

Video Quality Monitor

“No Reference”, “Parametric” and “Hybrid” Perceived Video Quality Measurement/Monitoring Solution

Product information

Product

- Software
- Hardware ⁽¹⁾

Video quality metrics

- No reference
- Parametric
- Hybrid ⁽²⁾
- Camera noise
- Decodability

Audio quality metrics

- Loudness (according to recommendations ITU BS 1770-2 and EBU R128)
- No reference
- Decodability

Input types

- File
- IP streaming ⁽²⁾
- Capture card, device

Input formats

- MPEG-2
- H.264
- Uncompressed ⁽³⁾
- Other formats ⁽⁴⁾

Applications

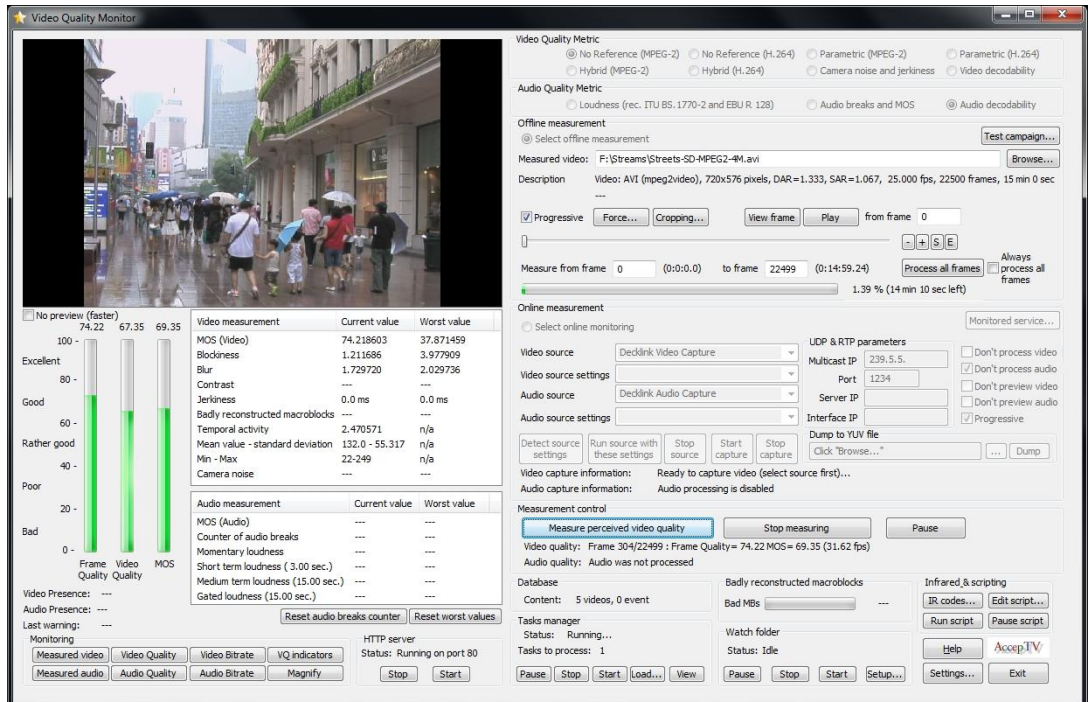
- Video encoders and cameras benchmarking and comparison ⁽⁴⁾
- File-based encoding monitoring ⁽⁴⁾
- Live monitoring ⁽²⁾
- Loudness monitoring
- Optimal bitrate determination ⁽⁴⁾
- Video processing optimization ⁽⁴⁾

⁽¹⁾ Hardware (PC) may be supplied as an option

⁽²⁾ For IP video monitoring, also see our other product MPEG Monitor

⁽³⁾ Uncompressed video must be the result of MPEG-2 or H.264 decoding

⁽⁴⁾ Also see our other product Video Quality Analyzer



The satisfaction of your customers is of the utmost importance.

And when it comes to satisfaction about video, visual quality is essential. And to check that you reach the quality level you expect for your video services, you need to monitor it.

Unfortunately, video quality measurement is usually complicated and monitoring solutions is even more difficult: imprecision of metrics, variety of video formats, hardware requirements...

To solve these problems, Video Quality Monitor is here.

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

Video Quality Monitor computes video quality using a MOS (Mean Opinion Score) scale ranging from 0 to 100.

Video Quality Monitor is the most precise tool to:

- benchmark video encoders, firmwares or video cameras and find the best one,
- optimize encoding parameters,
- define optimal bitrates,
- monitor the quality of a video coming from streaming, from a capture card, from a video device or simply from a file,
- measure (offline) and monitor (in real time) audio loudness according to international recommendations.

And since Video Quality Monitor 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, Video Quality Monitor quickly provides accurate, detailed and repeatable measurements. Video Quality Monitor includes different video quality measurement technologies (“metrics”).

The No Reference metrics compute video quality by exploring the decoded frames at pixel level. Parametric metrics use parameters from the encoded bitstream. Hybrid metrics use both parameters from the bitstream and information extracted from the decoded images.

