OpenShot Video Editor Documentation

Release 3.1.1-dev

OpenShot Studios, LLC

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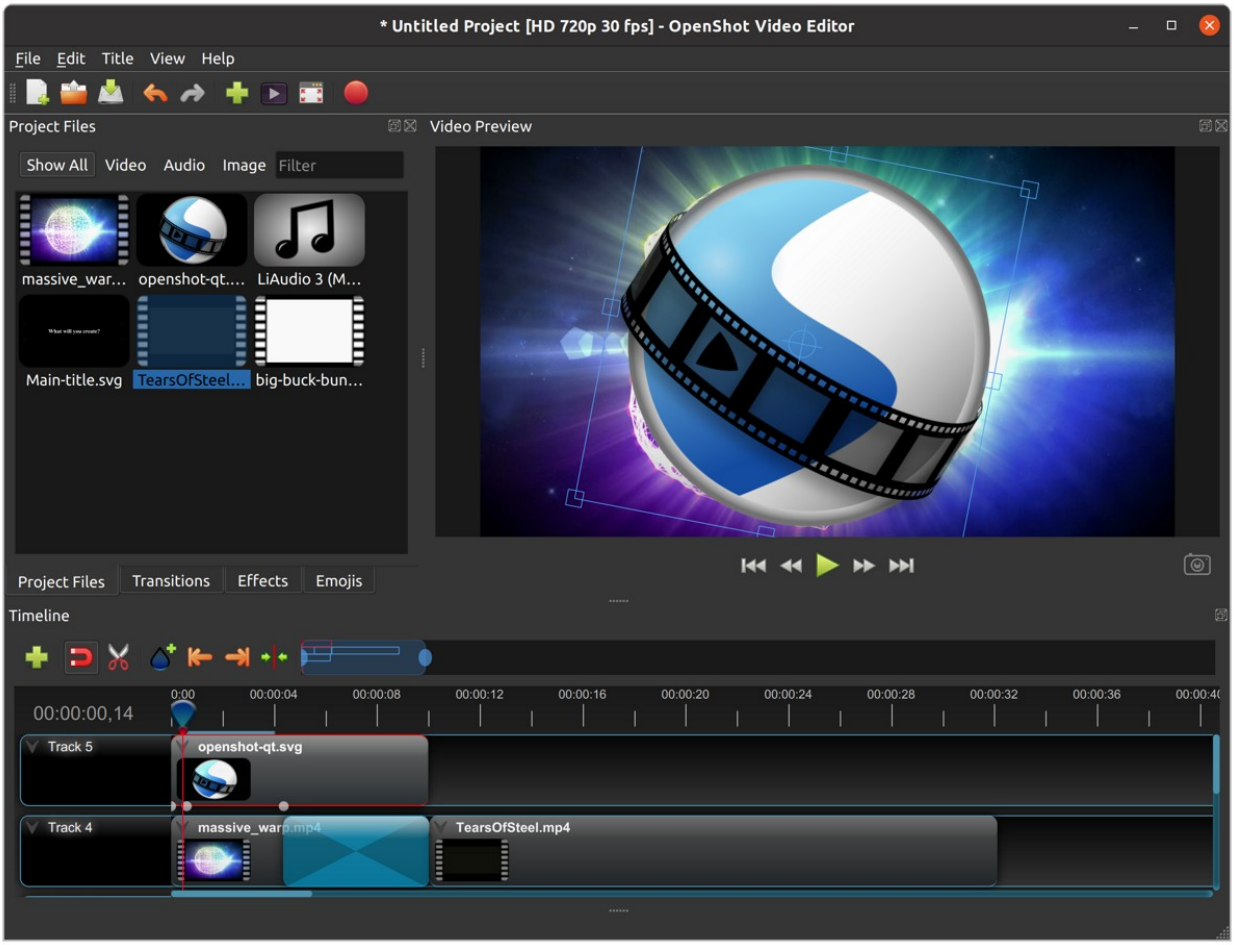
OpenShot Video Editor is an award-winning, open-source video editor, available on Linux, Mac, Chrome OS, and Windows. OpenShot can create stunning videos, films, and animations with an easy-to-use interface and rich set of features.



CHAPTER

ONE

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1.1 Introduction

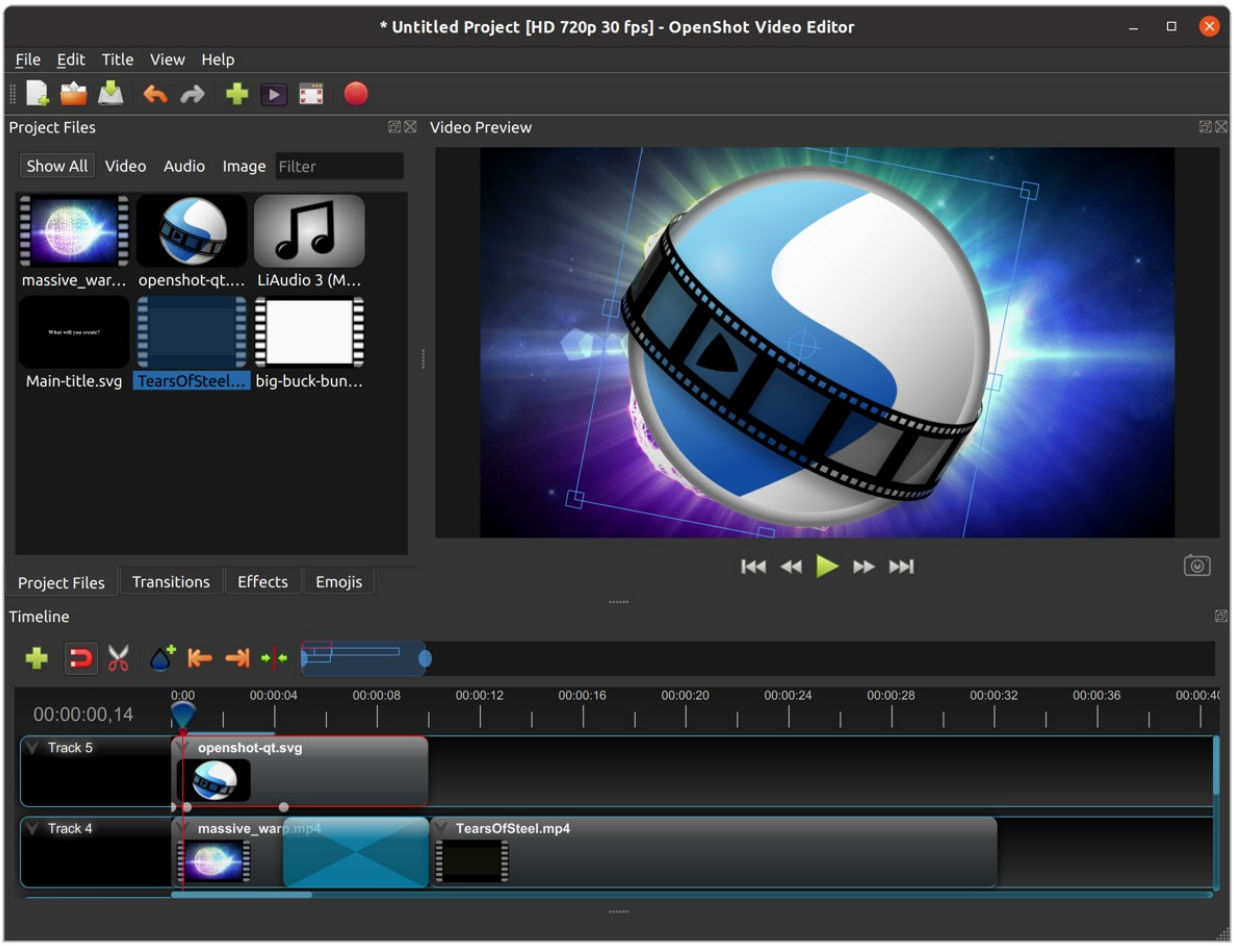
OpenShot Video Editor is an award-winning, open-source video editor, available on Linux, Mac, and Windows. OpenShot can create stunning videos, films, and animations with an easy-to-use interface and rich feature-set.

1.1.1 Features

- **Free & open-source** (licensed under GPLv3)
- **Cross-platform** (Linux, OS X, Chrome OS, and Windows)
- **Easy-to-use UI** (beginner-friendly, built-in tutorial)
- **Supports most formats** (video, audio, images - FFmpeg-based)
- **70+ video profiles & presets** (including YouTube HD)
- **Advanced timeline** (drag-drop, scroll, zoom, snap)
- **Advanced clips** (trim, alpha, scale, rotate, shear, transform)

- **Real-time preview** (multi-threaded, performance-optimized)
- **Simple & advanced views** (customizable)
- **Keyframe animations** (*linear*, *Bézier*, *constant* interpolation)
- **Compositing, overlays, watermarks, transparency**
- **Unlimited tracks / layers** (for complex projects)
- **Transitions, masks, wipes** (grayscale images, animated masks)
- **Video & audio effects** (brightness, hue, chroma key, and more)
- **Image sequences & 2D animations**
- **Blender 3D integration** (animated 3D title templates)
- **Vector file support & editing** (SVG for titles)
- **Audio mixing, waveform, editing**
- **Emojis** (open-source stickers & artwork)
- **Frame accuracy** (per-frame navigation)
- **Time re-mapping & speed changes** (slow/fast, forward/backward)
- **Advanced AI** (motion tracking, object detection, stabilization)
- **Credits & captions** (scrolling, animated)
- **Hardware acceleration** (NVIDIA, AMD, Intel, etc.)
- **Import & export** (EDL, Final Cut Pro)
- **Desktop integration** (drag-drop from file managers)
- **JSON project format** (OpenShot Cloud API compatible)
- **Customizable shortcuts**
- **Translations** (100+ languages)
- **Community support** (Visit our forum)

1.1.2 Screenshot



1.1.3 System Requirements

Video editing benefits from modern, multi-core CPUs with **fast clock speeds** (GHz), large amounts of memory, and fast hard disk drives. Basically, you want the best computer you can afford when video editing. Here are the **minimum system requirements**:

TL;DR

Most computers manufactured after 2017 will run OpenShot

Minimum Specifications

- 64-bit Operating System (*Linux, OS X, Chrome OS, Windows 7/8/10/11*)
- **Multi-core processor with 64-bit support**
  - Minimum cores: 2 (*recommended: 6+ cores*)
  - Minimum threads: 4 (*recommended: 6+ threads*)
  - Minimum turbo clock speed: 2.7 Ghz (*recommended: 3.4+ Ghz*)
- 4GB of RAM (*16+ GB recommended*)
- 1 GB of hard-disk space for installation & usage (*recommended: 50+ GB available hard-disk space for media, videos, images, and storage*)
- Optional: Solid-state drive (SSD), if utilizing disk-caching add an additional 10GB of hard-disk space
- For factors related to real-time previews, see *Playback*.

1.1.4 License

OpenShot Video Editor is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

OpenShot Video Editor is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

1.2 Installation

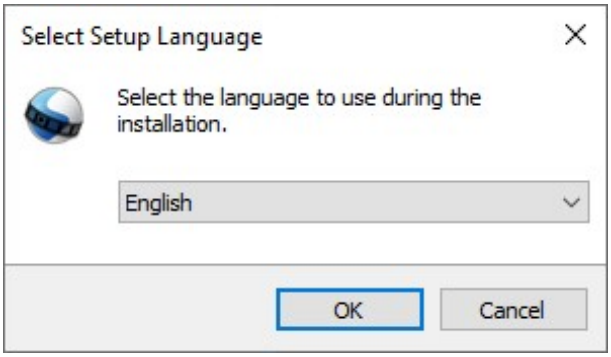
The latest official **stable** version of OpenShot Video Editor for Linux, Mac, Chrome OS, and Windows can be downloaded from the official download page at https://www.openshot.org/download/. You can find our latest **unstable** versions (i.e. daily builds) at https://www.openshot.org/download#daily (these versions are updated very frequently, and often contain many improvements not yet released in our stable build).

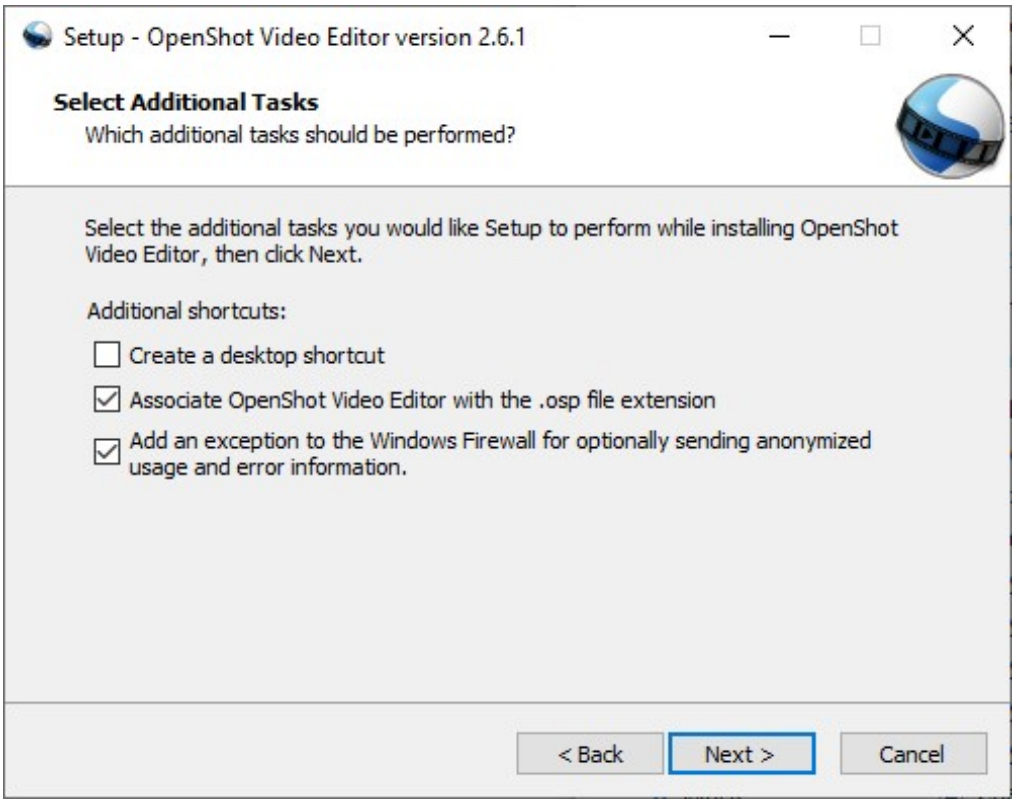
1.2.1 Clean Install

If you are upgrading from a previous version of OpenShot or are experiencing a crash or error message after launching OpenShot, please see *Reset (Default Values)* for instructions on clearing the previous `openshot.settings` file (for a clean install with **default preferences**).

1.2.2 Windows (Installer)

Download the Windows installer from the official download page (the download page contains both 64-bit and 32-bit versions), double click it, and follow the directions on screen. Once completed, OpenShot will be installed and available in your Start menu.



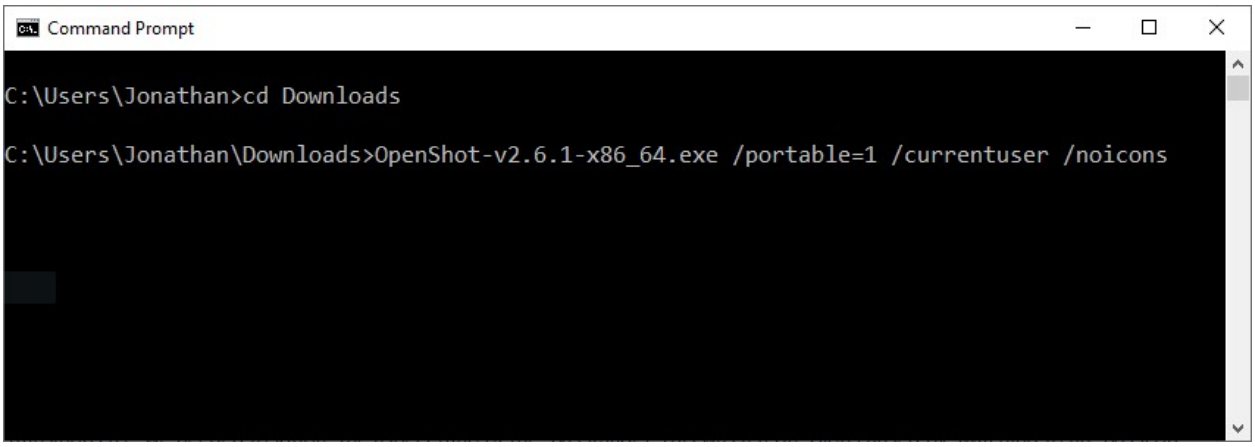


1.2.3 Windows (Portable)

If you need to install OpenShot on Windows without Administrator permissions, we also support a portable installation process. Download the Windows installer from the official download page, open the command prompt, and type the following commands:

```
:caption: Install portable version of OpenShot (no administrator permissions required)

cd C:\Users\USER\Downloads\
OpenShot-v2.6.1-x86_64.exe /portable=1 /currentuser /noicons
```



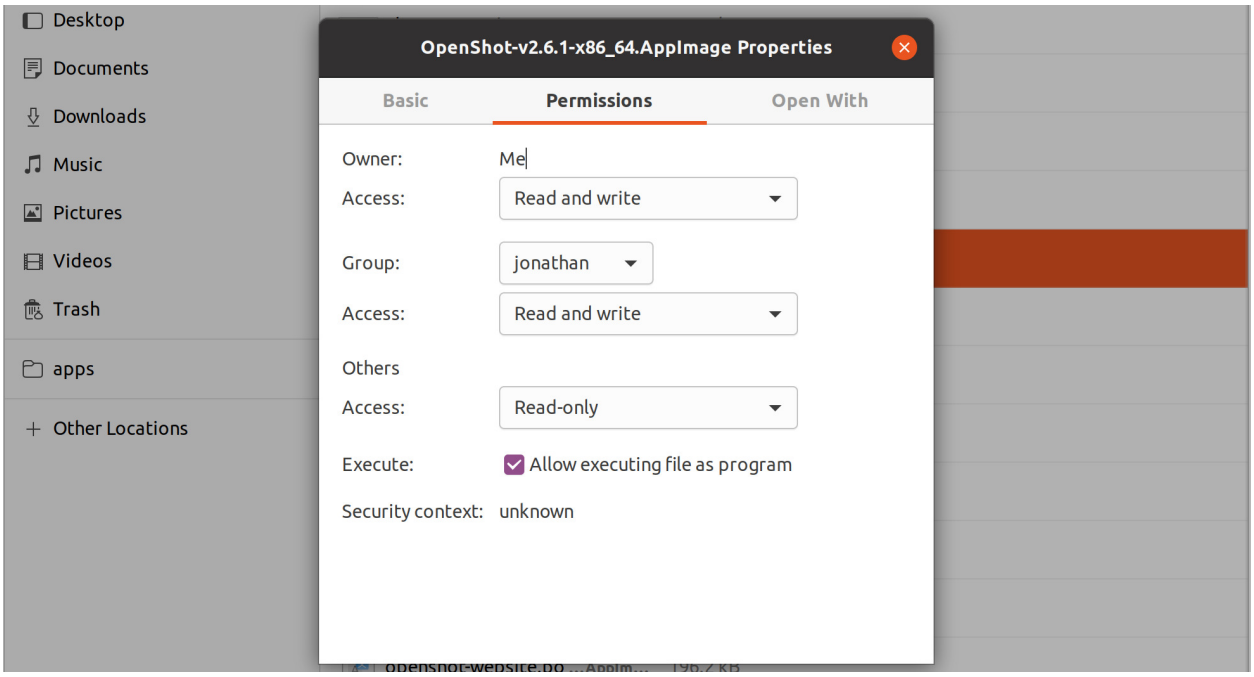
1.2.4 Mac

Download the DMG file from the official download page, double click it, and then drag the OpenShot application icon into your **Applications** shortcut. This is very similar to how most Mac applications are installed. Now launch OpenShot from *Launchpad* or *Applications* in Finder.

1.2.5 Linux (AppImage)

Most Linux distributions have a version of OpenShot in their software repositories, which can be installed using your package manager / software store. However, these packaged versions are often very outdated (be sure to check the version number: *Help→About OpenShot*). For this reason, we recommend installing an AppImage from the official download page.

Once downloaded, right click on the AppImage, choose Properties, and mark the file as **Executable**. Finally, double click the AppImage to launch OpenShot. If double clicking does not launch OpenShot, you can also right click on the AppImage, and choose *Execute* or *Run*. For a detailed guide on installing our AppImage and creating a launcher for it, see our AppImage Installation Guide.



1.2.6 Linux (PPA)

For Debian-based Linux distributions (Ubuntu, Mint, etc…), we also have a PPA (Personal Package Archive), which adds our official OpenShot software repository to your package manager, making it possible to install our latest version, without relying on our AppImages.

```
:caption: Stable PPA (Contains only official releases)

sudo add-apt-repository ppa:openshot.developers/ppa
sudo apt update
sudo apt install openshot-qt python3-openshot
```

```
:caption: Daily PPA (Highly experimental and unstable, for testers)

sudo add-apt-repository ppa:openshot.developers/libopenshot-daily
sudo apt update
sudo apt install openshot-qt python3-openshot
```

1.2.7 Chrome OS (Chromebook)

Chrome OS supports Linux apps, but this feature is off by default. You can turn it on in *Settings*. Once Linux is enabled, you can install and run OpenShot Linux AppImages on any *x86-based* Chromebook. The command below will download our AppImage and configure your system to run OpenShot successfully.

- Navigate to *chrome://os-settings/crostini* (Copy/Paste)
- Under "Linux (Beta)" select "Turn On". Default values are fine.
- **When the Terminal appears (i.e. black window), Copy/Paste the following command:**

  - `bash <(wget -O - http://openshot.org/files/chromeos/install-stable.sh)`

1.2.8 Uninstall

To fully uninstall OpenShot from your system, you must **manually delete** the `.openshot_qt` folder: `~/.openshot_qt/` or `C:\Users\USERNAME\.openshot_qt\`, which contains all settings and files used by OpenShot. Be sure to **backup** any recovery files of your existing projects first (*.osp files). Please see *Reset (Default Values)* for instructions on clearing the previous `openshot.settings` file (for a clean install with **default preferences**).

Windows

1. Open **Control Panel** from the Start menu
2. Click on **Programs and Features**
3. Select OpenShot Video Editor, then click **Uninstall**

Mac

1. Open **Finder** and go to **Applications**
2. Drag the OpenShot Video Editor icon to the **Trash** in the Dock
3. Right-click **Trash** and choose **Empty Trash**

Ubuntu (Linux)

1. Open up **Files**
2. Locate the `*.AppImage` and delete the file
3. OR click Activities, Right-click on OpenShot Video Editor icon, and choose **Remove AppImage from System**

1.3 Quick Tutorial

Using OpenShot is very easy, and this tutorial will take you through the basics in **under 5 minutes**. After this tutorial, you will be able to make a simple photo slide-show with music.

1.3.1 Basic Terminology

To help understand the steps below, here are some definitions of a few basic terms used in this tutorial.

Term	Description
Project	A **project** includes references to all the video files and edits (animations, titles, etc. . .), saved in a single file.
Timeline	The **timeline** is an editing user interface that represents edits and clips on a horizontal ruler. Time progresses from left to right.
Track	A separate **layer** on the timeline, which can hold clips. A timeline is made up of many tracks, stacked vertically.
Clip	A **trimmed** portion of video, audio, or both positioned on a track, and at a specific position in time. When files are dropped on the timeline, they are represented as a Clip.
Transition	A method to **blend** two images. Transitions can take many forms, including cuts, dissolves, and wipes.

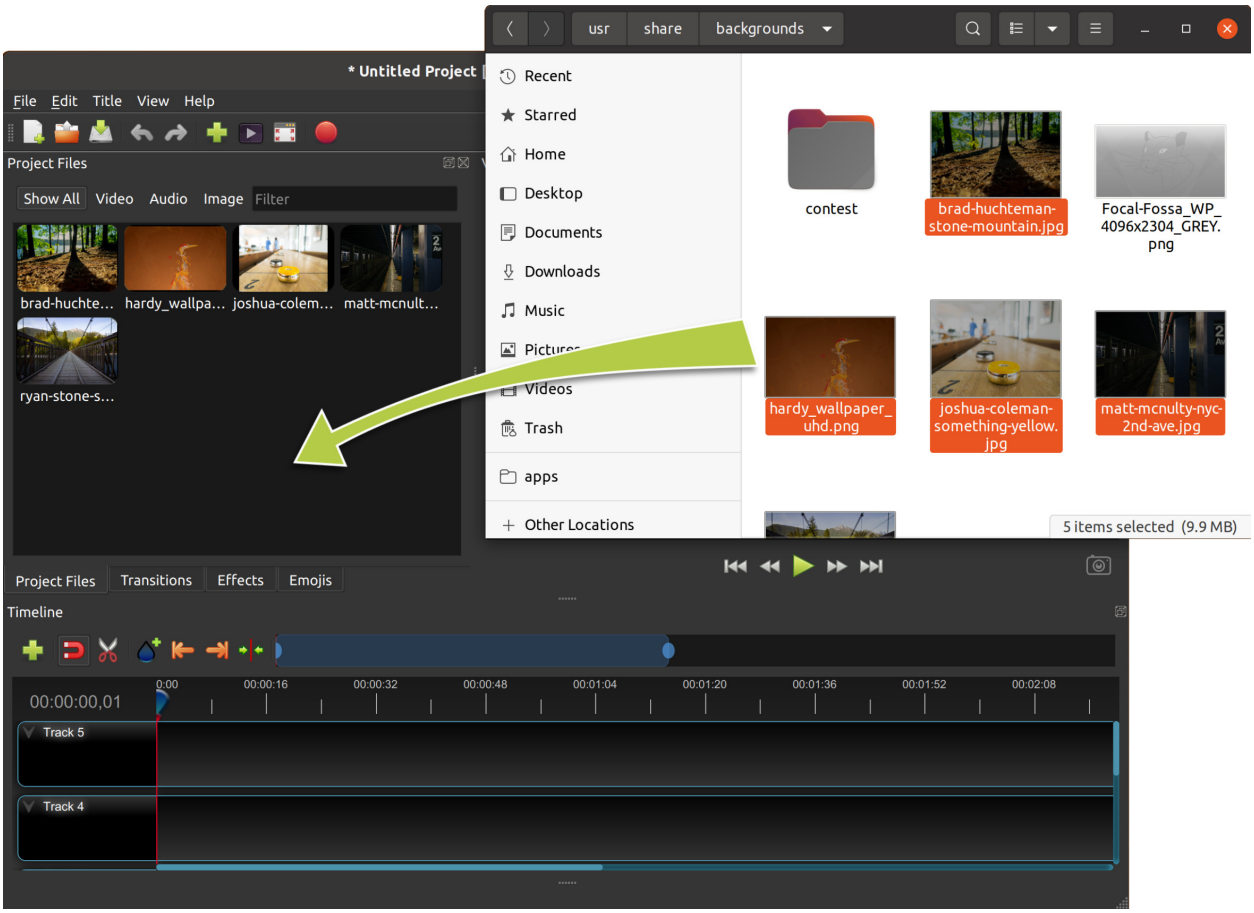
1.3.2 Video Tutorials

If you prefer to learn by **watching videos** instead of reading, we have many official video tutorials that cover a wide range of beginner and introductory topics. These videos are a great next step on your way to master OpenShot Video Editor!

- Video: Getting Started
- Video: The Basics (Part 1)
- Video: The Basics (Part 2)
- Video: Basic Animation
- Video: Trim, Slice, and Split
- Video: Chroma Key
- Video: Masks & Transitions
- Video: Backup & Recovery

1.3.3 Step 1 – Import Photos & Music

Before we can begin making a video, we need to import media files into OpenShot. Most video, image and music file formats will work. Drag and drop a few videos or images and a music file from your Desktop to OpenShot. Be sure to drop the files where the arrow in the illustration is pointing to.

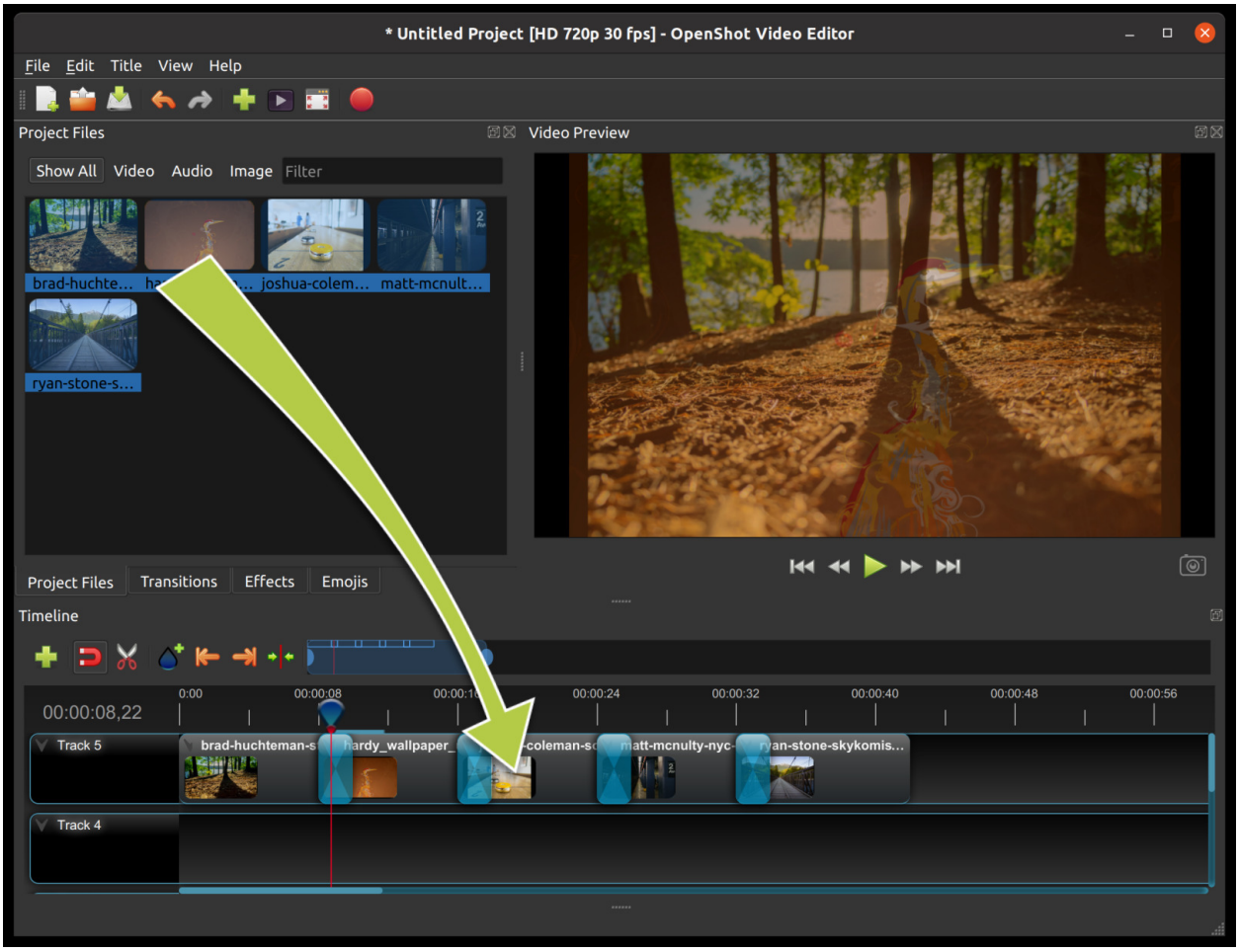


Alternative methods to add files to your projects are described in the section *Import Files*. The "Show All", "Video", "Audio", "Image" filters above the added files allows you to only see the file types you are interested in.

