

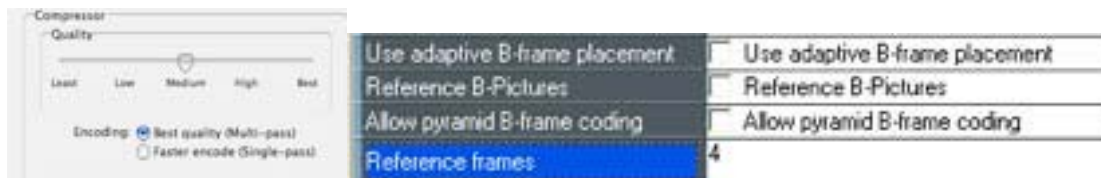
Encoding H.264 Video for Flash, i-Pod/Phone/iPad and Silverlight

Agenda

H.264 has become the “it” codec, central to the three-screen strategy, but is confusing to produce, with obscure settings (B-frame pyramid?/CABAC?) and encoding interfaces (and output quality) that varies dramatically by encoding tool, plus a reputation for slow playback on some computers.

This seminar cuts through the confusion by describing the most common H.264 encoding parameters, detailing playback CPU load on a range of computers and delineating encoding requirements for computers and the iPod/iPhone/iPad trilogy. It then compares the output quality produced by tools like the Adobe Media Encoder, Apple Compressor, Sorenson Squeeze and Telestream Episode, and concludes by demonstrating how to encode into H.264 format with these tools.

Students will be provided access to the encoded files and frames compared in the class, so they can review the results in class and back at work, and as well as source files for encoding, so they can follow along with the encoder of their choice. Students will also be provided with a digital copy of the PowerPoint file used during instruction.



Agenda

1:30 – 1:45

Introduction

1:45-2:15

Generic encoding concepts critical to all streaming production. Students will learn:

- The difference between constant and variable bit rate encoding, and when to use each
- The difference between delivery options like streaming, progressive download and adaptive bitrate streaming, and the implications for encoding

2:15 – 2:45

H.264 specific encoding parameters. Students will learn:

- What Profiles and Levels are, and when they matter
- The difference between CABAC and CAVLC and when to use each alternative
- The difference between I, B and P frames and how to select I-frame and B-frame interval

- The significance of advanced B-frame options like adaptive placement and pyramid B-frame, and when to use them
 - Optimizing search parameters for quality and encoding speed
- 2:45 – 3:15 Producing H.264 for computer playback. Students will learn:
- The technical requirements for producing for Flash, QuickTime and Silverlight
 - Playback performance of H.264 on a range of Mac/Windows computers, including netbooks
 - How the playback CPU load for H.264 compares to VP6 and Windows Media/Silverlight
- 3:15 – 3:30 Break
- 3:45 – 4:15 Producing for the iPod/iPhone/iPad. Students will learn:
- The technical requirements for playback on these devices
 - Common mistakes found on iTunes podcasts
 - Overview of HTTP Live Streaming and adaptive delivery to these devices
- 4:15 – 4:35 Comparing the H.264 codecs. Students will learn:
- Which H.264 codec produces the best H.264 quality in SD and HD clips.
- 4:35 – 5:15 Encoding with commonly used encoding tools. Students will learn:
- The optimal H.264 settings for Apple Compressor, Adobe Media Encoder, Sorenson Squeeze, Telestream Episode Pro (and Engine) and Rhozet Carbon Coder

Overall, students will walk away understanding:

- The performance, quality and compatibility implications of the most commonly used H.264 encoding parameters
- How to produce for and deliver to Apple's iPod/iPhone/iPad
- How to configure H.264 video for optimum quality/playback smoothness on a range of computers
- Which encoding tools produce the best quality H.264
- How to encode to H.264 format using Apple Compressor, Adobe Media Encoder, Sorenson Squeeze, and Rhozet Carbon Coder.