VideoQ VQMP

Advanced QA/QC Media Player

Training Presentation

September 2025

VQMP

videoq.com

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1. General Info

1.1 VQMP Concept

- VideoQ **VQMP**  is a Windows OS real time media player that can be used as a stand-alone QA/QC tool, or remotely controlled automatable viewer, or it can work in close co-operation with other tools, such as VideoQ **VQV** player-analyzer

  http://www.videoq.com/vqmp.html http://www.videoq.com/vqv.html

  VQMP via built-in server can be controlled by short command messages containing:

  - Full path to media file, URL or network protocol address
  - Optional 2nd argument: timeline position within media file in s.ms format

- VQMP is using **MPV**  core engine and some of MPV keybindings (shortcuts)

  https://mpv.io

- VQMP supports a large recent files list, internal and external playlists, multiple internal/external audio/subtitles tracks and timeline bookmarks
- It also features Advanced AV Monitor vitally important for QA/QC functionality

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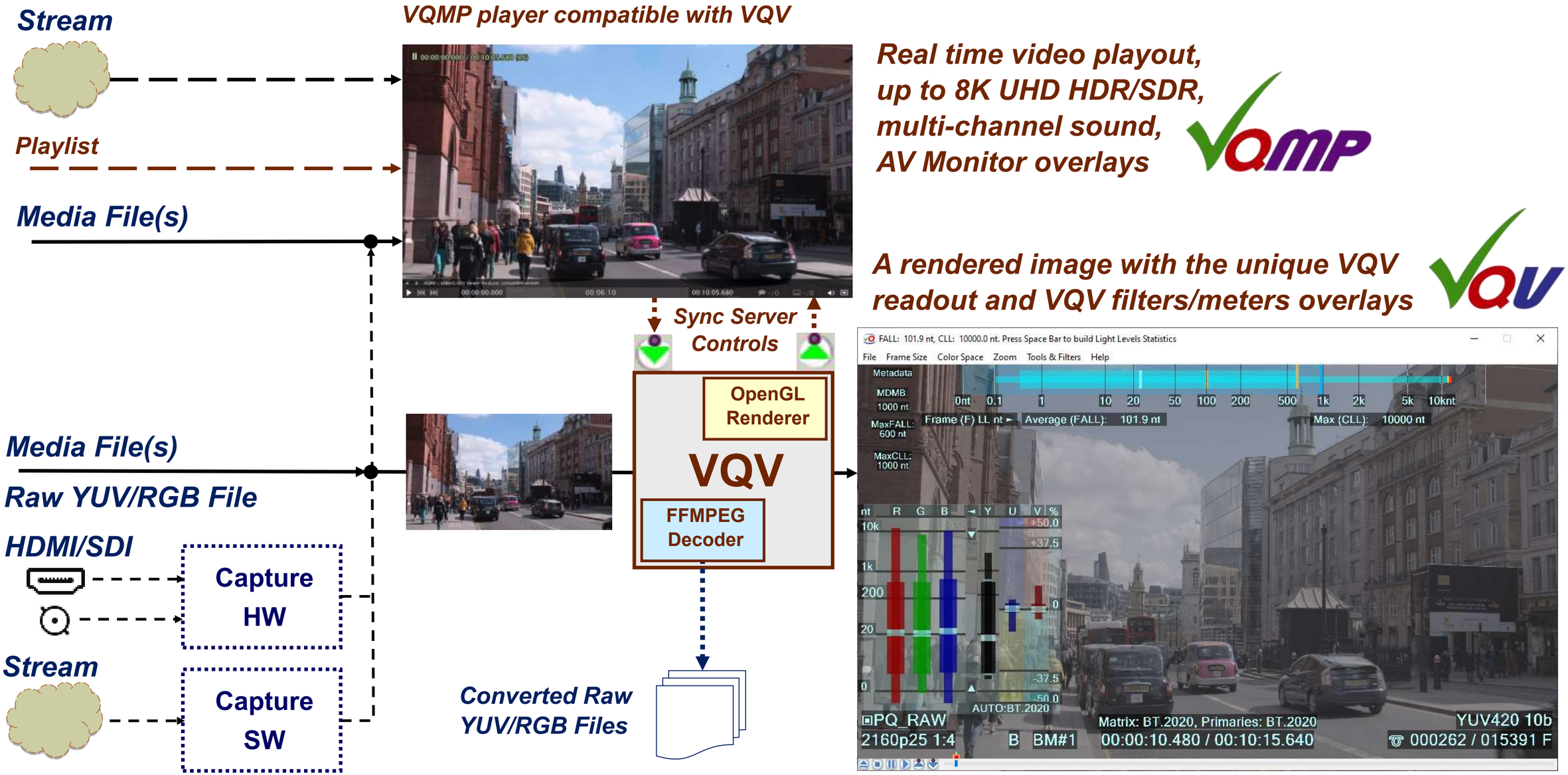
1.2 VQMP Workflow Diagram

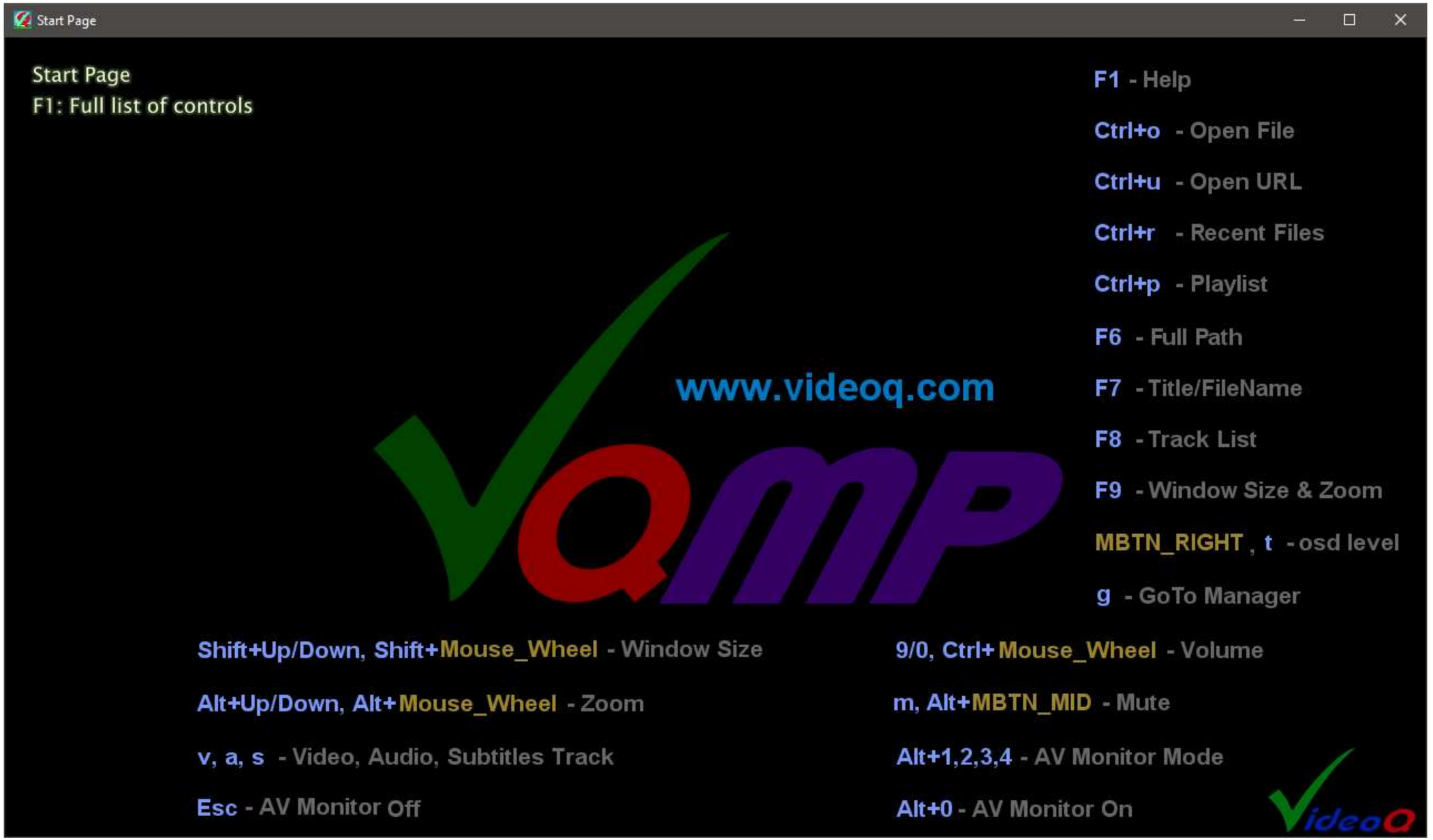


UHD HDR10 sample video – courtesy of newsbyte.co.uk

1.3 VQMP Features

- Real time Windows OS media player combining **minimalistic GUI** (OSC = On-Screen Controller pop-up bar) with smart **OSD** (On-Screen Display) **messages** and intuitive keyboard/mouse/overlay **controls**
- Based on MPV core engine, VQMP supports **nearly all media formats**, up to 8K UHD HDR/SDR, using ffmpeg-based hardware accelerated decoder
- Built-in HDR (**PQ** and **HLG**) to **SDR** conversion for easy **HDR preview on SDR screen**
- **Multi-channel audio** rendering engine, up to 7.1.4 surround sound
- Fast intuitive **timeline navigation**, including switchable messages, bookmarks, and GoTo Manager
- Smart **speed / scale / zoom / pan controls** with info overlays
- Smart file(s) opening, including configurable use of last-used **timeline position** and **track controls**
- **Playlist Manager** with editing controls
- **Recent Files Manager** with editing controls
- Smart video, audio and subtitle **tracks selection**
- **Advanced AV Monitor** overlays, various modes of operation

1.4 Start Page – Main Shortcuts Short Guide



1.5 CLI Parameters and Usage Info Helper

Click on Windows GUI **VQMP icon**  or enter **VQMP** in Windows console **without** any CLI parameters to bring up static image of **Start Page** (*see previous slide*) = **Short Guide** showing **Main Shortcuts**

Launching in Windows console VQMP executable with **–h flag**, brings up the following help message:

Usage:

'vqmp' **CLI command without arguments** opens **VQMP GUI Start Page** image showing **Short Guide**.

'vqmp InFileName [TimePosition_s]' command opens ***specified*** media file in GUI mode.

InFileName UTF8 string specifies **URL** or **Full Path** to the **media file**. Use double quotes if necessary.

TimePosition_s option: specify media file **timeline position** in **s.ms** format.

'vqmp -h' or 'vqmp -help' command displays this help message in Windows console.

In GUI mode Press **F1** to see details of **all functions and controls** (vqmp_help.chm).

---- Opening URL ----

If InFileName = **URL**, e.g. “**https**://z001-stream...” the VQMP **OSD** (On-screen Display) **timeline 0s** starts at the **batch launch**, which corresponds to a **random position** within the incoming **live stream**, thus [TimePosition_s] option ***should not be used***.

---- Receiving AV stream over UDP or SRT protocol ----

VQMP can work with **explicit network address**: **vqmp "udp://192.168.0.47:32768"**

Alternatively, VQMP may receive AV data from "**localhost**" address: **vqmp "udp://localhost:32768"**

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1.6 VQV and VQMP Synchronization

VQV is a **master control point**, launching **VQMP** player (*and sync server running in the background*) as needed.

