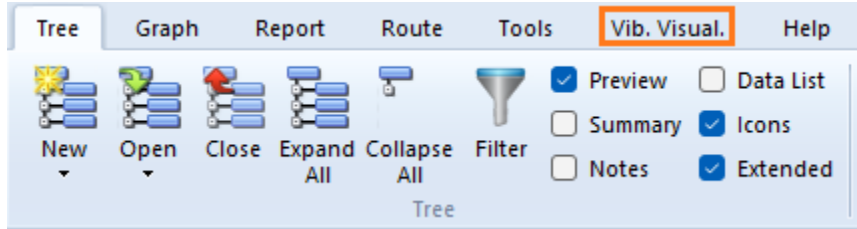


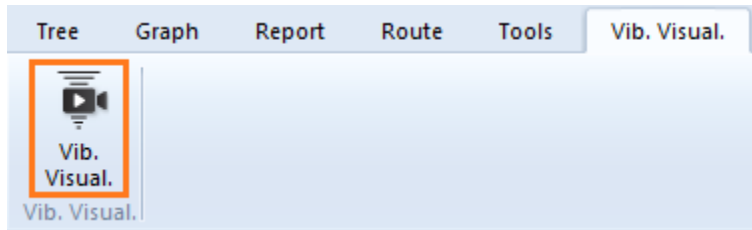
Vib. Visualization Tab

Vibration Visualization is used to show the vibrations of a machine in a video recording.

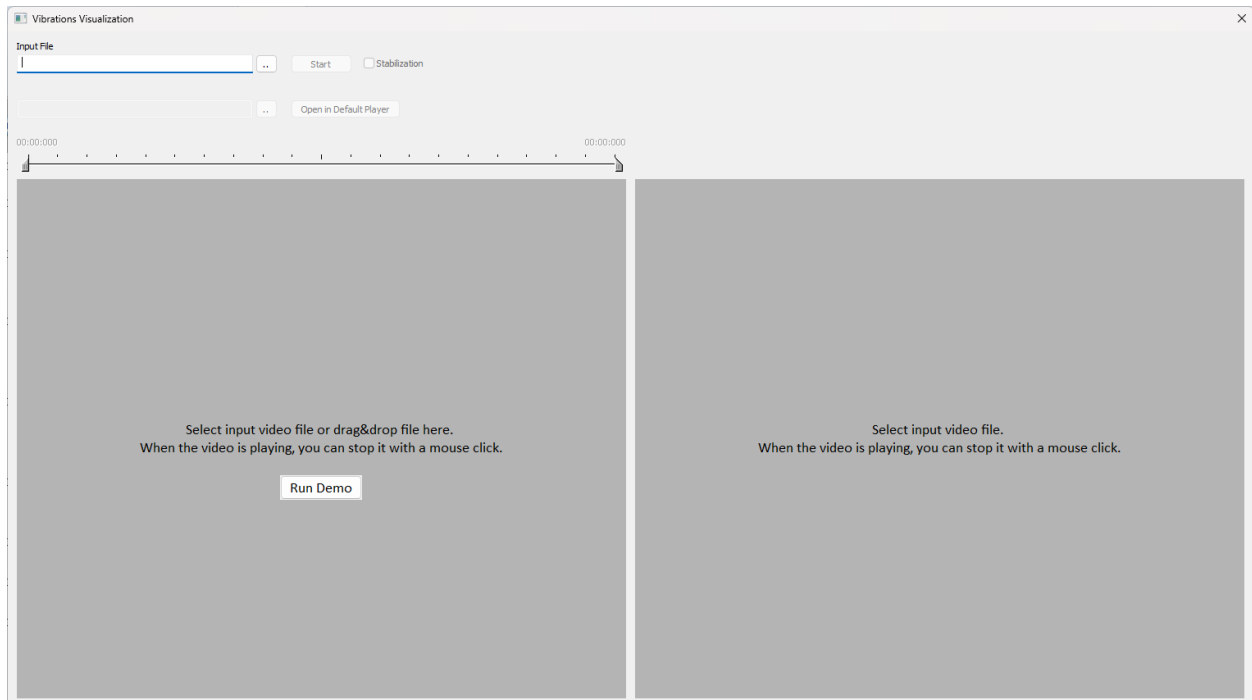
The Vibration Visualization tab is located in the Main Menu.



