



VQV Brief Guide

VQV (VideoQ Viewer) is an offline Media Files Player / Viewer /Analyzer / Converter.

It works under any Windows OS (64-bit versions).

Minimum System Requirements:

- For frame sizes up to HD/2K (2048 x 1920): Dual core CPU, 1.9 GHz, 8 GB RAM
- For frame sizes up to 8K (7680 x 4320): Quad core CPU, 2.8 GHz, 16 GB RAM, large capacity fast HDD

Installation:

Create a folder on the PC hard drive, e.g., "C:\VQV" and copy the **VQV.EXE** and **all other files** into this folder.

Some antivirus programs may conflict with VQV.EXE. In such case, please restore the original VQV.EXE file and add it to the antivirus program exclusions list – usually it can be done via “Options/Settings” menu of the antivirus program.

Usage:

User can launch **single VQV instance** or **multiple VQV instances**. Two or more VQV instances may simultaneously access **the same** media file.

For R&D and product/content verification work, VQV can be launched in a

Windows GUI Mode:

To open **media file** or **sequence of numbered files** drop file/folder icon or browse to open the file.

For semi-automatic QA/QC operation VQV GUI can be launched via

Command Line Interface (CLI):

The command line to open single media file or folder **via CLI** looks like this: **VQV "Input_Name"**, e.g., "vqv a.mp4".

Input Name = file or folder name, local (relative path) or full path. Use double quotes if it contains spaces.

Command Line for **UYVY 8b** .YUV formats: **VQV.EXE "Input Name" [YUV_Resolution_Switch]**

Optional YUV_Resolution_Switch: **Width Height** (custom size), or single character: **u** = UHD, **h** = HD, **s** = SubHD, **p** = PAL, **n** = NTSC

If YUV_Resolution_Switch is omitted, VQV **auto-detects** UYVY frame size.

Command Line for **planar 8b YUV** formats: **VQV.EXE "Input Name" [Width Height Format]**, e.g., "vqv a.yuv 1280 720 422".

Format Switch: **444, 422, 411** or **420**. For planar YUV files Width, Height and Format values are **mandatory**.

To open media file or sequence of numbered files at the particular timeline position (frame number):

VQV.EXE "Input Name" [f Frame_Number [Stream_Index]],

e.g., " vqv a.MP4 f 24 0" or "vqv a.yuv 3840 2160 422 10 f 3".

Position of this optional parameters group must be **at the end** of command line string.

Un-Installing VQV:

Since VQV does not make any records in the system registry, except the location of the last opened media file, just delete the VQV folder and you are done.

For more details see **VQV Training Presentation** or visit www.videoq.com

Functions & Parameters

Input Video Files: All common formats and codecs supported by ffmpeg, e.g., MP4, MOV, AVI
Input Image Files: All common formats supported by ffmpeg, e.g., JPG, BMP, TIF
Input RAW Video Data Files: YUV, Y4M, RGB (8 bit ~ 16 bit per component), UYVY and planar 444,422,420 YUV formats
Numbered Video Frames Input (YUV, BMP, JPG, TIF): e.g., test0000.BMP, test0001.BMP, etc.
Frame Sizes from 192x108 to 7680x4320
'Color Picker' – Current pixel RGB / YUV / L values readout in the VQV Title Bar
'FrameScope' Overlay – Relevant RGB ranges as vertical waveforms
'VV-Bars' Overlay – RGB / YUV frame statistics BarGraph indicators
'VectorScope' Overlay (UV frame statistics) with 75% & 100% Color Bars Target Boxes
'ChromaScope' Overlay (Color Gamut Meter) – xy values statistics on CIE 1931 Chromaticity Diagram
Waveform Monitor Overlay – RGB / YUV Line Parade, full frame or selected lines range, smart auto-graticule, range meters
Frame Histogram Overlay – R,G,B and Light Levels (maxRGB) statistics, dual logarithmic scales
'L-Bar' Overlay – Light Levels frame & segment statistics BarGraph indicator
'C-Bar' Overlay – Bitrate segment statistics BarGraph indicator and current frame/GOP/segment details readout
RGB and Light Levels Overview – Timeline segment statistics meter with a summary text overlay
Bitrate and GOP Size Analyzer – Timeline segment statistics meter with a summary text overlay
Noise (SNR) Meter, Intra-frame Activity, Inter-frame Activity Bars Overlay and readout
Active Frame Size (Letterbox / Pillarbox) Meter and Indicator
Zoom (from 1:8 to 4:1) and Pan
Display Filters: L, RGB, R, G, B, Y, UV Color Components (Color Channels), Compression Artifacts
Gain (up to x16) and Offset , applied to full frame or within the adjustable mask
Temporal (Inter-frame analysis: T-HPF) & Spatial (Intra-frame analysis: XY-HPF, XY-LPF) Filters
LSB Image , e.g. full contrast display of LSBs image (derived from 10 bit ~ 16 bit data)
Current Frame Screenshot – BMP with optional timestamp
Converted Frame(s) export , e.g. numbered YUV HDR-HLG files from MP4 HDR-PQ source
Color Matrix (RGB YUV): BT.2020/BT.2100, BT.709, BT.601 , user-selectable Narrow / Full YUV Range
Color Primaries: BT.2020/BT.2100, DCI-P3, BT.709, BT.601
Auto-selectable & User-selectable Graticule Modes and Units for FrameScope Waveform, Frame Histograms & L-Bar
RGB, YUV, XYZ input formats (from 8 bit to 16 bit per component)
SDR, HDR-PQ (HDR10, DoVi), HDR-HLG, LOG: metadata driven and manual EOTF selection
HDR to HDR and HDR to SDR conversion, HDR-RAW and converted SDR preview of HDR video
Camera LOG & DPX LOG formats support
Media Info Report – Brief report in pop-up box, full report as .TXT export
HDR/SDR Metadata Validator – Brief report in pop-up box, full report as .TXT export
Frame Statistics Report – Brief report in pop-up box, full report as .TXT export
Saving current analysis results to VQV.LOG text file or VQV_Statistics.TXT
Timeline Navigation: Stop, Play, Pause, Step, Slider, 9 editable Bookmarks, 'Go to' Dialog, TimeCode and Speed Display
'Videola' – Fast Timeline Positioning, Jog/Seek/Shuttle Modes, Variable Speed, steps from +/- 1 Frame to +/- 10 minutes
A-B Loop mark-up and payout