Video files can be opened in VQV and/or in VQMP, so there are **several cases**:

- VQV and VQMP render **the same file**, *possibly at different timeline positions.*
- VQV and VQMP render **two different files**, *even of two different types, e.g., video file by VQV, audio file by VQMP*

In any case, VQV can exchange with VQMP short command messages containing:

- Full path to media file
- Timeline position in s.ms format

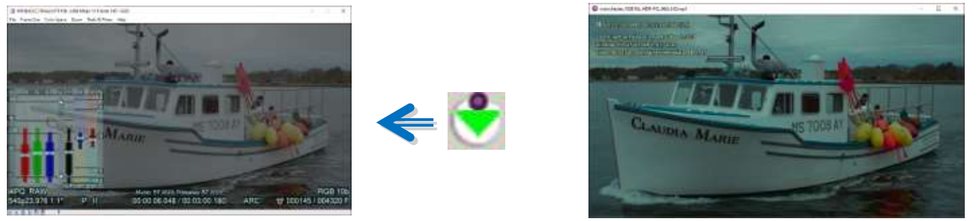
Click on **VQV**  button or use **Ctrl+ Up Arrow**
to send message **from VQV to VQMP**

Click on **VQV**  button or use **Ctrl+ Down Arrow**
to request and receive message **from VQMP to VQV**

Idle VQV **launches** idle VQMP (*server initialization only*)

VQV **sends** to VQMP current file path and timeline position

VQV **requests and receives** from VQMP file path and timeline position



Special case: VQV **can not open audio** file, but VQMP **can**

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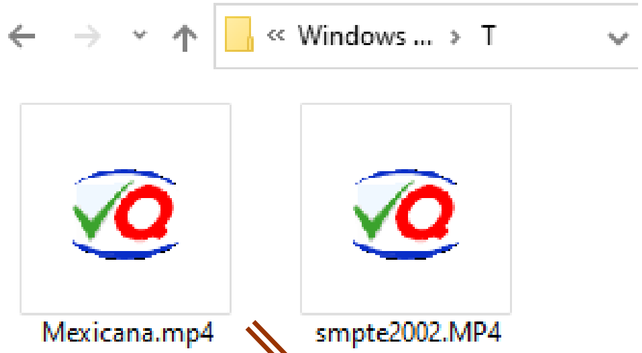
2. Controls and Control Modules

2.1 Keybindings – Keyboard and Mouse Controls

- Press **F1** to open the comprehensive VQMP help document (vqmp_help.chm)
- The default keybindings are included into the original mpv  core engine.
- Some built-in **mpv keybindings** are **still in use** by VideoQ VQMP  ,
  some of them **disabled**, and some others **replaced** by VQMP keybindings.
- See https://mpv.io/manual/master/ for full list of original built-in mpv keybindings and commands (*mostly for developers and advanced users*).
- Majority of VQMP shortcuts use lower-case keys
- All upper-case keys mentioned below mean Shift+key.
- Dynamic keybindings are valid only while the related mode is active
- See next slides for the detailed description of VQMP controls and shortcuts

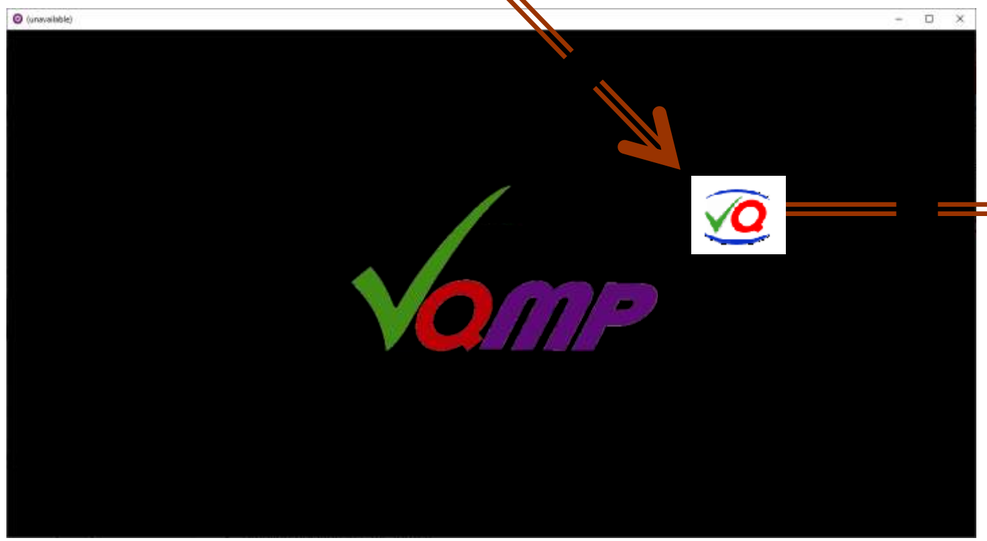
TOC2

2.2 Opening Media File via Drag-And-Drop



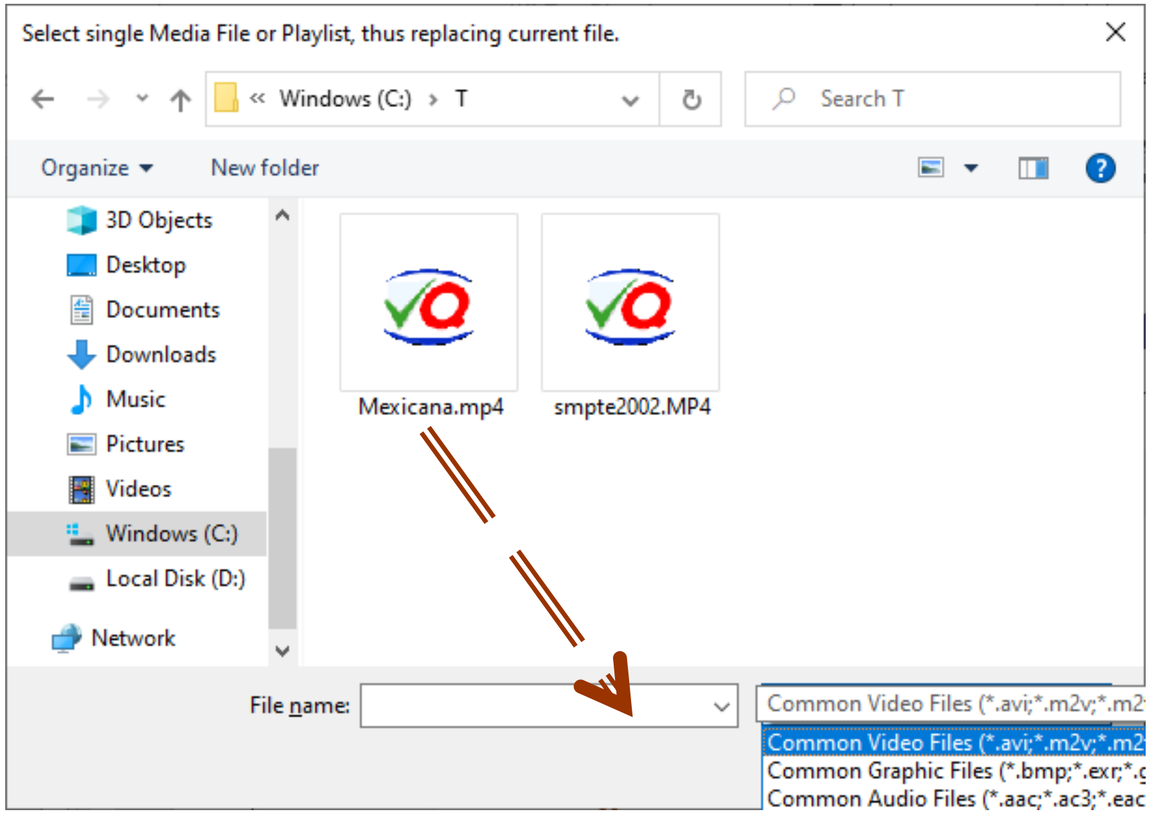
VQMP supports Windows OS **drag-and-drop** (quick & easy) procedure.

Note that if "quit-watch-later" option was not disabled on previous exit, the last-used timeline positions and other controls stored for this file will be auto-applied.



SDR sample video – courtesy of Kate McCartney & Kate McLennan, Australia

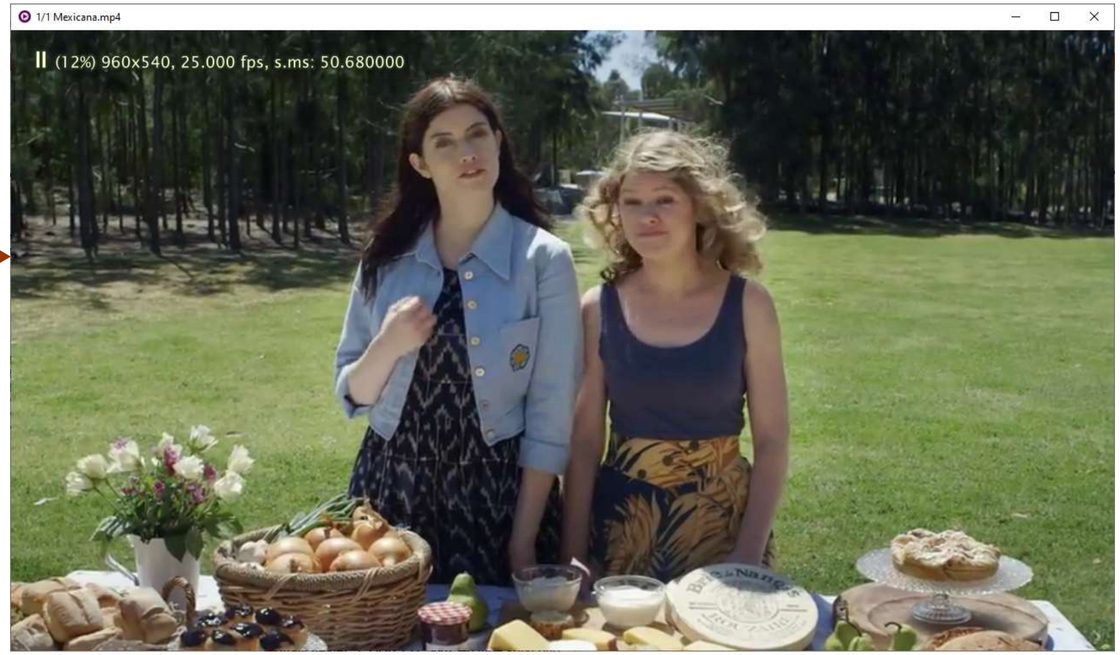
2.3 File Manager Controls 1



Ctrl+ o brings up standard File Open Dialog, the selected file or playlist will ***replace*** currently playing file or playlist.

New media file will be automatically included in **recent files list**. This operation will auto-reduce **internal playlist table** to just one item – new file.

Note that the upper-case "Ctrl+ O" should not be used.



SDR sample video – courtesy of Kate McCartney & Kate McLennan, Australia

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2.4 File Manager Controls 2

1. To open and play a **sequence of numbered image files** open first **any one** of the sequence image files using Drag-and-Drop, regular **Ctrl+ o** File Open Dialog, or **Ctrl+ r** Recent File List. This will open just **one static image**.

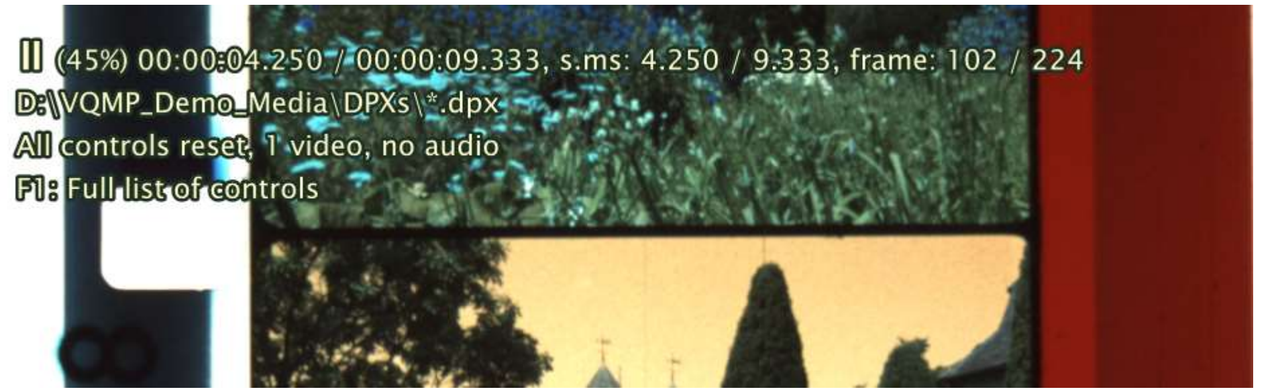
1 ⟹

Currently, VQMP opens the following image file formats:

bmp, dpx, exr, gif, j2k, jp2, jpg, jpeg, png, psd, tif, tiff, webp

2. Then use **Alt+ i** shortcut to **open and play** the sequence of **all numbered files** sharing the **selected file folder path** and **extension**.

