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
- ☑ Lipsync

Audio quality metrics

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

Input types

- ☑ File
- ☑ IP streaming [(2)]
- ☑ Capture card/device
- ☑ Desktop capture

Input formats

- ☑ HEVC (H.265)
- ☑ MPEG-4/AVC (H.264)
- ☑ MPEG-2
- ☑ Uncompressed [(3)]
- ☑ Other encoded formats [(4)]

Applications

- ☑ Video encoders and cameras benchmarking and comparison [(4)]
- ☑ File-based encoding monitoring [(4)]
- ☑ Live monitoring [(2)]
- ☑ Jerkiness monitoring
- ☑ Loudness monitoring
- ☑ Optimal bitrate determination [(4)]
- ☑ Video processing optimization [(4)]
- ☑ Audio/video synchronization

[(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 HEVC, H.264 or MPEG-2 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 difficult and monitoring solutions are often complicated to use.

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 can also measure and monitor audio quality and audio loudness.

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:

- **measure (offline) and monitor (in real time) the quality** of a TV channel or any other video service,
- monitor the quality of a video coming **from IP streaming, from a capture card, from a video device, from desktop capture or simply from a file,**
- measure (offline) and monitor (in real time) **audio loudness according to international recommendations,**
- **measure the impact on perceived quality of unwanted pauses (due to rebuffering)** during video playing,
- optimize encoding parameters (like bitrate).

And since Video Quality Monitor does not depend on specific hardware, you can install it on any Windows[TM] 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 **No Reference HEVC metric** measures blur perception and picture flatness,
- 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 ITU BS 1770-2 and EBU R128,
- measurement and monitoring of **synchronization between audio and video (lipsync)** using audio/video test signals (generated by VQM),
- video cameras benchmarking with **camera noise measurement and monitoring,**
- measurement and monitoring of the **impact of image freezing** (due to rebuffering) during video playing,
- high speed (>1000 fps) **decodability checking** to count the number of decoded audio samples and decoded video frames (and compare them to expected values parsed from files' headers).

AccepTV

Perceived Video Quality Metrics

Take the lead in the race for quality

Principle

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 and times
- display interactive quality curves and "Quality vs. Bitrate" curves
- generate quantitative and detailed quality analysis reports
- generate mosaics and real time maps

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.
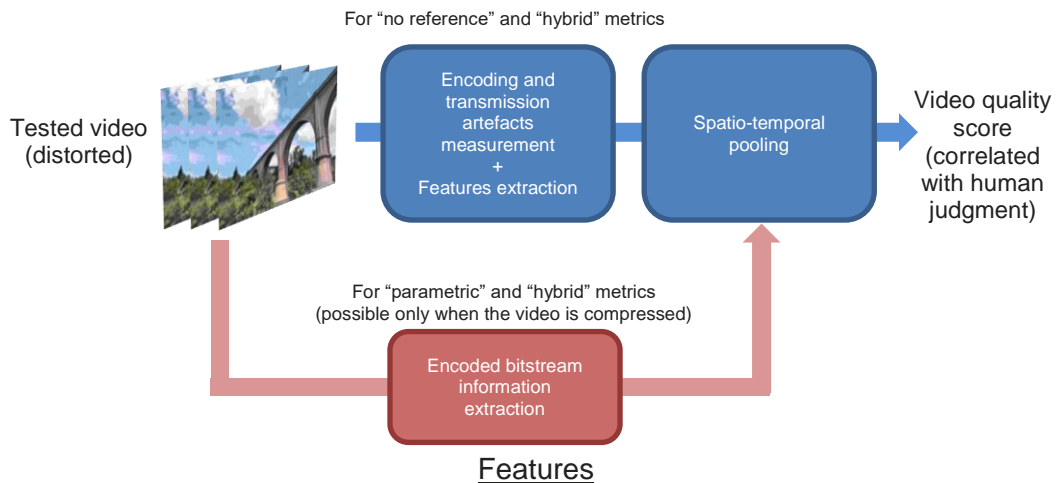
Many other features

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

Ask for a free evaluation version now!

For "no reference" and "hybrid" metrics

Tested video (distorted)

Encoding and transmission artefacts measurement + Features extraction

Spatio-temporal pooling

Video quality score (correlated with human judgment)

For "parametric" and "hybrid" metrics (possible only when the video is compressed)

Encoded bitstream information extraction

Features

Input
Compatible with all common codecs: HEVC, H.264, MPEG-2, VPx, VC-1 …
Compatible with uncompressed YUV formats (4:2:0, 4:2:2, 4:4:4)
Compatible with the most common containers (TS, AVI, MP4, MOV …) and with raw data
Compatible with all resolutions: SD, 720p, 1080i, 1080p, 4K, custom…
Compatible with all frame rates: 4:3, 16:9, 1.85, 2.21, 2.35, 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 (UDP, RTP, HTTP, HTTPS, HLS, RTMP, RTSP)
Capture card or device
Desktop capture

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
Impact of image freezing (due to rebuffering) on perceived video quality
Audio quality measurement: errors detection (silence, important distortions, signal breaks)
Loudness measurement in accordance with recommendations ITU BS 1770-2 and EBU R128
Synchronization between audio and video (lipsync): skew (expressed in milliseconds)
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) when problems happen (quality is too low, incorrect decoded frames number or audio samples number, …)
Video samples when problems happen (saved from a few frames before the problem so you see the problem appearing in the video sample)

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
Possible sending of commands to VQM while it is running (by calling URLs from the HTTP server)
Watch Folder: automatic processing of each new file in a folder (and its subfolders)
Measurement reports 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
VQM Centralization Server (VQM CS) to gather the results of several VQM instances in real time and generate reports, mosaics, real time maps
Supports GPS receivers to record position and draw maps of video/audio quality with respect to position

Take the lead in the race for quality

AccepTV
172 route de Saint Joseph
44300 NANTES
FRANCE

AccepTV
Perceived Video Quality Metrics

www.acceptv.com

info@acceptv.com