Appendix A - Glossary

Adaptive noise reduction Filter - "intelligent" noise filtering that analyzes each pixel, decides what kind of noise it is (if any), and then applies an appropriate filter (mean or median) to remove the noise.

Audio Fades
- begin and end a movie with silence, and adjust volume over time so sound does not begin or end abruptly.

Audio Interleave Factor -
a measure of the size of "chunks" of audio data stored within a movie.   QuickTime 2.1 automatically uses a 1 second interleave with all flattened movies.

Bandwidth
- the amount of information that can be sent, processed, etc., in a given amount of time. For example, a double speed CD-ROM drive has a bandwidth of 300 kps, a 14.4 baud modem has a bandwidth of approximately 1.4 kps.

Batch Compression -
grouping two or more movies together to be compressed sequentially, so that each compression doesn't need to be started individually.

Batch List
- a specific list of movies to be batch compressed, as well as the settings to be used in the compression.

Batch Log File -
a text file created during batch compression which reports the results of each compression,

including any problems that occurred it may be viewed with a text program such as Simple Text.

Blur -
a form of processing which blurs an image slightly, thereby minimizing subtle frame-to-frame differences and improving compression quality.

Cinepak -
A commonly-used QuickTime codec.   Allows temporal and spatial compression, as well as data-rate limiting.

CLUT -
Abbreviation for Color Lookup Table.   See Palette.

Codec -
also called a compressor, a compression / decompression software component which translates video between its uncompressed form and the compressed form in which it is stored on media (disk, etc.).   The two most commonly used video codecs for CD-ROM video are Cinepak and Indeo.

Color Depth -
the possible range of colors that can be used in a movie.   There are four main choices with video:

- gray scale - black, white, and shades of gray (8-bit)

- 256 colors (8-bit)

- thousands of colors (16-bit)

- millions of colors (24-bit)

256 colors uses a palette; none of the other color depths do.

Color Lookup Table - See Palette.

Color Table
- See Palette

Computer
- A $2,000 device which still can not produce the same video quality as a $100 television. Hopefully this will change soon...

Compressor -
see Codec

CPU-Intensive -
refers to the tendency of certain processes to use large amounts of processor time CPU-intensive processes tend to slow the computer down while they are running.

Data-Rate -
the number of bytes per second used to represent a movie.   Uncompressed VHS quality video is about 20 Megabytes (MB) per second.   Single Speed CD-ROM quality is about 100 Kilobytes (K) per second, and Double Speed CD-ROM quality is about 200K per second.

Data-rate limiting
- the ability of a codec to compress a movie so that it fits within a target data-rate.

Deinterlace - A filter that removes the interlacing artifacts caused by the 2 fields per frame nature of video.

Delta Frames -
also called difference frames, smaller frames which contain only changes, based on key frames containing an entire image.   Delta frames are used in temporal compression schemes.

Difference Frames
- see Delta Frames

Event Handling
- the process in which programs look for other system activity and respond to it.   Movie Cleaner uses very limited event handling while compressing.   This means it finishes what it is currently doing before checking if the mouse has moved, which can cause delays between when you first move the mouse and when control is returned to you.   This speeds up the compression process by not constantly interrupting the compression sequence.

Expert System
- a computer program which has a deep understanding of a topic, and can simulate a human expert, asking and answering questions and making decisions.

Fades -
see Audio Fades and Video Fades

"Flat field" noise - slight differences in areas that should be identical.   For example, "blotchiness" in the background behind titles.   While often not objectionable to the human eye, "flat field" noise degrades compression and may be removed with the adaptive noise reduction filter.

Flattening -
a final pass applied to a compressed movie, which ensures that there are no edits remaining in the movie and that data is laid out in a completely linear fashion.   It also ensures that the sound is interleaved properly.

fps -
frames per second, a measure of the frame-rate.

Frame
- one single still image among the many that make up a movie.

Frame-Rate   -
the number of frames per second in video.   NTSC video (standard American Television) is approximately 30 frames per second (fps).   Computers commonly use 12-15 fps.

Gamma - The curve that describes how the middle tones of your images appear.   Often incorrectly referred to as "brightness" and/or "contrast," gamma is a non-linear function. Changing the value of the gamma affects middle tones while leaving the white and black of the image alone.   Used to compensate for differences between Macintosh and PC monitors.

IMA
- a high-quality audio codec which gives 4 to 1 (4:1) compression.   IMA requires 16-bit

samples.   Based on the standard created by the Interactive Multimedia Association.

Indeo -
A codec developed by Intel, which allows temporal and spatial compression as well as data-rate limiting.   Often produces higher quality video than Cinepak, but doesn't handle some source movies well, and is significantly more CPU-intensive.