2 ⟹

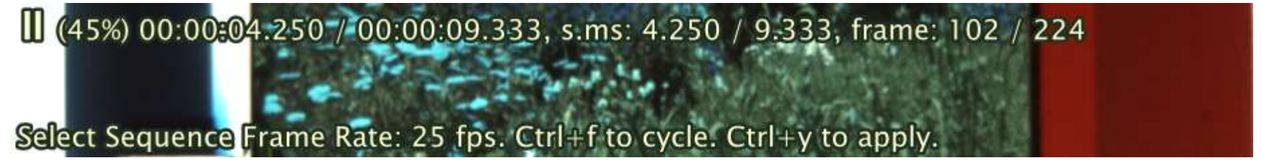


3.The default sequence playout frame rate is **24 fps**. It can be changed via dynamic **Ctrl+ f** and **Ctrl+ y** keybindings.

Use **Ctrl+ f** to select the **desired fps value** from the list:

1, 10, 23.976, 24, 25, 29.97, 30, 48, 59.94, 60 fps.

3a ⟹

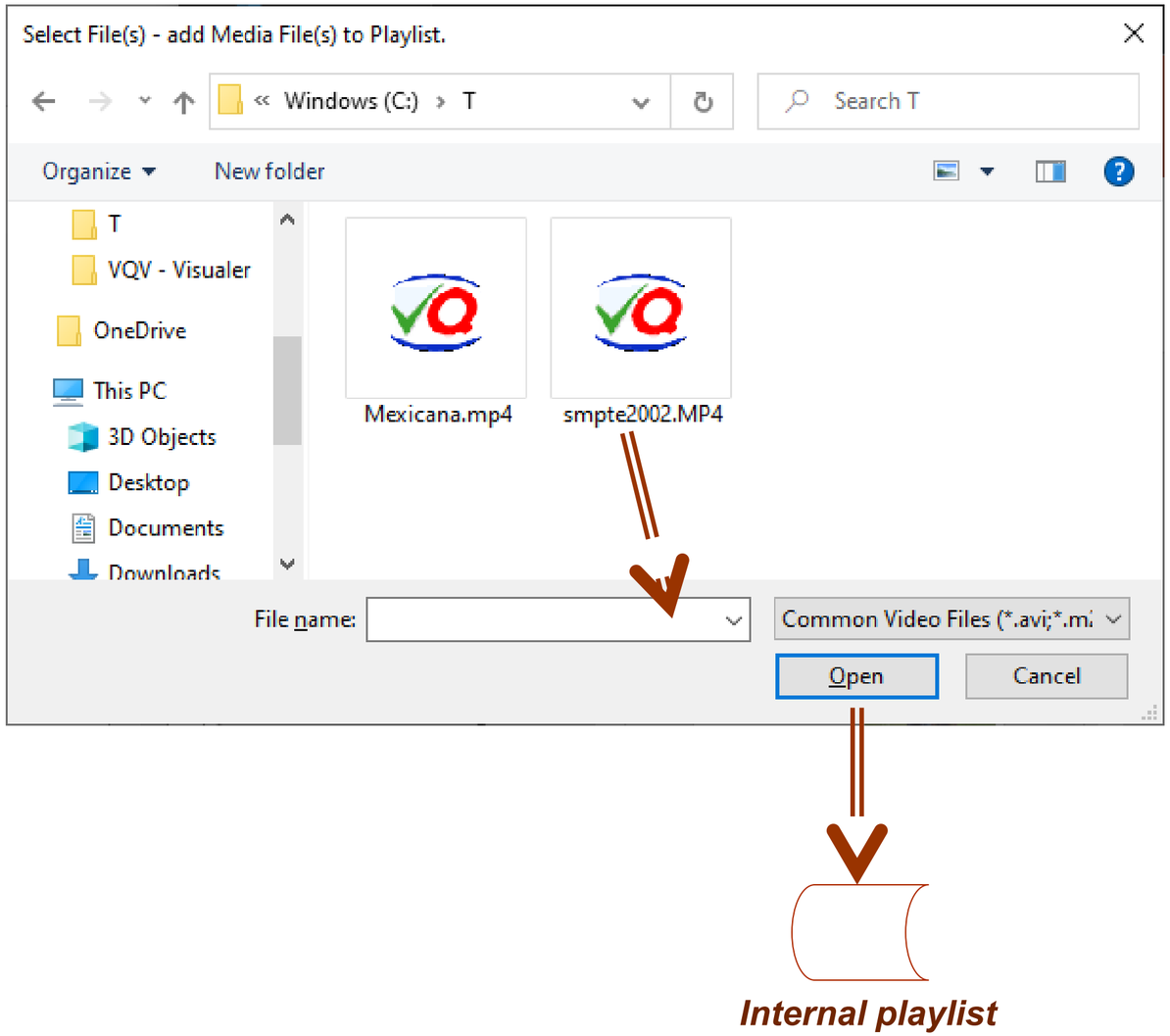


Then use **Ctrl+ y** to apply this selected value

3b ⟹

Numbered DPX files sequence sample – courtesy of Filmic Technologies, USA

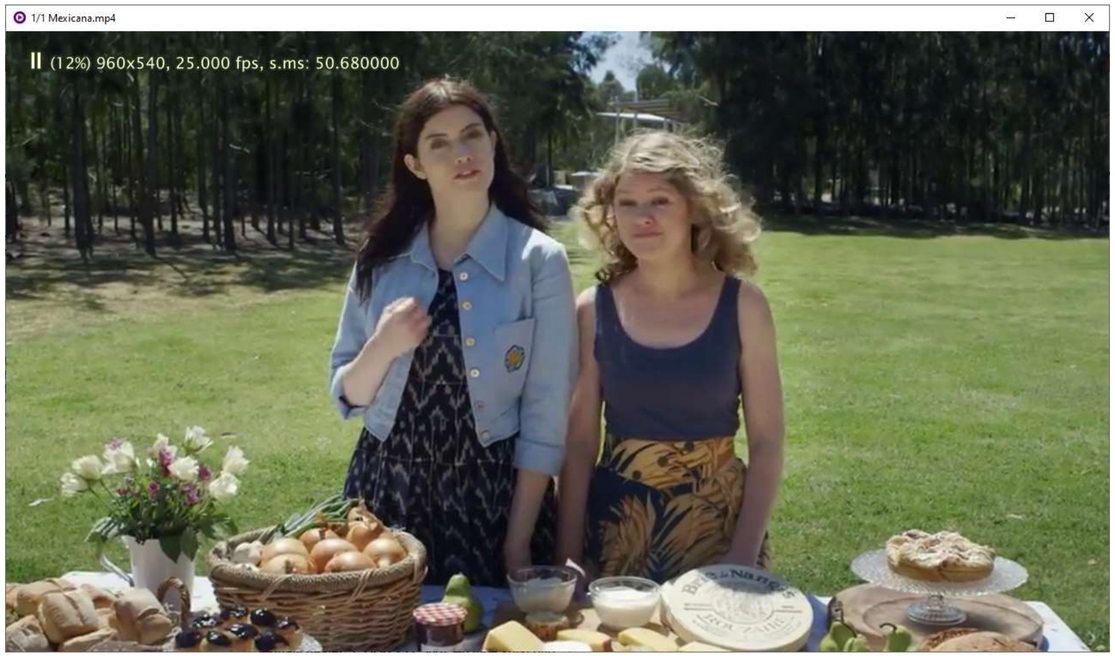
2.5 File Manager Controls 3



Internal playlist

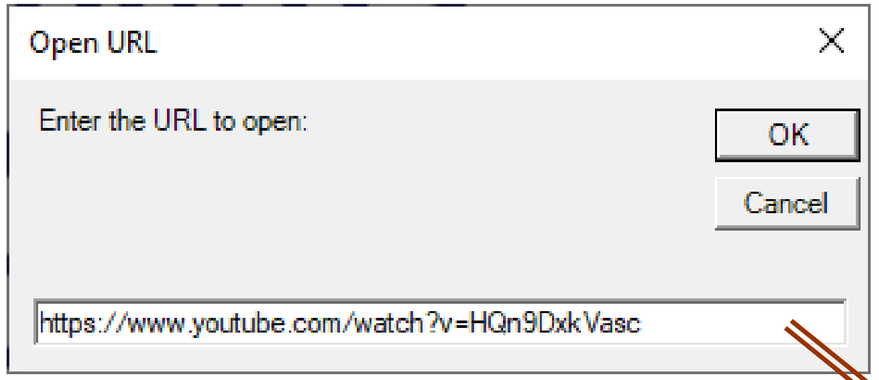
Ctrl+ a brings up Add File Dialog.
The selected "*smpte2002.MP4"* file will be ***appended*** to the **internal playlist table**.
Currently playing file will **continue to play**.

Note that the upper-case "Ctrl+ A" should not be used.



SDR sample video – courtesy of Kate McCartney & Kate McLennan, Australia

2.6 File Manager Controls 4



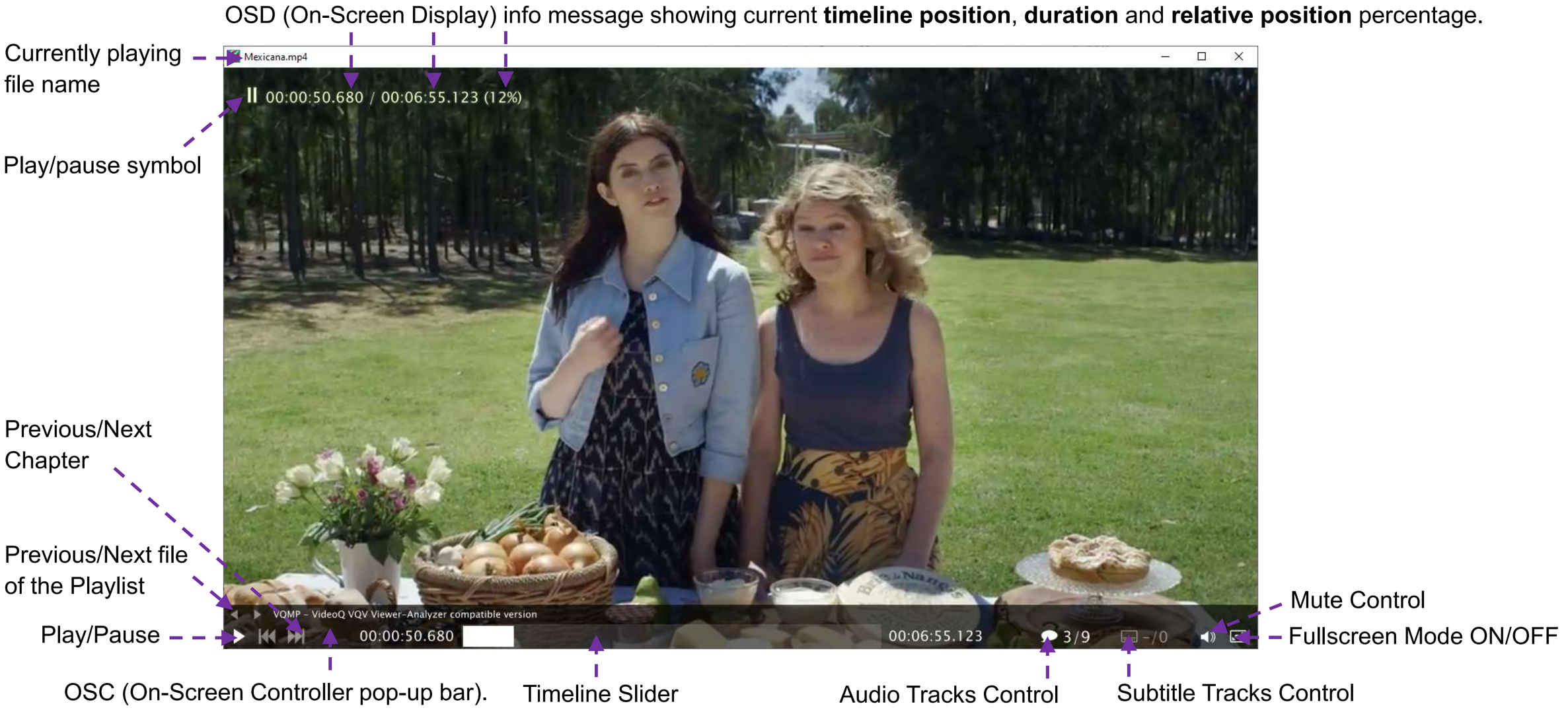
Ctrl+ u opens URL text edit box pop-up. Paste your URL into it.