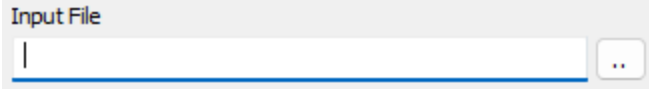
Vib. Visual. section



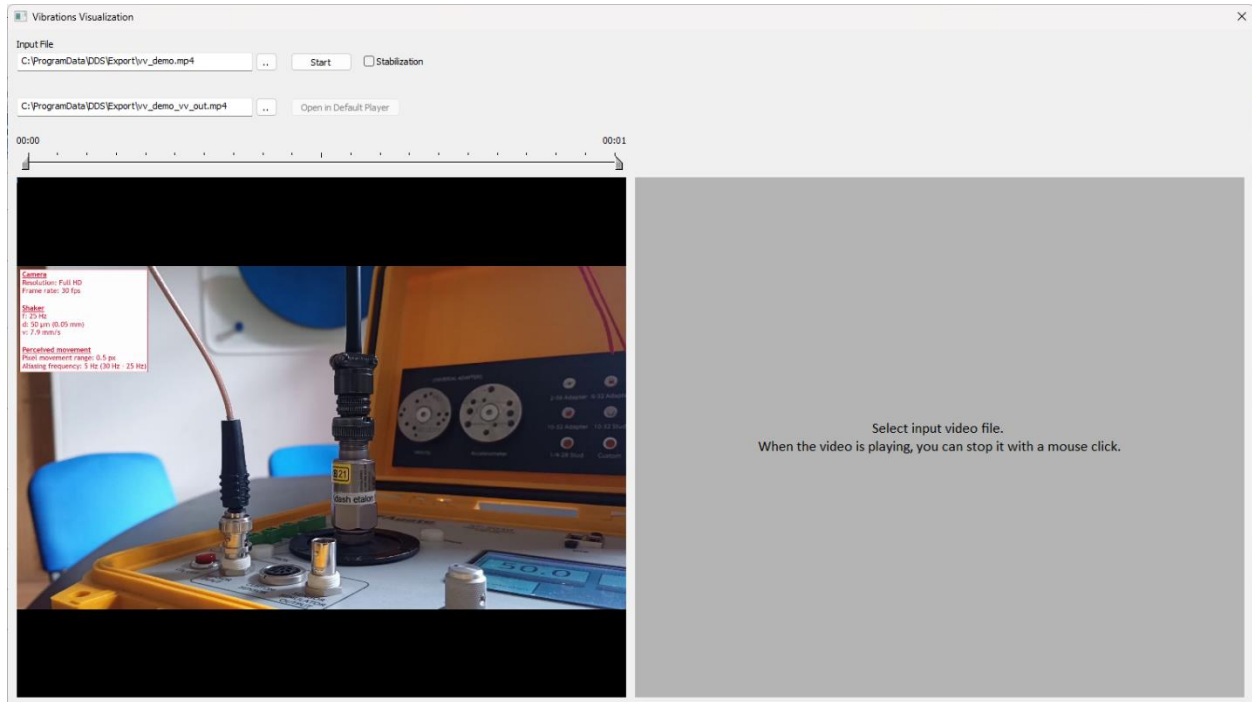
Click the Vib. Visualization icon in the section to open the Vibration Visualization window:



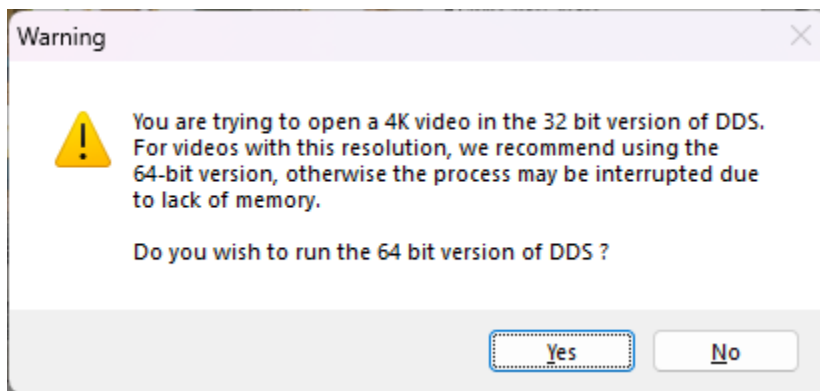
Drag and drop a video file anywhere in the left panel or enter a path to the file manually:



DDS includes a demo video for vibration visualization. The Run Demo button in the middle of the left panel opens it.