1.3.4 Step 2 – Add Photos to Timeline

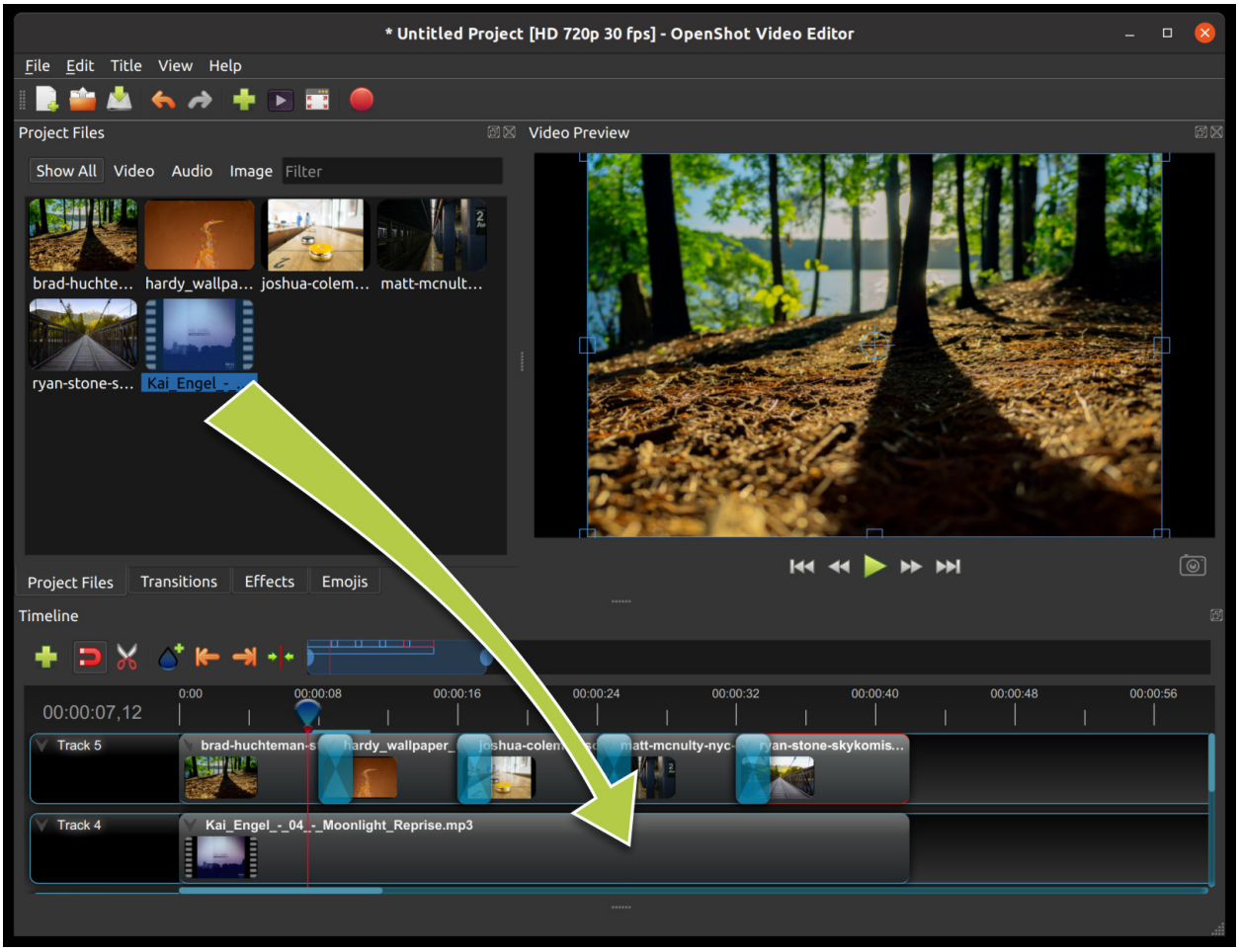
Next, drag each video or photo onto a track in the timeline (as seen in the illustration). The timeline represents your final video, so arrange your photos (i.e. clips) in whatever sequence you want them to appear in your video. If you overlap two clips, OpenShot will automatically create a smooth fade between them (only affects the image, and not audio), displayed by blue rounded rectangles between the clips. Remember, you can rearrange the clips as many times as needed by simply dragging and dropping them.

You can also shorten or lengthen each clip, by clicking the left or right edge and dragging your mouse. For example, if you want a photo to last longer than 10 seconds (the default duration), simply grab the right edge of the photo (on the timeline), and drag it to the right (to increase the clip's duration on the timeline).



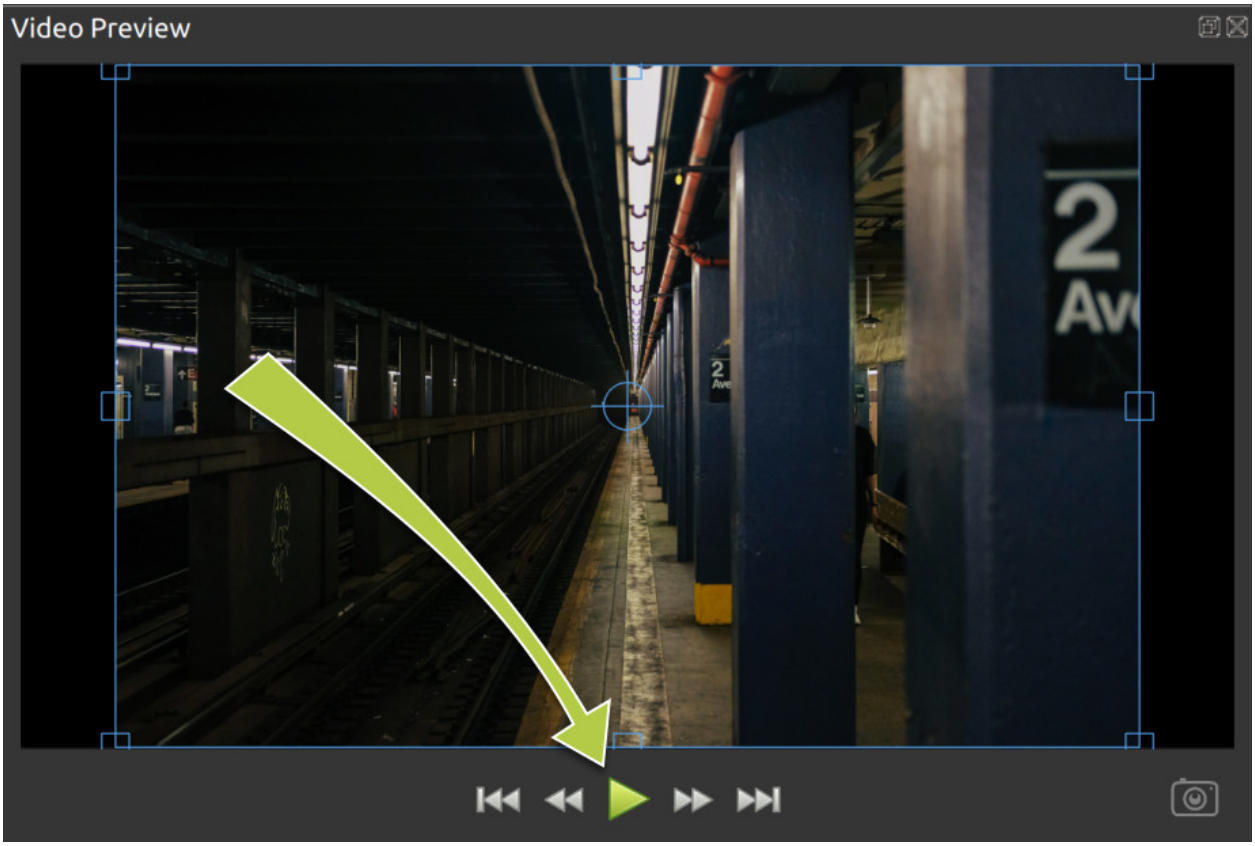
1.3.5 Step 3 – Add Music to Timeline

To make our creation more interesting, we need to add some music. Click on the music file that you imported in step 1, and drag it onto the timeline. If the song is too long, grab the right edge of your music clip, and resize it smaller (that will make it end earlier). You could also insert the same file multiple times, if your music is too short.



1.3.6 Step 4 – Preview your Project

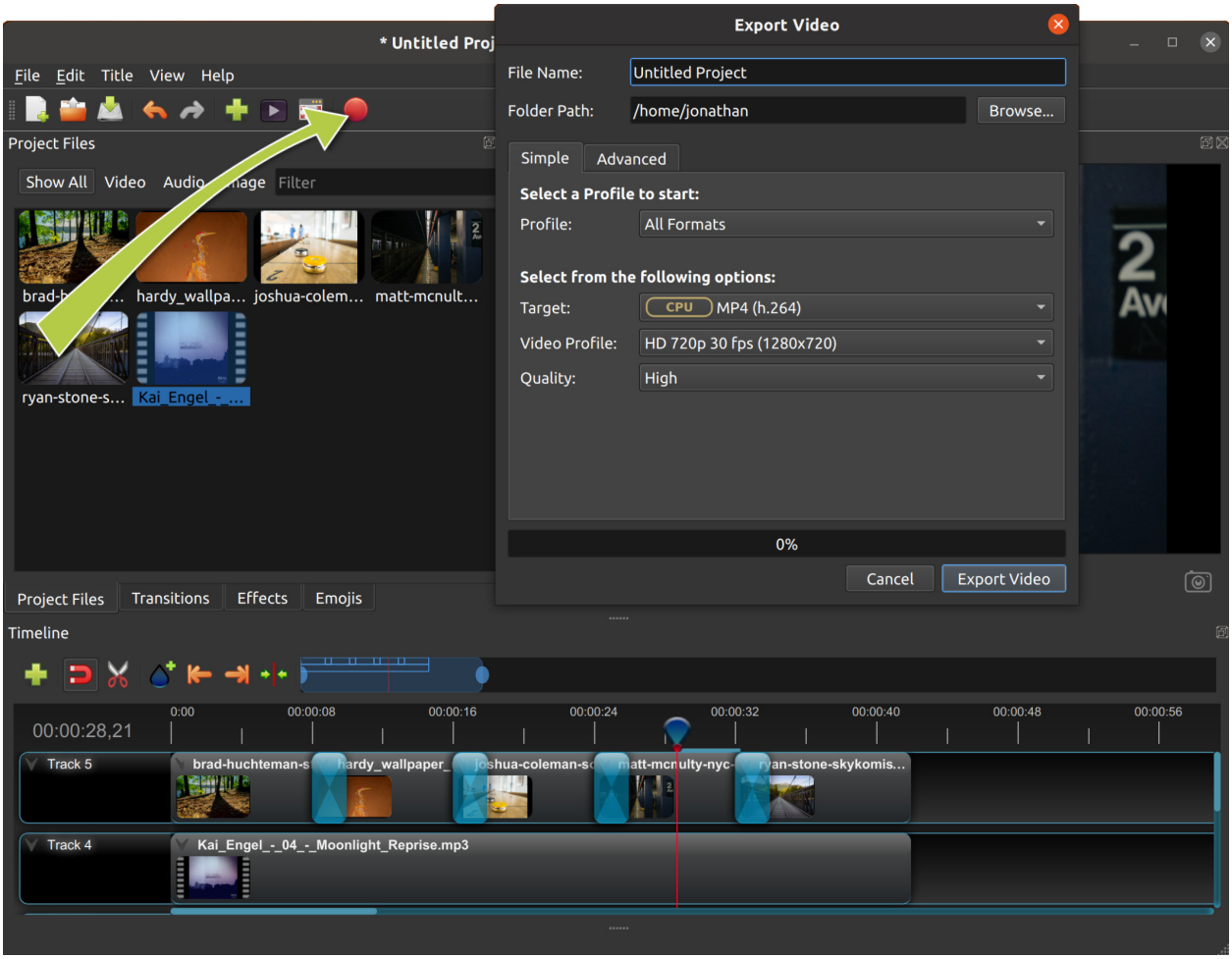
To preview what our video looks & sounds like, click the *Play* button under the preview window. You can also pause, rewind, and fast-forward your video project by clicking the corresponding buttons.



1.3.7 Step 5 – Export your Video

Once you have edited your photo slide-show video, the last step is to export the project. Exporting converts your OpenShot project into a single video output file. By using the default settings, the video works on most media players (such as VLC) or websites (such as YouTube, Vimeo, . . .).

Click on the Export Video icon at the top of the screen (or use the *File→Export Video* menu). The default values will work fine, so just click the *Export Video* button to render your new video.



1.3.8 Conclusion

You should now have a basic understanding of how OpenShot works. Importing, Arranging, Previewing, and Exporting. Hopefully this tutorial took less than **5 minutes** for you to complete. Please read the rest of this guide for a more detailed understanding of OpenShot and its advanced features.

If you have any questions after reading this User Guide, please consider joining our Reddit User Community to discuss topics, ask questions, and meet with other OpenShot users.

1.4 Video Editing Basics

You do not need to be a trained videographer to understand how to create videos well. Simple editing can keep your viewers engaged longer, and add a professional feel, even if you are not a professional video editor.

Basically, video editing is taking footage, cutting it up, removing the pieces you do not want, and keeping the bits you do. Back in the old days, editing was slicing reels of film and piecing it together. Thankfully software makes the whole process much more manageable.

There are three main jobs of video editing:

1. Remove mistakes or unwanted sections

2. Keep the video moving at an engaging pace
3. Insert supporting footage, audio, or titles

Use these three points as a checklist as you edit.

1.4.1 Computer

Video editing does not require an expensive machine, especially if you are a beginner. However, it would be best if you had a more recent monitor and graphics card. If you have an older computer, check your system specifications against OpenShot's *System Requirements* to make sure it works for video editing. Unfortunately, many older computers are not fast enough for video editing, and you should upgrade your whole system, if possible.

1.4.2 Accessories

Before beginning a video project, ensure there is enough storage space on your computer to save all the necessary clips. For example, one hour of 1080i video, such as from a mini-DV camcorder, takes up nearly 11 GB of storage. If your computer's internal storage device cannot store all the clips, the solution is to buy an external drive.

It would help if you had several cables, usually Firewire or USB, to connect your computer, external hard drive, and a camera. Different computers and cameras accept other connectors, so check your manuals before buying anything.

1.4.3 Practical Tips

Becoming a great video editor isn't effortless, but with practice and patience, you'll be editing like a professional in no time. Here are a few of the essential tips and techniques you need to know to become a skilled video editor.

Pick the Right Computer

While having a great computer won't necessarily make you a great video editor, a faster computer will allow you to focus more of your time on the story you're trying to tell rather than your computer rendering. Everyone has their own opinions about what computer is best for editing, but it all depends on your own preferences.

Keep Shooting

Record more video and audio than you think you will need for your project. Include video that enhances the scene, sets a mood, or tells a story. You can use the extra video for smooth transitions in your project. If your project requires voice overs or narration, we suggest using an external application to record your microphone (since OpenShot does not include any recording capabilities yet).

Organize Your Project Files

Composition is the key to success, whether you are running Linux, on a Mac, or a Windows machine. Be sure to label video files, audio files, and even still images clearly and keep all your clips on the same device and in the same folder for easy access. OpenShot tries to keep up with your clips, but if you move them after your project is saved, you could lose your entire project. Organizing before you begin editing can be very advantageous.

Watch Everything

Watching everything is the first step in the editing process. Writer and filmmaker David Andrew Stoler says there is gold in the most unlikely of places: "Some of the most beautiful expressions you're going to get from the actors are after the cut."

Edit for a Story

Remember that as you edit, you are telling a story. Editing is so much more than merely cutting footage and adding effects. It is an opportunity to take your audience on a journey. Whether you are editing a complex narrative film or only putting together a personal video, you tell a more in-depth story.

Keyboard Shortcuts

One of the easiest ways to tell the difference between and professional video editor and a novice is to simply look at how much they use the keyboard. Editors that have been in the business for some time know that a few seconds saved add up over the length of the project.

Learn the Lingo

Video editing is not just a hobby or a profession; it is an industry. And just like any industry, there is a ton of jargon to learn. Practically speaking, you do not need to know all the terms on the *Glossary* to become a better video editor, but a fundamental knowledge of the terms may help you communicate better with other video editors or clients.

Assemble, Then Make a Rough Cut

Drag and drop all your video footage into a timeline and make sure your frame size and frame rates are consistent. Begin a new timeline and drag-and-drop the best clips into what becomes your assembly cut. Remember to save your work frequently, and notate the date and time of each version.

Refine Your Video

In this phase, your rough cut begins to resemble a cohesive project. Adjust the sound and color, make sure the dialog is audible, and add music, titles, or graphics in this phase. Color correction is the process of setting your footage to a color baseline. No matter how great your subject looks on set, you will almost always need to do some basic post-processing for a consistent video.

Refine Some More

A slow scene can set the mood and add tension or it can bore an audience. A fast scene can add adrenaline to your audience's systems or it can give them headaches. Some editors cut their projects several different ways before they find the right pace. Do not let cutting your project several times discourage you.

1.4.4 Exporting

People view most of their projects on phones, tablets, or computers, so it is essential to know how to export for the web. The goal when exporting a video for the web is to create the highest quality possible with the smallest file size. Four main factors determine the file size of your finished video:

Codec

A codec determines the type of file format (MP4, AVI, MOV). The more compression performed by the codec, the smaller your video's size. Videos that are smaller in file size tend to be lower in visual quality.

Resolution

Resolution refers to the number of horizontal and vertical pixels (dots on display) your video contains. For example, a 4K UHD (2160P) video has four times the resolution of FHD (1080P) video. A higher resolution means more information to store so that you will have larger file sizes.

Bit Rate

The Bit Rate is the measure of the speed of data processing of your video. A higher bit rate means higher-quality video and larger files. OpenShot allows you to manually set the Bit Rate / Quality in the Advanced tab of the Export Video window.

Frame Rate

The frequency (in Hz) at which consecutive images, called frames, appear on the display is the Frame Rate. Typically, you export your video in the film standard (24fps) or the TV broadcast standard of 30fps (or 25fps in PAL). While there is not much wiggle room here, you should note that if you decide to export your video in 48fps, 50fps, or 60fps, your file size doubles.

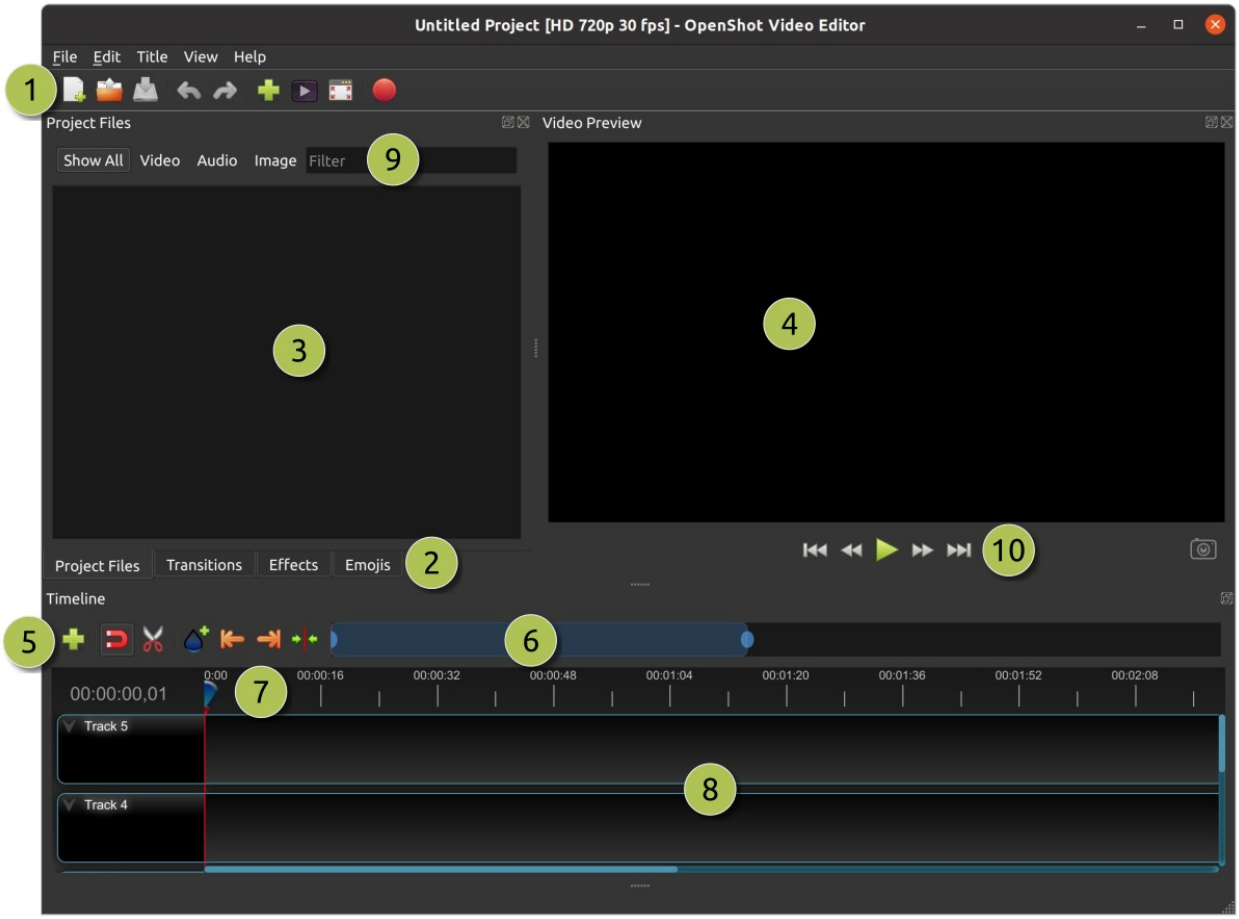
1.4.5 Conclusion

In conclusion, video editing is an accessible skill that can elevate your video content even if you're not a professional videographer. With the ability to trim, arrange, and enhance footage, you can create engaging videos that captivate your audience. Whether you're a beginner or on your way to becoming a skilled video editor, remember to focus on storytelling, efficient organization, and refining your project's details. From selecting the right computer to mastering keyboard shortcuts and understanding technical aspects like codecs and resolutions, your journey in video editing can lead to polished and impactful results. As you venture into the world of video editing, keep in mind that practice, patience, and a commitment to learning are key to achieving excellence in this creative endeavor.

1.5 Main Window

OpenShot Video Editor has one main window which contains most of the information, buttons, and menus needed to edit your video project.

1.5.1 Overview

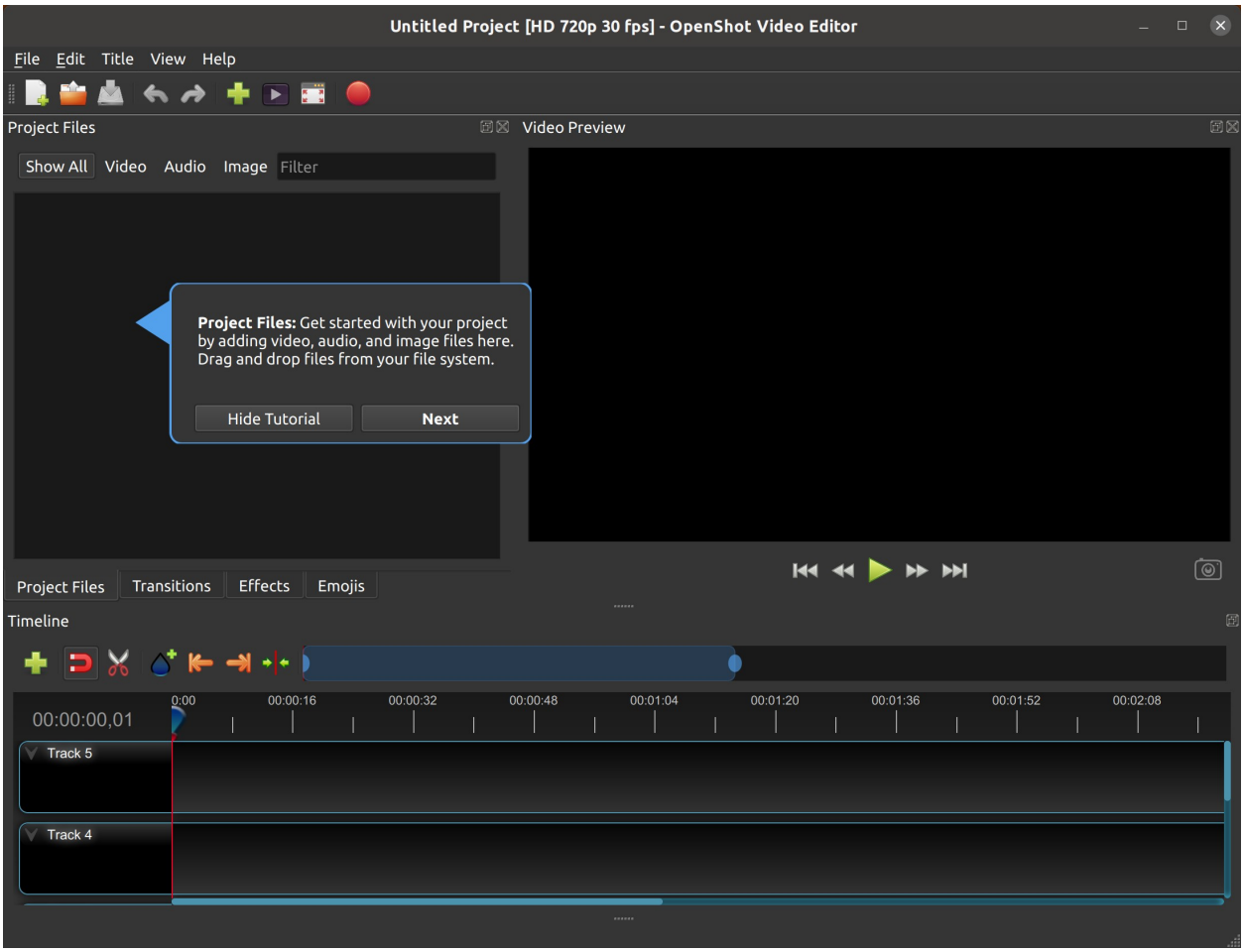


#	Name	Description
1	Main Toolbar	Contains buttons to open, save, and export your video project.
2	Function Tabs	Switch between Project Files, Transitions, Effects, and Emojis.
3	Project Files	All audio, video, and image files that have been imported into your project.
4	Preview Window	This is the area that the video will playback on the screen.
5	Edit Toolbar	This toolbar contains buttons used for snapping, inserting markers, slicing razor, and jumping between markers.
6	Zoom Slider	This slider will adjust the time-scale of your timeline. Drag the left or right edge to zoom in or out. Drag the blue area to scroll the timeline left or right. Clips and transitions are displayed as simple rectangles, to give you context for adjusting the zoom to specific clips.
7	Play-head / Ruler	The ruler shows the time-scale, and the red line is the play-head. The play-head represents the current playback position. Hold `Shift` key while dragging the playhead to snap to nearby clips.
8	Timeline	The timeline visualizes your video project, and each clip and transition in your project. You can drag the mouse to select, move, or delete multiple items.
9	Filter	Filter the list of items shown (project files, transitions, effects, and emojis) by using these buttons and filter textbox. Enter a few letters of what you are looking for, and the results will be shown.
10	Playback	Left to Right: Jump to Start, Rewind, Play/Pause, Fast Forward, and Jump to End

For step-by-step instructions on the basic usage of OpenShot, be sure to read the *Quick Tutorial*.

1.5.2 Built-in Tutorial

When you first launch OpenShot, you will be presented with a friendly built-in tutorial. It will demonstrate and explain the basics. Clicking *Next* will jump to the next topic. You can always view this tutorial again from the *Help→Tutorial* menu.



1.5.3 Tracks & Layers

OpenShot uses tracks to layer videos and images. The top most track is the top layer, and the bottom track is the bottom layer. If you are familiar with layers in a photo editing application, then you should be quite familiar with this concept. OpenShot will stack the layers and mix each one together, just like a photo editing application. You can have an unlimited number of tracks, but typically a simple video project will not need more than 5 tracks.

For example, imagine a 3 track video project

#	Name	Description
1	Top Track	Clips on this track will always be on top and visible. Often watermarks and titles are placed on higher tracks.
2	Middle Track	Clips in the middle (might or might not be visible, depending on what is above them)
3	Bottom Track	Clips on this track will always be on the bottom. Often audio clips are placed on lower tracks.

1.5.4 Keyboard Shortcuts

Here is a list of the default keyboard shortcuts supported by OpenShot. You can configure these shortcuts in the Preferences window, which is opened by selecting *Edit→Preferences* from the OpenShot menu bar. (On macOS, choose *OpenShot Video Editor→Preferences*.) Learning a few of these shortcuts can save you a bunch of time!

Shortcut	Action
`Ctrl+H`	About OpenShot
`Ctrl+M`	Add Marker
`Ctrl+Shift+T`	Add Track
`Ctrl+W`	Add to Timeline
`Ctrl+B`	Animated Title
`Ctrl+Up`	Center on Playhead

continues on next page

Table 1 – continued from previous page

Shortcut	Action
Ctrl+P	Choose Profile
Ctrl+Shift+ESC	Clear All Cache
Ctrl+C	Copy
Delete	Delete Item
Backspace	Delete Item (Alternate 1)
Ctrl+D	Details View
Ctrl+Shift+C	Duplicate Title
Not Set	Edit Title
Ctrl+E	Export Video
L	Fast Forward
F11	Fullscreen
Ctrl+F	Import Files…
Ctrl+Shift+E	Insert Keyframe
Ctrl+End	Jump To End
Ctrl+Home	Jump To Start
Ctrl+N	New Project
Right	Next Frame
Ctrl+Right	Next Marker
Shift+Left	Nudge left
Shift+Right	Nudge right
Ctrl+O	Open Project…
Ctrl+V	Paste
Space	Play/Pause Toggle
Up	Play/Pause Toggle (Alternate 1)
Down	Play/Pause Toggle (Alternate 2)
K	Play/Pause Toggle (Alternate 3)
Ctrl+Shift+P	Preferences
Left	Previous Frame
Ctrl+Left	Previous Marker
Ctrl+I	Properties
Ctrl+Q	Quit
Ctrl+Y	Redo
J	Rewind
Not Set	Save Current Frame
Ctrl+S	Save Project
Ctrl+Shift+S	Save Project As…
Ctrl+A	Select All
Ctrl+Shift+A	Select None
Ctrl+K	Slice All: Keep Both Sides
Ctrl+L	Slice All: Keep Left Side
Ctrl+J	Slice All: Keep Right Side
s	Slice Selected: Keep Both Sides
d	Slice Selected: Keep Left Side
a	Slice Selected: Keep Right Side
Ctrl+G	Snapping Enabled
Ctrl+X	Split Clip…
Ctrl+Shift+D	Thumbnail View
Ctrl+T	Title
R	Toggle Razor

continues on next page

Table 1 – continued from previous page

Shortcut	Action
`Ctrl+R`	Transform
`Ctrl+Z`	Undo
`=`	Zoom In
`-`	Zoom Out
`Ctrl+Middle Button`	Scroll Timeline

1.5.5 Menu

The following menu options are available on the main window on OpenShot. Most of these options can be accessed by the keyboard shortcuts mentioned above. On some Operating Systems (such as macOS) a few of these options are renamed and/or rearranged.

Menu Name	Description
File	*New Project*, *Open Project*, *Recent Projects*, *Save Project*, *Import Files*, *Choose Profile*, *Import*, *Export*, *Quit*
Edit	*Undo*, *Redo*, *Clear*, *Preferences*
Title	*Title*, *Animated Title*
View	*Toolbar*, *Fullscreen*, *Views (Simple, Advanced, Freeze, Show All)*, *Docks*
Help	*Contents*, *Tutorial*, *Report a Bug*, *Ask a Question*, *Translate*, *Donate*, *About*

1.5.6 Views

The OpenShot main window is composed of multiple **docks**. These **docks** are arranged and snapped together into a grouping that we call a **View**. OpenShot comes with two primary views: *Simple View* and *Advanced View*.

Simple View

This is the **default** view, and is designed to be easy-to-use, especially for first-time users. It contains *Project Files* on the top left, *Preview Window* on the top right, and *Timeline* on the bottom. If you accidentally close or move a dock, you can quickly reset all the docks back to their default location using the *View->Views->Simple View* menu at the top of the screen.

Advanced View

This is an advanced view, which adds more docks to the screen at once, improving access to many features that are not visible in Simple View. Once you have mastered the Simple View, we recommend giving this view a try as well. NOTE: You can also drag and drop the docks anywhere you would like, for a fully custom view.

Docks

Each widget on the OpenShot main window is contained in a **dock**. These docks can be dragged and snapped around the main window, and even grouped together (into tabs). OpenShot will always save your main window dock layout when you exit the program. Re-launching OpenShot will restore your custom dock layout automatically.