Note that the upper-case "Ctrl+ U" should not be used.

Alt+ a opens **Add Subtitles File** dialog, the selected file will be **appended** to the **internal subtitles list table**.
Currently playing file will continue to play.

2.7 Classic Playout Controls

Use **Space** or **p** or **Mouse Middle Button** or ▶ symbol of OSC (On-Screen Controller pop-up bar) to toggle **pause/play**.
Use **q** or **Q** to quit and watch later: save timeline position and quit.



2.8 Recent Files Manager

Ctrl+ r toggles the **Recent Files List** overlay ON/OFF.
List size is unlimited, but the list is subdivided into pages, showing no more than 10 items at a time.

Use **Enter, Mouse Left Button** or digits **1** - **9**, or **0** to select the file from the list.

Use **Up/Down Arrows** or **Mouse Wheel** to scroll the list, one item at a time.
Use **PageUp/PageDown** to scroll the list, one page (10 items) at a time.
Del deletes item from the list, **Esc** switches list display OFF.

Note that Recent Files Manager and Playlist Manager are mutually exclusive.

*Thus, if **Playlist Files Manager** was used, then launch of **Recent Files Manager** will auto-reduce playlist to just one item - currently playing file.*

2.9 Playlist Manager 1

Ctrl+ p brings up the **Playlist** overlay. List size is unlimited, but the displayed section is limited by VQMP window size.

See next two slides for item selection types, playlist navigation, modification and saving options.

*Note that Recent Files Manager and Playlist Manager are **mutually exclusive**.*

*Thus, if **Playlist Files Manager** was used, then launch of **Recent Files Manager** will auto-reduce playlist to just one item - currently playing file.*

*You can select **multiple** media files in the Explorer and **drag-and-drop** them. In such case **new playlist** will be created, thus replacing the current list.*

In absence of user actions, playlist display will auto-hide after the preconfigured OSD delay, e.g. 4000ms.

2.10 Playlist Manager 2

If **URL media titles** are available, they are shown as **playlist items**, otherwise **file names** or **URLs** are displayed.

While the playlist is **displayed**, the following **selection** and **modification** controls are active:

Up/Down Arrows or **Mouse Wheel**:

- if no item selected: scroll the list -- move the cursor up/down with wrap-around at the list end
- for the selected item: move its position in the list with wrap-around at the list end

Left/Right Arrows or **Mouse Right Button** modify the **selection type** and list's bullet point **shape***:*

○ – default (any item, except the selected or playing item)

● – hovered item (the item that can be played or selected)

➔ – the selected item

▷ – item is currently playing, but not hovered, nor selected

▶ – the hovered item is currently playing

➤ – the selected file is currently playing

Enter or click **Mouse Left Button**: auto-select and play the item at the current cursor position

Del – deletes the **hovered** item from the list (selected or not selected).

2.11 Playlist Manager 3

If playlist count > 1, then the following dynamic keybindings are active:

High-lighted top row arrow *symbols within the OSC Bar indicate the* ***playlist count > 1****, i.e.* ***Playlist Mode ON****.*

Enter plays next item in the playlist

Playlist mode **ON**

< or **Ctrl+ ,** plays previous item in the playlist

> or **Ctrl+ .** plays next item in the playlist

Ctrl+ Backspace clears the playlist, except the currently playing file, i.e. playlist is **reduced** to the **currently playing item**

Playlist mode **OFF**

Ctrl+ P saves playlist in **.m3u** UTF-8 format.

Saved **playlist file name** is created **automatically** (*no file name edit dialog*).

Saving **location** is **fixed** (pre-defined folder): " **.\playlists** "; saved file can be renamed, copied or moved for further use.

Ctrl+ Del deletes playlist table **completely** and forces VQMP engine to display **start page**:

2.12 Playlist Manager 4

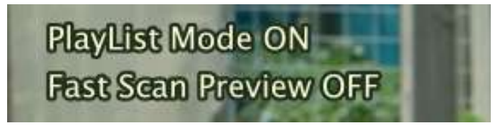
Ctrl+ l *(lower-case "L" key)* auto-updates or creates the **internal playlist table**, which can be saved later.

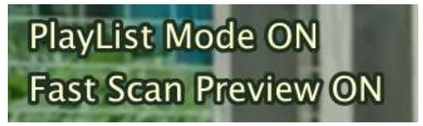
*VQMP will search the folder containing the **currently playing file** and append **all files** of **all supported formats** to the **playlist**.*

Besides regular playlist mode there is a special "**Playlist Scan Mode**".
By default, it is OFF.
In this mode each file is opened for just **12 seconds**, **AV Monitor** and **text messages** show its video and audio parameters.
This mode is handy for fast preview of large number of media files.

For example, to preview **all files in the folder** press **Ctrl+ l** (to create temporary volatile playlist), playout starts automatically.
At any moment press **Ctrl+ Backspace** to delete the temporary playlist and start detailed analysis of currently playing file.

Alt+ v switch Playlist Scan Mode ON
Ctrl+ v switch Playlist Scan Mode OFF





2.13 Timeline Navigation Controls 1

There are several ways to control the timeline position.

General Timeline Navigation Controls:

To **pause** and **seek** the desired **relative** position use the following shortcuts:

- **.** (*dot*) or **,** *(comma*) or **Mouse Wheel** **+/- 1 frame**
- **TAB** **+/- 1s**
- **Ctrl+ TAB** **+/- 10s**
- **PageUp/PageDown** **+/- 60s (1m)**
- **Shift+ PageUp/PageDown** **+/- 600s (10m)**

Alternatively, use the **slider strip** within the **OSC Bar** (*Note that clicking/dragging this slider does not force pause*).

In pause mode **dragging** the slider bar provides for handy **fast preview** of the visual content with **on-the-fly timecode display**.

*Note that the OSC Bar slider **precision** is limited to a few seconds; i.e. it is not enough for long duration file QA/QC purposes.*

Press **O** to cycle OSC Bar **visibility**: "auto" (*default*), "always", "never".

In auto-visibility mode OSC appears when mouse is in the bottom 25% of the video image.

2.14 Timeline Navigation Controls 2

Loop Controls:

l *(lower-case "L" key)* Set/clear **A-B Loop** points: 'Set A', 'Set B (AB Loop Mode active)', 'Clear A&B'

L Toggle **File Loop** playout mode: "**inf**" (default, except the playlist mode) or "**no**"

Note that in regular playlist mode selecting "inf" prevents jumping to next playlist file after previous file ends.

Chapter Navigation Controls:

Ctrl+ PageUp/PageDown Next / previous chapter

*Click on **double-arrow symbol** within the OSC Bar to see chapter list overlay. If currently playing file **metadata** include **chapter list**, then these symbols are **activated** (highlighted) and chapter markers (small white triangles) added to the slider bar.*

Bookmark Manager Controls:

User can store and recall up to 4 **permanent bookmarks** (store, see and recall **file path** and **timeline position**).

Ctrl+ 1,2,3,4 Set (store) bookmark #1,#2,#3,#4

Ctrl+Alt+ 1,2,3,4 Recall (load) bookmark #1,#2,#3,#4

Ctrl+Alt+0 Peek (preview) all 4 bookmarks: #1,#2,#3,#4

Peek here means display the media title/filename/URL and seek position saved in the bookmark slot(s).

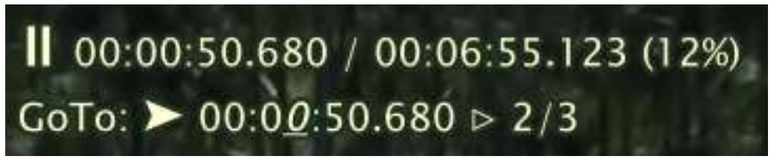
Ctrl+Shift+ Backspace Set one **"revert-seek" mark**

*This is the **single volatile bookmark**, i.e. the timeline position for revert-seek, valid only for the currently playing file.*

Shift+ Backspace Toggle between the "revert-seek" marked position and last used timeline position.

2.15 GoTo Manager Controls

g Toggle editable ‘GoTo’ **timecode string** overlay ON/OFF



b Store **current timeline position** as GoTo record (volatile bookmark)

GoTo Manager dynamic keybindings:

Left/Right Arrows	Move to previous/next digit position (*underline italic*)
0 - 9	Enter current digit and move right to next digit
Backspace	Clear current digit (set 0), then go left to previous digit
Up/Down Arrows	Scroll through the **GoTo history**, numbers after ▷ symbol show **current record / record count**
Esc	Cancel current timecode string editing and remove the overlay
Enter	Seek to the displayed **absolute** timeline position

*GoTo Manager **history list** size is practically unlimited, and it can be used for setting up very handy **editable volatile bookmarks,** valid across **multiple** media files, e.g. Recent Files, but they are valid only whilst the VQMP instance is running.*

2.16 Window Controls

General Window Controls:

f, F or **Mouse Double Click**	Toggle full screen mode ON/OFF
Esc	Switch full screen mode OFF

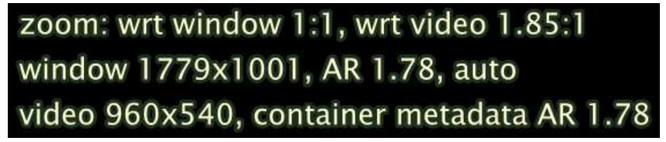
T	Toggle VQMP window staying on top of other windows, default value is “no”
Ctrl+ N	Create new VQMP instance with empty playlist (new start page)
Ctrl+ R	Re-open (close and open the same file)

Ctrl+ A	Cycle the rendered video **aspect ratios**: "16:9", "1.85", "2.0", "2.2", "2.35", "2.39", "4:3“, "-1", "no" *"-1" means the container/stream metadata aspect ratio, i.e. “auto mode”,* *"no" means that aspect ratio defaults to unscaled video width/height, i.e. "square pixels mode“.*
Ctrl+Alt+ a	Toggle the aspect ratio **metadata source**: **container/stream**

Window Size Controls:

*Except full screen mode, **active video image always fits the VQMP window boundaries**, thus window size controls indirectly change **window scaling** and **zoom factor** with reference to the **original video frame size**.*