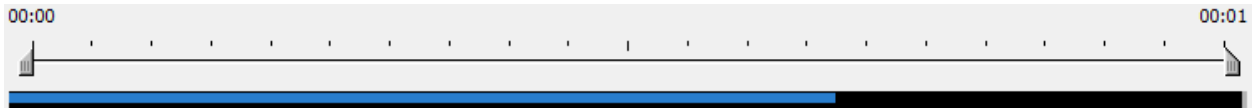


Selecting a video or opening the demo will display it in the left panel. If you are using the 32bit version of DDS and try to open a high-resolution video, this warning will appear:



Just click Yes and run the 64-bit version of DDS.

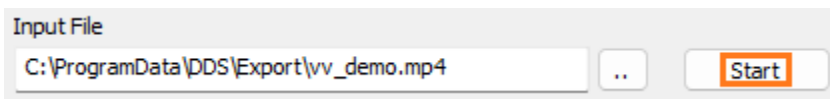
The video is played or paused by clicking anywhere in the left panel. A blue bar indicates that the video is playing. It will be played in a loop.



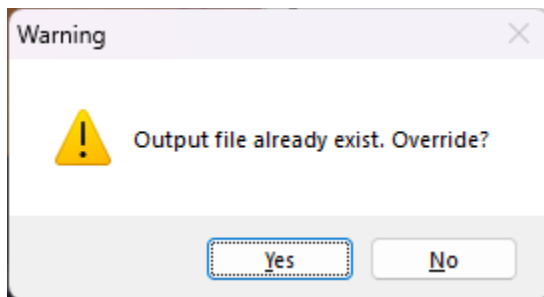
The length of the output video can be manually adjusted by dragging the markers to the desired position. They indicate which part of the input video will be used for vibration visualization.



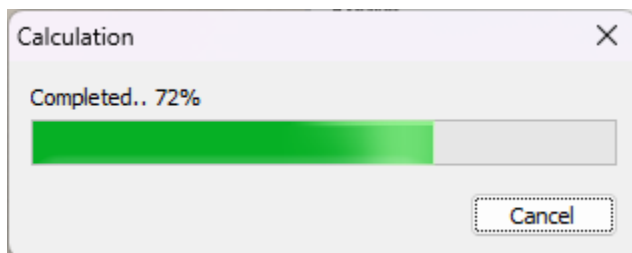
The Vibration Visualization process is then initialized by clicking the Start button in the upper part of the Vibration Visualization window.



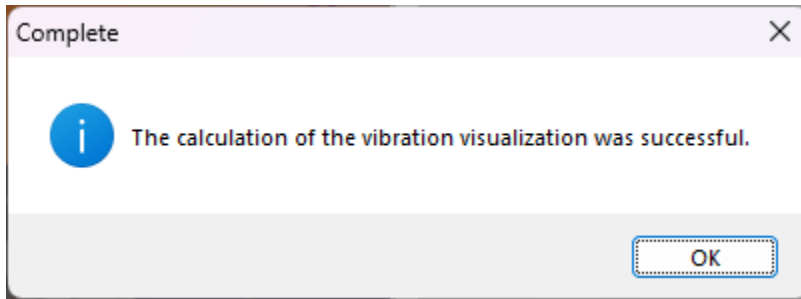
The output file has the suffix `_vv_out` in its filename. The default location is the same as for the input video. If the output video already exists, this question appears:



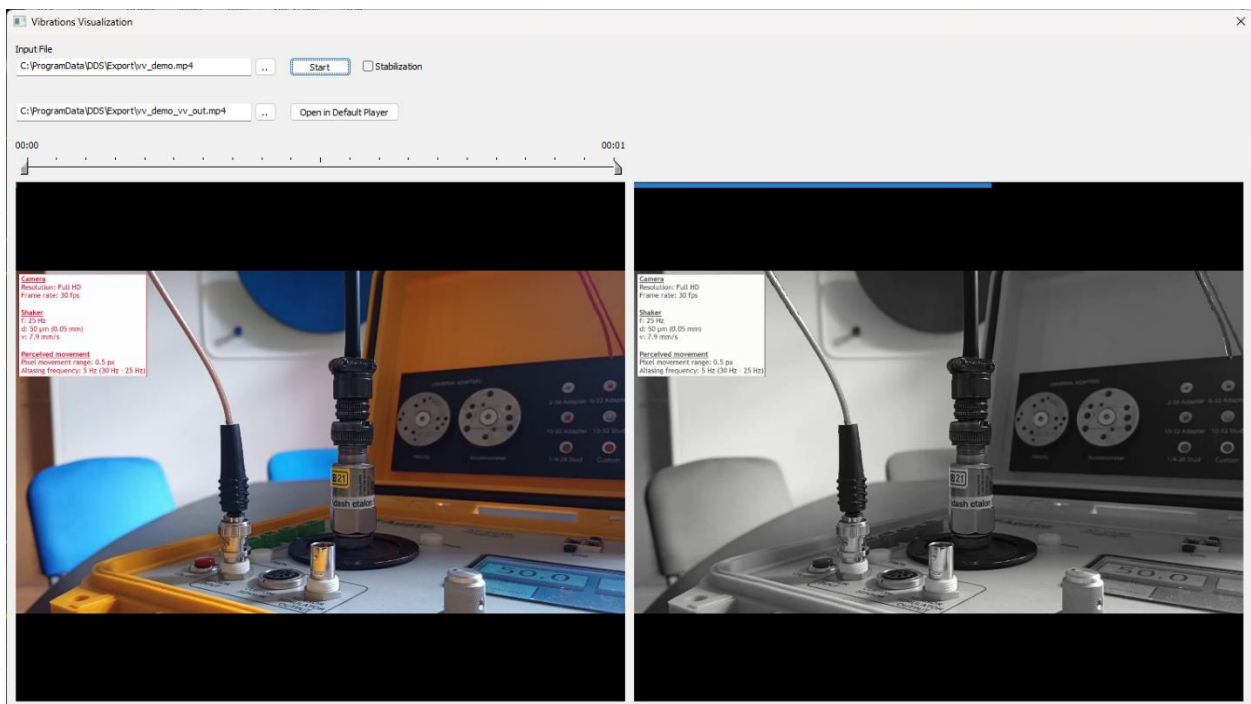
When started, a window will pop up showing the progress of the vibration visualization.



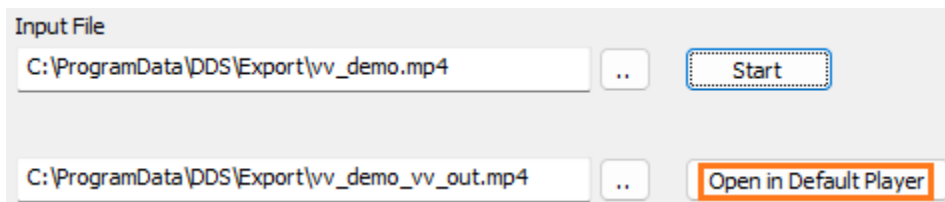
When it is finished, another window reports its completion.



Closing the last window or clicking Ok will play the output video in the right panel.



You can also play it in your system's default player:



Three steps for best results in vibration visualization

1. Make sure the camera is stable (use a tripod or a stand that is placed on a solid, non-vibrating surface).
2. Provide adequate lighting: Reduces noise.
3. Additional image stabilization if needed (use DDS stabilization or third-party stabilization software before loading the video into Vibration Visualization).