Shortcuts & Controls

<p>'Videola' – Jog & Shuttle Timeline Navigation Tool: Ctrl + Mouse Left Button + Cursor Horizontal Position within Image Area Cursor position controls the speed selection; preset timeline step values: +/- 0, 1, 2, 5, 10 F, 1, 2, 5, 10, 20 s, 1 m (60 s) In Jog Mode (i.e. starting from pause) – Seek with variable speed. On Mouse Left Button or Ctrl key release – pause at last shown frame; In Shuttle Mode (during playback) – Play with variable speed. On Mouse Left Button or Ctrl key release – continue playback at last selected speed. Fractional playback speeds (slow motion) – Mouse Wheel or Left/Right Arrows: +/- 0.1, 0.2 and 0.5 of media file frame rate.</p>				
Key	Result	Shift + Key	Ctrl + Key	Ctrl + Shift + Key
Mouse Middle Button	Jog Mode / Shuttle Mode toggle			
Mouse Left Button	<i>Hold or click in the slider area:</i> Go to Timeline Target Position: Hold to scroll or click to jump. <i>Target Image will be rendered on Mouse Button release or 2nd click</i>	<i>Click in the image area:</i> Start/Stop playback at default speed: +1F	<i>Hold and move the slider:</i> Timeline Scroll: <i>Image updated ASAP (slow for large frame sizes)</i>	<i>Click in the image area:</i> Reset playback speed to default value +1F and continue playback
Mouse Wheel	In Jog Mode: +/- 1 Frame, In Shuttle Mode: Variable Speed	Display Gain: up/down		Display Gain Filter Slicing Level: up/down
Mouse Move	In Active Image: Pixel Value readout, In selected Area: Filter/Tool readout			
Mouse Left Button + Mouse Move	Active Image Scroll (Pan & Zoom), in Mask Area: Mask Position			
M + Mouse Wheel	Mask Size up/down			
Z + Mouse Wheel	Zoom up/down (<i>cursor centered</i>)			
Mouse Right Button	In Active Image: Context Menu			
Up/Down Arrows	Zoom up/down (<i>image centered</i>)	Display Gain: up/down	File path & time position: VQV to/from VQMP	Display Gain Filter Slicing Level up/down
Left/Right Arrows	In Jog Mode: +/- 1 Frame In Shuttle Mode: Speed up/down	In Jog Mode: +/- 10 F	In Jog Mode: Variable speed seek	
PageDown/PageUp	Enables Jog Mode: +/- 1 s	Jog Mode: +/- 10 s	Jog Mode: +/- 1 min	Jog Mode: +/- 10 min
Space Bar	Jog Mode / Shuttle Mode toggle	Jog / Shuttle toggle, speed reset to +1F		
0	SDR RAW (<i>YUV Full Range</i>)	Clear all Bookmarks	Segments Info On/Off	
1	HDR-PQ RAW	Record Bookmark #1	Go to Bookmark #1	
2	HDR-PQ ▸ SDR	Record Bookmark #2	Go to Bookmark #2	
3	HDR-HLG RAW	Record Bookmark #3	Go to Bookmark #3	
4	HDR-HLG ▸ SDR	Record Bookmark #4	Go to Bookmark #4	
5	HDR-LOG RAW	Record Bookmark #5	Go to Bookmark #5	
6	HDR-LOG HLG Compatible SDR	Record Bookmark #6	Go to Bookmark #6	
7	HDR-LOG SDR	Record Bookmark #7	Go to Bookmark #7	
8	MSB / LSB Image toggle	Record Bookmark #8	Go to Bookmark #8	
9	Full / Narrow YUV Range toggle	Record Bookmark #9	Go to Bookmark #9	
, or < . or >	Previous/Next Bookmark / Segment, sorted by Number		Bookmark by Timeline or Segment +/- 10(50)	
A	Auto-select Primaries <i>only if ChromaScope is ON</i>	Active Image Size Markers Show / Hide toggle. Analyzed Area selection is not affected	Active Image Size Meter (Black Bars Detector): Detect once & store results; also enables Active Image Area Analysis Mode	Analyzed Area toggle: Active Image / Full Frame Applies to most meters; Active Image Size Meter results are not affected
B	Bookmark current Timeline Position and copy it to Clipboard	B component Image (Blue)	Go to the last used Bookmark	Create the Bookmark from Clipboard data
C	C-Bar (Compression Meter) On/Off	C-Artifacts Filter On/Off	ChromaScope On/Off	
D	All Filters & Tools Off, <i>same result as ESC key: all settings reset to defaults.</i>	Toggle On/Off: FDM - Fast Draw Mode ARC - Aspect Ratio Correction	Duplicate opened file in new VQV window	
E	Enhanced Rendering toggle On/Off, CVC (Color Vector Correlation) Mode		AV Sync Error Meter (on MPC Test Pattern)	

Key	Result	Shift + Key	Ctrl + Key	Ctrl + Shift + Key
F	- FrameScope Filtering Mode: 0-3 - Text Overlay: File Name On/Of	All Filters On/Off (<i>settings preserved</i>)	Frame Info Report Box	
G	Gamut Conversion On/Off <i>Input Color Gamut to BT.709</i>	G component Image (Green)		
H	Histogram Overlay On/Off, Press L key to add L-Bar	Histogram Source: - RGB Levels - Light Levels (maxRGB)	Histogram Type toggle: RGB mix x1 / R, G, B x3 or LL Histogram / LL Subranges	HDR10+ Distribution On/Off, <i>also enables HDR-PQ RAW rendering mode & L-Bar</i>
I	Media Info Report pop-up Text Box	Interlaced View Mode: Full Frame / Top-Bottom / Field Difference		
J	Jump to MaxFALL/MaxBR Frame		Jump to MaxCLL Frame	
K				
L	L-Bar (Levels Meter) On/Off Press H key to add Histogram	LL Image On/Off, Press S key to select: - LL - LL + Out Of Range Highlighter - LL Heat-Map	Transfer Function Plot Overlay On/Off	
M	Mask Size control by Mouse Wheel or Line Parade WF Data Source Mask: toggle Full Frame / Selected Lines	Filters Mask On/Off: toggle Mask / Full Screen or ChromaScope Modes		Metadata Validator pop-up Text Box or WF Lines & Pixels Mask Size & Position Controls
N	Navigation Control Panel pop-up: Go to Timeline Position & Bookmarks	Noise Meter On/Off	File Open in New Window	
O	All Overlays On/Off (Clean View)		File Open Dialog	
P	ChromaScope & WFM Persistence	Select Primaries for: - Color Gamut Converter - ChromaScope	Print analysis data to: VQV.Log, VQV_Statistics.TXT, etc.	Playout Wraparound On/Off
Q			Quit (Exit) VQV	
R		R component Image (Red)	Release (close) or Reopen media file	
S	Switch / Start / Stop / Select Text Messages / Display Modes, <i>e.g. start/stop/display Statistics Summary, cycle thru VectorScope Modes, LL Highlights / Heat-map, etc.</i>	<i>If Segments List File read</i> 3-way switch: - Segments continued - AB Loop (current Segment) - Regular Playout & Display	Time Display Mode <i>Cycle thru:</i> TC1000 / SMPTE TC / Time_s.ms / Time_ms	Select Video Stream # <i>if the number of video streams > 1</i>
T	Text Overlays On/Off: <i>Timeline / L-Bar / C-Bar messages</i>	T-Filter (Inter-frame Temporal HPF)	- WF Monitor Text Messages, - Timeline Info Auto-hide	
U	Graticule Units selector: - RGB Levels %, - Light Level %, - Light Level nits <i>In some modes choice of units is limited. or (only if ChromaScope is On): CIE1931 xy / CIE1976 u'v' toggle</i>	UV components Image (Color Differences)		
V	VV-Bars (Video Volume) On/Off	VV-Bars Mode: RGBYUV / RGB / RGB Range	VectorScope On/Off	
W	FrameScope™ Waveform On/Off (<i>RGB Range Frame Profile Overlay</i>)		Line Parade Waveform (WF Monitor) On/Off	Color Space Workflow Info pop-up Text Box
X		XY-Filter (Intra-frame Spatial HPF/LPF)	Exit (Quit) VQV	
Y	In WFM Line Parade Mode toggles: RGB / YUV	Y component Image (Luminance)		
Z	Zoom with Mouse Wheel <i>Zoom up/down (cursor centered)</i>			
[Set Loop Start (<i>mark A Point</i>)			
]	Set Loop End (<i>mark B Point</i>)			
/	Clear AB Loop (<i>Start & End Points</i>)			