Shift+ Up/Down Arrows,
or **Shift+ Mouse Wheel**



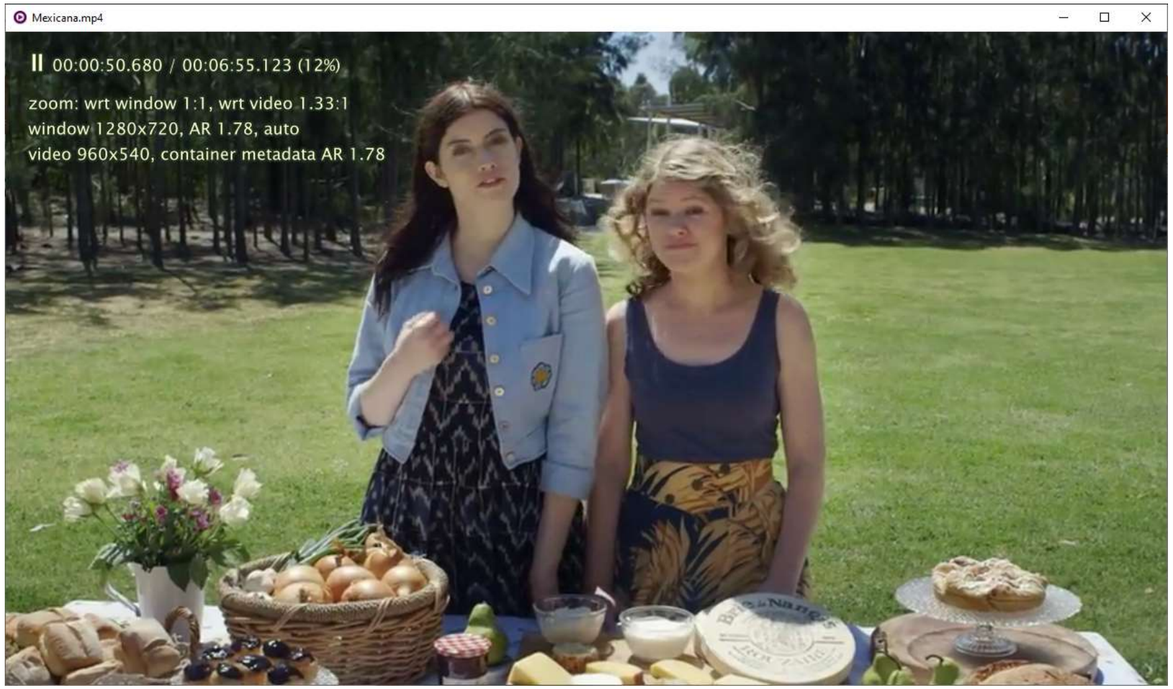
Enlarge/shrink VQMP window and automatically brings up info text message.
F9 only brings up text message overlay showing window size, video size, and zoom values
Max window size is limited by display screen size, min window height = 480 pixels.
*You can use **mouse dragging** for classic OS window size/position change **without any restrictions**, but it will be hard to control and monitor scaling and zoom values.*

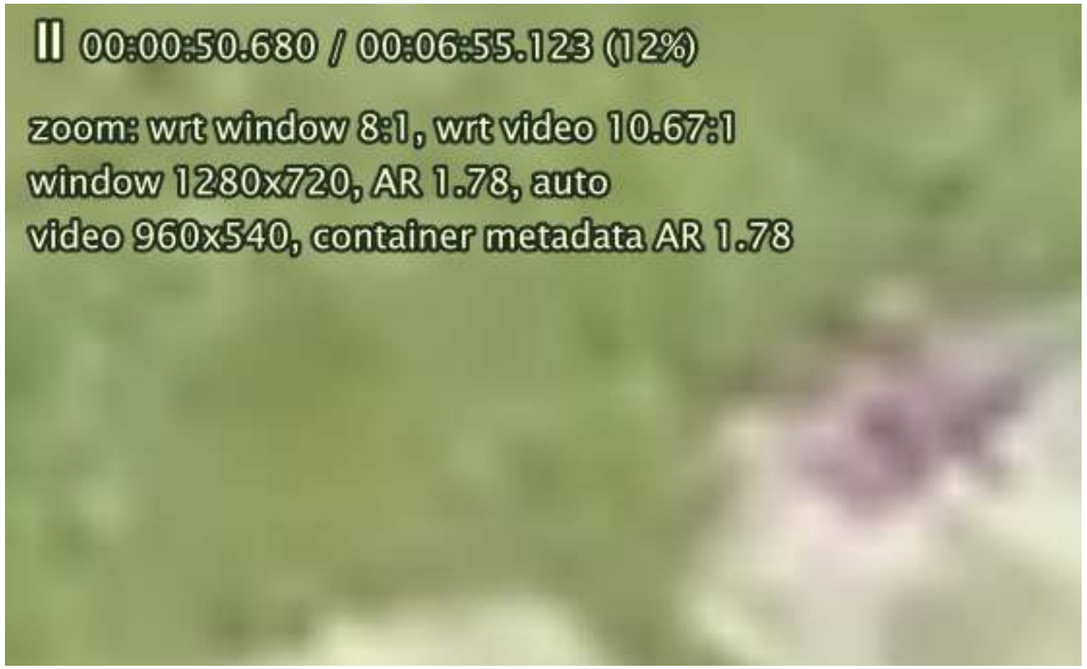
w, W, Ctrl+ w Reset all window size & zoom related parameters to auto-calculated “optimal” values

2.17 Zoom and Pan Controls

*The controls listed below affect only **active video image**, window size remains **unchanged**.*
*Note that the "**smart limits**" of the Zoom and Pan controls depend on **video frame size** and **current window size**.*

Alt+ Up/Down Arrows	Increase/decrease zoom factor: 1:1, 2:1, 4:1, 8:1, 16:1 (you can also use **Alt+ Mouse Wheel**)
z, Z, Ctrl+ z	Reset video zoom & pan controls
Ctrl+ Left/Right Arrows	Move (H pan) visible image within the window
Ctrl+ Up/Down Arrows	Move (V pan) visible image within the window
F9	Show window size, video size, and zoom values.





2.18 On-screen Display (OSD) Controls

t or **Mouse Right Button** Cycle osd-level 0, 1, 2 (*default*), 3 to control the content of the topmost OSD message line

osd-level **0:** Time-line messages OFF (thus showing "clean video image")
osd-level **1**: Current timecode / duration timecode (*minimalistic mode*)
osd-level **2**: Maximum of current and full duration details
osd-level **3**: Same as Level 2, but without bitrate information

After each change of level, the **2nd message line** appears for short time.
It shows: AV container, frame size, frame rate and other relevant AV parameters.

Selection of **osd-level 0** means that not only the topmost line, but nearly all osd messages will be hidden:
Important note: VQMP scripts may override this control by forcing the pre-defined osd-level: 1, 2 or 3.

o, **P** Short time display of **progress bar** (absolute time position) overlay

i **Short time display** of **status info** page (aka "stats") overlay
I Toggle **permanent display** of **status info** page (aka "stats")
*While in "stats" mode **1**, **2**, **3**, **4** keys can be used to browse 4 info pages*

F6 Short time display of **path + filename** or **URL**
F7 Short time display of **media-title** (e.g., of URL) or **filename**
F8 Short time display of video/audio/sub **tracks list**
with language and short description tags – if available
F9 Short time display of **window/zoom parameters**
F10 Cycle the osd duration, s: 2, 4, 6 (*default*), 8, 10, 12 (*shown in ms*)

2.19 Other Controls 1

Sound Volume Controls:

m or **Alt+ Mouse Middle Button**	Toggle **mute** ON/OFF *Default value of Mute control is OFF (reset for each new file opened)*
0 / **9** or **Ctrl+ Mouse Wheel**	Increase/decrease **volume** *Default volume value is 50% (reset for each new file opened)*

Playout Speed Controls:

] or **Ctrl+Alt+ f**	Increase **speed**: .05, .15, .3, .5, 1, 2, 3, 4, 10, 20	*Note that **audio** rendering is possible only*
[or **Ctrl+Alt+ s**	Decrease **speed**: 20, 10, 4, 3, 2, 1, .5, .3, .15, .05	*for speed values from **0.3** to **4***
{ / **}**	Set play direction **backward / forward**	
Backspace	Reset speed controls to default values: speed = 1, play direction = forward	

Video Image Controls:

2 / **1**	Increase/decrease **contrast**
4 / **3**	Increase/decrease **brightness**
6 / **5**	Increase/decrease **gamma**
8 / **7**	Increase/decrease **color saturation**

Alt+ s	Select **BT.601** (SD) color matrix	**Alt+ n**	Select video data **Narrow Range** (YUV input data default)
Alt+ h	Select **BT.709** (HD) color matrix	**Alt+ f**	Select video data **Full Range** (RGB input data default)
Alt+ u	Select **BT.2020** (UHD) color matrix		

*By default, color matrix, video data range and dynamic range mode (SDR, HDR-PQ, HDR-HLG) selection is **automatic**.*

2.20 Other Controls 2

Video/Audio/Subtitles Track Selection Controls:

a	Cycle through **audio tracks**
v	Cycle through **video tracks**
s, **j**	Cycle through **subtitles tracks**
J	Cycle through **subtitles tracks** backwards

Subtitle Controls:

Ctrl+Alt+ Left/Right Arrow pause and go to previous/next **subtitle position**

Note that going to previous/next pre-fetched subtitle position also changes video and audio timeline positions.

S	Cycle subtitles **scale** (size): 1. (default) 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, .5, .6, .7, .8, .9
r / **R**	Move subtitles **up/down**

Misc. Controls:

= or **Shift+ Mouse Middle Button** **Reset** all AV control values: (video, audio, subtitles, speed)

F1 Open the comprehensive **VQMP help document** (vqmp_help.chm) in standard Windows .CHM format

You can save JPG screenshots in the pre-defined " **.\screenshots** " directory:

Ctrl+ s	Save **scaled video screenshot** with subtitles and OSD
Ctrl+ S	Save **unscaled video screenshot** without subtitles and majority of OSD messages

TOC3 ⇐ Click on **TOC3** for the **Section 3 TOC**

3. Audio-Video Monitor

TOC3

3.1 AV Monitor Modes

Press **Alt+ 1 | 2 | 3 | 4** to **pre-select** or **select** the corresponding **AV Monitor Mode**.