DDS Stabilization

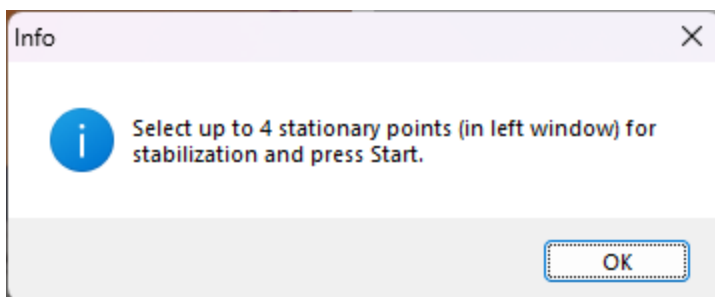
If the provided input video is not stable enough, Vibration Visualization offers an optional built-in stabilizer:



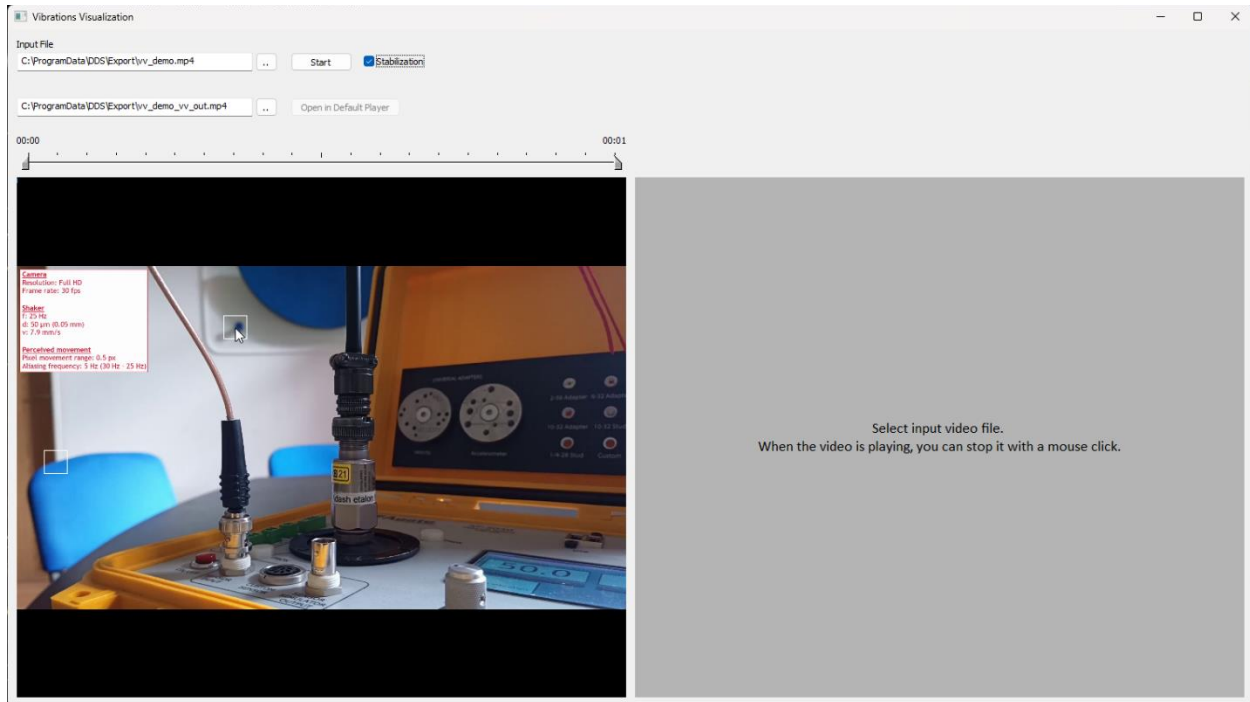
To stabilize the input video, toggle Stabilization on:



You will be prompted to select between 1 and 4 points for stabilization:



Click on the input video to select a point. Click the same point again to deselect it. If no points are selected, no stabilization will be applied. The selected point(s) represent non-moving, non-vibrating objects in the real scene captured by the camera (usually walls, floor, roof, windows, pillars...). Selected points are displayed as white rectangles:



Points can be selected while the video is playing, but they will be selected from the first frame. Stabilization finds where these points will be in every other frame and transforms next frames to keep the selected points in the same position.

Stabilization applies a transformation to each frame of the video so that the selected points become motionless. If only one point is selected, Stabilization moves each video frame vertically and horizontally. If two points are selected, frames may also be rotated and zoomed. If three out of four points are selected, the frames may be more distorted.

For these reasons, three conditions must be met for the Stabilizer to work:

1. The points must be in high-contrast areas, such as corners.
2. One point should be far away from another.
3. Three or more points must not be in a straight line.