If you have accidentally closed or moved a dock and can no longer find it, there are a couple easy solutions. First, you can use the *View->Views->Simple View* menu option at the top of the screen, to restore the view back to its default. Or you can use the *View->Views->Docks->…* menu to show or hide specific dock widgets on the main window.

1.6 Files

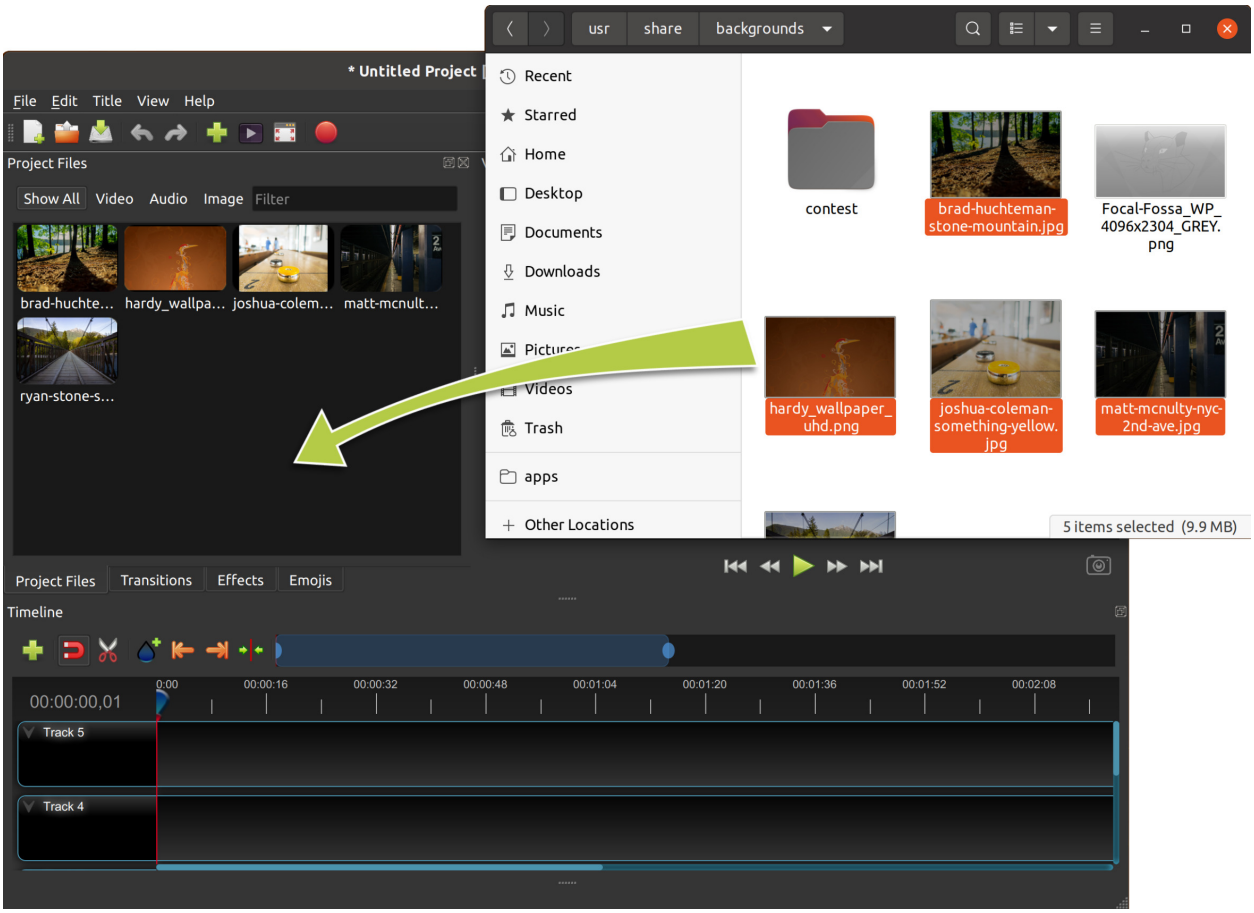
To create a video, we need to make media files available to our project by importing files into OpenShot. Most media file types are recognized, such as videos, images, and audio files. Files can be viewed and managed in the **Project Files** panel.

Note that imported files are not copied anywhere, they remain in the physical location they were before and are simply being made available to your video project. So, they must not be deleted, renamed, or moved after adding them to your project. The "Show All", "Video", "Audio", "Image" filters above the files allows you to only see the file types you are interested in. You can also toggle the view between *details* and *thumbnails* view of your files.

1.6.1 Import Files

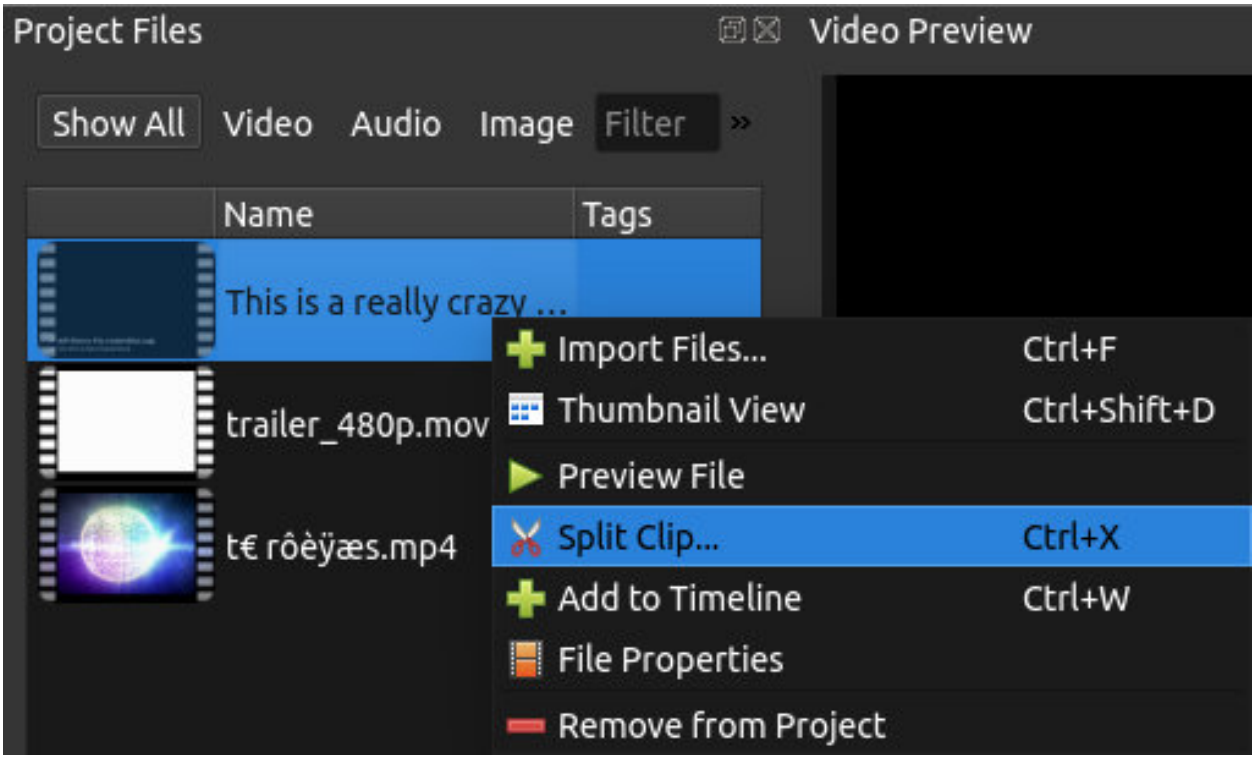
These are all possible methods to import media files into OpenShot:

Import File Method	Description
Drag and Drop	Drag and drop the files from your file manager (file explorer, finder, etc…).
Context menu (*File Menu*)	Right click anywhere in the **Project Files** panel and choose *Import Files*.
Main Menu	In the main menu choose: *File→Import Files*.
Toolbar button	Click the + toolbar button in the main toolbar.
Keyboard shortcut	Press `Ctrl-F` (`Cmd-F` on Mac).



1.6.2 File Menu

To view the file menu, right click on a file (in the **Project Files** panel). Here are the actions you can use from the file menu.



File Context Option	Description
Import Files…	Import files into your project
Thumbnail/Detail	Toggle the view between details and thumbnails
Preview File	Preview a media file
Split Clip…	Split a file into many smaller clips
Edit Title	Edit an existing title SVG file
Duplicate Title	Make a copy, and then edit the copied title SVG file
Add to Timeline	Add many files to the timeline in one step
File Properties	View the properties of a file, such as frame rate, size, etc…
Remove from Project	Remove a file from the project

1.6.3 Split Clip

If you need to cut a file into many smaller clips before editing, the **Split Clip** dialog is built exactly for this purpose. Right click on a file, and choose Split Clip… from the file menu. This opens the Split Clip dialog. Use this dialog to quickly cut out as many small clips as you need. The dialog stays open after you create a clip, to allow you to repeat the steps for your next clip. When you are finished, simply close the dialog.

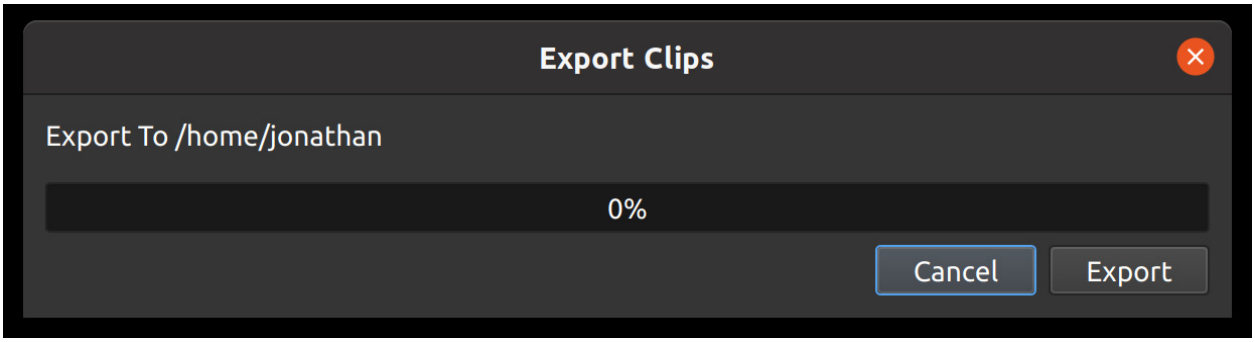
#	Name	Description
1	Start of Clip	Choose the starting frame of your clip by clicking this button
2	End of Clip	Choose the ending frame of your clip by clicking this button
3	Name of Clip	Enter an optional name
4	Create Clip	Create the clip (which resets this dialog, so you can repeat these steps for each clip)

Please refer to the section *Trimming & Slicing* for more ways to cut and slice clips directly in the timeline.

1.6.4 Export Clips

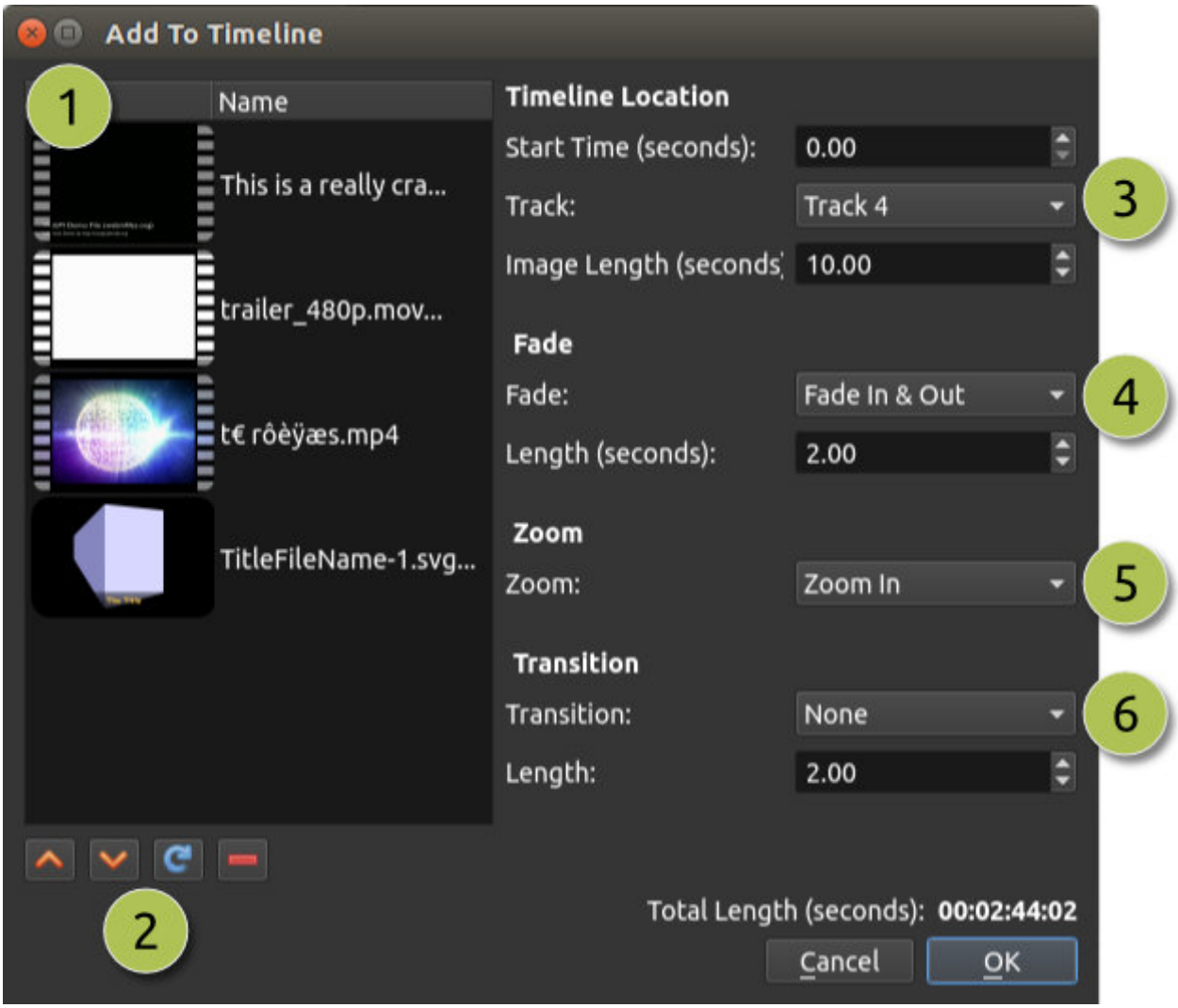
If you want your clips available outside of your OpenShot project, or want to copy all your video assets to one place, you can do this with the **Export Clips** dialog. Simply `Ctrl+Click` to select any clips or files you like, then `Right Click` and choose *Export Clips*. In the dialog that appears, choose a destination folder, and click *Export*.

NOTE: This will export each clip using its **original video profile** (width, height, framerate, aspect ratio, etc…). It also supports any *Split Clip* (described above). For example, if you have split a long video file into many different clips (and named them), you can now export all the clips as separate video files (using the original clip's video profile).



1.6.5 Add to Timeline

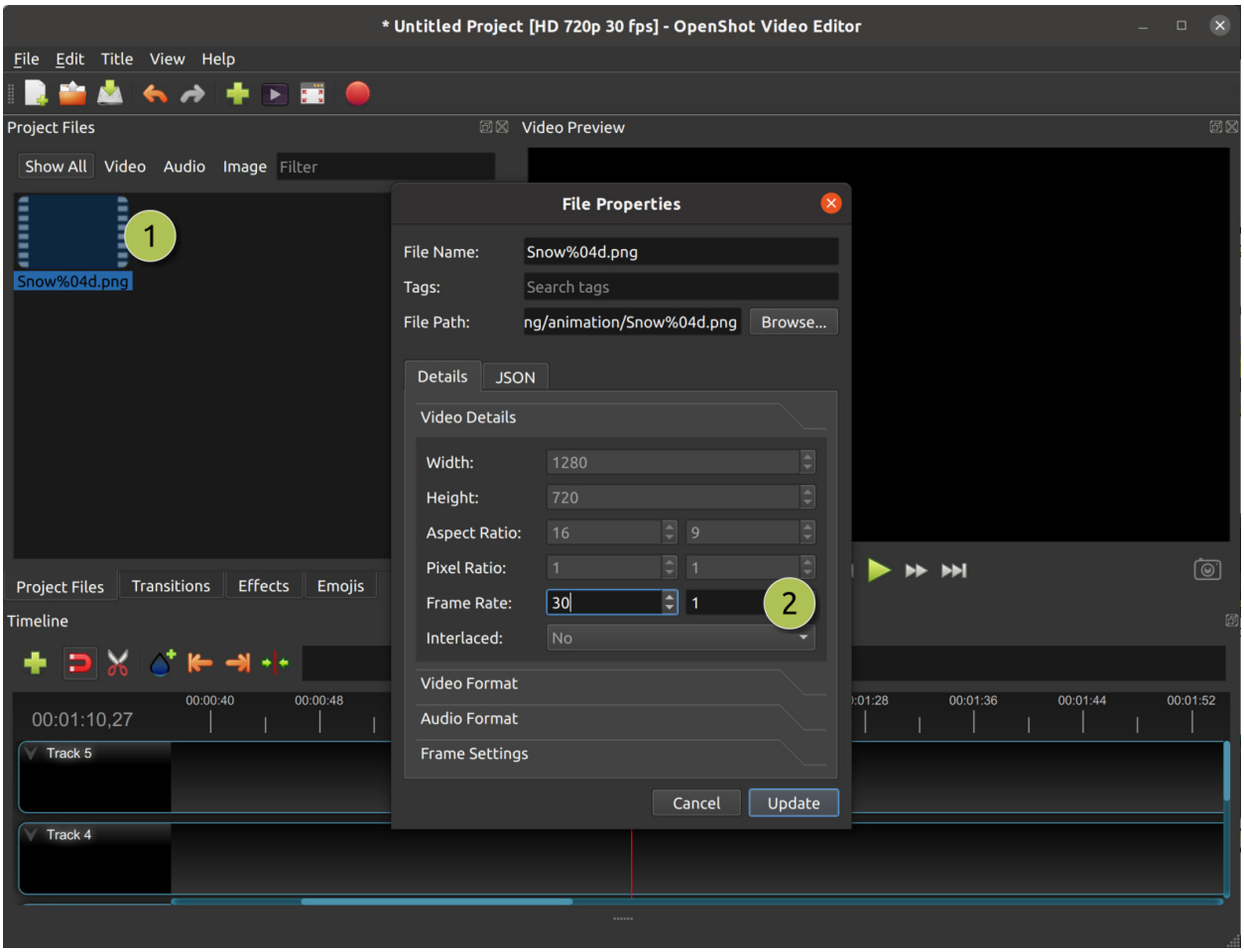
In certain cases, you might need to add many files to the timeline at the same time. For example, a photo slideshow, or a large number of short video clips. The **Add to Timeline** dialog can automate this task for you. First, select all files you need to add, right click, and choose Add to Timeline.



#	Name	Description
1	Selected Files	The list of selected files that need to be added to the timeline
2	Order of Files	Use these buttons to reorder the list of files (move up, move down, randomize, remove)
3	Timeline Position	Choose the starting position and track where these files need to be inserted on the timeline
4	Fade Options	Fade in, fade out, both, or none (only affects the image, and not audio)
5	Zoom Options	Zoom in, zoom out, or none
6	Transitions	Choose a specific transition to use between files, random, or none (only affects the image, and not the audio)

1.6.6 Properties

To view the properties of any imported file in your video project, right click on the file, and choose **File Properties**. This will launch the file properties dialog, which displays information about your media file. For certain types of images (i.e. image sequences), you can adjust the frame rate on this dialog also.



#	Name	Description
1	File Properties	Select an image sequence in the **Project Files** panel, right click and choose **File Properties**
2	Frame Rate	For image sequences, you can also adjust the frame rate of the animation

1.6.7 Remove from Project

This will remove a file from the project. It will not delete the underlying physical file though, so removing a file from the project merely makes it unavailable for this video project.

1.6.8 Missing Files

When you create and save a project in OpenShot, any files imported into the software (such as videos, audio, and images) must remain accessible throughout the project's duration. This means that these imported files should not be renamed, deleted, or moved to different folders. Additionally, the full path where these files are located should not be renamed either. This principle applies to other video editing software as well.

For example, users might move or delete folders, unplug their USB devices, or move or delete their project files. Any of these examples cause a *Missing File* message, in which OpenShot prompts you to locate the folder of the missing file(s). Depending on the number of files you added to your project, OpenShot could prompt you many times to find the missing files.

When OpenShot saves a project, all file paths are converted to **relative** file paths. As long as you keep all assets organized in the same parent folder (including the *.osp project file), you will be able to move your project folder without triggering any missing file(s) prompts. You can even move a self-contained project folder to another computer without any issues.

Everyone has their unique way of organizing files, and it's crucial to remember not to make changes to file paths, rename files, or delete files when working with video editors, as it can lead to missing file issues. For a detailed guide on missing file(s), see The Case of "Missing Files"!

1.7 Clips

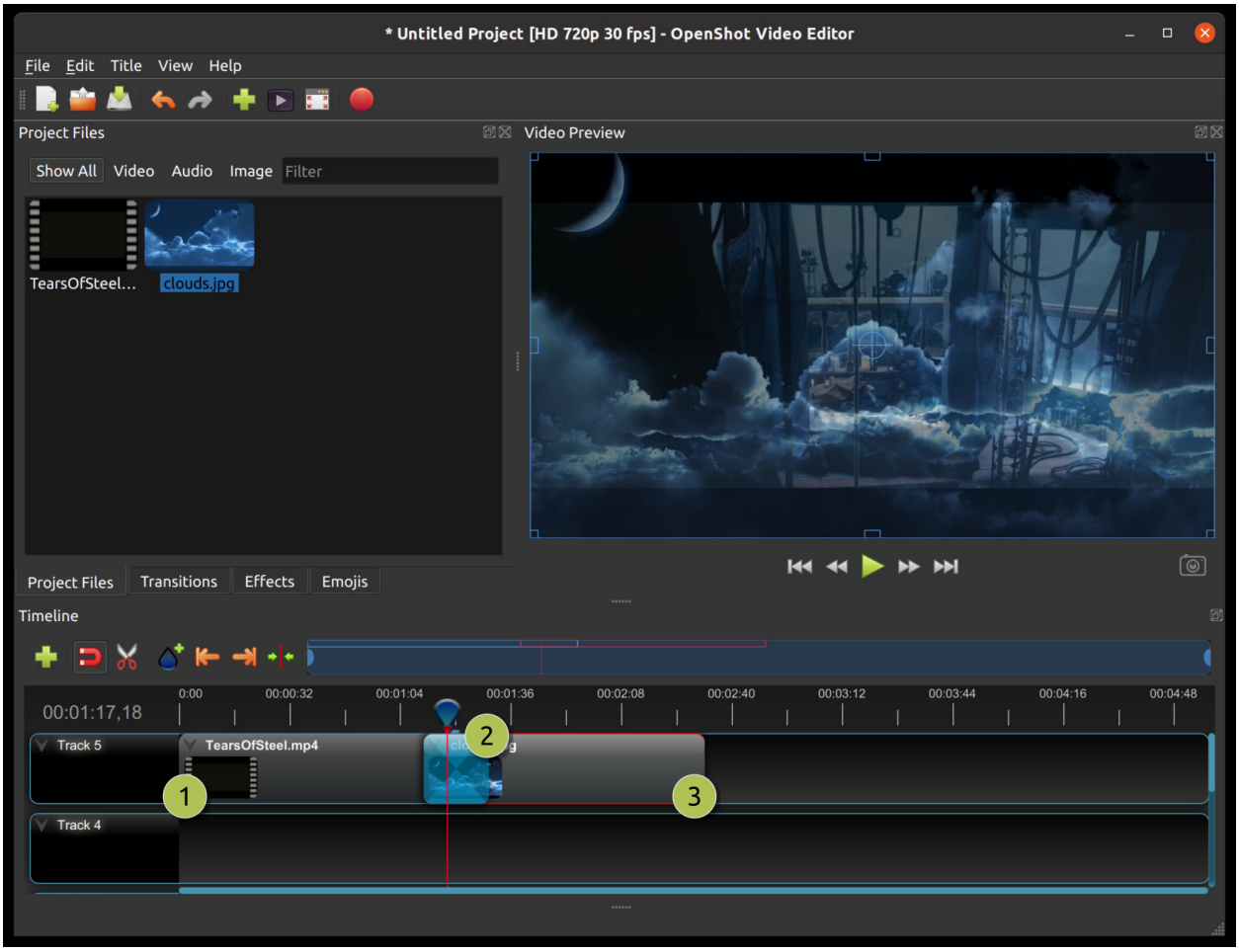
In OpenShot, when you add project files (videos, images, and audio) to the timeline, they appear as **clips** represented by rounded rectangles. These clips come with different properties that influence how they're rendered and composited. These properties include the clip's *position*, *layer*, *scale*, *location*, *rotation*, and *alpha*.

You can examine a clip's properties by either right-clicking and selecting *Properties* or by double-clicking the clip. The properties are listed alphabetically in the Property dock, and you can use the filter options at the top to find specific properties. See *Clip Properties* for a list of all clip properties.

To **make adjustments** to a property:

- For **rough** changes, you can drag the slider.
- For **precise** adjustments, double-click the property to enter exact values.
- If the property involves **non-numerical choices**, right-click or double-click for options.

Clip properties play a vital role in the *Animation* system. Whenever you modify a clip property, a `key-frame` is automatically created at the current playhead position. If you want a property change to apply throughout the entire clip, ensure the playhead is positioned at or before the clip's start, before making adjustments. You can easily find a clip's start by using the *next/previous marker* feature on the Timeline toolbar.



#	Name	Description
1	Clip 1	A video clip
2	Transition	A gradual fade transition between the 2 clip images (does not affect the audio)
3	Clip 2	An image clip

1.7.1 Trimming & Slicing

OpenShot has many easy ways to adjust the start and end trim positions of a clip (also known as trimming). The most common method is simply clicking and dragging the left (or right) edge of the clip. Trimming a clip can be used to remove unwanted sections from the beginning and/or ending of a clip.

To slice a clip into smaller sections, OpenShot provides many different options, including dividing/slicing a clip at the play-head (i.e. vertical red playback line) position. Trimming and Slicing clips are two very powerful tools when editing a video project, allowing the user to quickly rearrange sections of video and remove unwanted sections.

Here is a list of all methods for cutting and/or trimming clips in OpenShot:

Trim & Slice Method	Description
Resizing Edge	Mouse over the edge of a clip, and resize the edge, by dragging it left/right.
Slice	When the play-head (i.e. vertical red playback line) is overlapping a clip, right click on the clip, and choose *Slice*.
Slice All	When the play-head is overlapping many clips, right click on the play-head, and choose *Slice All* (all intersecting clips on all tracks will be cut/sliced).
Split Clip Dialog	Right click on a file, and choose *Split Clip*. A dialog will appear which allows for creating lots of small cuts in a single video file.
Razor Tool	The *razor tool* from the **Edit Toolbar** cuts a clip wherever you click on it. So be careful, it is easy and dangerous!

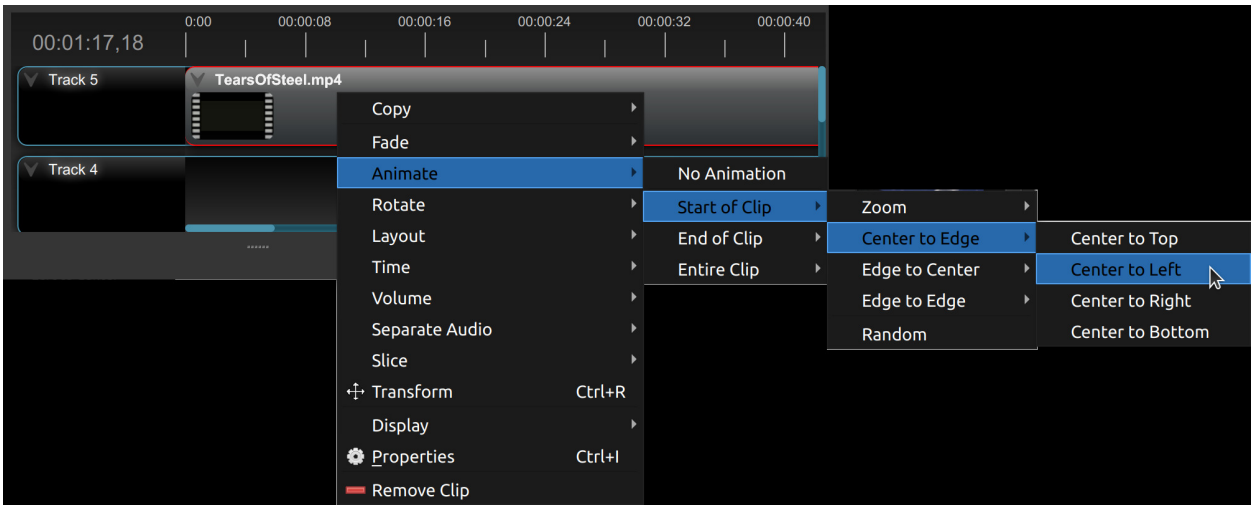
Keep in mind that the above cutting methods also have *Keyboard Shortcuts*, to save even more time.

1.7.2 Context Menu

OpenShot has tons of great preset animations and clip properties, such as fading, sliding, zooming, reversing time, adjusting volume, etc… These presets can be accessed by right-clicking on a clip, revealing the context menu. A preset sets one (or more) clip properties for the user without needing to manually set the key-frame clip properties. See *Clip Properties*.

Some presets allow the user to target either the start, end, or entire clip, and most presets allow the user to reset a specific clip property. For example, when using the `Volume` preset, the user has the following menu options:

- **Reset** - This will reset the volume to the original level.
- **Start of Clip** - Your volume level selection will apply at the Beginning of the clip.
- **End of Clip** - Your volume level selection will apply to the End of the clip.
- **Entire Clip** - Your volume level selection will apply to the Entire clip.



Preset Name	Description
Fade	Fade the image in or out (often easier than using a transition)
Animate	Zoom and slide a clip
Rotate	Rotate or flip a clip
Layout	Make a video smaller or larger, and snap to any corner
Time	Reverse and speed up or slow down video
Volume	Fade in or out the volume, reduce or increase the volume of a clip, or mute
Separate Audio	Separate the audio from a clip. This preset can either create a single detached audio clip (positioned on a layer below the original clip), or multiple detached audio clips (one per audio track, positioned on multiple layers below the original clip)
Slice	Cut the clip at the play-head position
Transform	Enable transform mode
Display	Show waveform or thumbnail for a clip
Properties	Show the properties panel for a clip
Copy / Paste	Copy and paste key frames or duplicate an entire clip (with all key frames)
Remove Clip	Remove a clip from the timeline

Fade

The *Fade* preset enables smooth transitions by gradually increasing or decreasing the clip's opacity. It creates a fade-in or fade-out of the clip image, ideal for introducing or concluding clips. See *Alpha* key-frame.

- **Usage Example:** Applying a fade-out to a video clip to gently conclude a scene.
- **Tip:** Adjust the duration of the fade effect (slow or fast) to control its timing and intensity.

Animate

The *Animate* preset adds dynamic motion to clips, combining zooming and sliding animations. It animates a clip by zooming in or out while sliding across the screen. It can **slide** in many specific directions, or slide and zoom to a **random** location. See *Location X and Location Y* and *Scale X and Scale Y* key-frames.

- **Usage Example:** Using the animate preset to simulate a camera movement across a landscape shot.
- **Tip:** Experiment with different animation speeds and directions for diverse visual effects.

Rotate

The *Rotate* preset introduces easy rotation and flipping of clips, enhancing their visual appeal. It enables orientation adjustment, by rotating and flipping a clip for creative visual transformations. See *Rotation* key-frame.

- **Usage Example:** Rotating a photo or video by 90 degree (a portrait video to a landscape)
- **Usage Example:** If your video is oriented sideways (90 degrees), you can rotate it clockwise or counterclockwise by 90 degrees to bring it to the correct orientation. This can be useful when you accidentally recorded a video in portrait mode when you intended it to be landscape.
- **Usage Example:** If your video is upside down, you can rotate it by 180 degrees to flip it to the correct orientation. This can happen if you accidentally held your camera the wrong way while recording.

Layout

The *Layout* preset adjusts the size of a clip and snaps it to a chosen corner of the screen. It resizes a clip and anchors it to a corner or the center, useful for picture-in-picture or watermark effects. See *Location X and Location Y* and *Scale X and Scale Y* key-frames.

- **Usage Example:** Placing a logo in the corner of a video using the layout preset.
- **Tip:** Combine with animation presets for dynamic transitions involving resizing and repositioning.

Time

The *Time* preset manipulates clip playback speed, allowing for reverse playback or time-lapse effects. It alters the speed and direction of a clip's playback, enhancing visual storytelling. See *Time* key-frame.

- **Usage Example:** Creating a slow-motion effect to emphasize a specific action.
- **Tip:** Use time presets to creatively manipulate the pacing of your video.

Volume

The *Volume* preset controls audio properties, facilitating smooth volume adjustments. It manages audio volume, including fading in/out, reducing/increasing volume, or muting. See *Volume* key-frame.

- **Usage Example:** Applying a gradual volume fade-out to transition between scenes.
- **Tip:** Utilize volume presets for quickly lowering or raising volume levels.

Separate Audio

The *Separate Audio* preset splits the audio from a clip, creating detached audio clips positioned below the original clip on the timeline. This preset can either create a **single** detached audio clip (positioned on a layer below the original clip) or **multiple** detached audio clips (one per audio track, positioned on multiple layers below the original clip).

- **Usage Example:** Extracting background music from a video clip for independent control.
- **Tip:** Use this preset to fine-tune audio elements separately from the visual content.

Slice

The *Slice* preset cuts a clip at the play-head position, creating two separate clips. It divides a clip into two distinct parts at the current play-head position. See *Trimming & Slicing*.

- **Usage Example:** Splitting a clip to remove an unwanted section.
- **Tip:** Quickly cut a clip into many smaller clips, for easy rearranging.

Transform

The *Transform* preset activates the **transform tool** for a clip, allowing for quick adjustments to location, scale, rotation, shear, and rotation origin point.

To quickly adjust the location, scale, rotation, and shear of a clip, select a clip on the timeline to activate the transform tool. By default, the selected clip appears in the preview window with transform controls (blue lines and squares). Or if the transform tool is disabled, right click on a clip and choose **Transform**.

- Dragging the blue squares will adjust the **scale** of the image.
- Dragging the center will move the **location** of the image.
- Dragging the mouse on the outside of the blue lines will **rotate** the image.
- Dragging along the blue lines will **shear** the image in that direction.
- Dragging the circle in the middle will move the **origin point** that controls the center of **rotation**.

Note: Pay close attention to the play-head position (red playback line). Key frames are automatically created at the current playback position, to help quickly create animations. If you want to transform a clip with **no animation**, be sure the playhead is positioned before (to the left) of your clip. You can also manually adjust these same clip properties in the property editor, see *Clip Properties*.

- **Usage Example:** Using transform mode to resize and reposition a clip for a picture-in-picture effect.
- **Tip:** Utilize this preset to precisely control a clip's appearance.
- **Tip:** To crop a clip in OpenShot, you must use the *Crop* effect. Cropping is not a feature of the transform tool.

Display

The *Display* preset toggles the display mode of a clip on the timeline, showing either its waveform or thumbnail.

- **Usage Example:** Displaying the audio waveform for precise audio editing.
- **Tip:** Use this preset to focus on specific aspects of a clip's audio during editing.

Properties

The *Properties* preset opens the properties panel for a clip, allowing quick access for adjustments to clip properties, such as location, scale, rotation, etc… See *Clip Properties*.

- **Usage Example:** Adjusting clip properties like opacity, volume, or position.
- **Tip:** Apply this preset to streamline adjustments to all clip properties in a single dock.

Copy / Paste

The *Copy / Paste* preset facilitates copying and pasting keyframes or duplicating an entire clip along with its keyframes.

- **Usage Example:** Duplicating a clip with intricate animations for reuse in different parts of the project.
- **Tip:** Use this preset to replicate animations or effects across multiple clips.

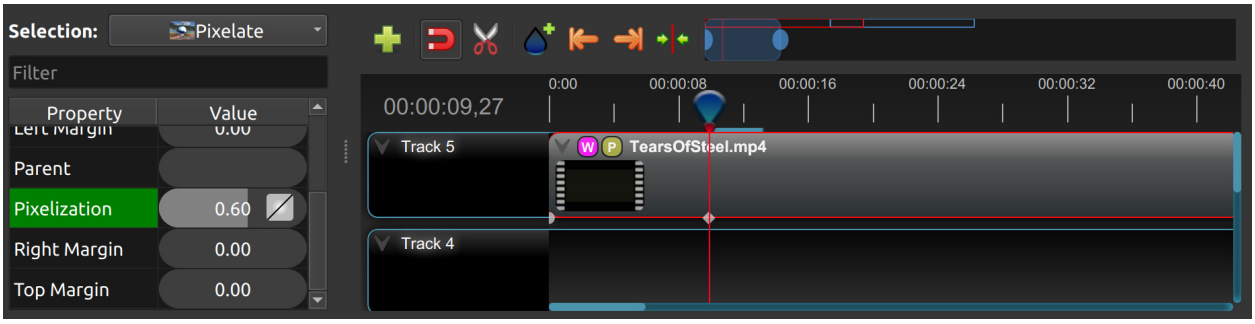
Remove Clip

The *Remove Clip* preset deletes a clip and its associated elements from the timeline.

- **Usage Example:** Deleting unused or redundant clips to declutter the project.
- **Tip:** Be cautious when using this preset, as it permanently removes clips from the timeline.

1.7.3 Effects

In addition to the many clip properties which can be animated and adjusted, you can also drop an effect directly onto a clip from the effects dock. Each effect is represented by a small colored letter icon. Clicking the effect icon will populate the properties of that effect, and allow you to edit (and animate) them. For the full list of effects, see *Effects*.



1.7.4 Clip Properties

Below is a list of clip properties which can be edited, and in most cases, animated over time. To view a clip's properties, right click and choose *Properties*. The property editor will appear, where you can change these properties. Note: Pay close attention to where the play-head (i.e. red playback line) is. Key frames are automatically created at the current playback position, to help quickly create animations.

When animating clip properties, you can fade a clip from opaque to transparent with `alpha`, slide a clip around the screen with `location_x` and `location_y`, scale a clip smaller or larger with the `scale_x` and `scale_y`, fade the volume of a clip quieter or louder with `volume`, and much more. If you want to set a single, static clip property with **no animation**, be sure the playhead is positioned before (to the left) of your clip when adjusting the property value.

See the table below for a full list of clip properties.

Clip Property Name	Type	Description
Alpha	Key-Frame	Curve representing the alpha for fading the image and adding transparency (1 to 0)
Channel Filter	Key-Frame	A number representing an audio channel to filter (clears all other channels)
Channel Mapping	Key-Frame	A number representing an audio channel to output (only works when filtering a channel)
Frame Number	Enum	The format to display the frame number (if any)
Duration	Float	The length of the clip (in seconds). Read-only property. This is calculated by: End - Start.
End	Float	The end trimming position of the clip (in seconds)
Gravity	Enum	The gravity of a clip determines where it snaps to its parent (details below)
Enable Audio	Enum	An optional override to determine if this clip has audio (-1=undefined, 0=no, 1=yes)
Enable Video	Enum	An optional override to determine if this clip has video (-1=undefined, 0=no, 1=yes)
ID	String	A randomly generated GUID (globally unique identifier) assigned to each clip. Read-only property.
Track	Int	The layer which holds the clip (higher tracks are rendered on top of lower tracks)
Location X	Key-Frame	Curve representing the relative X position in percent based on the gravity (-1 to 1)
Location Y	Key-Frame	Curve representing the relative Y position in percent based on the gravity (-1 to 1)
Volume Mixing	Enum	The volume mixing choices control how volume is adjusted before mixing (None=don't adjust volume of this clip, Reduce=lower the volume to 80%, Average=divide volume based on # of concurrent clips, details below)
Origin X	Key-Frame	Curve representing the rotation origin point, X position in percent (-1 to 1)
Origin Y	Key-Frame	Curve representing the rotation origin point, Y position in percent (-1 to 1)
Parent	String	The parent object to this clip, which makes many of these keyframe values initialize to the parent value
Position	Float	The position of the clip on the timeline (in seconds, 0.0 is the beginning of the timeline)
Rotation	Key-Frame	Curve representing the rotation (0 to 360)
Scale	Enum	The scale determines how a clip should be resized to fit its parent (details below)
Scale X	Key-Frame	Curve representing the horizontal scaling in percent (0 to 1)
Scale Y	Key-Frame	Curve representing the vertical scaling in percent (0 to 1)
Shear X	Key-Frame	Curve representing X shear angle in degrees (-45.0=left, 45.0=right)
Shear Y	Key-Frame	Curve representing Y shear angle in degrees (-45.0=down, 45.0=up)
Start	Float	The start trimming position of the clip (in seconds)
Time	Key-Frame	Curve representing the frames over time to play (used for speed and direction of video)
Volume	Key-Frame	Curve representing the volume for fading audio quieter/louder, mute, or adjusting levels (0 to 1)
Wave Color	Key-Frame	Curve representing the color of the audio waveform
Waveform	Bool	Should a waveform be used instead of the clip's image

Alpha

The *Alpha* property is a key-frame curve that represents the alpha value, determining fading and transparency of the image in the clip. The curve ranges from 1 (fully opaque) to 0 (completely transparent).

- **Usage Example:** Applying a gradual fade-in or fade-out effect to smoothly transition clips.
- **Tip:** Use keyframes to create complex fading patterns, such as fading in and then fading out for a ghostly effect.

Channel Filter

The *Channel Filter* property is a key-frame curve used for audio manipulation. It specifies a single audio channel to be filtered while clearing all other channels.

- **Usage Example:** Isolating and enhancing specific audio elements, like isolating vocals from a song.
- **Tip:** Combine with the "Channel Mapping" property to route the filtered channel to a specific audio output.

Channel Mapping

The *Channel Mapping* property is a key-frame curve that defines the output audio channel for the clip. This property works in conjunction with the "Channel Filter" property and specifies which channel is retained in the output.

- **Usage Example:** Keeping the filtered channel's audio while discarding others for an unconventional audio mix.
- **Tip:** Experiment with mapping different channels to create unique audio effects, like panning sounds between speakers.

Frame Number

The *Frame Number* property specifies the format in which the frame numbers are displayed within the clip, if applicable.

- **Usage Example:** Displaying frame numbers in the top left corner of the clip, as either absolute frame number or relative to the start of the clip.
- **Tip:** This can help with identifying precise frame numbers or troubleshooting a problem.

Duration

The *Duration* property is a float value indicating the length of the clip in seconds. This is a Read-only property. This is calculated by: End - Start. To modify duration, you must edit the *Start* and/or *End* clip properties.

- **Usage Example:** Inspect the duration of a clip to ensure it fits a specific time slot in the project.
- **Tip:** Consider using the "Duration" property for clips that need to match specific time intervals, such as dialogue or scenes.

End

The *End* property defines the trimming point at the end of the clip in seconds, allowing you to control how much of the clip is visible in the timeline. Changing this property will impact the *Duration* clip property.

- **Usage Example:** Trimming the end of a clip to align with another clip or trimming off unwanted sections of the clip.
- **Tip:** Combine the "Start" and "End" properties to precisely control the visible portion of the clip.

Gravity

The *Gravity* clip property sets the initial display position coordinate (X,Y) for the clip, after it has been scaled (see *Scale*). This affects where the clip picture is initially displayed on the screen, for example `Top Left` or `Bottom Right`. The default gravity option is `Center`, which displays the picture in the very center of the screen. The gravity options are:

- **Top Left** – The top and left edges of the clip align with the top and left edges of the screen
- **Top Center** – The top edge of the clip aligns with the top edge of the screen; the clip is horizontally centered on the screen.
- **Top Right** – The top and right edges of the clip align with the top and right edges of the screen
- **Left** – The left edge of the clip aligns with the left edge of the screen; the clip is vertically centered on the screen.
- **Center** (default) – The clip is centered horizontally and vertically on the screen.
- **Right** – The right edge of the clip aligns with the right edge of the screen; the clip is vertically centered on the screen.
- **Bottom Left** – The bottom and left edges of the clip align with the bottom and left edges of the screen
- **Bottom Center** – The bottom edge of the clip aligns with the bottom edge of the screen; the clip is horizontally centered on the screen.
- **Bottom Right** – The bottom and right edges of the clip align with the bottom and right edges of the screen

Enable Audio

The *Enable Audio* property is an enumeration that overrides the default audio setting for the clip. Possible values: -1 (undefined), 0 (no audio), 1 (audio enabled).

- **Usage Example:** Turning off unwanted audio for a clip, like ambient noise.
- **Tip:** Use this property to control audio playback for specific clips, especially clips which have no useful audio track.

Enable Video

The *Enable Video* property is an enumeration that overrides the default video setting for the clip. Possible values: -1 (undefined), 0 (no video), 1 (video enabled).

- **Usage Example:** Disabling the video of a clip while retaining its audio for creating audio-only sequences.
- **Tip:** This property can be helpful when creating scenes with audio commentary or voiceovers.

ID

The *ID* property holds a randomly generated GUID (Globally Unique Identifier) assigned to each clip, ensuring its uniqueness. This is a Read-only property, and assigned by OpenShot when a clip is created.

- **Usage Example:** Referencing specific clips within custom scripts or automation tasks.
- **Tip:** While typically managed behind the scenes, understanding clip IDs can aid in advanced project customization.

Track

The *Track* property is an integer indicating the layer on which the clip is placed. Clips on higher tracks are rendered above those on lower tracks.

- **Usage Example:** Arranging clips in different layers for creating visual depth and complexity.
- **Tip:** Use higher tracks for elements that need to appear above others, like text overlays or graphics.

Location X and Location Y

The *Location X* and *Location Y* properties are key-frame curves that determine the relative position of the clip, expressed in percentages, based on the specified gravity. The range for these curves is -1 to 1. See *Transform*.

- **Usage Example:** Animating a clip's movement across the screen using key-frame curves for both X and Y locations.
- **Tip:** Combine with gravity settings to create dynamic animations that adhere to consistent alignment rules.

Volume Mixing

The *Volume Mixing* property is an enumeration that controls how volume adjustments are applied before mixing audio. Options: None (no adjustment), Reduce (volume lowered to 80%), Average (volume divided based on the number of concurrent clips).

- **Usage Example:** Automatically lowering the volume of a clip to allow background music to stand out more prominently.
- **Tip:** Experiment with volume mixing options to achieve balanced audio levels across different clips.

Mixing audio involves adjusting volume levels so that **overlapping clips** do not become too loud (creating audio distortion and loss of audio clarity). If you combine particularly loud audio clips on multiple tracks, clipping (a staccato audio distortion) may occur. To avoid distortion, OpenShot might need to reduce the volume levels in overlapping clips. The following audio mixing methods are available:

- **None** - Make no adjustments to volume data before mixing audio. Overlapping clips will combine audio at full volume, with no reduction.
- **Average** - Automatically divide the volume of each clip based on the # of overlapping clips. For example, 2 overlapping clips would each have 50% volume, 3 overlapping clips would each have 33% volume, etc…
- **Reduce** - Automatically reduce overlapping clips volume by 20%, which reduces the likelihood of becoming too loud, but does not always prevent audio distortion. For example, if you have 10 loud clips overlapping, each with a 20% reduction in volume, it might still exceed the max allowable volume and exhibit audio distortion.

For quickly adjusting the volume of a clip, you can use the simple *Volume Preset* menu. See *Context Menu*. For precise control over the volume of a clip, you can manually set the *Volume Key-frame*. See *Volume*.

Origin X and Origin Y

The *Origin X* and *Origin Y* properties are key-frame curves that define the rotation origin point's position in percentages. The range for these curves is -1 to 1. See *Transform*.

- **Usage Example:** Rotating a clip around a specific point, such as a character's pivot joint.
- **Tip:** Set the origin point to achieve controlled and natural-looking rotations during animations.

Clip Parent

The *Parent* property of a clip sets the initial keyframe values to the parent object. For example, if many clips all point to the same parent clip, they will inherit all their default properties, such as `location_x`, `location_y`, `scale_x`, `scale_y`, etc… This can be very useful in certain circumstances, such as when you have many clips that need to move or scale together.

- **Usage Example:** Creating complex animations by establishing a parent-child relationship between clips.
- **Tip:** Utilize this property to propagate changes from the parent clip to child clips for consistent animations.
- **Tip:** You can also set the `parent` attribute to a `Tracker` or `Object Detector` tracked object, so the clip follows the location and scale of a tracked object. Also see *Effect Parent*.

Position

The *Position* property determines the clip's position on the timeline in seconds, with 0.0 indicating the beginning.

- **Usage Example:** Timing a clip's appearance to coincide with specific events in the project.
- **Tip:** Adjust the position to synchronize clips with audio cues or visual elements.

Rotation

The *Rotation* property is a key-frame curve that controls the rotation angle of the clip, ranging from -360 to 360 degrees. You can rotate clockwise or counterclockwise. Quickly adjust the orientation angle of a clip (sideways, upside down, right side up, portrait, landscape), flip a clip, or animate the rotation. See *Transform*.

- **Usage Example:** Simulating a spinning effect by animating the rotation curve.
- **Tip:** Use this property creatively for effects like rotating text or emulating camera movement.
- **Tip:** Experiment with rotating your video at different angles, not just 90 or 180 degrees. Sometimes a slight tilt or a specific angle can add creative flair to your video, especially for artistic or storytelling purposes.
- **Tip:** After rotating your video, you might end up with black bars around the edges. Consider cropping and resizing the video to eliminate these bars and maintain a clean, polished look.
- **Tip:** If you're dealing with vertical videos that are meant to be watched on horizontal screens, rotate them by 90 degrees and then scale them up to fill the frame. This way, your vertical video will occupy more screen real estate.
- **Tip:** If the horizon in your video appears slanted due to camera tilt, use rotation to level it. This is particularly important for landscape shots to maintain a professional and visually pleasing appearance.

Scale

The *Scale* property is the initial resizing or scaling method used to display the picture of a clip, which may be further adjusted by the *Scale X* and *Scale Y* clip properties (see *Scale X and Scale Y*). It is recommended to use assets with the same aspect ratio as your project profile, which allows many of these resizing methods to fully scale your clip up to the size of the screen, without adding any black bars on the edges. The scale methods are:

- **Best Fit** (default) – The clip is as large as possible without changing the aspect ratio. This might result in black bars on certain sides of the picture, if the aspect ratio does not exactly match your project size.
- **Crop** – The aspect ratio of the clip is maintained while the clip is enlarged to fill the entire screen, even if that means some of it will be cropped. This prevents black bars around the picture, but if the aspect ratio of the clip does not match the project size, some of the picture will be cropped off.
- **None** – The clip is displayed in its original size. This is not recommended, since the picture will not scale correctly if you change the project profile (or project size).
- **Stretch** – The clip is stretched to fill the entire screen, changing the aspect ratio if necessary.

Scale X and Scale Y

The *Scale X* and *Scale Y* properties are key-frame curves that represent horizontal and vertical scaling in percentages, respectively. The range for these curves is 0 to 1. See *Transform*.

- **Usage Example:** Creating a zoom-in effect by animating the Scale X and Scale Y curves simultaneously.
- **Tip:** Scale the image larger than the screen, only revealing a portion of the video. This is a simple way to crop a portion of the video.
- **Tip:** Scale the horizontal and vertical elements separately, to squash and stretch the image in fun ways.
- **Tip:** Combine scaling with rotation and location properties for dynamic transformations.

Shear X and Shear Y

The *Shear X* and *Shear Y* properties are key-frame curves that represent X and Y shear angles in degrees, respectively. See *Transform*.

- **Usage Example:** Adding a dynamic tilt effect to a clip by animating the shear angles.
- **Tip:** Use shear properties for creating slanted or skewed animations.

Start

The *Start* property defines the trimming point at the beginning of the clip in seconds. Changing this property will impact the *Duration* clip property.

- **Usage Example:** Removing the initial portion of a clip to focus on a specific scene or moment.
- **Tip:** Utilize the "Start" property in combination with the "End" property for precise clip trimming.

Time

The *Time* property is a key-frame curve that represents frames played over time, affecting the speed and direction of the video. You can use one of the available presets (*normal, fast, slow, freeze, freeze & zoom, forward, backward*), by right clicking on a Clip and choosing the *Time* menu. Many presets are available in this menu for reversing, speeding up, and slowing down a video clip, see *Context Menu*.

Optionally, you can manually set key-frame values for the *Time* property. The value represents the *frame number* at the position of the key-frame. This can be tricky to determine and might require a calculator to find the needed values. For example, if the beginning of your Clip sets a time value of `300` (i.e. *frame 300*), and the end of your clip sets a time value of `1` (*frame 1*), OpenShot will play this clip backwards, starting at frame 300 and ending at frame 1, at the appropriate speed (based on where these key-frames are set on the timeline). NOTE: To determine the total number of frames in a clip, multiply the duration of the file with the FPS of the project (for example: `47.0 sec clip duration X 24.0 Project FPS = 1128 total frames`).

This allows for some very complex scenarios, such as jump cutting inside a clip, reversing a portion of a clip, slowing down a portion of a clip, freezing on a frame, and much more. See *Animation* for more details on manual key-frame animations.

- **Usage Example:** Creating a slow-motion or time-lapse effect by modifying the time curve.
- **Tip:** Adjust the "Time" property to control video playback speed for dramatic visual impact.

Volume

The *Volume* property is a key-frame curve that controls audio volume or level, ranging from 0 (mute) to 1 (full volume). For automatic adjustment of volume, see *Volume Mixing*.

- **Usage Example:** Gradually fading out background music as dialogue becomes more prominent, or increasing or lowering the volume of a clip.
- **Tip:** Combine multiple volume key-frames for nuanced audio adjustments, such as ducking the level of the music when dialog is spoken.
- **Tip:** For **quickly** adjusting the volume of a clip you can use the simple *Volume Preset* menu. See *Context Menu*.

Wave Color

The *Wave Color* property is a key-frame curve that represents the color of the audio waveform visualization.

- **Usage Example:** Matching the waveform color to the project's overall visual theme.
- **Tip:** Experiment with different colors to enhance the visual appeal of the waveform or animate the color over time.

Waveform

The *Waveform* property is a boolean that determines whether a waveform visualization is used instead of the clip's image.

- **Usage Example:** Displaying an audio waveform in place of the video for visually highlighting audio patterns.
- **Tip:** Use waveform visualization for emphasizing music beats or voice modulations.

1.7.5 More Information

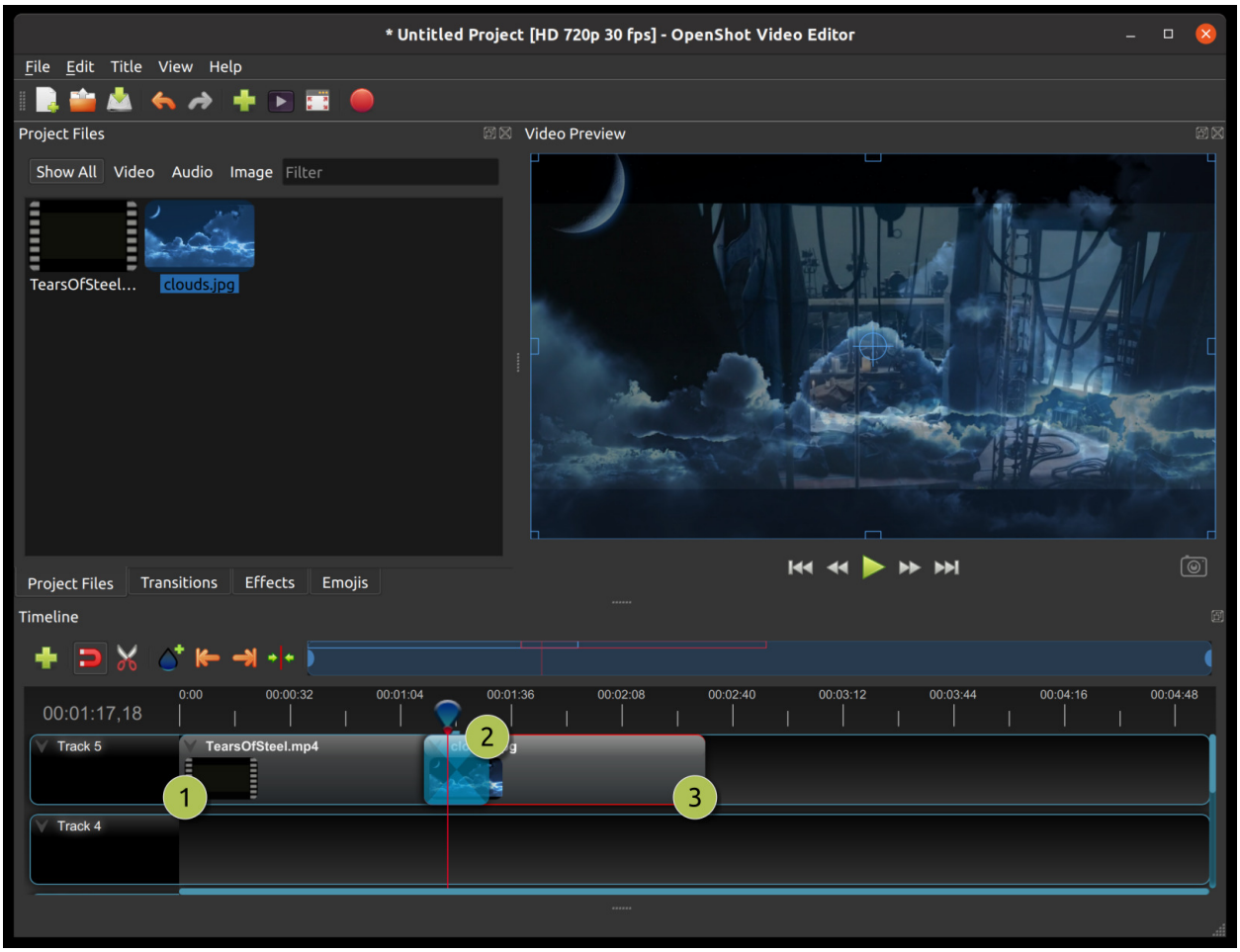
For more info on key frames and animation, see *Animation*.

1.8 Transitions

A transition is used to gradually fade (or wipe) between two clip images. In OpenShot, transitions are represented by blue, rounded rectangles on the timeline. They are automatically created when you overlap two clips, and can be added manually by dragging one onto the timeline from the **Transitions** panel. A transition must be placed on top of a clip (overlapping it), with the most common location being the beginning or end or a clip.

NOTE: Transitions **do not** affect **audio**, so if you are intending to fade in/out the audio volume of a clip, you must adjust the `volume` clip property. See *Clip Properties*.

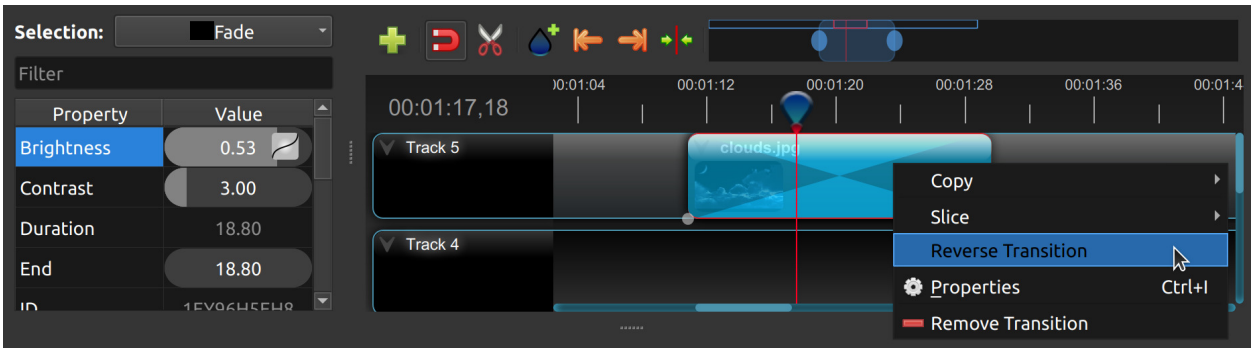
1.8.1 Overview



#	Name	Description
1	Clip 1	A video clip
2	Transition	A gradual fade transition between the 2 clip images, created automatically by overlapping the clips (does not affect the audio)
3	Clip 2	An image clip

1.8.2 Direction

Transitions adjust the alpha/transparency of the overlapping clip image (i.e. the clip under the transition), and can either fade from opaque to transparent, or transparent to opaque (does not affect the audio). Right click and choose *Reverse Transition* to change the direction of the fade. You can also manually adjust the **Brightness** curve, animating the visual fade in any way you wish.



1.8.3 Cutting & Slicing

OpenShot has many easy ways to adjust the start and end trim positions of a transition (otherwise known as cutting or trimming). The most common method is simply grabbing the left (or right) edge of the transition and dragging. Here is a list of methods for cutting transitions in OpenShot:

Slice Method	Description
Slice	When the play-head (i.e. red playback line) is overlapping a transition, right click on the transition, and choose Slice
Slice All	When the play-head is overlapping many transitions, right click on the play-head, and choose Slice All (it will cut all intersecting transitions)
Resizing Edge	Mouse over the edge of a transition, and resize the edge
Razor Tool	The razor tool cuts a transition wherever you click, so be careful. Easy and dangerous.

Keep in mind that all of the above cutting methods also have *Keyboard Shortcuts*.

1.8.4 Mask

In video editing, masks are powerful tools that allow you to selectively display specific areas of a video clip. Similar to masking in image editing, video masks define a region where changes will be applied while leaving other parts of the video unaffected.

A mask can be thought of as a shape or path that outlines the area you want to target. Commonly used shapes include rectangles, circles, and freeform paths. The masked area is referred to as the "masked region."

Masks can be animated, allowing you to change the shape or position over time. This enables dynamic effects like revealing hidden elements or transitioning between different visual states. In OpenShot, you can convert a transition to a mask, by customizing the *Brightness* key-frame curve. Keeping a static (unchanging) value of brightness, will maintain a fixed mask location. Combine this with custom transition images, or even custom image sequences, to create animated, complex masks.

1.8.5 Custom Transition

Any greyscale image can be used as a transition (or mask), by adding it to your `~/.openshot_qt/transitions/` folder. Just be sure to name your file something that is easily recognizable, and restart OpenShot. Your custom transition/mask will now show up in the list of transitions.

1.8.6 Transition Properties

Below is a list of transition properties which can be edited, and in most cases, animated over time. To view a transition's properties, right click and choose *Properties*. The property editor will appear, where you can change these properties. NOTE: Pay close attention to where the play-head (i.e. red playback line) is. Key frames are automatically created at the current playback position, to help create animations.

NOTE: Transitions do not affect audio, so if you are intending to fade in/out the audio volume of a clip, you must adjust the `volume` clip property. See *Clip Properties*.

Transition Property Name	Type	Description
Brightness	Key-frame	Curve representing the brightness of the transition image, which affects the fade/wipe (-1 to 1)
Contrast	Key-frame	Curve representing the contrast of the transition image, which affects the softness/hardness of the fade/wipe (0 to 20)
Duration	Float	The length of the transition (in seconds). Read-only property.
End	Float	The end trimming position of the transition (in seconds).
ID	String	A randomly generated GUID (globally unique identifier) assigned to each transition. Read-only property.
Parent	String	The parent object to this transition, which makes many of these keyframe values initialize to the parent value.
Position	Float	The position of the transition on the timeline (in seconds).
Replace Image	Bool	For debugging a problem, this property displays the transition image (instead of becoming a transparency).
Start	Float	The start trimming position of the transition (in seconds).
Track	Int	The layer which holds the transition (higher tracks are rendered on top of lower tracks).

Duration

The *Duration* property is a float value indicating the length of the transition in seconds. This is a Read-only property. This is calculated by: End - Start. To modify duration, you must edit the *Start* and/or *End* transition properties.

- **Usage Example:** Inspect the duration of a transition to ensure it fits a specific time slot in the project.
- **Tip:** Consider using the "Duration" property for transitions that need to match specific time intervals, such as dialogue or scenes.

End

The *End* property defines the trimming point at the end of the transition in seconds, allowing you to control how much of the transition is visible in the timeline. Changing this property will impact the *Duration* transition property.

- **Usage Example:** Trimming the end of a transition to align with another clip or trimming off unwanted sections of the transition.
- **Tip:** Combine the "Start" and "End" properties to precisely control the visible portion of the transition.

ID

The *ID* property holds a randomly generated GUID (Globally Unique Identifier) assigned to each transition, ensuring its uniqueness. This is a Read-only property, and assigned by OpenShot when a transition is created.

- **Usage Example:** Referencing specific transitions within custom scripts or automation tasks.
- **Tip:** While typically managed behind the scenes, understanding transition IDs can aid in advanced project customization.

Track

The *Track* property is an integer indicating the layer on which the transition is placed. Transitions on higher tracks are rendered above those on lower tracks.

- **Usage Example:** Arranging transitions in different layers for creating visual depth and complexity.
- **Tip:** Use higher tracks for elements that need to appear above others, like text overlays or graphics.

1.9 Effects

Effects are used in OpenShot to enhance or modify the audio or video of a clip. They can modify pixels and audio data, and can generally enhance your video projects. Each effect has its own set of properties, most of which can be animated over time, for example varying the *Brightness & Contrast* of a clip over time.

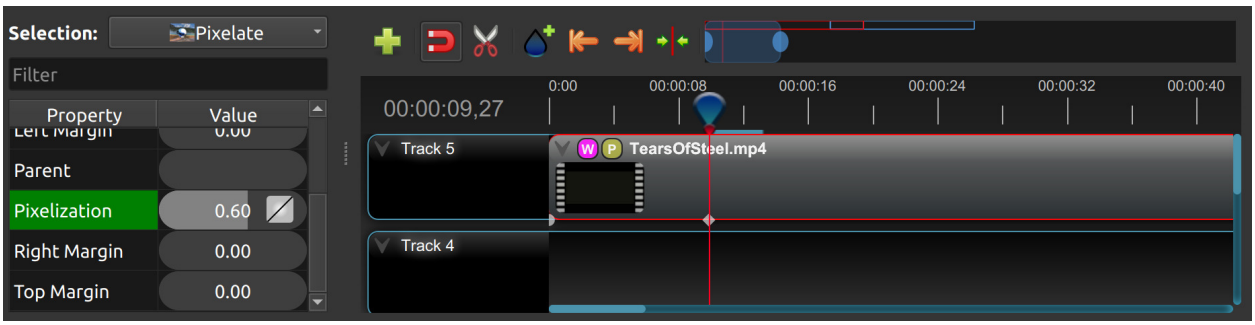
Effects can be added to any clip by dragging and dropping them from the Effects tab onto a clip. Each effect is represented by a small colored icon and the first letter of the effect name. Note: Pay close attention to where the play-head (i.e. red playback line) is. Key frames are automatically created at the current playback position, to help create animations quickly.

To view an effect's properties, right-click on the effect icon, revealing the context menu, and choose *Properties*. The property editor will appear, where you can edit these properties. Properties appear alphabetically in the dock, with filter options available at the top. See *Clip Properties*.

To adjust a property:

- Drag the slider for coarse changes.
- Double-click to enter precise values.
- Right/double-click for non-numerical options.

Effect properties are integral to the *Animation* system. When you modify an effect property, a keyframe is generated at the current playhead position. For a property to span the entire clip, position the playhead at or before the clip's start before making adjustments. A convenient way to identify a clip's start is by utilizing the 'next/previous marker' feature on the Timeline toolbar.



1.9.1 List of Effects

OpenShot Video Editor has a total of 27 built-in video and audio effects: 18 video effects and 9 audio effects. These effects can be added to a clip by dragging the effect onto a clip. The following table contains the name and short description of each effect.

Effect Name	Effect Description
Alpha Mask / Wipe Transition	Grayscale mask transition between images.
Bars	Add colored bars around your video.
Blur	Adjust image blur.
Brightness & Contrast	Modify frame's brightness and contrast.
Caption	Add text captions to any clip.
Chroma Key (Greenscreen)	Replace color with transparency.
Color Saturation	Adjust color intensity.
Color Shift	Shift image colors in various directions.
Crop	Crop out parts of your video.
Deinterlace	Remove interlacing from video.
Hue	Adjust hue / color.
Negative	Produce a negative image.
Object Detector	Detect objects in video.
Pixelate	Increase or decrease visible pixels.
Shift	Shift image in different directions.
Stabilizer	Reduce video shake.
Tracker	Track bounding box in video.
Wave	Distort image into a wave pattern.
Compressor	Reduce loudness or amplify quiet sounds.
Delay	Adjust audio-video synchronism.
Distortion	Clip audio signal for distortion.
Echo	Add delayed sound reflection.
Expander	Make loud parts relatively louder.
Noise	Add random equal-intensity signals.
Parametric EQ	Adjust frequency volume in audio.
Robotization	Transform audio into robotic voice.
Whisperization	Transform audio into whispers.

1.9.2 Effect Properties

Below is a list of **common** effect properties, shared by all effects in OpenShot. To view an effect's properties, right click and choose *Properties*. The property editor will appear, where you can change these properties. Note: Pay close attention to where the play-head (i.e. red playback line) is. Key frames are automatically created at the current playback position, to help quickly create animations.

See the table below for a list of common effect properties. Only the **common properties** that all effects share are listed here. Each effect also has many **unique properties**, which are specific to each effect, see *Video Effects* for more information on individual effects and their unique properties.

Effect Property Name	Type	Description
Duration	Float	The length of the effect (in seconds). Read-only property. Most effects default to the length of a clip. This property is hidden when an effect belongs to a clip.
End	Float	The end trimming position of the effect (in seconds). This property is hidden when an effect belongs to a clip.
ID	String	A randomly generated GUID (globally unique identifier) assigned to each effect. Read-only property.
Parent	String	The parent object to this effect, which makes many of these keyframe values initialize to the parent value.
Position	Float	The position of the effect on the timeline (in seconds). This property is hidden when an effect belongs to a clip.
Start	Float	The start trimming position of the effect (in seconds). This property is hidden when an effect belongs to a clip.
Track	Int	The layer which holds the effect (higher tracks are rendered on top of lower tracks). This property is hidden when an effect belongs to a clip.
Apply Before Clip	Boolean	Apply this effect before the Clip processes keyframes? (default is Yes)

Duration

The *Duration* property is a float value indicating the length of the effect in seconds. This is a Read-only property. This is calculated by: End - Start. To modify duration, you must edit the *Start* and/or *End* effect properties.

NOTE: Most effects in OpenShot default the effect duration to the clip duration, and hide this property from the editor.

End

The *End* property defines the trimming point at the end of the effect in seconds, allowing you to control how much of the effect is visible in the timeline. Changing this property will impact the *Duration* effect property.

NOTE: Most effects in OpenShot default this property to match the clip, and hide this property from the editor.

ID

The *ID* property holds a randomly generated GUID (Globally Unique Identifier) assigned to each effect, ensuring its uniqueness. This is a Read-only property, and assigned by OpenShot when an effect is created.

Track

The *Track* property is an integer indicating the layer on which the effect is placed. Effects on higher tracks are rendered above those on lower tracks.

NOTE: Most effects in OpenShot default this property to match the clip, and hide this property from the editor.

1.9.3 Effect Parent

The *Parent* property of an effect sets the initial keyframe values to a parent effect. For example, if many effects all point to the same parent effect, they will inherit all their initial properties, such as font size, font color, and background color for a `Caption` effect. In the example of many `Caption` effects using the same Parent effect, it is an efficient way to manage a large number of these effects.

NOTE: The `parent` property for effects should be linked to the **same type** of parent effect, otherwise their default initial values will not match. Also see *Clip Parent*.

Position

The *Position* property determines the effect's position on the timeline in seconds, with 0.0 indicating the beginning.

NOTE: Most effects in OpenShot default this property to match the clip, and hide this property from the editor.

Start

The *Start* property defines the trimming point at the beginning of the effect in seconds. Changing this property will impact the *Duration* effect property.

NOTE: Most effects in OpenShot default this property to match the clip, and hide this property from the editor.

1.9.4 Sequencing

Effects are normally applied **before** the Clip processes keyframes. This allows the effect to process the raw image of the clip, before the clip applies properties such as scaling, rotation, location, etc… Normally, this is the preferred sequence of events, and this is the default behavior of effects in OpenShot. However, you can optionally override this behavior with the `Apply Before Clip Keyframes` property.

If you set the `Apply Before Clip Keyframes` property to `No`, the effect will be sequenced **after** the clip scales, rotates, and applies keyframes to the image. This can be useful on certain effects, such as the **Mask** effect, when you want to animate a clip first and then apply a static mask to the clip.

1.9.5 Video Effects

Effects are generally divided into two categories: video and audio effects. Video effects modify the image and pixel data of a clip. Below is a list of video effects, and their properties. Often it is best to experiment with an effect, entering different values into the properties, and observing the results.

Alpha Mask / Wipe Transition

The Alpha Mask / Wipe Transition effect leverages a grayscale mask to create a dynamic transition between two images or video clips. In this effect, the light areas of the mask reveal the new image, while the dark areas conceal it, allowing for creative and custom transitions that go beyond standard fade or wipe techniques. This effect only affects the image, and not the audio track.

Property Name	Description
brightness	`(float, -1 to 1)` This curve controls the motion across the wipe
contrast	`(float, 0 to 20)` This curve controls the hardness and softness of the wipe edge
reader	`(reader)` This reader can use any image or video as input for your grayscale wipe
replace_image	`(bool, choices: ['Yes', 'No'])` Replace the clips image with the current grayscale wipe image, useful for troubleshooting

Bars

The Bars effect adds colored bars around your video frame, which can be used for aesthetic purposes, to frame the video within a certain aspect ratio, or to simulate the appearance of viewing content on a different display device. This effect is particularly useful for creating a cinematic or broadcast look.

Property Name	Description
bottom	`(float, 0 to 0.5)` The curve to adjust the bottom bar size
color	`(color)` The curve to adjust the color of bars
left	`(float, 0 to 0.5)` The curve to adjust the left bar size
right	`(float, 0 to 0.5)` The curve to adjust the right bar size
top	`(float, 0 to 0.5)` The curve to adjust the top bar size

Blur

The Blur effect softens the image, reducing detail and texture. This can be used to create a sense of depth, draw attention to specific parts of the frame, or simply to apply a stylistic choice for aesthetic purposes. The intensity of the blur can be adjusted to achieve the desired level of softness.

Property Name	Description
horizontal_radius	`(float, 0 to 100)` Horizontal blur radius keyframe. The size of the horizontal blur operation in pixels.
iterations	`(float, 0 to 100)` Iterations keyframe. The # of blur iterations per pixel. 3 iterations = Gaussian.
sigma	`(float, 0 to 100)` Sigma keyframe. The amount of spread in the blur operation. Should be larger than radius.
vertical_radius	`(float, 0 to 100)` Vertical blur radius keyframe. The size of the vertical blur operation in pixels.

Brightness & Contrast

The Brightness & Contrast effect allows for the adjustment of the overall lightness or darkness of the image (brightness) and the difference between the darkest and lightest parts of the image (contrast). This effect can be used to correct poorly lit videos or to create dramatic lighting effects for artistic purposes.

Property Name	Description
brightness	`(float, -1 to 1)` The curve to adjust the brightness
contrast	`(float, 0 to 100)` The curve to adjust the contrast (3 is typical, 20 is a lot, 100 is max. 0 is invalid)

Caption

Add text captions on top of your video. We support both VTT (WebVTT) and SubRip (SRT) subtitle file formats. These formats are used to display captions or subtitles in videos. They allow you to add text-based subtitles to video content, making it more accessible to a wider audience, especially for those who are deaf or hard of hearing. The Caption effect can even animate the text fading in/out, and supports any font, size, color, and margin. OpenShot also has an easy-to-use Caption editor, where you can quickly insert captions at the playhead position, or edit all your caption text in one place.

```
:caption: Show a caption, starting at 5 seconds and ending at 10 seconds.

00:00:05.000 --> 00:00:10.000
Hello, welcome to our video!
```

Property Name	Description
background	`(color)` Color of caption area background
background_alpha	`(float, 0 to 1)` Background color alpha
background_corner	`(float, 0 to 60)` Background corner radius
background_padding	`(float, 0 to 60)` Background padding
caption_font	`(font)` Font name or family name
caption_text	`(caption)` VTT/Subrip formatted caption text (multi-line)
color	`(color)` Color of caption text
fade_in	`(float, 0 to 3)` Fade in per caption (# of seconds)
fade_out	`(float, 0 to 3)` Fade out per caption (# of seconds)
font_alpha	`(float, 0 to 1)` Font color alpha
font_size	`(float, 0 to 200)` Font size in points
left	`(float, 0 to 0.5)` Size of left margin
line_spacing	`(float, 0 to 5)` Distance between lines (1.0 default)
right	`(float, 0 to 0.5)` Size of right margin
stroke	`(color)` Color of text border / stroke
stroke_width	`(float, 0 to 10)` Width of text border / stroke
top	`(float, 0 to 1)` Size of top margin

Chroma Key (Greenscreen)

The Chroma Key (Greenscreen) effect replaces a specific color (or chroma) in the video (commonly green or blue) with transparency, allowing for the compositing of the video over a different background. This effect is widely used in film and television production for creating visual effects and placing subjects in settings that would be otherwise impossible or impractical to shoot in.

Property Name	Description
color	`(color)` The color to match
fuzz	`(float, 0 to 125)` The fuzz factor (or threshold)
halo	`(float, 0 to 125)` The additional threshold for halo elimination.
keymethod	`(int, choices: ['Basic keying', 'HSV/HSL hue', 'HSV saturation', 'HSL saturation', 'HSV value', 'HSL luminance', 'LCH luminosity', 'LCH chroma', 'LCH hue', 'CIE Distance', 'Cb,Cr vector'])` The keying method or algorithm to use.

Color Saturation

The Color Saturation effect adjusts the intensity and vibrancy of colors within the video. Increasing saturation can make colors more vivid and eye-catching, while decreasing it can create a more subdued, almost black-and-white appearance.

Property Name	Description
saturation	`(float, 0 to 4)` The curve to adjust the overall saturation of the frame's image (0.0 = greyscale, 1.0 = normal, 2.0 = double saturation)
saturation_B	`(float, 0 to 4)` The curve to adjust blue saturation of the frame's image
saturation_G	`(float, 0 to 4)` The curve to adjust green saturation of the frame's image (0.0 = greyscale, 1.0 = normal, 2.0 = double saturation)
saturation_R	`(float, 0 to 4)` The curve to adjust red saturation of the frame's image

Color Shift

Shift the colors of an image up, down, left, and right (with infinite wrapping).

Each pixel has 4 color channels:

- Red, Green, Blue, and Alpha (i.e. transparency)
- Each channel value is between 0 and 255

The Color Shift effect simply "moves" or "translates" a specific color channel on the X or Y axis. *Not all video and image formats support an alpha channel, and in those cases, you will not see any changes when adjusting the color shift of the alpha channel.*

Property Name	Description
alpha_x	`(float, -1 to 1)` Shift the Alpha X coordinates (left or right)
alpha_y	`(float, -1 to 1)` Shift the Alpha Y coordinates (up or down)
blue_x	`(float, -1 to 1)` Shift the Blue X coordinates (left or right)
blue_y	`(float, -1 to 1)` Shift the Blue Y coordinates (up or down)
green_x	`(float, -1 to 1)` Shift the Green X coordinates (left or right)
green_y	`(float, -1 to 1)` Shift the Green Y coordinates (up or down)
red_x	`(float, -1 to 1)` Shift the Red X coordinates (left or right)
red_y	`(float, -1 to 1)` Shift the Red Y coordinates (up or down)

Crop

The Crop effect removes unwanted outer areas from the video frame, allowing you to focus on a particular part of the shot, change the aspect ratio, or remove distracting elements from the edges of the frame. This effect is the primary method for cropping a Clip in OpenShot. The `left`, `right`, `top`, and `bottom` key-frames can even be animated, for a moving and resizing cropped area. You can leave the cropped area blank, or you can dynamically resize the cropped area to fill the screen.

Property Name	Description
bottom	`(float, 0 to 1)` Size of bottom bar
left	`(float, 0 to 1)` Size of left bar
right	`(float, 0 to 1)` Size of right bar
top	`(float, 0 to 1)` Size of top bar
x	`(float, -1 to 1)` X-offset
y	`(float, -1 to 1)` Y-offset
resize	`(bool, choices: ['Yes', 'No'])` Replace the frame image with the cropped area (allows automatic scaling of the cropped image)

Deinterlace

The Deinterlace effect is used to remove interlacing artifacts from video footage, which are commonly seen as horizontal lines across moving objects. This effect is essential for converting interlaced video (such as from older video cameras or broadcast sources) into a progressive format suitable for modern displays.

Property Name	Description
isOdd	`(bool, choices: ['Yes', 'No'])` Use odd or even lines

Hue

The Hue effect adjusts the overall color balance of the video, changing the hues without affecting the brightness or saturation. This can be used for color correction or to apply dramatic color effects that transform the mood of the footage.

Property Name	Description
hue	`(float, 0 to 1)` The curve to adjust the percentage of hue shift

Negative

The Negative effect inverts the colors of the video, producing an image that resembles a photographic negative. This can be used for artistic effects, to create a surreal or otherworldly look, or to highlight specific elements within the frame.

Object Detector

The Object Detector effect employs machine learning algorithms (such as neural networks) to identify and highlight objects within the video frame. It can recognize multiple object types, such as vehicles, people, animals, and more! This can be used for analytical purposes, to add interactive elements to videos, or to track the movement of specific objects across the frame.

Class Filters & Confidence

To adjust the detection process to your specific needs, the Object Detector includes properties for `class filters` and `confidence thresholds`. By setting a class filter, such as "Truck" or "Person," you can instruct the detector to focus on specific types of objects, limiting the types of objects tracked. The confidence threshold allows you to set a minimum level of certainty for detections, ensuring that only objects detected with a confidence level above this threshold are considered, which helps in reducing false positives and focusing on more accurate detections.

How Parenting Works

Once you have tracked objects, you can "parent" other *Clips* to them. This means that the second clip, which could be a graphic, text, or another video layer, will now follow the tracked object as if it's attached to it. If the tracked object moves to the left, the child clip moves to the left. If the tracked object grows in size (gets closer to the camera), the child clip also scales up. For parented clips to appear correctly, they must be on a Track higher than the tracked objects, and set the appropriate *Scale* property.

See *Clip Parent*.

Properties

Property Name	Description
class_filter	`(string)` Type of object class to filter (i.e. car, person)
confidence_threshold	`(float, 0 to 1)` Minimum confidence value to display the detected objects
display_box_text	`(int, choices: ['Yes', 'No'])` Draw class name and ID of ALL tracked objects
display_boxes	`(int, choices: ['Yes', 'No'])` Draw bounding box around ALL tracked objects (a quick way to hide all tracked objects)
selected_object_index	`(int, 0 to 200)` Index of the tracked object that is *selected* to modify its properties
draw_box	`(int, choices: ['Yes', 'No'])` Whether to draw the box around the selected tracked object
box_id	`(string)` Internal ID of a tracked object box for identification purposes
x1	`(float, 0 to 1)` Top left X coordinate of a tracked object box, normalized to the video frame width
y1	`(float, 0 to 1)` Top left Y coordinate of a tracked object box, normalized to the video frame height
x2	`(float, 0 to 1)` Bottom right X coordinate of a tracked object box, normalized to the video frame width
y2	`(float, 0 to 1)` Bottom right Y coordinate of a tracked object box, normalized to the video frame height
delta_x	`(float, -1.0 to 1)` Horizontal movement delta of the tracked object box from its previous position
delta_y	`(float, -1.0 to 1)` Vertical movement delta of the tracked object box from its previous position
scale_x	`(float, 0 to 1)` Scaling factor in the X direction for the tracked object box, relative to its original size
scale_y	`(float, 0 to 1)` Scaling factor in the Y direction for the tracked object box, relative to its original size
rotation	`(float, 0 to 360)` Rotation angle of the tracked object box, in degrees
visible	`(bool)` Is the tracked object box visible in the current frame. Read-only property.
stroke	`(color)` Color of the stroke (border) around the tracked object box
stroke_width	`(int, 1 to 10)` Width of the stroke (border) around the tracked object box
stroke_alpha	`(float, 0 to 1)` Opacity of the stroke (border) around the tracked object box
background_alpha	`(float, 0 to 1)` Opacity of the background fill inside the tracked object box
background_corner	`(int, 0 to 150)` Radius of the corners for the background fill inside the tracked object box
background	`(color)` Color of the background fill inside the tracked object box

Pixelate

The Pixelate effect increases or decreases the size of the pixels in the video, creating a mosaic-like appearance. This can be used to obscure details (such as faces or license plates for privacy reasons), or as a stylistic effect to evoke a retro, digital, or abstract aesthetic.

Property Name	Description
bottom	`(float, 0 to 1)` The curve to adjust the bottom margin size
left	`(float, 0 to 1)` The curve to adjust the left margin size
pixelization	`(float, 0 to 0.99)` The curve to adjust the amount of pixelization
right	`(float, 0 to 1)` The curve to adjust the right margin size
top	`(float, 0 to 1)` The curve to adjust the top margin size

Shift

The Shift effect moves the entire image in different directions (up, down, left, and right with infinite wrapping), creating a sense of motion or disorientation. This can be used for transitions, to simulate camera movement, or to add dynamic motion to static shots.

Property Name	Description
x	`(float, -1 to 1)` Shift the X coordinates (left or right)
y	`(float, -1 to 1)` Shift the Y coordinates (up or down)

Stabilizer

The Stabilizer effect reduces unwanted shake and jitter in handheld or unstable video footage, resulting in smoother, more professional-looking shots. This is particularly useful for action scenes, handheld shots, or any footage where a tripod was not used.

Property Name	Description
zoom	`(float, 0 to 2)` Percentage to zoom into the clip, to crop off the shaking and uneven edges

Tracker

The Tracker effect allows for the tracking of a specific object or area within the video frame across multiple frames. This can be used for motion tracking, adding effects or annotations that follow the movement of objects, or for stabilizing footage based on a tracked point.When tracking an object, be sure to select the entire object, which is visible at the start of a clip, and choose one of the following `Tracking Type` algorithms. The tracking algorithm then follows this object from frame to frame, recording its position, scale, and sometimes rotation.

Tracking Type

- **KCF:** (default) A blend of Boosting and MIL strategies, employing correlation filters on overlapping areas from 'bags' to accurately track and predict object movement. It offers higher speed and accuracy and can stop tracking when the object is lost but struggles to resume tracking after losing the object.
- **MIL:** Improves upon Boosting by considering multiple potential positives ('bags') around the definite positive object, increasing robustness to noise and maintaining good accuracy. However, it shares the Boosting Tracker's drawbacks of low speed and difficulty in stopping tracking when the object is lost.
- **BOOSTING:** Utilizes the online AdaBoost algorithm to enhance the classification of tracked objects by focusing on incorrectly classified ones. It requires setting the initial frame and treats nearby objects as background, adjusting to new frames based on maximum score areas. It's known for accurate tracking but suffers from low speed, noise sensitivity, and difficulty stopping tracking upon object loss.
- **TLD:** Decomposes tracking into tracking, learning, and detection phases, allowing for adaptation and correction over time. While it can handle object scaling and occlusions reasonably well, it may behave unpredictably, with instability in tracking and detection.
- **MEDIANFLOW:** Based on the Lucas-Kanade method, it analyzes forward and backward movement to estimate trajectory errors for real-time position prediction. It's fast and accurate under certain conditions but can lose track of fast-moving objects.

- **MOSSE:** Utilizes adaptive correlations in Fourier space to maintain robustness against lighting, scale, and pose changes. It boasts very high tracking speeds and is better at continuing tracking after loss, but it may persist in tracking an absent object.
- **CSRT:** Employs spatial reliability maps to adjust filter support, enhancing the ability to track non-rectangular objects and perform well even with object overlaps. However, it is slower and may not operate reliably when the object is lost.

How Parenting Works

Once you have a tracked object, you can "parent" other *Clips* to it. This means that the second clip, which could be a graphic, text, or another video layer, will now follow the tracked object as if it's attached to it. If the tracked object moves to the left, the child clip moves to the left. If the tracked object grows in size (gets closer to the camera), the child clip also scales up. For parented clips to appear correctly, they must be on a Track higher than the tracked objects, and set the appropriate *Scale* property.

See *Clip Parent*.

Properties

Property Name	Description
draw_box	`(int, choices: ['Yes', 'No'])` Whether to draw the box around the tracked object
box_id	`(string)` Internal ID of a tracked object box for identification purposes
x1	`(float, 0 to 1)` Top left X coordinate of a tracked object box, normalized to the video frame width
y1	`(float, 0 to 1)` Top left Y coordinate of a tracked object box, normalized to the video frame height
x2	`(float, 0 to 1)` Bottom right X coordinate of a tracked object box, normalized to the video frame width
y2	`(float, 0 to 1)` Bottom right Y coordinate of a tracked object box, normalized to the video frame height
delta_x	`(float, -1.0 to 1)` Horizontal movement delta of the tracked object box from its previous position
delta_y	`(float, -1.0 to 1)` Vertical movement delta of the tracked object box from its previous position
scale_x	`(float, 0 to 1)` Scaling factor in the X direction for the tracked object box, relative to its original size
scale_y	`(float, 0 to 1)` Scaling factor in the Y direction for the tracked object box, relative to its original size
rotation	`(float, 0 to 360)` Rotation angle of the tracked object box, in degrees
visible	`(bool)` Is the tracked object box visible in the current frame. Read-only property.
stroke	`(color)` Color of the stroke (border) around the tracked object box
stroke_width	`(int, 1 to 10)` Width of the stroke (border) around the tracked object box
stroke_alpha	`(float, 0 to 1)` Opacity of the stroke (border) around the tracked object box
background_alpha	`(float, 0 to 1)` Opacity of the background fill inside the tracked object box
background_corner	`(int, 0 to 150)` Radius of the corners for the background fill inside the tracked object box
background	`(color)` Color of the background fill inside the tracked object box

Wave

The Wave effect distorts the image into a wave-like pattern, simulating effects like heat haze, water reflections, or other forms of distortion. The speed, amplitude, and direction of the waves can be adjusted.

Property Name	Description
amplitude	`(float, 0 to 5)` The height of the wave
multiplier	`(float, 0 to 10)` Amount to multiply the wave (make it bigger)
shift_x	`(float, 0 to 1000)` Amount to shift X-axis
speed_y	`(float, 0 to 300)` Speed of the wave on the Y-axis
wavelength	`(float, 0 to 3)` The length of the wave

1.9.6 Audio Effects

Audio effects modify the waveforms and audio sample data of a clip. Below is a list of audio effects, and their properties. Often it is best to experiment with an effect, entering different values into the properties, and observing the results.

Compressor

The Compressor effect in audio processing reduces the dynamic range of the audio signal, making loud sounds quieter and quiet sounds louder. This creates a more consistent volume level, useful for balancing the loudness of different audio sources or for achieving a particular sound characteristic in music production.

Property Name	Description
attack	`(float, 0.1 to 100)`
bypass	`(bool)`
makeup_gain	`(float, -12 to 12)`
ratio	`(float, 1 to 100)`
release	`(float, 10 to 1000)`
threshold	`(float, -60 to 0)`

Delay

The Delay effect adds an echo to the audio signal, repeating the sound after a short delay. This can create a sense of space and depth in the audio, and is commonly used for creative effects in music, sound design, and audio post-production.

Property Name	Description
delay_time	`(float, 0 to 5)`

Distortion

The Distortion effect intentionally clips the audio signal, adding harmonic and non-harmonic overtones. This can create a gritty, aggressive sound characteristic of many electric guitar tones and is used for both musical and sound design purposes.

Property Name	Description
distortion_type	(int, choices: ['Hard Clipping', 'Soft Clipping', 'Exponential', 'Full Wave Rectifier', 'Half Wave Rectifier'])
input_gain	(int, -24 to 24)
output_gain	(int, -24 to 24)
tone	(int, -24 to 24)

Echo

The Echo effect, similar to delay, repeats the audio signal at intervals, but with a focus on creating a distinct repetition of sound that mimics natural echoes. This can be used to simulate acoustic environments or for creative sound effects.

Property Name	Description
echo_time	(float, 0 to 5)
feedback	(float, 0 to 1)
mix	(float, 0 to 1)

Expander

The Expander effect increases the dynamic range of audio, making quiet sounds quieter and leaving loud sounds unaffected. This is the opposite of compression and is used to reduce background noise or increase the dynamic impact of audio.

Property Name	Description
attack	(float, 0.1 to 100)
bypass	(bool)
makeup_gain	(float, -12 to 12)
ratio	(float, 1 to 100)
release	(float, 10 to 1000)
threshold	(float, -60 to 0)

Noise

The Noise effect adds random, equal-intensity signals across the frequency spectrum to the audio, simulating the sound of white noise. This can be used for sound masking, as a component in sound design, or for testing and calibration purposes.

Property Name	Description
level	(int, 0 to 100)

Parametric EQ

The Parametric EQ (Equalizer) effect allows for precise adjustments to the volume level of specific frequency ranges in the audio signal. This can be used for corrective measures, such as removing unwanted tones, or creatively, to shape the tonal balance of the audio.

Property Name	Description
filter_type	`(int, choices: ['Low Pass', 'High Pass', 'Low Shelf', 'High Shelf', 'Band Pass', 'Band Stop', 'Peaking Notch'])`
frequency	`(int, 20 to 20000)`
gain	`(int, -24 to 24)`
q_factor	`(float, 0 to 20)`

Robotization

The Robotization effect transforms the audio to sound mechanical or robotic, by applying a combination of pitch modulation and synthesis techniques. This effect is widely used for character voices in media, creative music production, and sound design.

Property Name	Description
fft_size	`(int, choices: ['128', '256', '512', '1024', '2048'])`
hop_size	`(int, choices: ['1/2', '1/4', '1/8'])`
window_type	`(int, choices: ['Rectangular', 'Bart Lett', 'Hann', 'Hamming'])`

Whisperization

The Whisperization effect transforms the audio to mimic a whispering voice, often by filtering out certain frequencies and adding noise. This can be used for artistic effects in music, sound design for film and video, or in audio storytelling to convey secrecy or intimacy.

Property Name	Description
fft_size	`(int, choices: ['128', '256', '512', '1024', '2048'])`
hop_size	`(int, choices: ['1/2', '1/4', '1/8'])`
window_type	`(int, choices: ['Rectangular', 'Bart Lett', 'Hann', 'Hamming'])`

For more info on key frames and animation, see *Animation*.

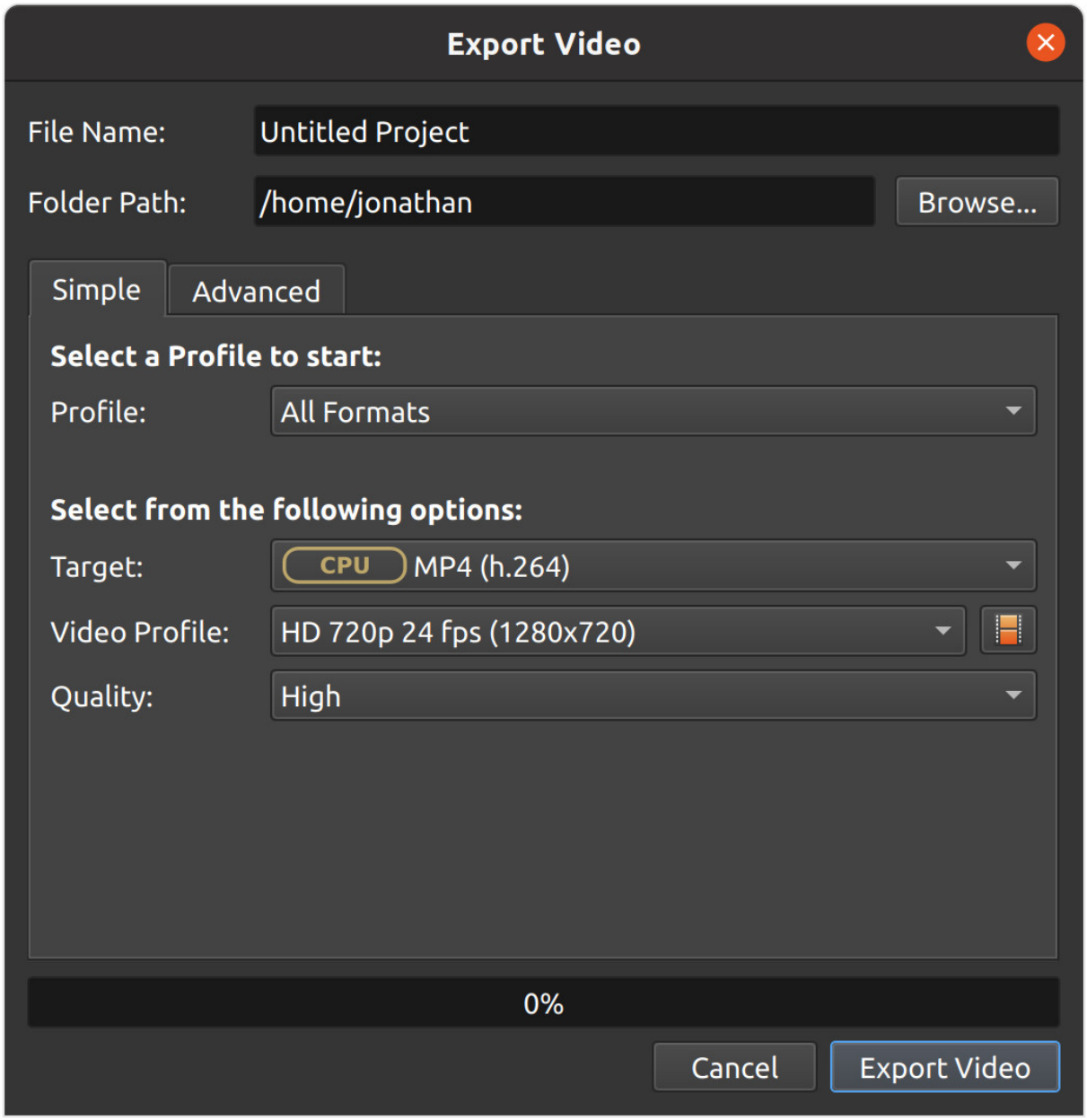
1.10 Export

Exporting converts your OpenShot project (clips, effects, animations, titles) into a single video output file (using a process called `video encoding`). By using the default settings, the exported video will be compatible with most media players (such as VLC) and websites (such as YouTube, Vimeo, Facebook) and creates a `MP4 (h.264 + AAC)` formatted video file. See *MP4 (h.264)*.

Click on the *Export Video* icon at the top of the screen (or use the *File→Export Video* menu). The default values will work fine, so just click the *Export Video* button to render your new video. You can also create your own custom export profiles, see *Profiles*.

1.10.1 Simple Mode

While video encoding is very complicated, with dozens of interrelated settings and options, OpenShot makes it easy, with sensible defaults, and most of this complexity hidden away behind our *Simple* tab, which is the default export view.

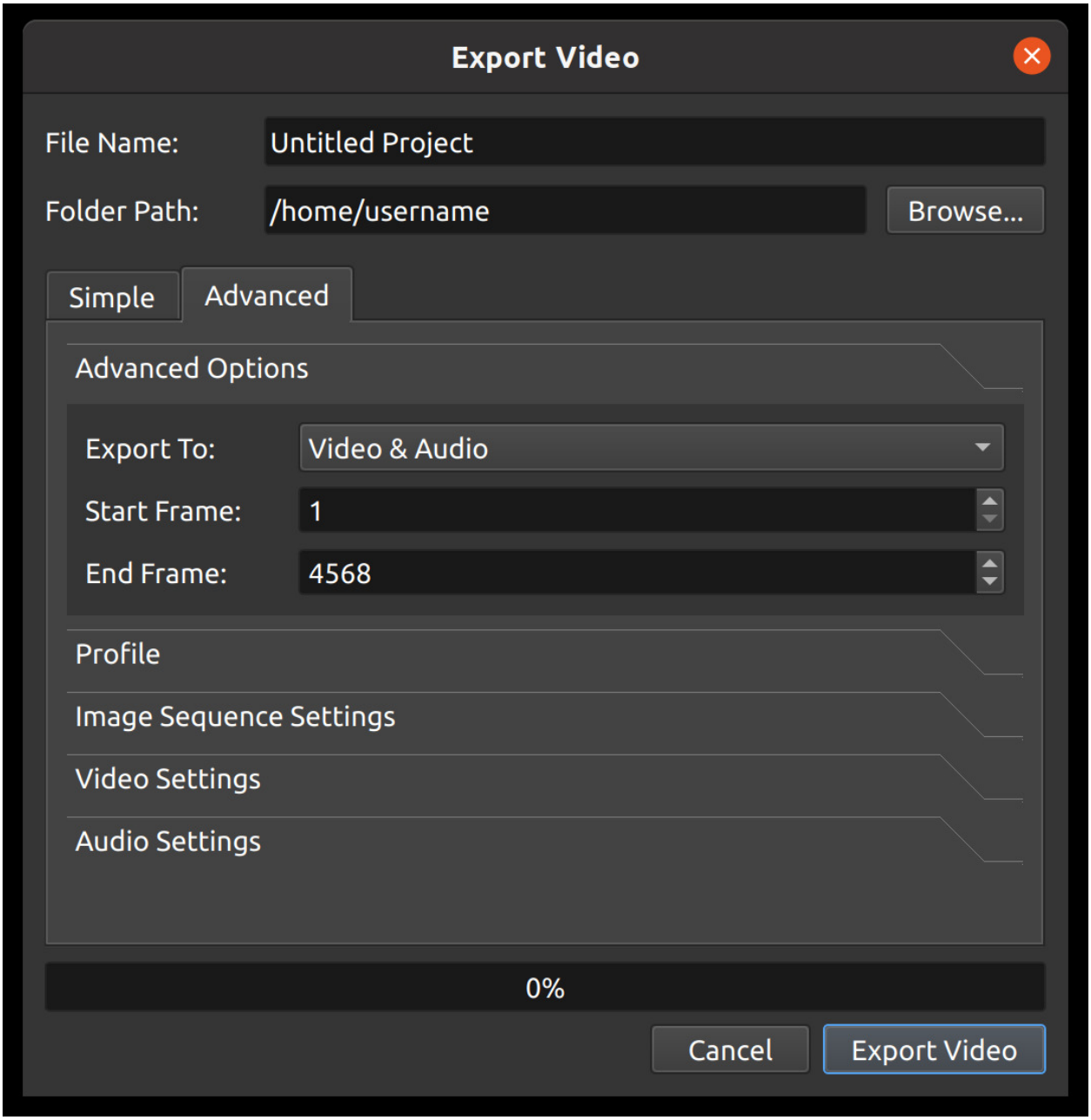


Simple Setting	Description
Profile	Common presets (combinations of presets and video profiles grouped by category, for example: **Web**)
Target	Target presets related to the current profile (collections of common formats, codecs, and quality settings, see *Preset List*)
Video Profile	Video profiles related to the current target (collections of common size, frame rate, and aspect ratios, see *Profile List* or create your own *Profiles*)
Quality	Quality settings (low, med, high), which relate to various video and audio bitrates.

1.10.2 Advanced Mode

Most users will never need to switch to the *Advanced* tab, but if you need to customize any of the video encoding settings, for example, custom bitrates, different codecs, or limiting the range of frames exported, this is the tab for you.

Advanced Options

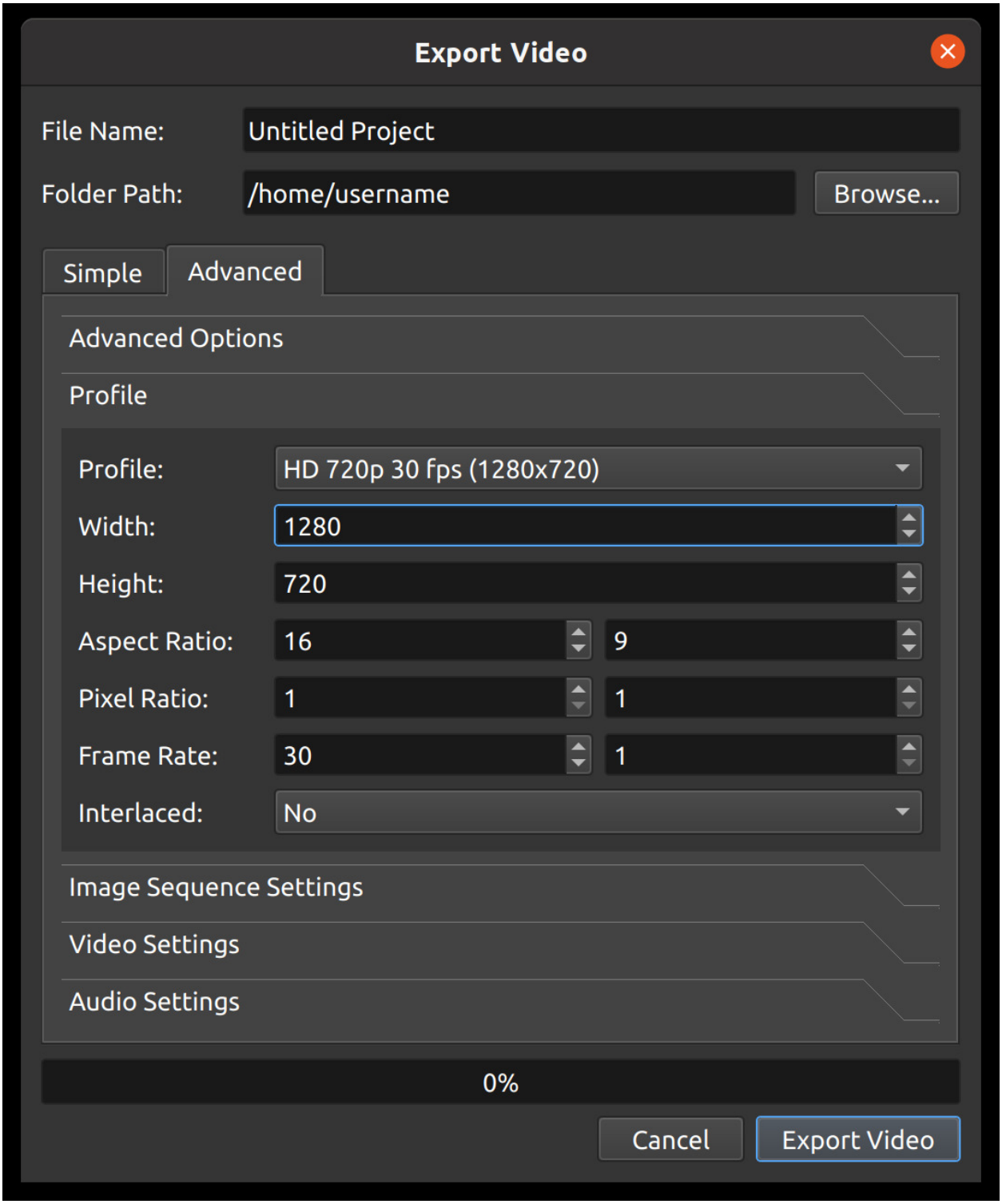


Advanced Setting	Description
Export To	Export both *video & audio*, *only audio*, *only video*, or an *image sequence*
Start Frame	The first frame to export (default is 1)
End Frame	The final frame to export (default is the last frame in your project to contain a clip)

Profile

A video profile is a collection of common video settings (*size, frame rate, aspect ratio*). Profiles are used during editing, previewing, and exporting to provide a quick way to switch between common combinations of these settings. The *Export Dialog* will **default** to the same profile used by the project.

*NOTE: It is important to choose a **Profile** with the same **aspect ratio** used when editing your project. If you are exporting at a **different aspect ratio**, it might stretch the image, crop the image, add black bars, or otherwise introduce an issue which changes the exported video, making it appear differently than the *Preview* inside OpenShot.*


Export Video
File Name:
Untitled Project
Folder Path:
/home/username
Browse...
Simple
Advanced
Advanced Options
Profile
Profile:
HD 720p 30 fps (1280x720)
Width:
1280
Height:
720
Aspect Ratio:
16
9
Pixel Ratio:
1
1
Frame Rate:
30
1
Interlaced:
No
Image Sequence Settings
Video Settings
Audio Settings
0%
Cancel
Export Video

Profile Setting	Description
Profile	The video profile to use during export (collection of size, frame rate, and aspect ratios, see *Profile List*)
Width	The width of the video export (in pixels)
Height	The height of the video export (in pixels)
Aspect Ratio	The aspect ratio of the final exported video. 1920x1080 reduces to 16:9. This also takes into account the pixel ratio, for example 2:1 rectangular pixels will affect the aspect ratio.
Pixel Ratio	The ratio representing pixel shape. Most video profiles use a 1:1 square pixel shape, but others will use rectangular pixels.
Frame Rate	The frequency that the frames will be displayed at.
Interlaced	Is this format used on alternating scan lines (i.e. broadcast and analog formats)

Image Sequence Settings

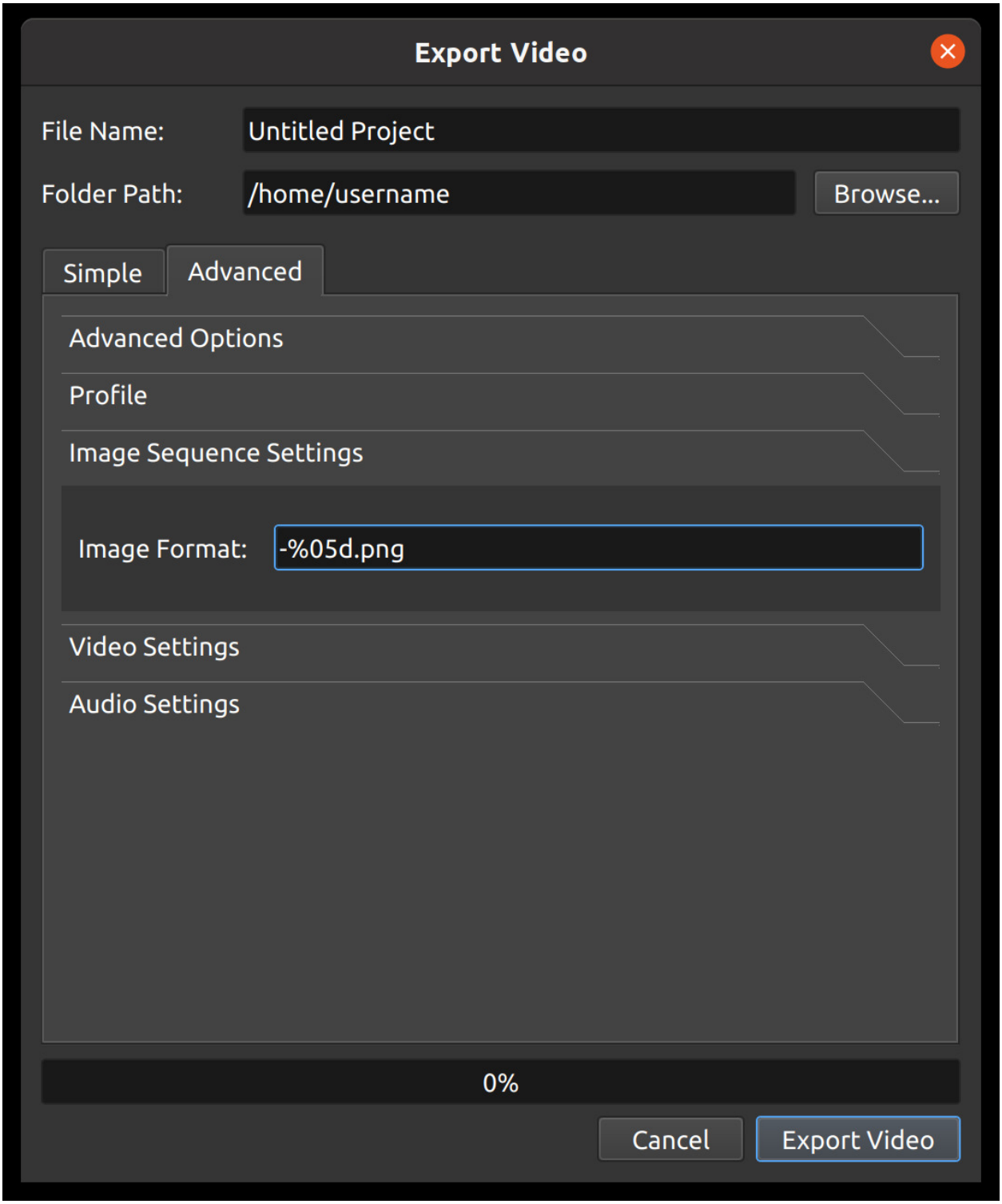
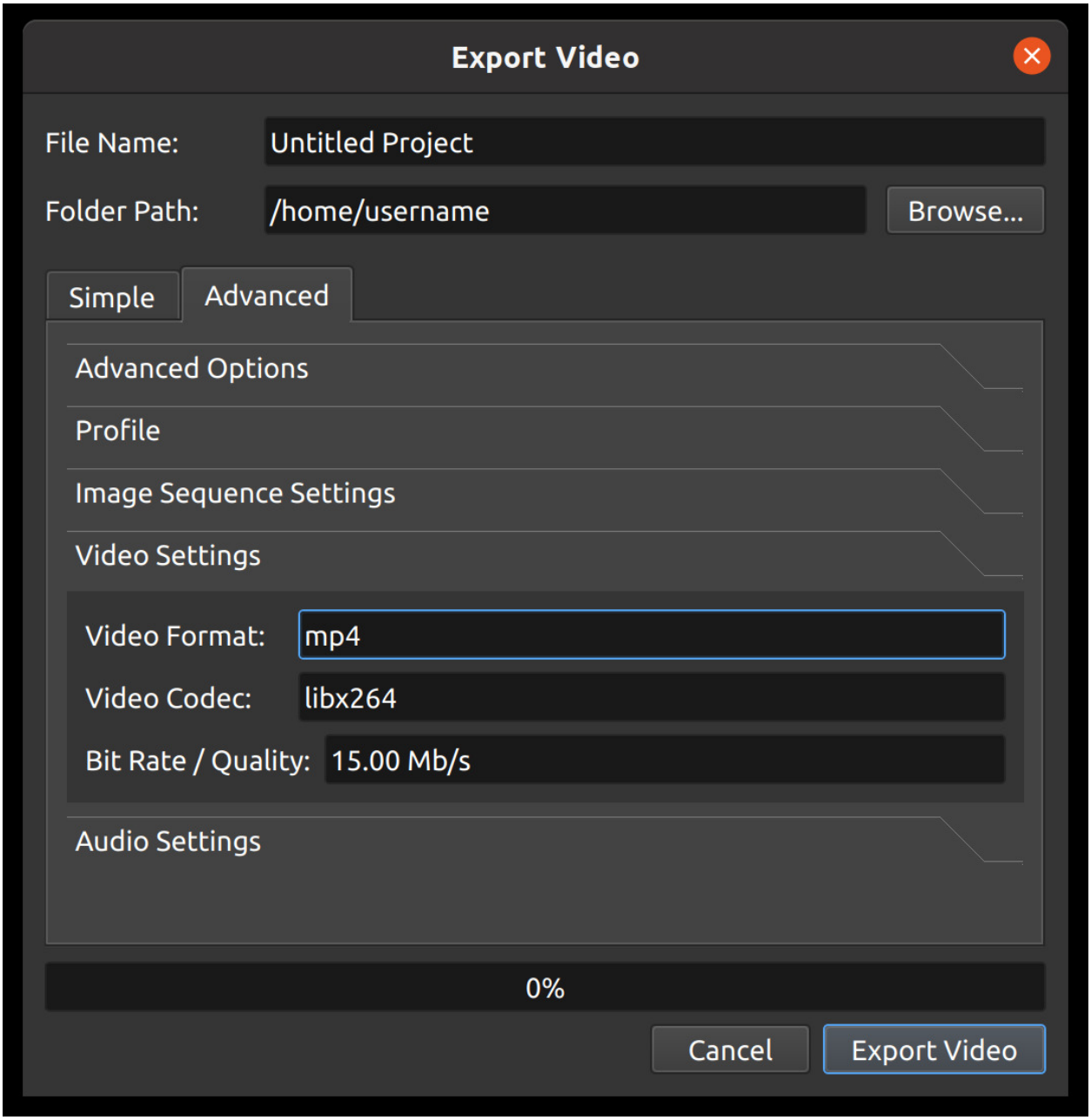


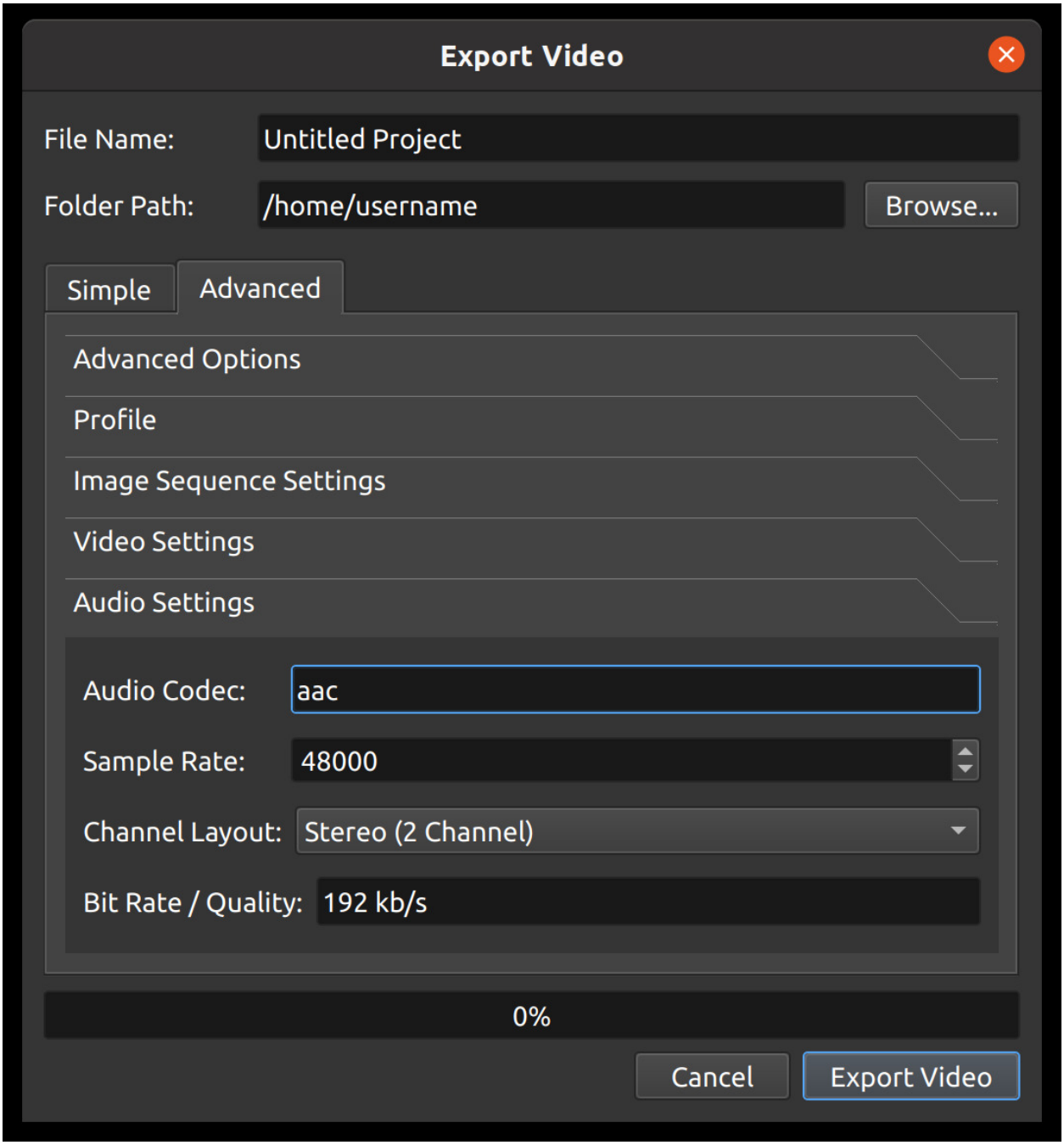
Image Setting Name	Description
Image Format	The string format that represents the output file name in an sequence of images. For example, %05d.png would pad a number with 5 digits: 00001.png, 00002.png.

Video Settings



Video Setting Name	Description
Video Format	The name of the container format (`mp4`, `mov`, `avi`, `webm`, etc…)
Video Codec	The name of the video codec used during video encoding (`libx264`, `mpeg4`, `libaom-av1`, etc…)
Bit Rate / Quality	The bitrate to use for video encoding. Accepts the following formats: `5 Mb/s`, `96 kb/s`, `23 crf`, etc…

Audio Settings



Audio Setting Name	Description
Audio Codec	The name of the audio codec used during audio encoding (`aac`, `mp2`, `libmp3lame`, etc…)
Sample Rate	The number of audio samples per second. Common values are `44100` and `48000`.
Channel Layout	The number and layout of audio channels (`Stereo`, `Mono`, `Surround`, etc…)
Bit Rate / Quality	The bitrate to use for audio encoding. Accepts the following formats: `96 kb/s`, `128 kb/s`, `192 kb/s`, etc…

1.11 Animation

OpenShot has been designed specifically with animation in mind. The powerful curve-based animation framework can handle most jobs with ease, and is flexible enough to create just about any animation. Key frames specify values at certain points on a clip, and OpenShot does the hard work of interpolating the in-between values.

1.11.1 Overview

#	Name	Description
1	Green Property	When the play-head is on a key frame, the property appears green
1	Blue Property	When the play-head is on an interpolated value, the property appears blue
2	Value Slider	Click and drag your mouse to adjust the value (this automatically creates a key frame if needed)
3	Play-head	Position the play-head over a clip where you need a key frame
4	Key frame Markers	Small icons are displayed on the bottom of the clip for each active keyframe (*circle=Bézier, diamond=linear, square=constant*). These icons are filtered based on the property window. For example, if you filter only `scale_x`, you will only see the icons for `scale_x` keyframes, for example.

1.11.2 Key Frames

To create a key frame in OpenShot, simply position the play-head (i.e. playback position) at any point over a clip, and edit properties in the property dialog. If the property supports key frames, it will turn green, and a small icon (*circle=Bézier, diamond=linear, square=constant*) will appear on the bottom of your clip at that position. Move your play-head to another point over that clip, and adjust the properties again. All animations require at least 2 key frames, but can support an unlimited number of them.

To adjust the **interpolation mode**, right click on the small graph icon next to a property value.

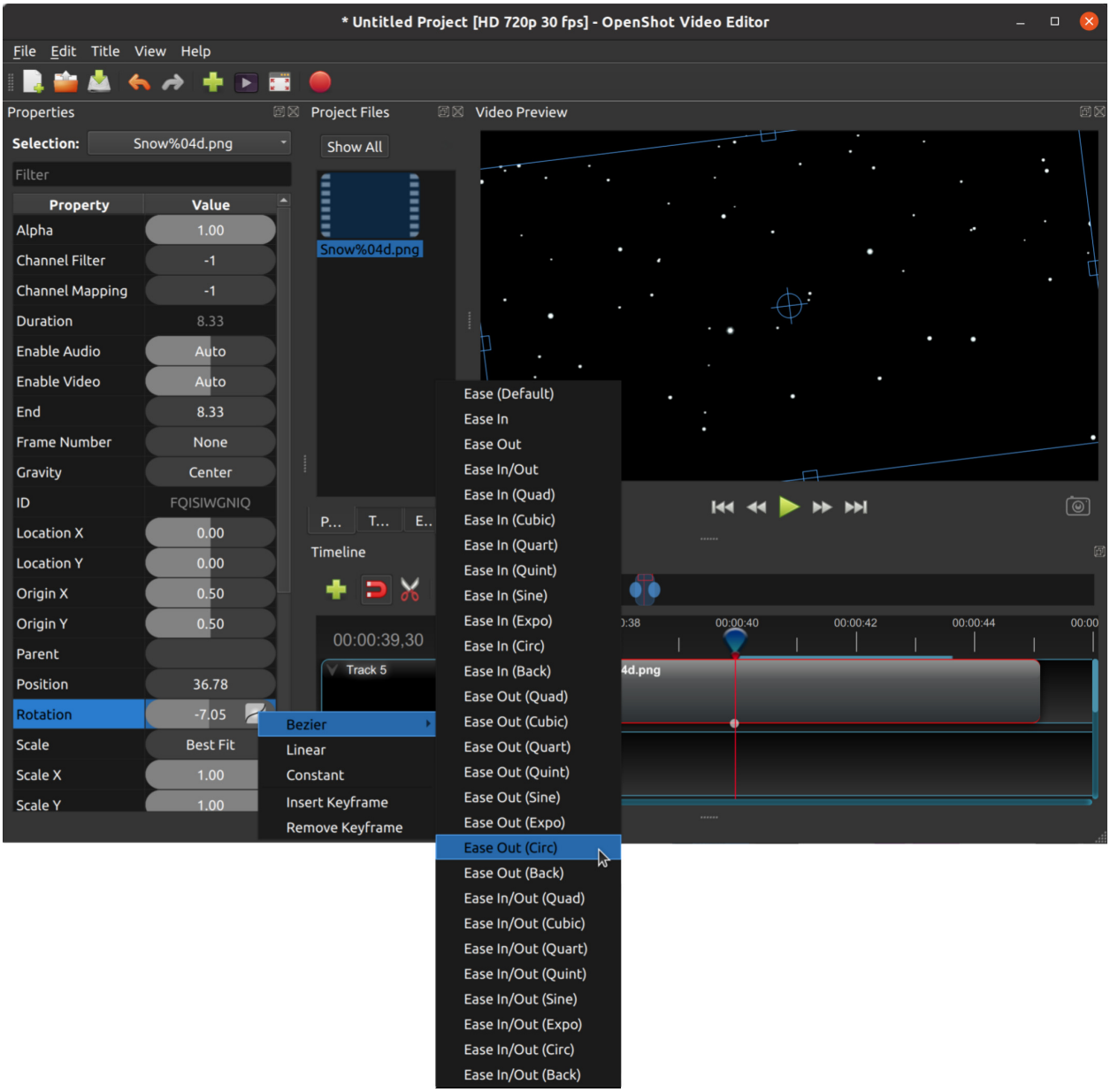
Key-frame Interpolation	Description
Bézier	Interpolated values use a quadratic curve, and ease-in and ease-out
Linear	Interpolated values are calculated linear (each step value is equal)
Constant	Interpolated values stay the same until the next key frame, and jump to the new value

For more info on creating key frames for location, rotation, scale, shear, and location, see *Transform*.
For more info on preset animations, see *Context Menu*.
For a full list of key frames, see *Clip Properties*.

1.11.3 Bézier Presets

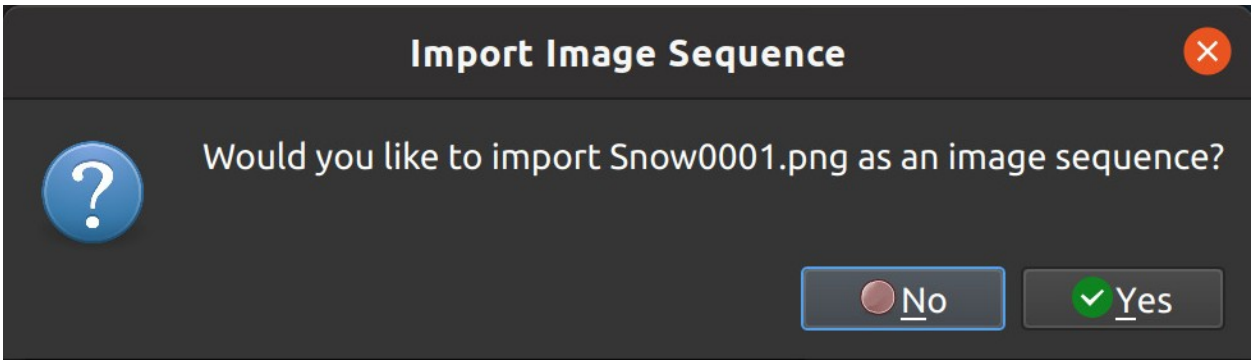
When using a Bézier curve for animation, OpenShot includes more than 20 curve presets (which affect the shape of the curve). For example, **Ease-In** has a more gradual slope at the beginning, making an animation move slower at the beginning, and faster at the end. **Ease-In/Out (Back)** has a gradual beginning and ending, but actually goes past the expected value and then back (producing a bounce effect).

To choose a curve preset, right click on the small graph icon next to a key frame.

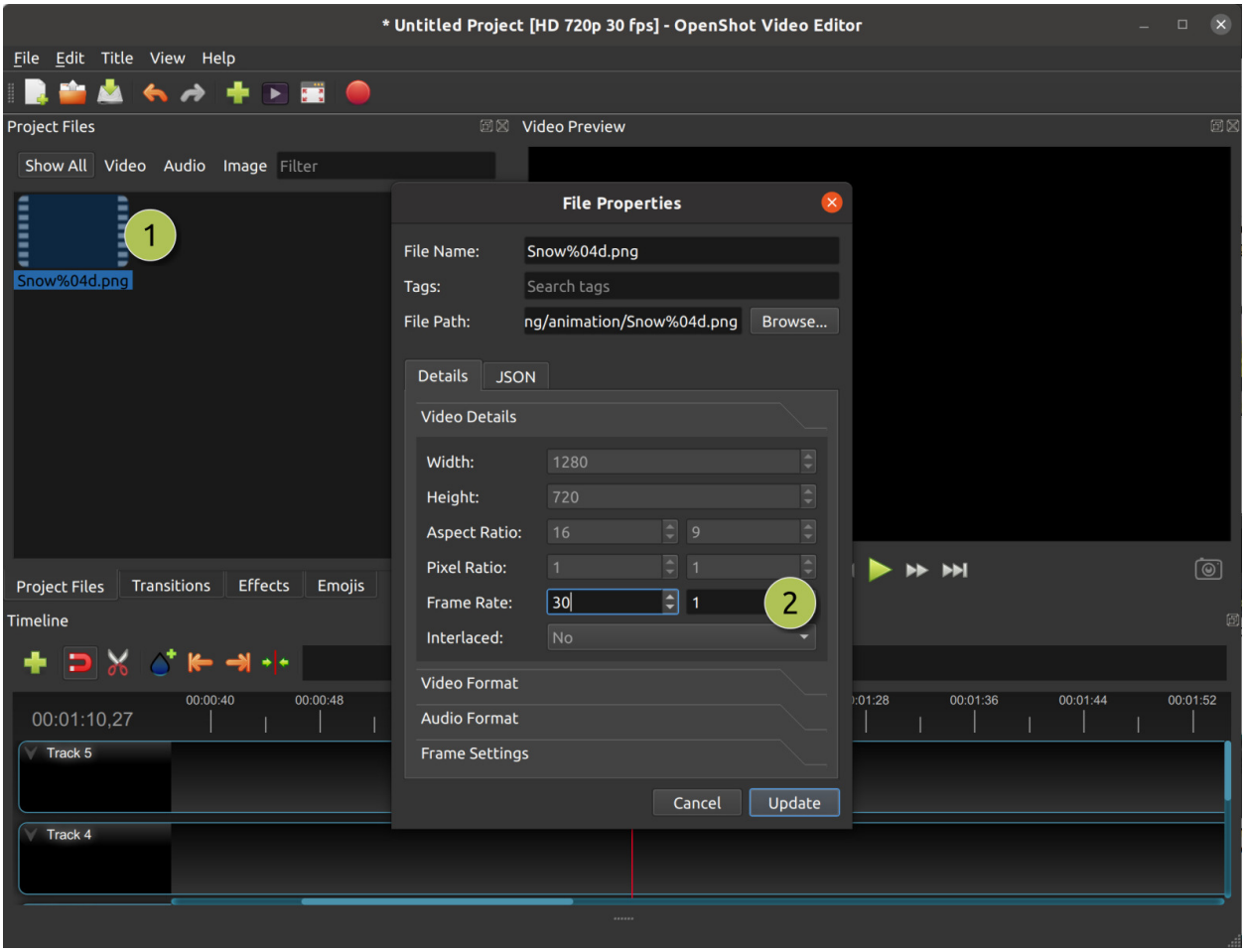


1.11.4 Image Sequences

If you have a sequence of similarly named images (such as, cat001.png, cat002.png, cat003.png, etc…), you can simply drag and drop one of them into OpenShot, and you will be prompted to import the entire sequence. OpenShot will playback these sequential images rapidly, as if they are frames in a video. The rate or speed in which these images are displayed is based on their frame rate.



To adjust the frame rate of the animation, right click and choose **File Properties** in the **Project Files** panel, and adjust the frame rate. Once you have set the correct frame rate, drag the animation onto the timeline.



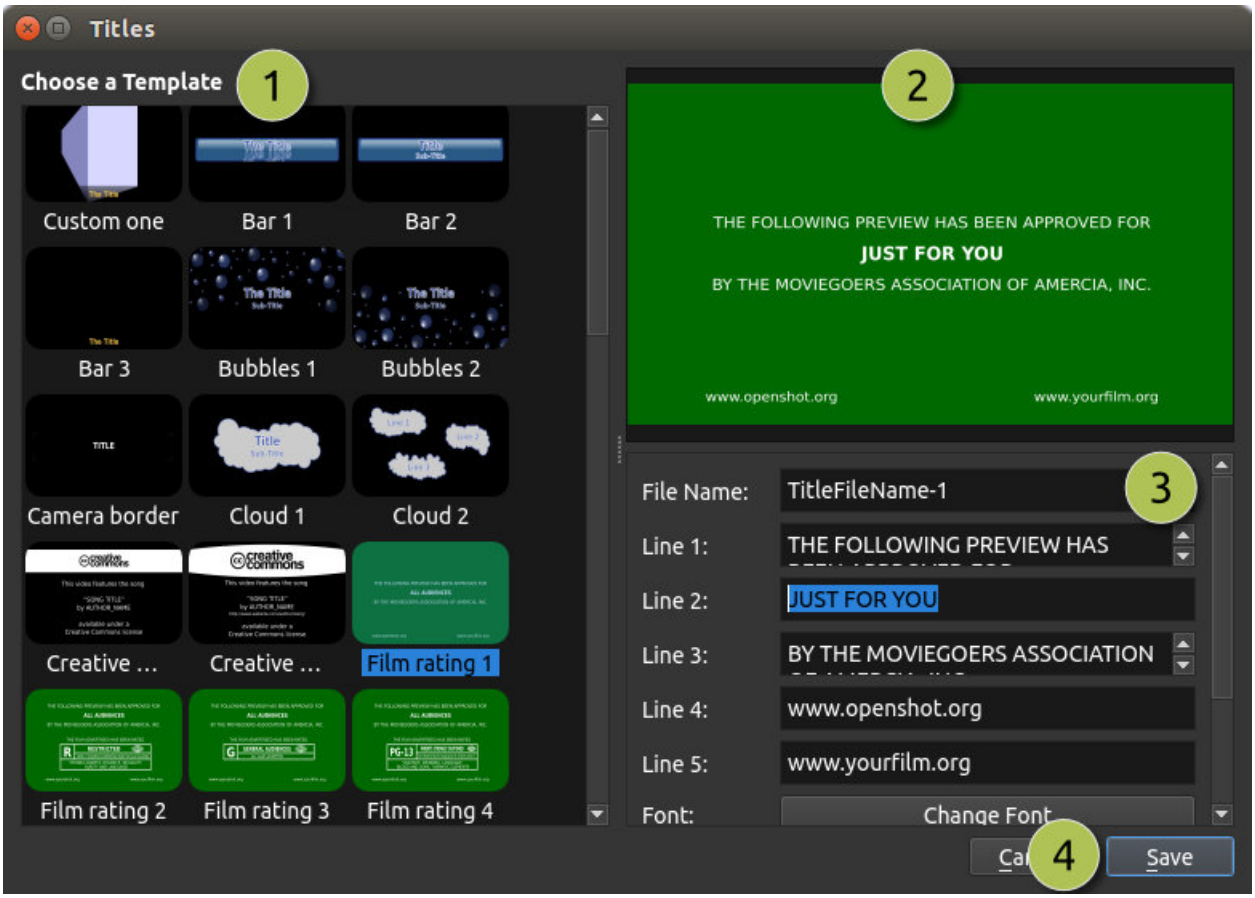
#	Name	Description
1	File Properties	Select an image sequence in the **Project Files** panel, right click and choose **File Properties**
2	Frame Rate	Adjust the frame rate of the animation. Typically, hand-drawn animations use 12 frames per second.

1.12 Text & Titles

Adding text and titles is an important aspect of video editing, and OpenShot comes with an easy-to-use Title Editor. Use the Title menu (located in the main menu of OpenShot) to launch the Title Editor. You can also use the keyboard shortcut `Ctrl+T`.

Titles are simply vector image files with transparent backgrounds (`*.svg`). OpenShot comes with many easy-to-use templates, but you can also create your own or import new templates into OpenShot. These templates allow you to quickly change the text, font, size, color, and background color. You can also launch an advanced, external SVG editor for further customizations (if needed). Once the title is added to your project, drag and drop the title on a Track above a video clip. The transparent background will allow the video below to appear behind the text.

1.12.1 Overview



#	Name	Description
1	Choose a Template	Choose from any available vector title template
2	Preview Title	Preview your title as you make changes
3	Title Properties	Change the text, font, size, colors, or edit in an advanced, external SVG image editor (such as Inkscape)
4	Save	Save and add the title to your project

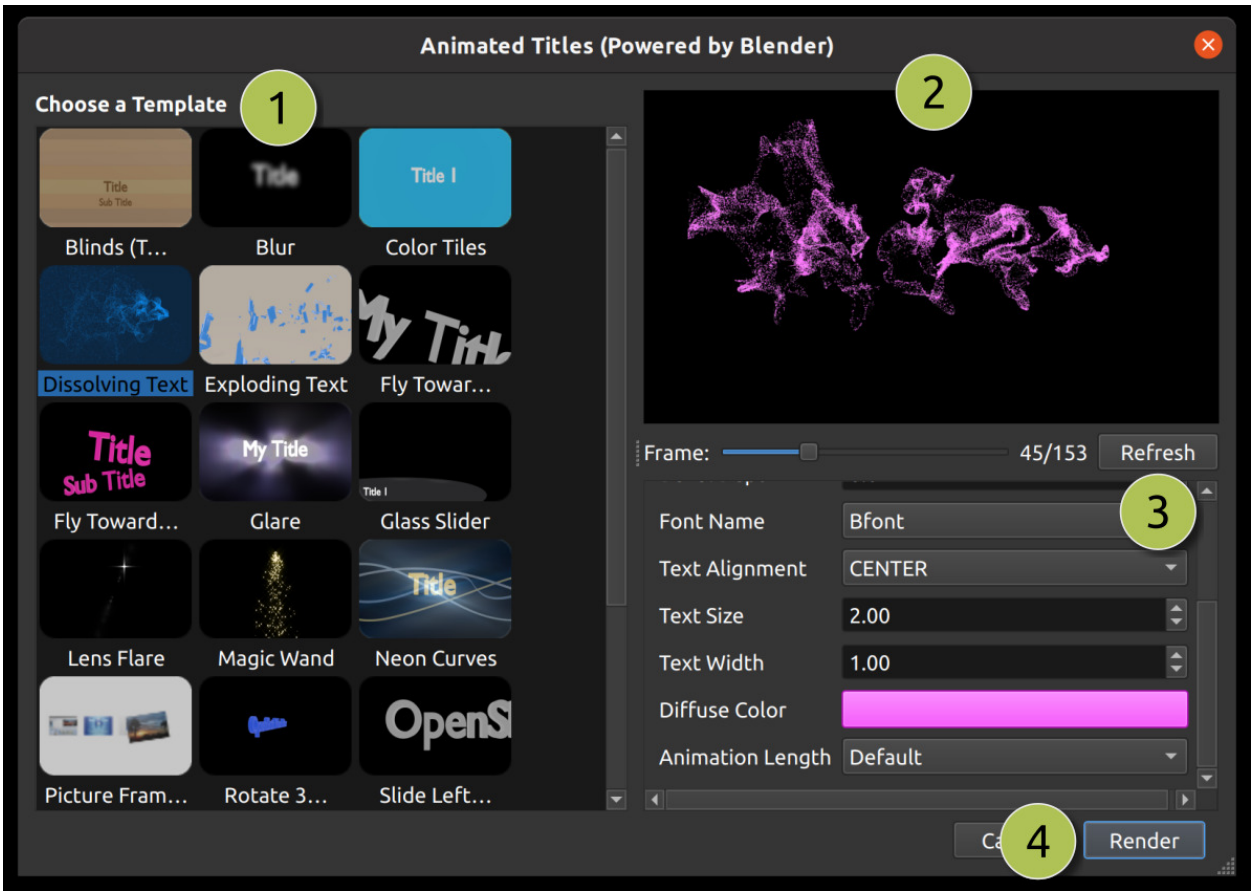
1.12.2 Custom Title Templates

OpenShot can use any vector SVG image file as a custom title template in the *Title Editor* dialog. Just add an SVG image file to your `~/.openshot_qt/title_templates/` folder, and it will appear the next time you launch the *Title Editor* dialog. You can also right click on any SVG files in your **Project Files** panel, and choose **Edit Title** or **Duplicate Title**.

Note: These SVG templates are only used by the *Title Editor* dialog, and not *Animated Title* dialog.

1.12.3 3D Animated Titles

Adding a 3D animated title is just as easy, using our **Animated Title** dialog. Use the Title menu (located in the main menu of OpenShot) to launch the Animated Title editor. You can also use the keyboard shortcut **Ctrl+B**. Note: Blender must be installed and configured before this feature will work in OpenShot. See *Installing Blender*.



#	Name	Description
1	Choose a Template	Choose from any available 3D title templates
2	Preview Title	Preview your title as you make changes
3	Title Properties	Change the text, colors, and advanced properties
4	Render	Render the 3D animation, and add it to your project

1.12.4 Importing Text

You can generate text & titles in many different programs, such as Blender, Inkscape, Krita, Gimp, etc… Before you can import text into OpenShot, you must first export the text from these programs into a compatible image format that contains a **transparent background** and **alpha** channel.

The `SVG` format is a great choice for vector graphics (curves, shapes, text effects and paths), however it is **not** always 100% compatible with OpenShot. Thus, we recommend using `PNG` format, which is a great web-based image format that can include a transparent background and alpha channel. A transparent background and alpha channel are needed for OpenShot to allow the text to not cover up videos and images on the timeline below them.

For information on importing animated sequences into OpenShot, please see *Image Sequences*.

1.12.5 Installing Inkscape

The *Advanced Editor* feature in the *Title Editor* dialog requires the latest version of Inkscape (https://inkscape.org/release/) be installed and the OpenShot **Preferences** updated with the correct path to the Inkscape executable. See the *General* tab in Preferences.

1.12.6 Installing Blender

The *Animated Title* feature in OpenShot requires the latest version of Blender (https://www.blender.org/download/) be installed and the OpenShot **Preferences** updated with the correct path to the Blender executable. See the *General* tab in Preferences. NOTE: The minimum supported version of Blender is 2.8+. Older versions of Blender are not compatible with OpenShot Video Editor.

For a detailed guide on how to install these dependencies, see Blender & Inkscape Guide.

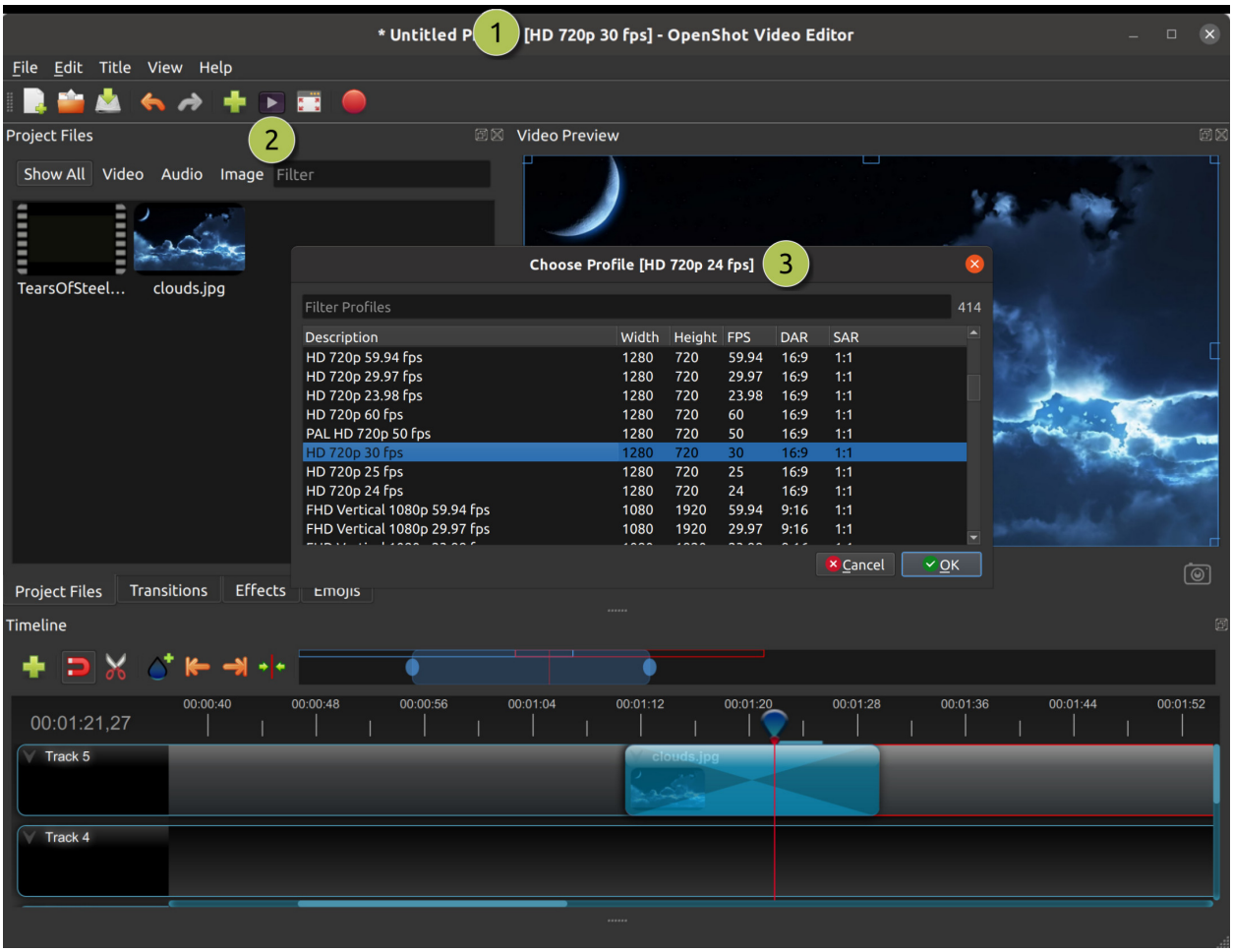
1.13 Profiles

A video profile is a collection of common video settings (*size, frame rate, aspect ratio*). Profiles are used during editing, previewing, and exporting to provide a quick way to switch between common combinations of these settings.

If you often use the same profile, you can set a default profile: *Edit→Preferences→Preview*.

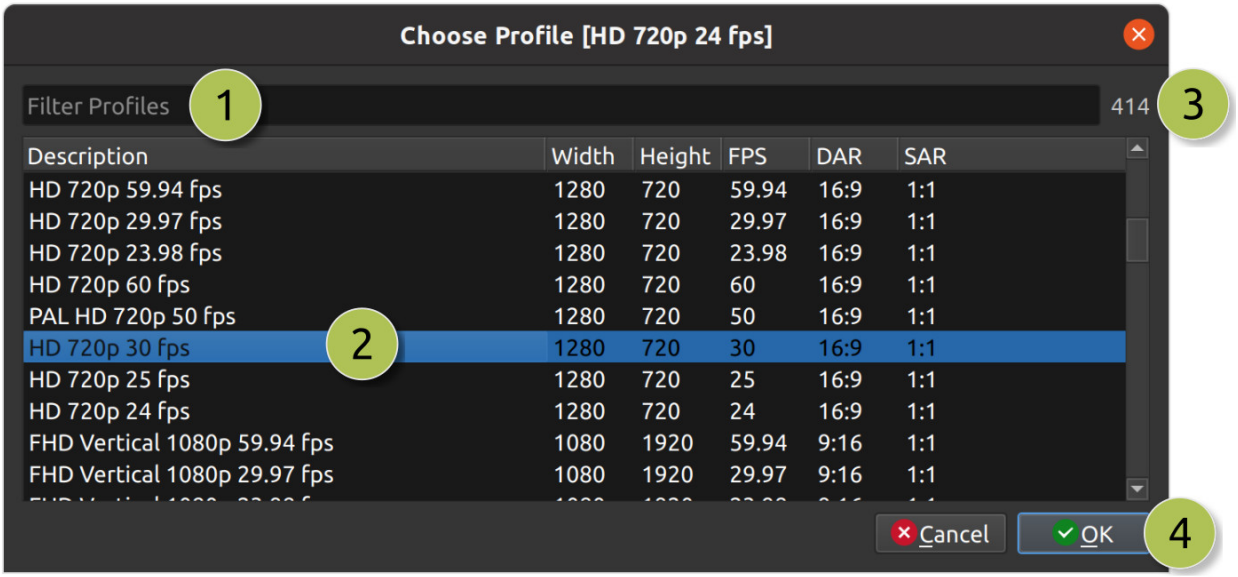
1.13.1 Project Profile

The project profile is used when previewing your project and editing. The default project profile is `HD 720p 30fps`. It is best practice to always switch to your target profile before you begin editing. For example, if you are targeting 1080p 30fps, switch to that profile before you begin editing your project. For a full list of included profiles see *Profile List*.



#	Name	Description
1	Title Bar	The title bar of OpenShot displays the current profile
2	Profile Button	Launch the profiles dialog
3	Choose Profile	Select a profile for editing and preview

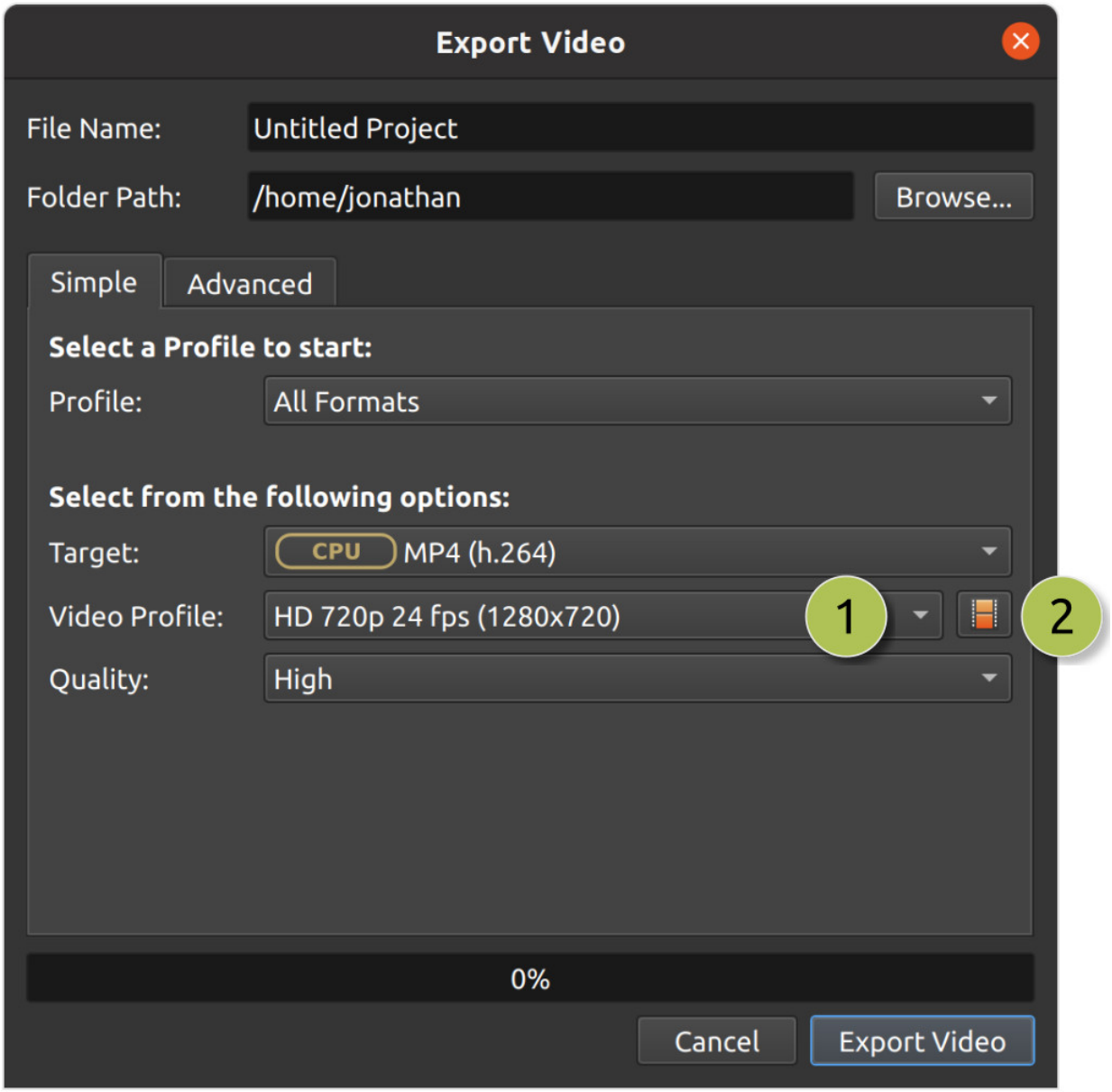
1.13.2 Choose Profile Dialog



#	Name	Description
1	Filter / Search	Filter the available profiles by typing a few characters (i.e. FHD, 720p, 16:9, etc…)
2	Selected Profile	Click on the desired profile, and then the *OK* button. You can also double click a profile to select it.
3	Filtered Count	Count of filtered profiles
4	Accept Profile	Click the *OK* button to switch to the selected profile.

1.13.3 Export Profile

The export profile always defaults to your current project profile, but can be changed to target different profiles.



#	Name	Description
1	Choose Profile	Select an export profile from a dropdown. This list is sorted from largest resolution at the top, smallest resolution at the bottom.
2	Search Profiles	Open Profile dialog to filter and search for an export profile, which can sometimes be much quicker to find a specific profile.

1.13.4 Custom Profile

Although OpenShot has more than 400 profiles (*Profile List*) included by default, you can also create your own custom profiles. Create a new text file in the `~/.openshot_qt/profiles/` or `C:\Users\USERNAME\.openshot_qt\profiles` folder. Use the following text as your template (i.e. copy and paste this into the new file):

```
description=Custom Profile Name
frame_rate_num=30000
frame_rate_den=1001
width=1280
height=720
progressive=1
sample_aspect_num=1
sample_aspect_den=1
display_aspect_num=16
display_aspect_den=9
```

Profile Property	Description
description	The friendly name of the profile (this is what OpenShot displays in the user interface)
frame_rate_num	The frame rate numerator. All frame rates are expressed as fractions. For example, `30 FPS == 30/1`.
frame_rate_den	The frame rate denominator. All frame rates are expressed as fractions. For example, `29.97 FPS == 30,000/1001`.
width	The number of horizontal pixels in the image. By reversing the values for *width* and *height*, you can create a vertical profile.
height	The number of vertical pixels in the image
progressive	`` `(0 or 1)` `` If 1, both even and odd rows of pixels are used. If 0, only odd or even rows of pixels are used.
sample_aspect_num	The numerator of the **SAR** (sample/pixel shape aspect ratio), `1:1` ratio would represent a square pixel, `2:1` ratio would represent a `2x1` rectangle pixel shape, etc…
sample_aspect_den	The denominator of the **SAR** (sample/pixel shape aspect ratio)
display_aspect_num	The numerator of the **DAR** (display aspect ratio), `(width/height) X (sample aspect ratio)`. This is the final ratio of the image displayed on screen, reduced to the smallest fraction possible (common ratios are 16:9 for wide formats, 4:3 for legacy television formats).
display_aspect_den	The denominator of the **DAR** (display aspect ratio)

Once you restart OpenShot, you will see your custom profile appear in the list of Profiles.

1.13.5 Preset List

OpenShot includes many **export presets**, which combine our list of common profiles and their associated video export settings (`video codec`, `audio codec`, `audio channels`, `audio sample rate`, etc…), which target specific output formats, websites, and devices. The **default export preset** used by OpenShot is `MP4 (h.264 + AAC)`, see *MP4 (h.264)*.

All Formats

AVI (h.264)

Preset Attribute	Description
Video Format	AVI
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

AVI (mpeg2)

Preset Attribute	Description
Video Format	AVI
Video Codec	mpeg2video
Audio Codec	mp2
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

AVI (mpeg4)

Preset Attribute	Description
Video Format	AVI
Video Codec	mpeg4
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

GIF (animated)

Preset Attribute	Description
Video Format	GIF
Video Codec	gif
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Profiles	All Profiles

MKV (h.264 dx)

Preset Attribute	Description
Video Format	MKV
Video Codec	h264_dxva2
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MKV (h.264 nv)

Preset Attribute	Description
Video Format	MKV
Video Codec	h264_nvenc
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MKV (h.264 qsv)

Preset Attribute	Description
Video Format	MKV
Video Codec	h264_qsv
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MKV (h.264 va)

Preset Attribute	Description
Video Format	MKV
Video Codec	h264_vaapi
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MKV (h.264 videotoolbox)

Preset Attribute	Description
Video Format	MKV
Video Codec	h264_videotoolbox
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MKV (h.264)

Preset Attribute	Description
Video Format	MKV
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MKV (h.265)

Preset Attribute	Description
Video Format	MKV
Video Codec	libx265
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	50 crf
Video Bitrate (med)	23 crf
Video Bitrate (high)	0 crf
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MOV (h.264)

Preset Attribute	Description
Video Format	MOV
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MOV (mpeg2)

Preset Attribute	Description
Video Format	MOV
Video Codec	mpeg2video
Audio Codec	mp2
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MOV (mpeg4)

Preset Attribute	Description
Video Format	MOV
Video Codec	mpeg4
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP3 (audio only)

Preset Attribute	Description
Video Format	MP3
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (AV1 rav1e)

Preset Attribute	Description
Video Format	MP4
Video Codec	librav1e
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	200 qp
Video Bitrate (med)	100 qp
Video Bitrate (high)	50 qp
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (AV1 svt)

Preset Attribute	Description
Video Format	MP4
Video Codec	libsvtav1
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	60 qp
Video Bitrate (med)	50 qp
Video Bitrate (high)	30 qp
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (HEVC va)

Preset Attribute	Description
Video Format	MP4
Video Codec	hevc_vaapi
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (Xvid)

Preset Attribute	Description
Video Format	MP4
Video Codec	libxvid
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.264 dx)

Preset Attribute	Description
Video Format	MP4
Video Codec	h264_dxva2
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.264 nv)

Preset Attribute	Description
Video Format	MP4
Video Codec	h264_nvenc
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.264 qsv)

Preset Attribute	Description
Video Format	MP4
Video Codec	h264_qsv
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.264 va)

Preset Attribute	Description
Video Format	MP4
Video Codec	h264_vaapi
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.264 videotoolbox)

Preset Attribute	Description
Video Format	MP4
Video Codec	h264_videotoolbox
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.264)

This is the default export preset used by OpenShot. This format is compatible with most media players (such as VLC) and websites (such as YouTube, Vimeo, Facebook).

