Cut Pro, and QuickTime Pro. You get faster than realtime delivery of H.264 files, at resolutions for iPod to HD, directly from the application. You can take advantage of all the familiar settings or customize your own. With these applications, frame rate is completely customizable.

[www.matrox.com/video](http://www.matrox.com/video)

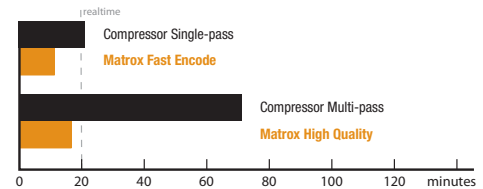
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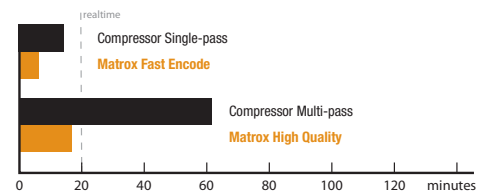
## Matrox MAX H.264 encoding performance with Apple Compressor 3.5

Typical H.264 encoding times for a 20 minute clip from a XDCAM HD 50 Mb/s 1080i 29.97 fps source

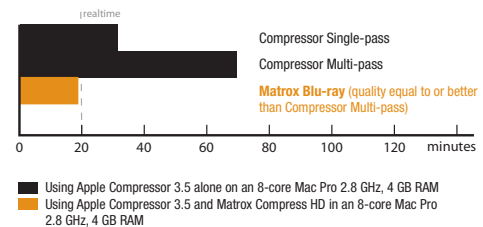
### iPod/iPhone 640x360 at 29.97 fps – 1.5 Mb/s



### Flash 640x360 at 29.97 fps – 1.8 Mb/s



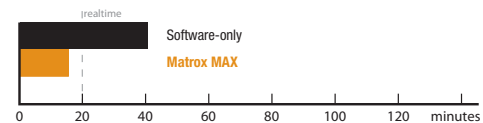
### Blu-ray 1080i at 29.97 fps – 30 Mb/s



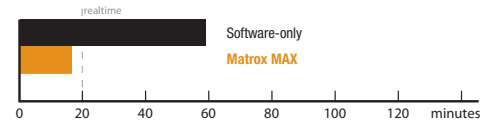
## Matrox MAX H.264 encoding performance with Telestream Episode

Typical H.264 encoding times for a 20 minute clip from a XDCAM HD 50 Mb/s 1080i 29.97 fps source

### iPod/iPhone 640x360 at 29.97 fps – 1.5 Mb/s



### Web video 1280x720 at 29.97 fps – 5 Mb/s



### MOV 1080p at 29.97 fps – 11 Mb/s