Each metric computes codec-specific artifacts:

- The **No Reference MPEG-2 metric** measures blockiness visibility and blur perception,
- The **No Reference H.264 metric** measures blockiness visibility, blur perception and objects contrast,
- The **Parametric MPEG-2 metric** measures compression strength and badly reconstructed blocks,
- The **Parametric H.264 metric** also measures compression strength and badly reconstructed blocks,
- The **Hybrid MPEG-2 metric** measures blockiness visibility, blur perception, compression strength and badly reconstructed blocks,
- The **Hybrid H.264 metric** measures blockiness visibility, blur perception, objects contrast, compression strength and badly reconstructed blocks.

VQM also enables:

- measurement and monitoring of **audio quality** and **audio loudness** according to recommendations ITU BS 1770-2 and EBU R128,
- video cameras benchmarking with **camera noise measurement and monitoring**,
- high speed (>1000 fps) **decodability checking** to count the number of decoded audio samples and decoded video frames.

Take the lead in the race for quality

Key features

Perceived video quality measurement and bitrate measurement

Video Quality Monitor measures the perceived video quality on a scale from 0 to 100. It also measures the bitrate of any frame (instant bitrate) and the mean bitrate.

Integrated web server and database

Video Quality Monitor saves all measured data in an integrated database and includes its own web server so you can remotely:

- consult the results from the database
- get monitoring statistics between two dates (granularity: one minute)
- display interactive quality curves and "Quality vs. Bitrate" curves
- generate quantitative and detailed quality analysis reports

Loudness and audio quality measurement

Video Quality Monitor enables to measure and monitor audio quality, audio bitrate and loudness according to international recommendations ITU BS 1770 and EBU R128.

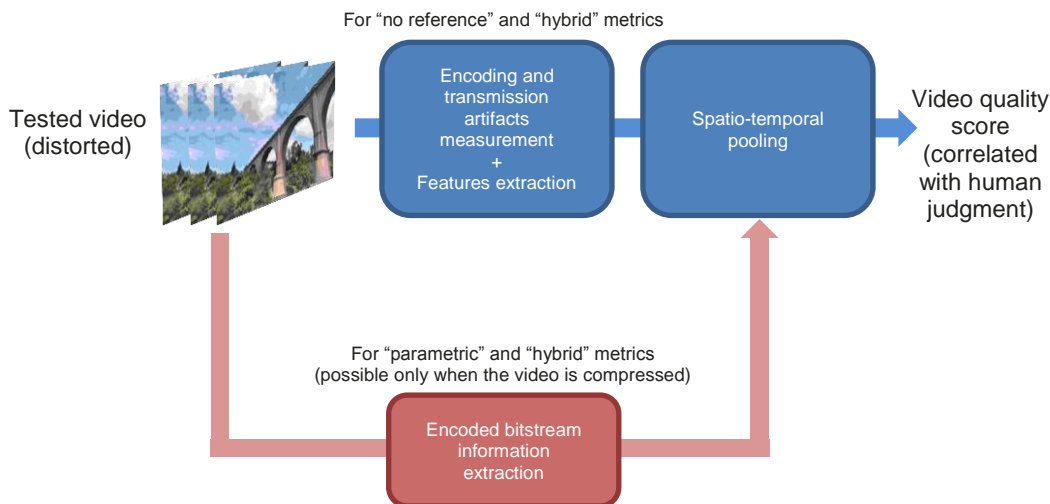
Many other features

Video Quality Monitor also includes many other features like a watch folder, automation features, command line usage, a magnifying glass, etc.

Ask for a free evaluation version now!

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Principle



Features

Input

Compatible with all common codecs: MPEG-2, H.264, VC-1, VP8... and also with uncompressed YUV (4:2:0, 4:2:2, 4:4:4)
Compatible with the most common containers (TS, AVI, MP4 ...) and with raw data
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
Compatible with all audio sampling rates (loudness measurement adapts itself to the sampling rate)

Input source

File: offline or online (when the file is being played)
Streaming video (RTP/UDP)
Capture card or device

Measurement

Elaborate Human Vision modeling
Video quality measurement: measurement of blockiness, blur, contrast, jerkiness, computation of MOS (Mean Opinion Score) indicating the quality of the tested video
Audio quality measurement: errors detection (silence, important distortions, signal breaks)
Loudness measurement in accordance with recommendations ITU BS 1770-2 and EBU R128
Audio and video "decodability metrics" to check the number of decoded frames and the number of decoded audio samples (at high speed: more than 1000 fps)
Instant video bitrate measurement (for each frame)
Mean video bitrate measurement (for the whole video)

Results

Curves and values of MOS, bitrate, blockiness, blur, contrast, jerkiness, camera noise, loudness
"Quality vs Bitrate" curves generation
Useful interface: measured video, video quality curves, video bitrate curve, measured audio waveform, audio quality curve, audio loudness curves, audio bitrate curve, magnifying glass
Monitoring statistics and curves between two user-defined dates (with one-minute granularity)
Automatic reports generation (TXT, CSV, HTML)
Alerts (email, SNMP traps) if quality is too low or if decoded frames number or audio samples number are incorrect

Extra

Integrated HTTP server for distant results consultation and built-in database to store results
Possible command line usage (with many available arguments), script loading
Watch Folder: automatic processing of each new file in a folder (and its subfolders)
Measurement reports/alerts by email
Real time operating mode
Can process several files in parallel
Scripting and infrared support (learning and sending of IR codes) for Set-Top Box control



Perceived Video Quality Metrics

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Take the lead in the race for quality