Interlacing - horizontal lines in areas of fast movement caused by the fact that a video frame is made up of two separate fields, each 1/60th of a second apart.

Key Frame -
in temporal compression an image which is the basis for determining which changes in sequential difference frames need to be stored.

kHz - kilohertz, the audio sample rate, a measure of how accurately (frequently) sound is sampled.   Higher sample rates yield better sound quality with better high-end response but larger files.

kps -
kilobytes per second, a measure of the data-rate.

Mean filter -
replaces a pixel with the average value of its surroundings.   Applying a uniform mean filter blurs the image.

Median filter -
Replaces a pixel with the "most typical" value of its surroundings, while ignoring   extreme values.   Applying a uniform median filter tends to remove small details.

More Info Triangle -
The little triangle shaped buttons that rotate to reveal more information.   Similar to the little triangles in the Finder that let you view the contents of a folder without first opening it.   Clicking once on them reveals more information, clicking again hides the extra information.

Movie Expert
- an expert system which creates and double checks compression settings.

Multimedia -
a new art/communication form which merges sound, graphics, and video.   Often causes its creators to go insane and/or broke.

Nice & Slow
- compresses more slowly than Quick and Dirty, but with a higher quality final product.   Uses a sub-pixel interpolation algorithm.

Noise -
Any part of a signal which contains unnecessary data.   In audio, noise makes the sound harder to hear.   In video, it can appear as static, or stray pixels.   Noise generally interferes with compression.

Noise Reduction
-Reducing the variance between pixels with filters such as blur, mean, or median.   Uniform noise reduction applies one filter equally to each pixel.   Adaptive noise reduction applies

different filters to different kinds of noise.

Output Movie
- compressed video ready for playback on the target machine.

Palette -
the list of colors which are used in an 8-bit color movie.   There are several standard palettes, such as the Macintosh System palette.   Often referred to as a Color Lookup Table, or simply Color Table.   Often abbreviated CLUT.

Pixel -
one dot in a video image.   A typical computer screen is 640 pixels wide and 480 pixels tall digital video movies are often 320 pixels wide and 240 pixels tall.

Pixelization - when the pixels that make up an image get exaggerated or enlarged.   Makes the image look "chunky" or "grainy".

Quick & Dirty
- compresses quickly, but with a poorer quality than Nice and Slow.   Blurs are not applied when Quick & Dirty is used.

Rate-Limited Codec -
a codec which allows you to specify the desired target data-rate.   Cinepak and Indeo are rate-limited codecs.

Sample -
the measurement of audio level at one specific instant in time.

Sample Size -
the accuracy with which a sound sample is recorded.   Generally, sample size is 8-bit or 16-bit.   The latter is more accurate and provides more dynamic range, but takes up more storage space.

Sample Rate -
the number of samples per second used for audio.   A higher sample rate means higher quality audio and handles higher frequency sound better.   The two most common sample rates are 11K and 22K.

Settings Group
- a name for all of the parameters in the Advanced Settings window.   Settings Groups can be saved, modified, and deleted.

Source Movie -
the original movie to be compressed.

"Stray pixel" noise - Noise that appears as random pixels which are significantly different from the surrounding pixels.   Commonly caused by low-quality sources (such as VHS), multiple duplications, low light compensation, etc.   May be removed with the adaptive noise reduction filter.

Spatial Compression -
compression of images by elimination of duplicate storage of similar areas within one image. For example, a field of blue in a picture would be stored as one large blue area rather than

many individual blue pixels.

"Talking Heads" Filter
- keeps certain parts of an image static across frames to improve compression quality.   The "Talking Heads" filter can, for example, keep Movie Cleaner from re-storing all the data for a background if only the foreground changes from frame to frame.   The "Talking Heads" Filter is designed to take advantage of temporal compression.

Target Machine -
the typical/minimal configuration (of computer hardware and software) on which a movie will be viewed.

Temporal Compression
- compression of movies by elimination of duplicate storage of similar areas across sequential images.   For example, if several frames in a row have almost identical details, the details need only be stored once.

Temporal slider - An undocumented feature of the compression dialog that may affect some codecs.   To access the "Temporal" slider, hold down option while leaving the cursor over the "Quality" slider and wait until the preview redraws.

Terran -
of, or relating to, the planet Earth (as in "Terra Firma").

Video Fades -
begin a movie with a solid color (such as black) and blend into the beginning of the movie blend the end of a movie back to a solid color.

Volume -
a hard disk drive, floppy diskette, CD-ROM, or other storage media.

Windows Machine -
a multimedia creator's worst nightmare.