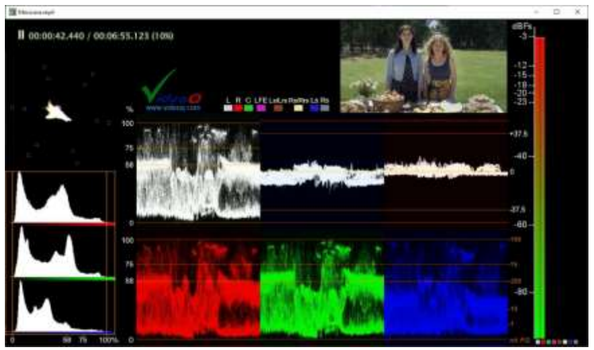
Mode 1

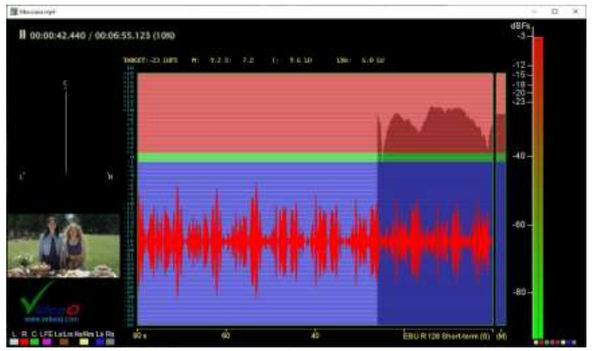
Mode 2

Mode 3

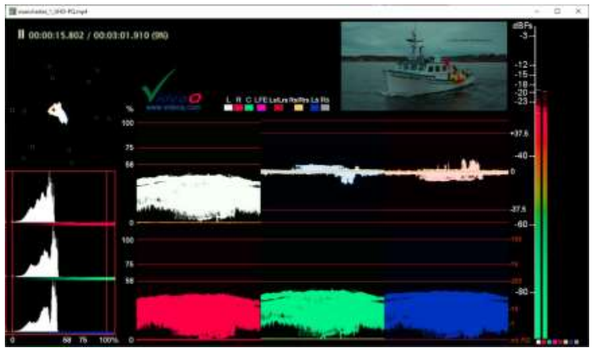
Mode 4

SDR Content





HDR-PQ Content



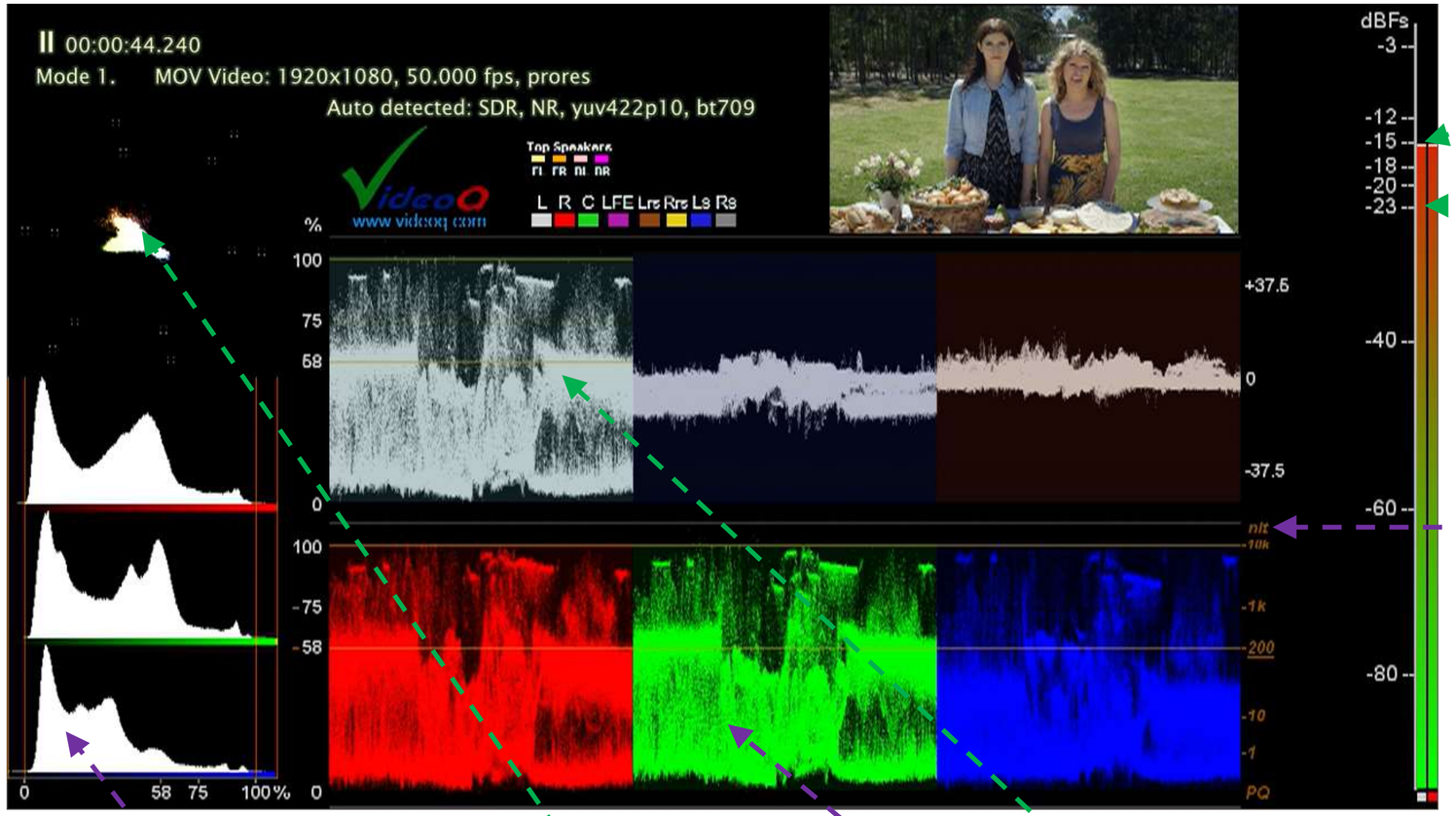
Video tools: ***UV VectorScope, RGB Histograms, YUV Waveforms, RGB Waveforms***

Audio tools: ***Level Meter, VectorScope, Frequency Spectrum, EBU R128 Monitor***

See next slides for more details about AV Monitor features and modes.

3.2 AV Monitor Mode 1

Press **Alt+ 0** to switch **AV Monitor** ON, **Esc** to switch it OFF, or **Ctrl+ Mouse Middle Button** to toggle **AV Monitor** ON/OFF



Press **Alt+ 1** to select the **AV Monitor Mode 1**

Audio Peak Markers

Log scale (dBFs) **Audio Level Meter**.

*Note that the meter area **width** auto-expands depending on the **number of audio channels**.*

HDR-PQ Light Levels Scale
values in **nits** *(cd/sq.m)*

The scheme below shows short codenames and color tags of audio channels.

*This color scheme is also used for audio waveforms – **Z order** of channel **overlays**.*

RGB NR/FR **Histograms**

UV **VectorScope**

YUV NR/FR **Waveforms**

RGB NR/FR **Waveforms**

Extra color tags used for **5.1.4** and **7.1.4** formats

Alt+ n | Alt+ f switches between video data **Narrow | Full Range**

2.0, **5.1**, **7.1** **Audio Formats**: **Channels Order** and **Color Scheme**

3.3 AV Monitor Mode 2

Press **Alt+ 0** to switch **AV Monitor** ON, **Esc** to switch it OFF, or **Ctrl+ Mouse Middle Button** to toggle **AV Monitor** ON/OFF

Large slightly down-scaled video image

Press **Alt+ 2** to select the **AV Monitor Mode 2**

Audio VectorScope

Audio Frequency Spectrum

Audio Level Meter

EBU R 128 Meter loudness values:

M – momentary

S – short-term

I – integrated

LRA – range

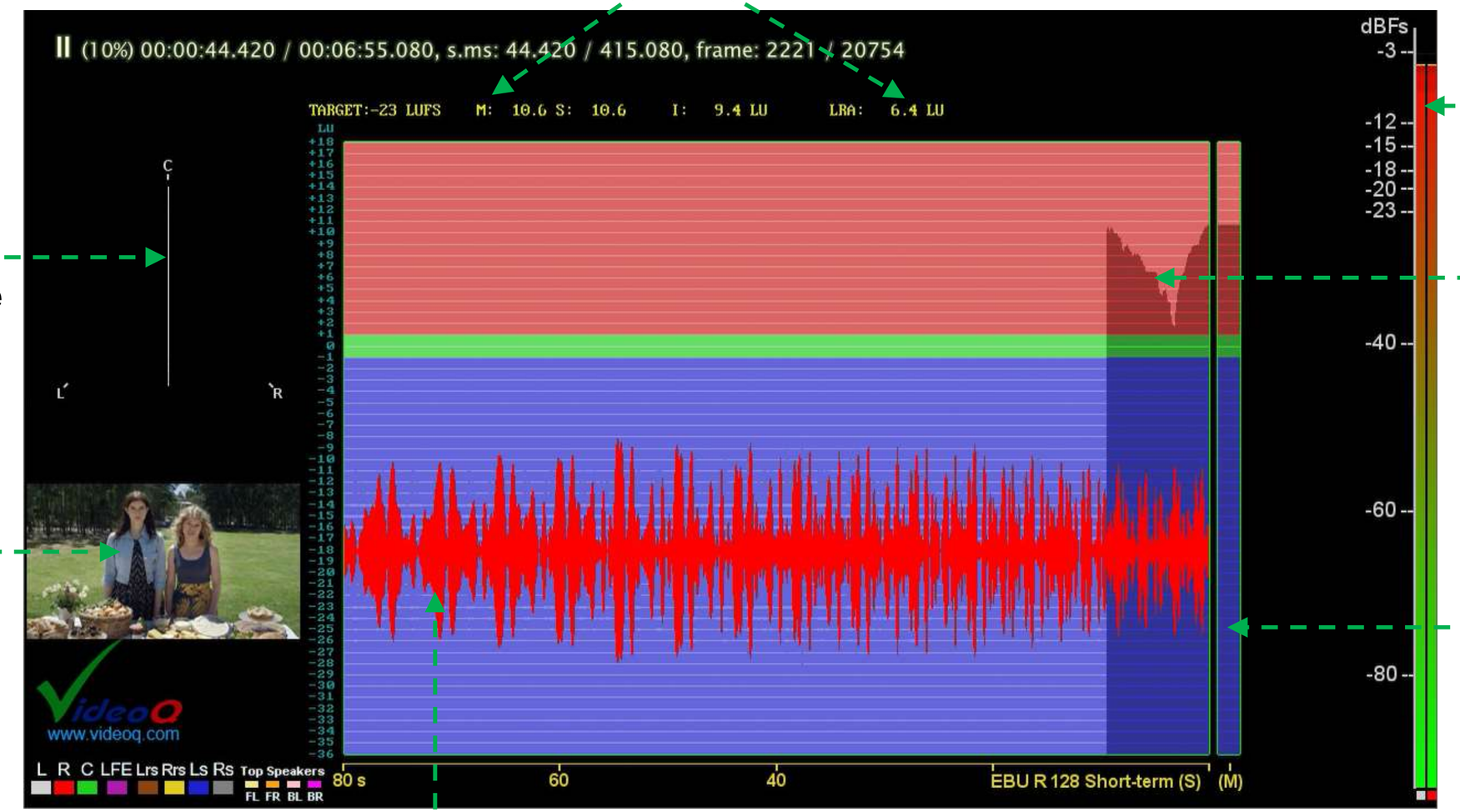
Audio Waveform Monitor

3.4 AV Monitor Mode 3

Press **Alt+ 0** to switch **AV Monitor** ON, **Esc** to switch it OFF, or **Ctrl+ Mouse Middle Button** to toggle **AV Monitor** ON/OFF

EBU R 128 Meter loudness values (**M**, **S**, **I** and **LRA**)

Press **Alt+ 3** to select the **AV Monitor Mode 3**



Audio VectorScope

Small Video Image

Audio Level Meter

EBU R 128 Short-term (S) Loudness Profile: *80s history log since the last-used seek position*

EBU R 128 Momentary (M) Loudness Bargraph

Audio Waveform Monitor

3.5 AV Monitor Mode 4

Press **Alt+ 0** to switch **AV Monitor** ON, **Esc** to switch it OFF, or **Ctrl+ Mouse Middle Button** to toggle **AV Monitor** ON/OFF

For **video files with internal or external audio streams**
AV Monitor Mode 4 is the **default mode** for each new file opened.

