

NOVEL Technical Specifications

Slides:

Scanner: Nikon LS2000.
Pixels per inch: 2,700
Multi-sample scanning: 4X
Color per channel: 8-bit
Nikon's "Clean Image" feature turned on to "Normal" setting.
File format: TIFF uncompressed

Audio Settings:

Original Format: 1/4" reel to reel tape

- 24 bit mono (the reels themselves are mono)
- Vocal optimised compression (a dynamic effect on the actual audio not a format)
- Noise reduction to reduce the tape hiss and to 'restore' the audio. The 24 bit mono files
- Converted and dithered (random noise designed to mask the distortion generated from truncation, or the loss of 8 bits) to 16bit stereo and mono files.
- 16 bit stereo files saved on CD as redbook audio (standard audio cd format)
- Mono versions converted to MP3 using a variable bit rate encoding optimised for voice quality and file size.

Recording program: SAWstudio
Encoding program for MP3: LAME
OS: Windows 2000.

Video Settings:

There isnt much of a "standard" out there that will work for everyone. Essentially, the only thing that should be "standard" is the final bit rates for streaming. 41kbps (56k), 120 (aka 128k), 256 (adsl, 300k), 384 (cable/T1+, 400k). As a template, I have included NOVEL settings. They will need to be tweaked depending on the source media. Also, format dictates the specifics of each format (if you look below they are not all alike).

-WMV streaming-

-41kbps (aka 56k)
240x180
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 50 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 20kbps
Buffer: 5 sec. (7 for slower servers)
Audio: 16kbps, 16kHz, mono CBR

-120kbps (aka 128k)
320x240
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 10 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 93kbps
Buffer: 5 sec. (7 for slower servers)
Audio: 20kbps, 32kHz, mono CBR

-256 (aka 300k)
320x240
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 10 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 214.98kbps
Buffer: 5 sec. (7 for slower servers)
Audio: 32kbps, 44kHz, mono CBR

-384 (aka 400k)
320x240
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 10 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 342.98kbps
Buffer: 5 sec. (7 for slower servers)
Audio: 32kbps, 44kHz, mono CBR

-Real Streaming-

[Idealy you should split broadband from dialup - but since we only support 56k it made sense to tack it on as one streaming setting]

-41kbps (aka 56k)
320x240* This is why its recommended to have a seperate dialup setting for real. Its better to have a 240x180 window, although 320x240 isnt bad, nor do many people view this one anyway in an academic setting.
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 50 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 25kbps
Starup Latency(buffer): 10 sec.
Audio: 16kbps, Voice (G2, RA8)

-116kbps (aka 128k)
320x240
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 10 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 95.5kbps
Starup Latency(buffer): 10 sec.
Audio: 20kbps, Music

-256 (aka 300k)
320x240
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 10 sec. (higher keyframe = easier to stream and less lag)
Bit Rate: 223.959kbps
Starup Latency(buffer): 10 sec.
Audio: 32kbps, Voice

-384 (aka 400k)
320x240
29.97fps (player will auto lower fps for slower computers)
Key Frame Interval: 10 sec. (higher keyframe = easier to stream and less lag)

Bit Rate: 351.96
Startup Latency(buffer): 10 sec.
Audio: 32kbps, Voice

Video Formats for Download Files:

These settings here are completely dependant on the media type and play back specs. Slower computers might want to lower the final bit rates.

-WMV CD-

640x480
29.97fps
Key Frame Interval: 10 sec.
Avg Bit Rate:1800kbps
Peak Bit Rate: 2000kbps
Buffer: 5 sec.
Audio: 128kbps, 44kHz, 2 channel 24bit VBR

-Real CD-

640x480
29.97fps
Key Frame Interval: 10 sec.
Avg Bit Rate:1045kbps
Peak Bit Rate: 1800kbps
Audio: 132kbps, RA8

-QT CD-

Sorenson Video 3
640x480
29.97fps
Key Frame Interval: 300 frames (10sec).
Limit Data Rate: 1250kbps
Peak Bit Rate: 1800kbps (variable 2-Pass)
Audio: AAC 44.1 16bit

Color Correction:

