

Video Quality Analyzer

Full Reference Perceived Video Quality Measurement Solution

Because your customers expect the highest quality from your products, because your competitors improve the quality of their products, quality is crucial for you.

But optimizing perceived video quality requires measuring it, analyzing it.

Until then, measuring perceived video quality was a difficult task: lack of measurement solutions, variety of video formats, limited tools, hardware requirements...

Luckily, Video Quality Analyzer is here.

Video Quality Analyzer is a powerful software solution to measure video quality as perceived by end-users.

Video Quality Analyzer is the most precise tool to:

- Benchmark encoders or firmwares and find the best one,
- optimize encoding parameters,
- define optimal bitrates,
- monitor the quality of a encoding process.

And since Video Quality Analyzer is not dependent on specific hardware, you can install it on any Windows™ PC. You can even run it on a laptop!

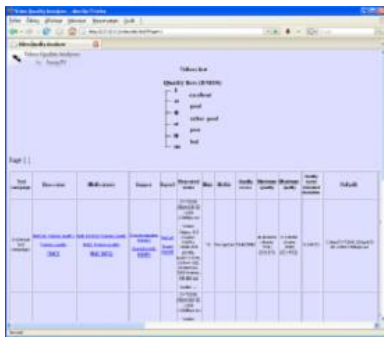
Based on an elaborate human vision model and on display devices models (CRT, LCD, Plasma), Video Quality Analyzer quickly provides accurate, detailed and repeatable measurements.

Video Quality Analyzer uses a video quality measurement technology (“metric”) that extracts visual features which are similar to the ones used by the Human Visual System.

Therefore Video Quality Analyzer is generic (not dedicated to a given encoding standard) and can be used for any codec.

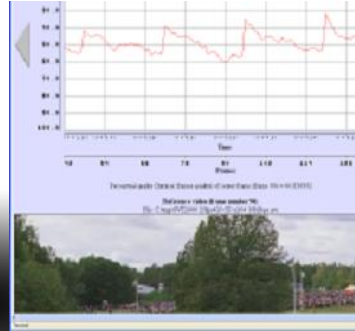
Video Quality Analyzer computes video quality using DMOS (Differential Mean Opinion Score) values. A DMOS value indicates the quality loss of the tested video, compared to its reference video. The produced DMOS values are highly correlated to human judgments: the linear correlation coefficient between computed DMOS and subjective DMOS (given by human observers during subjective video quality assessment tests in normalized viewing conditions) is greater than 0.924 (the maximum value being 1).

More, Video Quality Analyzer can emphasize the zones which are the most distorted and thanks to our patented technique, VQA also generates quality scores by content class (contours, texture, smooth areas...) so that you know which content types are the most critical! Now you have the tool to finely tune video equipment and to improve.



More, Video Quality Analyzer also measures the bitrate of any frame (instant bitrate) and the mean bitrate.

At last, Video Quality Analyzer embeds a web server so that you can distantly:



- consult the results,
- display interactive quality curves and “quality vs bitrate” curves
- generate quantitative and detailed video quality analysis reports

Features

Input videos

Compatible with all common formats: MPEG-1, MPEG-2, MPEG-4, H.264, uncompressed YUV (4:2:0, 4:2:2, 4:4:4), AVI, TS, MOV, WMV, MXF, ...
Compatible with all frame rates: 4:3, 16:9, 1.85, 2.21, 2.35, custom ...
Compatible with all resolutions: SD, 720p, 1080i, 1080p, custom...
Compatible with all durations from 5 seconds to several hours
Compatible with CBR and VBR encoding
User-chosen audio/video decoders: integrated decoders or external (DirectShow) filters

Synchronization (alignment)

Measured video and reference video can have different sizes and/or different frame rates and/or black bands
Temporal and spatial (translation, zoom, cropping) synchronization of the measured video with its reference video
Synchronization adjustment during video quality measurement (if frames have been lost)
Sub-pixel synchronization, Lanczos rescaling

Measurement

Elaborate Human Vision modeling
Display device modeling (CRT, LCD, Plasma)
Video quality measurement: computation of DMOS (Differential Mean Opinion Score) indicating the quality loss of the tested video compared to its reference video.
Audio quality measurement: coarse errors detection (silence, important distortions)
Instant video bitrate measurement (for each frame)
Mean video bitrate measurement (for the whole video)

Results

“Quality vs Bitrate” curves generation
Local analysis of video quality: the most distorted zones can be emphasized
Exclusive (patented) generation of quality scores by content class (contours, textures, homogeneous zones...) in a video
Useful interface: reference video (A), measured video (B), distortion video (A-B), seamless side by side, quality curves, bitrate curve, magnifying glass, audio waveform
Automatic reports generation (TXT, CSV, HTML)

Extra

Integrated HTTP server for distant results consultation and built-in database to store results
Command line usage and script loading
Watch Folder: automatically measure the quality of each new video in a folder (and its subfolders)
Send measurement reports/alerts by email
Real time operating mode