In **any** AV Monitor Mode (*including OFF*):
Press **Alt+ 4** to select the **AV Monitor Mode 4**

Audio Level Meter

Semi-transparent dark background band

Full size video image

3.6 AV Monitor Controls 1

For video files with internal or external audio streams:

Alt+ 0	Switch AV Monitor ON
Ctrl+ Mouse Middle Button	Toggle AV Monitor ON/OFF
Alt+ 1 | 2 | 3 | 4	Pre-select or select one of 4 Modes
M	Cycle thru AV Monitor Modes 1,2,3,4:
ESC (dynamic keybinding)	Switch AV Monitor OFF

For video only files without internal or external audio streams:

*Note that in this case, you can only switch the AV Monitor **Mode 1** ON/OFF, using the keys shown above. Audio Levels Meter is not shown (hidden).*

3.7 AV Monitor Controls 2

For audio files

*Note that for **audio files** AV Monitor is **always enabled**,*

*you can only **switch** between **2 special modes**.*

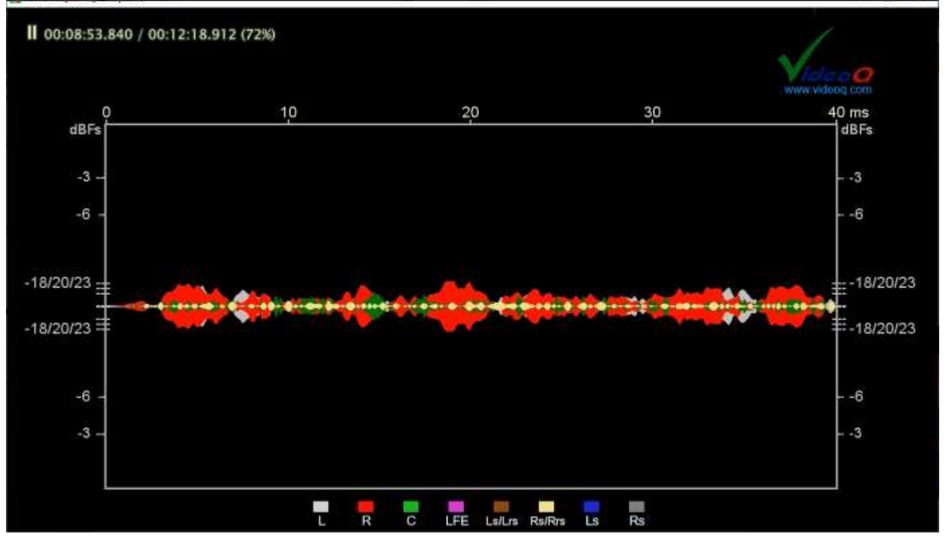
M or **Ctrl+ Mouse Middle Button** toggles between 2 modes:

- **AV Monitor Mode 3a**

  This mode is **auto-ON** for each new audio file opened.

- **Large Audio Waveform Monitor**

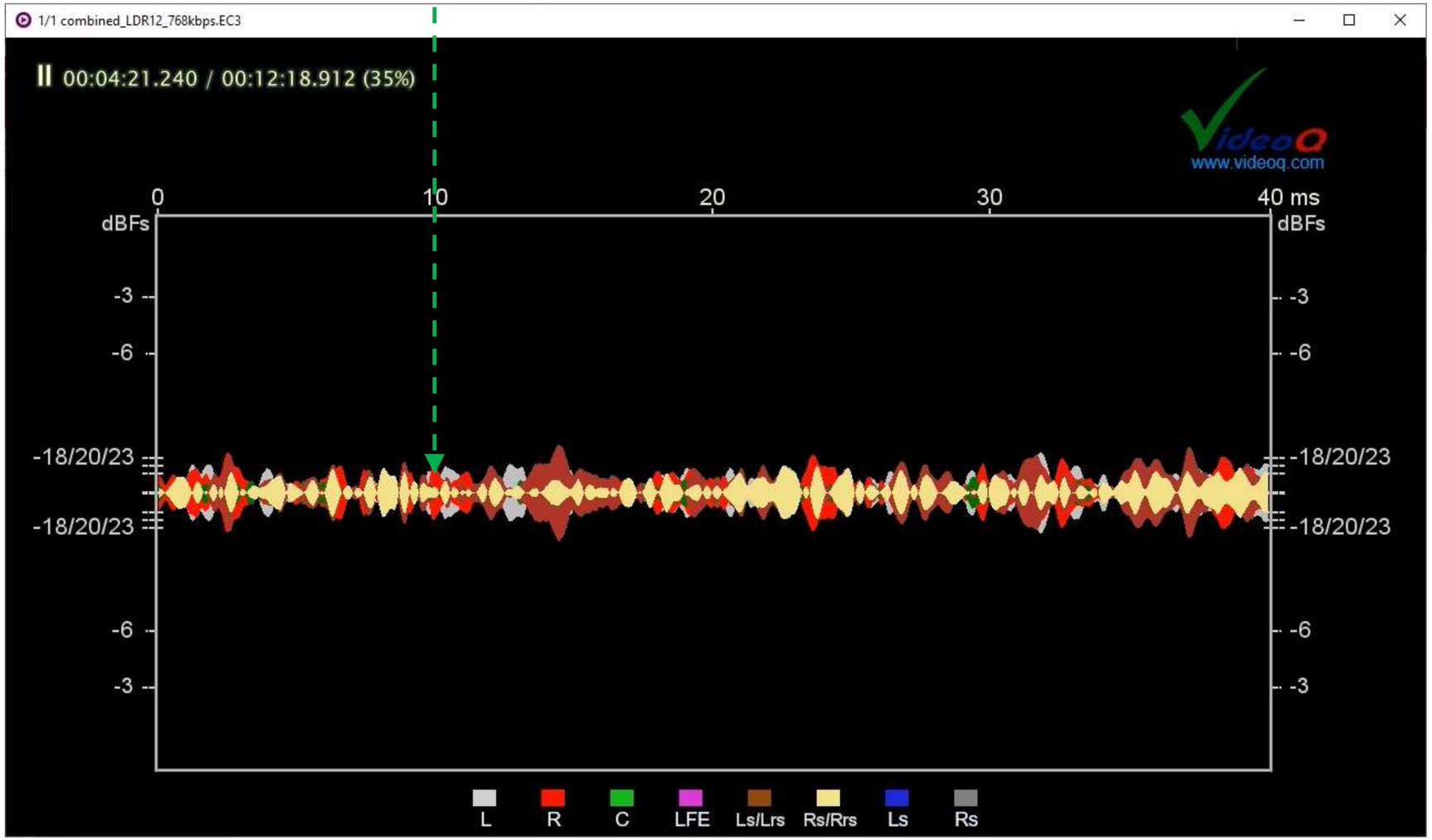
  (special mode available only for audio files)



3.8 Audio Waveform Monitor Example

If input is an **audio file**, press **M** to toggle between Advanced Audio Monitor and Audio Waveform Monitor modes.

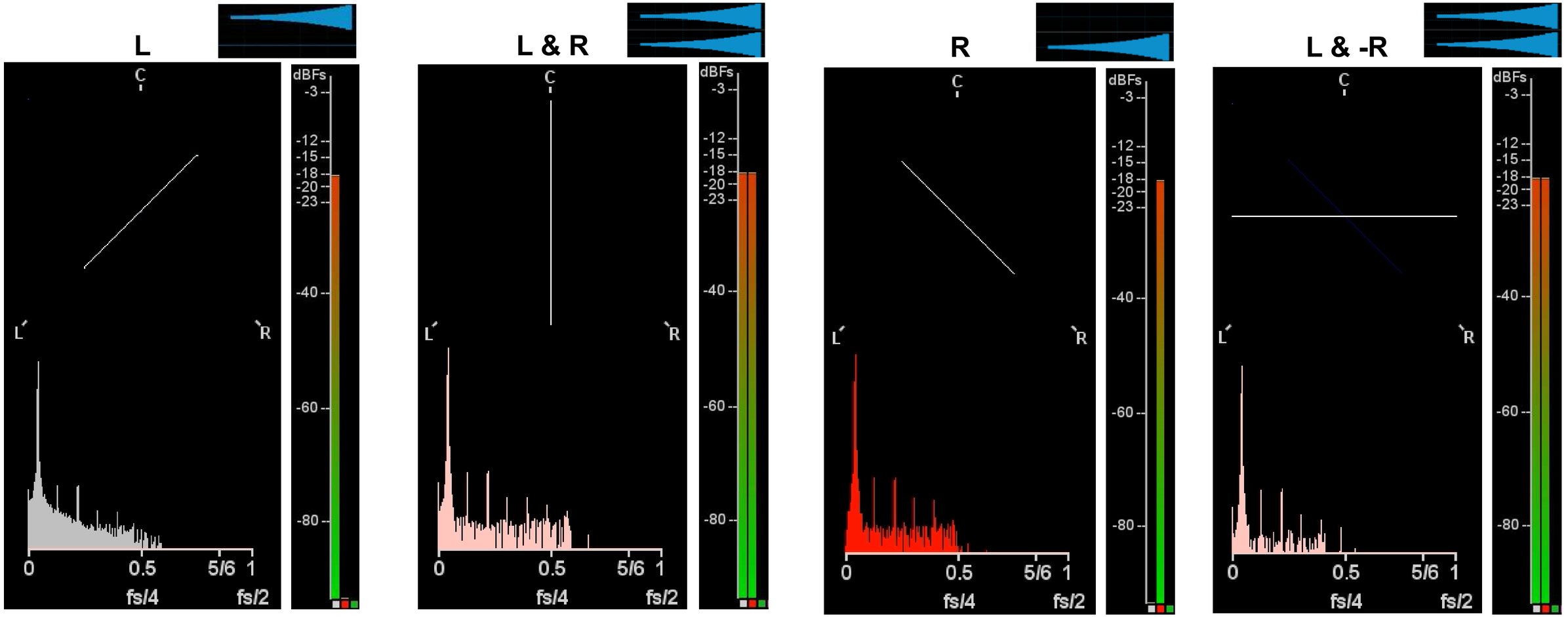
In this example **Waveform Monitor** shows that all 5.1 audio channel colors **are different**. *Looks like good professional job*.



3.9 Audio VectorScope Usage Examples

VideoQ Audio Test #2: 1kHz tone, various levels and phases combinations: **L**, **L & R** (same phase), **R**, **L & -R** (anti-phase)

VectorScope Lissajous figures clearly show relative (L vs R) phases.
Level Meter and **Spectrum** color provides visual hints of active channels.



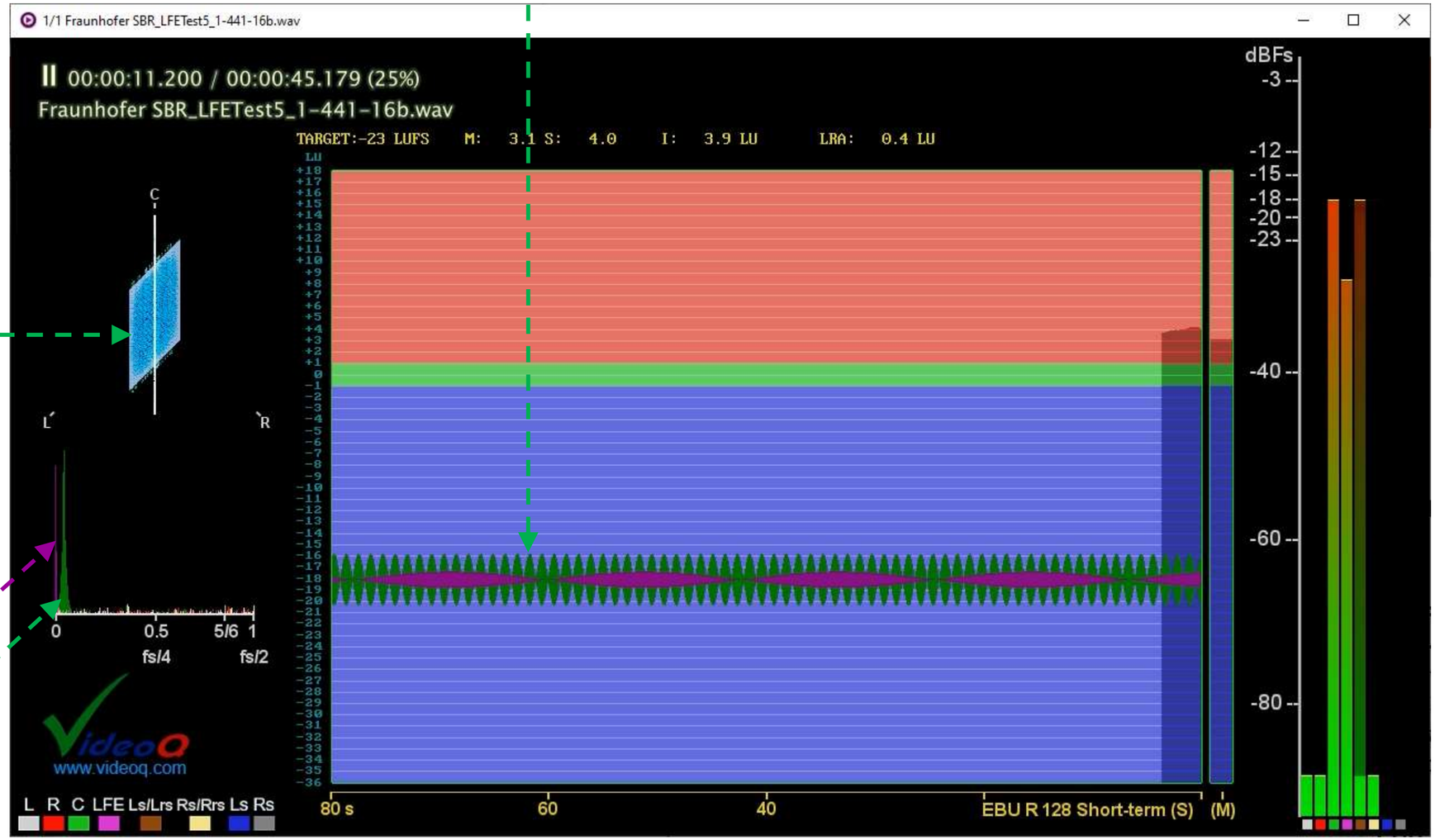
3.10 Advanced Audio Monitor Usage Example 1

Audio codec test: 5.1 channels, 2 tone frequencies, 2 levels

Frequency Spectrum and **Waveform Monitor** both show that the first tone has a lower frequency and level.

VectorScope
Lissajous figure
shows tone frequencies relationship:
'*non-integer ratio*'

Frequency Spectrum
shows 2 tones:
- 1st tone (LFE)
- 2nd tone (Center)



3.11 Advanced Audio Monitor Usage Example 2

Professional audio track: 5.1 ATMOS

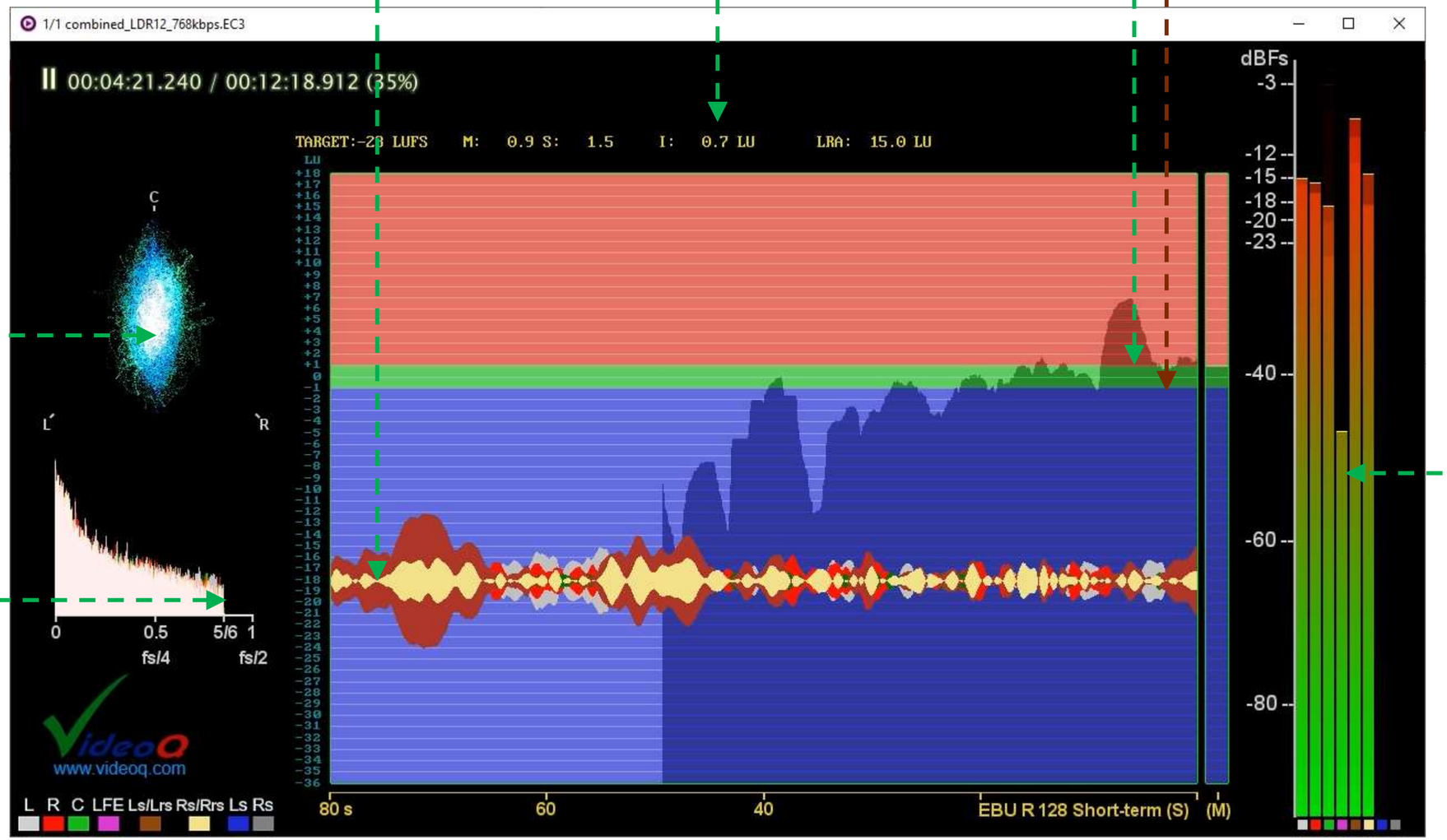
Waveform Monitor shows that all **6 channels** are in use (*6 different colors*)

EBU R 128 Integrated Loudness is **within +/- 1 LU** limits

VectorScope shows **wide** and **balanced** surround sound image

Frequency Spectrum shows **full 20kHz** audio bandwidth

Audio file metadata:
***fs** = **48kHz**.*
*(fs/2) x 5/6 = **20kHz.***



Level Meter shows that all **6 channels** are in use.

3.12 Advanced Audio Monitor Usage Example 3

Relatively low quality audio track: dual-mono (not real stereo sound), reduced bandwidth, levels are far too high.

8.5 LU Integrated Loudness is **much higher** than + 1 LU limit

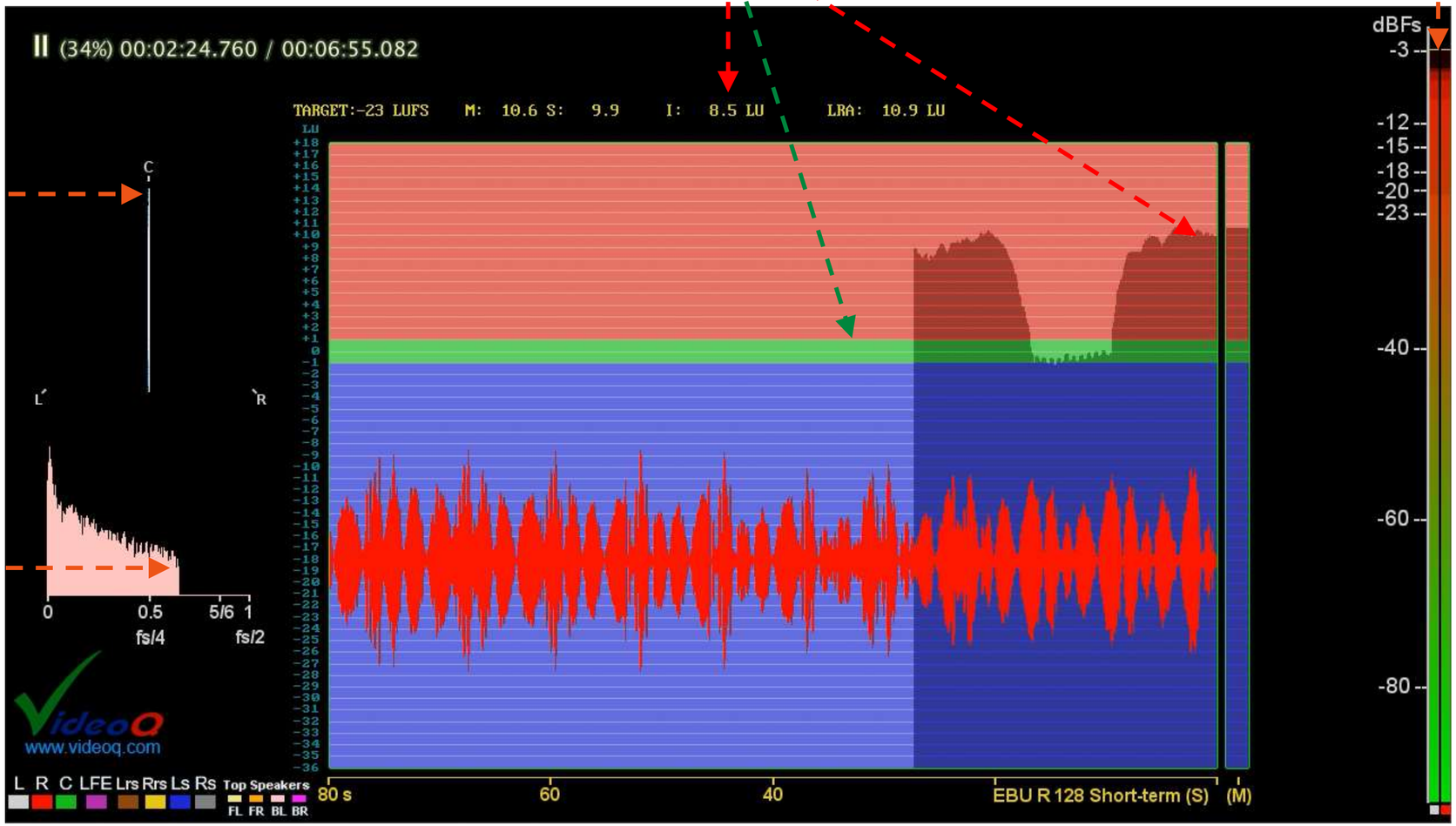
Level Meter shows dangerously **high peaks**.

VectorScope shows **center line** **dual-mono** L = R:

Frequency Spectrum shows **reduced** audio bandwidth (~ **15kHz**)

(48/2) x 5/6 = 20kHz,
(48/2) x 0.5 = 12kHz

Spectrum color** is **pink** because L & R channels are **identical



4. About VideoQ

Customers & Partners

Company History

- Founded in 2005
- Formed by an Engineering Awards winning team sharing between them decades of global video technology.
- VideoQ is a renown player in calibration and benchmarking of Video Processors, Transcoders and Displays, providing tools and technologies instantly revealing artifacts, problems and deficiencies, thus raising the bar in productivity and video quality experience.
- VideoQ products and services cover all aspects of video processing and quality assurance - from visual picture quality estimation and quality control to fully automated processing, utilizing advanced VideoQ algorithms and robotic video quality analyzers, including latest UHD and HDR developments.

Operations

- Headquarters in CA, USA
- Software developers in Silicon Valley and worldwide
- Distributors and partners in several countries
- Sales & support offices in USA, UK