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (h.265)

Preset Attribute	Description
Video Format	MP4
Video Codec	libx265
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	50 crf
Video Bitrate (med)	23 crf
Video Bitrate (high)	0 crf
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MP4 (mpeg4)

Preset Attribute	Description
Video Format	MP4
Video Codec	mpeg4
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

MPEG (mpeg2)

Preset Attribute	Description
Video Format	MPEG
Video Codec	mpeg2video
Audio Codec	mp2
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

OGG (theora/flac)

Preset Attribute	Description
Video Format	OGG
Video Codec	libtheora
Audio Codec	flac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

OGG (theora/vorbis)

Preset Attribute	Description
Video Format	OGG
Video Codec	libtheora
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

WEBM (vp9)

Preset Attribute	Description
Video Format	WEBM
Video Codec	libvpx-vp9
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	50 crf
Video Bitrate (med)	30 crf
Video Bitrate (high)	5 crf
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

WEBM (vp9) lossless

Preset Attribute	Description
Video Format	WEBM
Video Codec	libvpx-vp9
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	50 crf
Video Bitrate (med)	23 crf
Video Bitrate (high)	0 crf
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

WEBM (vpx)

Preset Attribute	Description
Video Format	WEBM
Video Codec	libvpx
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

WEBP (vp9 va)

Preset Attribute	Description
Video Format	WEBM
Video Codec	vp9_vaapi
Audio Codec	libopus
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

Device

Apple TV

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (high)	5 Mb/s
Audio Bitrate (high)	256 kb/s
Profiles	HD 720p 30 fps

Chromebook

Preset Attribute	Description
Video Format	WEBM
Video Codec	libvpx
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	All Profiles

Nokia nHD

Preset Attribute	Description
Video Format	AVI
Video Codec	libxvid
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	1 Mb/s
Video Bitrate (med)	3 Mb/s
Video Bitrate (high)	5 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	NTSC SD 1/4 QVGA 240p 29.97 fps

Xbox 360

Preset Attribute	Description
Video Format	AVI
Video Codec	libxvid
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	2 Mb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	8 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	FHD 1080p 29.97 fps HD 720p 29.97 fps NTSC SD Widescreen Anamorphic 480i 29.97 fps

Web

Flickr-HD

Preset Attribute	Description
Video Format	MOV
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	FHD 1080p 29.97 fps FHD PAL 1080p 25 fps HD 720p 25 fps HD 720p 29.97 fps

Instagram

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	3.5 Mb/s
Video Bitrate (high)	5.50 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	FHD 1080p 30 fps FHD PAL 1080p 25 fps FHD Vertical 1080p 25 fps FHD Vertical 1080p 30 fps HD 720p 25 fps HD 720p 30 fps HD Vertical 720p 25 fps HD Vertical 720p 30 fps

Metacafe

Preset Attribute	Description
Video Format	MP4
Video Codec	mpeg4
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	44100
Video Bitrate (low)	2 Mb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	8 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	NTSC SD SQ VGA 480p 29.97 fps

Picasa

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	44100
Video Bitrate (low)	2 Mb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	8 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	NTSC SD SQ VGA 480p 29.97 fps

Twitter

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	1.7 Mb/s
Video Bitrate (high)	3.5 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	FHD 1080p 30 fps FHD PAL 1080p 25 fps FHD Vertical 1080p 25 fps FHD Vertical 1080p 30 fps HD 720p 25 fps HD 720p 30 fps HD Vertical 720p 25 fps HD Vertical 720p 30 fps

Vimeo

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	2 Mb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	8 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	NTSC SD SQ VGA 480p 29.97 fps NTSC SD Wide FWVGA 480p 29.97 fps

Vimeo-HD

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	4 Mb/s
Video Bitrate (med)	8 Mb/s
Video Bitrate (high)	12 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	FHD 1080p 23.98 fps FHD 1080p 24 fps FHD 1080p 29.97 fps FHD 1080p 30 fps FHD PAL 1080p 25 fps HD 720p 23.98 fps HD 720p 24 fps HD 720p 25 fps HD 720p 29.97 fps HD 720p 30 fps

Wikipedia

Preset Attribute	Description
Video Format	OGG
Video Codec	libtheora
Audio Codec	libvorbis
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	384 kb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	15.00 Mb/s
Audio Bitrate (low)	96 kb/s
Audio Bitrate (med)	128 kb/s
Audio Bitrate (high)	192 kb/s
Profiles	NTSC SD 1/4 QVGA 240p 29.97 fps

YouTube HD

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	8 Mb/s
Video Bitrate (med)	10 Mb/s
Video Bitrate (high)	12 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	FHD 1080p 23.98 fps FHD 1080p 24 fps FHD 1080p 29.97 fps FHD 1080p 30 fps FHD 1080p 59.94 fps FHD 1080p 60 fps FHD PAL 1080p 25 fps FHD PAL 1080p 50 fps FHD Vertical 1080p 23.98 fps FHD Vertical 1080p 24 fps FHD Vertical 1080p 25 fps FHD Vertical 1080p 29.97 fps FHD Vertical 1080p 30 fps FHD Vertical 1080p 50 fps FHD Vertical 1080p 59.94 fps FHD Vertical 1080p 60 fps

YouTube HD (2K)

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	16 Mb/s
Video Bitrate (med)	20 Mb/s
Video Bitrate (high)	24 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	2.5K WQHD 1440p 23.98 fps 2.5K WQHD 1440p 24 fps 2.5K WQHD 1440p 25 fps 2.5K WQHD 1440p 29.97 fps 2.5K WQHD 1440p 30 fps 2.5K WQHD 1440p 50 fps 2.5K WQHD 1440p 59.94 fps 2.5K WQHD 1440p 60 fps

YouTube HD (4K)

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	45 Mb/s
Video Bitrate (med)	56 Mb/s
Video Bitrate (high)	68 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	4K UHD 2160p 23.98 fps 4K UHD 2160p 24 fps 4K UHD 2160p 25 fps 4K UHD 2160p 29.97 fps 4K UHD 2160p 30 fps 4K UHD 2160p 50 fps 4K UHD 2160p 59.94 fps 4K UHD 2160p 60 fps

YouTube HD (8K)

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	160 Mb/s
Video Bitrate (med)	200 Mb/s
Video Bitrate (high)	240 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	8K UHD 4320p 23.98 fps 8K UHD 4320p 24 fps 8K UHD 4320p 25 fps 8K UHD 4320p 29.97 fps 8K UHD 4320p 30 fps 8K UHD 4320p 50 fps 8K UHD 4320p 59.94 fps 8K UHD 4320p 60 fps

YouTube Standard

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	libmp3lame
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	2 Mb/s
Video Bitrate (med)	5 Mb/s
Video Bitrate (high)	8 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	256 kb/s
Audio Bitrate (high)	320 kb/s
Profiles	HD 720p 23.98 fps HD 720p 24 fps HD 720p 25 fps HD 720p 29.97 fps HD 720p 30 fps HD 720p 59.94 fps HD 720p 60 fps HD Vertical 720p 23.98 fps HD Vertical 720p 24 fps HD Vertical 720p 25 fps HD Vertical 720p 29.97 fps HD Vertical 720p 30 fps HD Vertical 720p 50 fps HD Vertical 720p 59.94 fps HD Vertical 720p 60 fps NTSC SD SQ VGA 480p 29.97 fps NTSC SD Wide FWVGA 480p 29.97 fps PAL HD 720p 50 fps

DVD

DVD-NTSC

Preset Attribute	Description
Video Format	DVD
Video Codec	mpeg2video
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	1 Mb/s
Video Bitrate (med)	3 Mb/s
Video Bitrate (high)	5 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	192 kb/s
Audio Bitrate (high)	256 kb/s
Profiles	NTSC SD Anamorphic 480i 29.97 fps NTSC SD Widescreen Anamorphic 480i 29.97 fps

DVD-PAL

Preset Attribute	Description
Video Format	DVD
Video Codec	mpeg2video
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	1 Mb/s
Video Bitrate (med)	3 Mb/s
Video Bitrate (high)	5 Mb/s
Audio Bitrate (low)	128 kb/s
Audio Bitrate (med)	192 kb/s
Audio Bitrate (high)	256 kb/s
Profiles	PAL SD Anamorphic 576i 25 fps PAL SD Widescreen Anamorphic 576i 25 fps

Blu-Ray/AVCHD

AVCHD Disks

Preset Attribute	Description
Video Format	MP4
Video Codec	libx264
Audio Codec	aac
Audio Channels	2
Audio Channel Layout	Stereo
Sample Rate	48000
Video Bitrate (low)	15 Mb/s
Video Bitrate (high)	40 Mb/s
Audio Bitrate (low)	256 kb/s
Audio Bitrate (high)	256 kb/s
Profiles	FHD 1080i 30 fps FHD PAL 1080i 25 fps FHD PAL 1080p 25 fps

1.13.6 Profile List

OpenShot includes over 400 built-in video profiles. These profiles match the most common video project sizes and frame rates used around the world. It is recommended to edit your project using the same profile as you intend to export. You can also edit your project with different profiles which match your target aspect ratio, for example: all `16:9` profiles are generally compatible with each other. Sometimes it can be useful to edit a project in a lower resolution profile, and export in a higher resolution profile. A full list of profiles is provided below.

Profile Definitions

- **Profile Name**: Short, friendly name for a video profile (e.g., FHD 1080p 30 fps)
- **FPS**: Frames Per Second
- **DAR**: Display Aspect Ratio (e.g., 1920:1080 becomes 16:9)
- **SAR**: Sample Aspect Ratio (e.g., 1:1 square pixel, 2:1 horizontal rectangular pixel). The SAR directly affects the display aspect ratio. For instance, a 4:3 video can be displayed as 16:9 using rectangular pixels. Non-square pixels adjust the final display width.
- **PAR**: Pixel Aspect Ratio (identical to SAR)
- **SAR Adjusted Width**: Final display width considering SAR
- **Interlaced**: Alternating odd and even lines, used in analog broadcasting
- **NTSC**: Analog TV system in America (usually 29.97 fps)
- **PAL**: Analog TV system in Europe, Australia, and much of the world (usually 25 fps)
- **UHD**: Ultra High Definition
- **QHD**: Quad High Definition

- **FHD**: Full High Definition
- **HD**: High Definition (equal or greater than 1280x720 pixels)
- **SD**: Standard Definition (smaller than 1280x720 pixels)

Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
16K UHD 8640p 59.94 fps	15360	8640	59.94	16:9	1:1	No	15360
16K UHD 8640p 29.97 fps	15360	8640	29.97	16:9	1:1	No	15360
16K UHD 8640p 23.98 fps	15360	8640	23.98	16:9	1:1	No	15360
16K UHD 8640p 60 fps	15360	8640	60.00	16:9	1:1	No	15360
16K UHD 8640p 50 fps	15360	8640	50.00	16:9	1:1	No	15360
16K UHD 8640p 30 fps	15360	8640	30.00	16:9	1:1	No	15360
16K UHD 8640p 25 fps	15360	8640	25.00	16:9	1:1	No	15360
16K UHD 8640p 24 fps	15360	8640	24.00	16:9	1:1	No	15360
8K UHD 4320p 59.94 fps	7680	4320	59.94	16:9	1:1	No	7680
8K UHD 4320p 29.97 fps	7680	4320	29.97	16:9	1:1	No	7680
8K UHD 4320p 23.98 fps	7680	4320	23.98	16:9	1:1	No	7680
8K UHD 4320p 60 fps	7680	4320	60.00	16:9	1:1	No	7680
8K UHD 4320p 50 fps	7680	4320	50.00	16:9	1:1	No	7680
8K UHD 4320p 30 fps	7680	4320	30.00	16:9	1:1	No	7680
8K UHD 4320p 25 fps	7680	4320	25.00	16:9	1:1	No	7680
8K UHD 4320p 24 fps	7680	4320	24.00	16:9	1:1	No	7680
5K UHD 2880p 59.94 fps	5120	2880	59.94	16:9	1:1	No	5120
5K UHD 2880p 29.97 fps	5120	2880	29.97	16:9	1:1	No	5120
5K UHD 2880p 23.98 fps	5120	2880	23.98	16:9	1:1	No	5120
5K UHD 2880p 60 fps	5120	2880	60.00	16:9	1:1	No	5120
5K UHD 2880p 50 fps	5120	2880	50.00	16:9	1:1	No	5120
5K UHD 2880p 30 fps	5120	2880	30.00	16:9	1:1	No	5120
5K UHD 2880p 25 fps	5120	2880	25.00	16:9	1:1	No	5120
5K UHD 2880p 24 fps	5120	2880	24.00	16:9	1:1	No	5120
4K UHD 2160p 59.94 fps	3840	2160	59.94	16:9	1:1	No	3840
4K UHD 2160p 29.97 fps	3840	2160	29.97	16:9	1:1	No	3840
4K UHD 2160p 23.98 fps	3840	2160	23.98	16:9	1:1	No	3840
4K UHD 2160p 60 fps	3840	2160	60.00	16:9	1:1	No	3840
4K UHD 2160p 50 fps	3840	2160	50.00	16:9	1:1	No	3840
4K UHD 2160p 30 fps	3840	2160	30.00	16:9	1:1	No	3840
4K UHD 2160p 25 fps	3840	2160	25.00	16:9	1:1	No	3840
4K UHD 2160p 24 fps	3840	2160	24.00	16:9	1:1	No	3840
3K QHD+ 1800p 59.94 fps	3200	1800	59.94	16:9	1:1	No	3200
3K QHD+ 1800p 29.97 fps	3200	1800	29.97	16:9	1:1	No	3200
3K QHD+ 1800p 23.98 fps	3200	1800	23.98	16:9	1:1	No	3200
3K QHD+ 1800p 60 fps	3200	1800	60.00	16:9	1:1	No	3200
3K QHD+ 1800p 50 fps	3200	1800	50.00	16:9	1:1	No	3200
3K QHD+ 1800p 30 fps	3200	1800	30.00	16:9	1:1	No	3200
3K QHD+ 1800p 25 fps	3200	1800	25.00	16:9	1:1	No	3200
3K QHD+ 1800p 24 fps	3200	1800	24.00	16:9	1:1	No	3200
2.5K WQHD 1440p 59.94 fps	2560	1440	59.94	16:9	1:1	No	2560
2.5K WQHD 1440p 29.97 fps	2560	1440	29.97	16:9	1:1	No	2560
2.5K WQHD 1440p 23.98 fps	2560	1440	23.98	16:9	1:1	No	2560
2.5K WQHD 1440p 60 fps	2560	1440	60.00	16:9	1:1	No	2560

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Table 2 – continued from previous page

Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
2.5K WQHD 1440p 50 fps	2560	1440	50.00	16:9	1:1	No	2560
2.5K WQHD 1440p 30 fps	2560	1440	30.00	16:9	1:1	No	2560
2.5K WQHD 1440p 25 fps	2560	1440	25.00	16:9	1:1	No	2560
2.5K WQHD 1440p 24 fps	2560	1440	24.00	16:9	1:1	No	2560
FHD 1080p 59.94 fps	1920	1080	59.94	16:9	1:1	No	1920
FHD 1080p 29.97 fps	1920	1080	29.97	16:9	1:1	No	1920
FHD 1080p 23.98 fps	1920	1080	23.98	16:9	1:1	No	1920
FHD 1080p 60 fps	1920	1080	60.00	16:9	1:1	No	1920
FHD PAL 1080p 50 fps	1920	1080	50.00	16:9	1:1	No	1920
FHD 1080p 30 fps	1920	1080	30.00	16:9	1:1	No	1920
FHD PAL 1080p 25 fps	1920	1080	25.00	16:9	1:1	No	1920
FHD 1080p 24 fps	1920	1080	24.00	16:9	1:1	No	1920
FHD 1080i 29.97 fps	1920	1080	29.97	16:9	1:1	Yes	1920
FHD 1080i 30 fps	1920	1080	30.00	16:9	1:1	Yes	1920
FHD PAL 1080i 25 fps	1920	1080	25.00	16:9	1:1	Yes	1920
FHD Anamorphic 1035i 29.97 fps	1920	1035	29.97	16:9	23:24	Yes	1840
FHD Anamorphic 1035i 30 fps	1920	1035	30.00	16:9	23:24	Yes	1840
FHD Anamorphic 1035i 25 fps	1920	1035	25.00	16:9	23:24	Yes	1840
HD+ 900p 59.94 fps	1600	900	59.94	16:9	1:1	No	1600
HD+ 900p 29.97 fps	1600	900	29.97	16:9	1:1	No	1600
HD+ 900p 23.98 fps	1600	900	23.98	16:9	1:1	No	1600
HD+ 900p 60 fps	1600	900	60.00	16:9	1:1	No	1600
HD+ 900p 50 fps	1600	900	50.00	16:9	1:1	No	1600
HD+ 900p 30 fps	1600	900	30.00	16:9	1:1	No	1600
HD+ 900p 25 fps	1600	900	25.00	16:9	1:1	No	1600
HD+ 900p 24 fps	1600	900	24.00	16:9	1:1	No	1600
HD Anamorphic 1152i 25 fps	1440	1152	25.00	16:9	64:45	Yes	2048
HD Anamorphic 1080p 59.94 fps	1440	1080	59.94	16:9	4:3	No	1920
HD Anamorphic 1080p 29.97 fps	1440	1080	29.97	16:9	4:3	No	1920
HD Anamorphic 1080p 23.98 fps	1440	1080	23.98	16:9	4:3	No	1920
HD Anamorphic 1080p 60 fps	1440	1080	60.00	16:9	4:3	No	1920
HD Anamorphic 1080p 50 fps	1440	1080	50.00	16:9	4:3	No	1920
HD Anamorphic 1080p 30 fps	1440	1080	30.00	16:9	4:3	No	1920
HD Anamorphic 1080p 25 fps	1440	1080	25.00	16:9	4:3	No	1920
HD Anamorphic 1080p 24 fps	1440	1080	24.00	16:9	4:3	No	1920
HD Anamorphic 1080i 29.97 fps	1440	1080	29.97	16:9	4:3	Yes	1920
HD Anamorphic 1080i 30 fps	1440	1080	30.00	16:9	4:3	Yes	1920
HD Anamorphic 1080i 25 fps	1440	1080	25.00	16:9	4:3	Yes	1920
NTSC SD 16CIF Anamorphic 1152p 29.97 fps	1408	1152	29.97	4:3	12:11	No	1536
PAL SD 16CIF Anamorphic 1152p 25 fps	1408	1152	25.00	4:3	12:11	No	1536
PAL SD 16CIF Anamorphic 1152p 15 fps	1408	1152	15.00	4:3	12:11	No	1536
HD 720p 59.94 fps	1280	720	59.94	16:9	1:1	No	1280
HD 720p 29.97 fps	1280	720	29.97	16:9	1:1	No	1280
HD 720p 23.98 fps	1280	720	23.98	16:9	1:1	No	1280
HD 720p 60 fps	1280	720	60.00	16:9	1:1	No	1280
PAL HD 720p 50 fps	1280	720	50.00	16:9	1:1	No	1280
HD 720p 30 fps	1280	720	30.00	16:9	1:1	No	1280
HD 720p 25 fps	1280	720	25.00	16:9	1:1	No	1280

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Table 2 – continued from previous page

Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
HD 720p 24 fps	1280	720	24.00	16:9	1:1	No	1280
FHD Vertical 1080p 59.94 fps	1080	1920	59.94	9:16	1:1	No	1080
FHD Vertical 1080p 29.97 fps	1080	1920	29.97	9:16	1:1	No	1080
FHD Vertical 1080p 23.98 fps	1080	1920	23.98	9:16	1:1	No	1080
FHD Vertical 1080p 60 fps	1080	1920	60.00	9:16	1:1	No	1080
FHD Vertical 1080p 50 fps	1080	1920	50.00	9:16	1:1	No	1080
FHD Vertical 1080p 30 fps	1080	1920	30.00	9:16	1:1	No	1080
FHD Vertical 1080p 25 fps	1080	1920	25.00	9:16	1:1	No	1080
FHD Vertical 1080p 24 fps	1080	1920	24.00	9:16	1:1	No	1080
HD Vertical 1080p 60 fps	1080	1350	60.00	4:5	1:1	No	1080
HD Vertical 1080p 50 fps	1080	1350	50.00	4:5	1:1	No	1080
HD Vertical 1080p 30 fps	1080	1350	30.00	4:5	1:1	No	1080
HD Vertical 1080p 25 fps	1080	1350	25.00	4:5	1:1	No	1080
HD Vertical 1080p 24 fps	1080	1350	24.00	4:5	1:1	No	1080
HD Square 1080p 60 fps	1080	1080	60.00	1:1	1:1	No	1080
HD Square 1080p 50 fps	1080	1080	50.00	1:1	1:1	No	1080
HD Square 1080p 30 fps	1080	1080	30.00	1:1	1:1	No	1080
HD Square 1080p 25 fps	1080	1080	25.00	1:1	1:1	No	1080
HD Square 1080p 24 fps	1080	1080	24.00	1:1	1:1	No	1080
WSVGA 600p 59.94 fps	1024	600	59.94	128:75	1:1	No	1024
WSVGA 600p 29.97 fps	1024	600	29.97	128:75	1:1	No	1024
WSVGA 600p 23.98 fps	1024	600	23.98	128:75	1:1	No	1024
WSVGA 600p 60 fps	1024	600	60.00	128:75	1:1	No	1024
WSVGA 600p 50 fps	1024	600	50.00	128:75	1:1	No	1024
WSVGA 600p 30 fps	1024	600	30.00	128:75	1:1	No	1024
WSVGA 600p 25 fps	1024	600	25.00	128:75	1:1	No	1024
WSVGA 600p 24 fps	1024	600	24.00	128:75	1:1	No	1024
WSVGA 600p 15 fps	1024	600	15.00	128:75	1:1	No	1024
WSVGA 576p 59.94 fps	1024	576	59.94	16:9	1:1	No	1024
WSVGA 576p 29.97 fps	1024	576	29.97	16:9	1:1	No	1024
WSVGA 576p 23.98 fps	1024	576	23.98	16:9	1:1	No	1024
WSVGA 576p 60 fps	1024	576	60.00	16:9	1:1	No	1024
WSVGA 576p 50 fps	1024	576	50.00	16:9	1:1	No	1024
WSVGA 576p 30 fps	1024	576	30.00	16:9	1:1	No	1024
PAL SD Wide WSVGA 576p 25 fps	1024	576	25.00	16:9	1:1	No	1024
WSVGA 576p 24 fps	1024	576	24.00	16:9	1:1	No	1024
WSVGA 576p 15 fps	1024	576	15.00	16:9	1:1	No	1024
DVGA 640p 59.94 fps	960	640	59.94	3:2	1:1	No	960
DVGA 640p 29.97 fps	960	640	29.97	3:2	1:1	No	960
DVGA 640p 23.98 fps	960	640	23.98	3:2	1:1	No	960
DVGA 640p 60 fps	960	640	60.00	3:2	1:1	No	960
DVGA 640p 50 fps	960	640	50.00	3:2	1:1	No	960
DVGA 640p 30 fps	960	640	30.00	3:2	1:1	No	960
DVGA 640p 25 fps	960	640	25.00	3:2	1:1	No	960
DVGA 640p 24 fps	960	640	24.00	3:2	1:1	No	960
DVGA 640p 15 fps	960	640	15.00	3:2	1:1	No	960
qHD 540p 59.94 fps	960	540	59.94	16:9	1:1	No	960
qHD 540p 29.97 fps	960	540	29.97	16:9	1:1	No	960

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Table 2 – continued from previous page

Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
qHD 540p 23.98 fps	960	540	23.98	16:9	1:1	No	960
qHD 540p 60 fps	960	540	60.00	16:9	1:1	No	960
qHD 540p 50 fps	960	540	50.00	16:9	1:1	No	960
qHD 540p 30 fps	960	540	30.00	16:9	1:1	No	960
qHD 540p 25 fps	960	540	25.00	16:9	1:1	No	960
qHD 540p 24 fps	960	540	24.00	16:9	1:1	No	960
FWVGA 480p 59.94 fps	854	480	59.94	16:9	1:1	No	854
NTSC SD Wide FWVGA 480p 29.97 fps	854	480	29.97	16:9	1:1	No	854
FWVGA 480p 23.98 fps	854	480	23.98	16:9	1:1	No	854
FWVGA 480p 60 fps	854	480	60.00	16:9	1:1	No	854
FWVGA 480p 50 fps	854	480	50.00	16:9	1:1	No	854
FWVGA 480p 30 fps	854	480	30.00	16:9	1:1	No	854
FWVGA 480p 25 fps	854	480	25.00	16:9	1:1	No	854
FWVGA 480p 24 fps	854	480	24.00	16:9	1:1	No	854
FWVGA 480p 15 fps	854	480	15.00	16:9	1:1	No	854
SVGA 600p 59.94 fps	800	600	59.94	4:3	1:1	No	800
SVGA 600p 29.97 fps	800	600	29.97	4:3	1:1	No	800
SVGA 600p 23.98 fps	800	600	23.98	4:3	1:1	No	800
SVGA 600p 60 fps	800	600	60.00	4:3	1:1	No	800
SVGA 600p 50 fps	800	600	50.00	4:3	1:1	No	800
SVGA 600p 30 fps	800	600	30.00	4:3	1:1	No	800
SVGA 600p 25 fps	800	600	25.00	4:3	1:1	No	800
SVGA 600p 24 fps	800	600	24.00	4:3	1:1	No	800
SVGA 600p 15 fps	800	600	15.00	4:3	1:1	No	800
WVGA 480p 59.94 fps	800	480	59.94	5:3	1:1	No	800
WVGA 480p 29.97 fps	800	480	29.97	5:3	1:1	No	800
WVGA 480p 23.98 fps	800	480	23.98	5:3	1:1	No	800
WVGA 480p 60 fps	800	480	60.00	5:3	1:1	No	800
WVGA 480p 50 fps	800	480	50.00	5:3	1:1	No	800
WVGA 480p 30 fps	800	480	30.00	5:3	1:1	No	800
WVGA 480p 25 fps	800	480	25.00	5:3	1:1	No	800
WVGA 480p 24 fps	800	480	24.00	5:3	1:1	No	800
WVGA 480p 15 fps	800	480	15.00	5:3	1:1	No	800
PAL SD SQ 576p 25 fps	768	576	25.00	4:3	1:1	No	768
WVGA 480p 59.94 fps	768	480	59.94	16:10	1:1	No	768
WVGA 480p 29.97 fps	768	480	29.97	16:10	1:1	No	768
WVGA 480p 23.98 fps	768	480	23.98	16:10	1:1	No	768
WVGA 480p 60 fps	768	480	60.00	16:10	1:1	No	768
WVGA 480p 50 fps	768	480	50.00	16:10	1:1	No	768
WVGA 480p 30 fps	768	480	30.00	16:10	1:1	No	768
WVGA 480p 25 fps	768	480	25.00	16:10	1:1	No	768
WVGA 480p 24 fps	768	480	24.00	16:10	1:1	No	768
WVGA 480p 15 fps	768	480	15.00	16:10	1:1	No	768
HD Vertical 720p 59.94 fps	720	1280	59.94	9:16	1:1	No	720
HD Vertical 720p 29.97 fps	720	1280	29.97	9:16	1:1	No	720
HD Vertical 720p 23.98 fps	720	1280	23.98	9:16	1:1	No	720
HD Vertical 720p 60 fps	720	1280	60.00	9:16	1:1	No	720
HD Vertical 720p 50 fps	720	1280	50.00	9:16	1:1	No	720

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Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
HD Vertical 720p 30 fps	720	1280	30.00	9:16	1:1	No	720
HD Vertical 720p 25 fps	720	1280	25.00	9:16	1:1	No	720
HD Vertical 720p 24 fps	720	1280	24.00	9:16	1:1	No	720
PAL SD Anamorphic 576p 50 fps	720	576	50.00	16:9	64:45	No	1024
PAL SD Anamorphic 576p 50 fps	720	576	50.00	4:3	16:15	No	768
PAL SD Widescreen Anamorphic 576p 25 fps	720	576	25.00	16:9	64:45	No	1024
PAL SD Anamorphic 576p 25 fps	720	576	25.00	4:3	16:15	No	768
PAL SD Widescreen Anamorphic 576i 25 fps	720	576	25.00	16:9	64:45	Yes	1024
PAL SD Anamorphic 576i 25 fps	720	576	25.00	4:3	16:15	Yes	768
NTSC SD Anamorphic 486p 23.98 fps	720	486	23.98	16:9	6:5	No	864
NTSC SD Anamorphic 486p 23.98 fps	720	486	23.98	4:3	9:10	No	648
NTSC SD Anamorphic 486i 29.97 fps	720	486	29.97	16:9	6:5	Yes	864
NTSC SD Anamorphic 486i 29.97 fps	720	486	29.97	4:3	9:10	Yes	648
NTSC SD Anamorphic 480p 59.94 fps	720	480	59.94	16:9	32:27	No	853
NTSC SD Anamorphic 480p 59.94 fps	720	480	59.94	4:3	8:9	No	640
WVGA 480p 59.94 fps	720	480	59.94	3:2	1:1	No	720
NTSC SD Widescreen Anamorphic 480p 29.97 fps	720	480	29.97	16:9	32:27	No	853
NTSC SD Anamorphic 480p 29.97 fps	720	480	29.97	4:3	8:9	No	640
WVGA 480p 29.97 fps	720	480	29.97	3:2	1:1	No	720
NTSC SD Anamorphic 480p 23.98 fps	720	480	23.98	16:9	32:27	No	853
NTSC SD Anamorphic 480p 23.98 fps	720	480	23.98	4:3	8:9	No	640
WVGA 480p 23.98 fps	720	480	23.98	3:2	1:1	No	720
NTSC SD Anamorphic 480p 60 fps	720	480	60.00	16:9	32:27	No	853
NTSC SD Anamorphic 480p 60 fps	720	480	60.00	4:3	8:9	No	640
WVGA 480p 60 fps	720	480	60.00	3:2	1:1	No	720
NTSC SD Anamorphic 480p 50 fps	720	480	50.00	16:9	32:27	No	853
NTSC SD Anamorphic 480p 50 fps	720	480	50.00	4:3	8:9	No	640
WVGA 480p 50 fps	720	480	50.00	3:2	1:1	No	720
NTSC SD Anamorphic 480p 30 fps	720	480	30.00	16:9	32:27	No	853
NTSC SD Anamorphic 480p 30 fps	720	480	30.00	4:3	8:9	No	640
WVGA 480p 30 fps	720	480	30.00	3:2	1:1	No	720
NTSC SD Anamorphic 480p 25 fps	720	480	25.00	16:9	32:27	No	853
NTSC SD Anamorphic 480p 25 fps	720	480	25.00	4:3	8:9	No	640
WVGA 480p 25 fps	720	480	25.00	3:2	1:1	No	720
NTSC SD Anamorphic 480p 24 fps	720	480	24.00	16:9	32:27	No	853
NTSC SD Anamorphic 480p 24 fps	720	480	24.00	4:3	8:9	No	640
WVGA 480p 24 fps	720	480	24.00	3:2	1:1	No	720
WVGA 480p 15 fps	720	480	15.00	3:2	1:1	No	720
NTSC SD Anamorphic 480i 59.94 fps	720	480	59.94	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 59.94 fps	720	480	59.94	4:3	8:9	Yes	640
NTSC SD Widescreen Anamorphic 480i 29.97 fps	720	480	29.97	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 29.97 fps	720	480	29.97	4:3	8:9	Yes	640
NTSC SD Anamorphic 480i 23.98 fps	720	480	23.98	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 23.98 fps	720	480	23.98	4:3	8:9	Yes	640
NTSC SD Anamorphic 480i 60 fps	720	480	60.00	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 60 fps	720	480	60.00	4:3	8:9	Yes	640
NTSC SD Anamorphic 480i 30 fps	720	480	30.00	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 30 fps	720	480	30.00	4:3	8:9	Yes	640

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Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
NTSC SD Anamorphic 480i 25 fps	720	480	25.00	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 25 fps	720	480	25.00	4:3	8:9	Yes	640
NTSC SD Anamorphic 480i 24 fps	720	480	24.00	16:9	32:27	Yes	853
NTSC SD Anamorphic 480i 24 fps	720	480	24.00	4:3	8:9	Yes	640
PAL SD 4CIF 4SIF Anamorphic 576p 29.97 fps	704	576	29.97	4:3	12:11	No	768
PAL SD 4CIF 4SIF Anamorphic 576p 25 fps	704	576	25.00	4:3	12:11	No	768
PAL SD 4CIF 4SIF Anamorphic 576p 15 fps	704	576	15.00	4:3	12:11	No	768
PAL SD Anamorphic 576i 25 fps	704	576	25.00	16:9	16:11	Yes	1024
PAL SD Anamorphic 576i 25 fps	704	576	25.00	4:3	12:11	Yes	768
NTSC SD Anamorphic 480p 59.94 fps	704	480	59.94	16:9	40:33	No	853
NTSC SD Anamorphic 480p 59.94 fps	704	480	59.94	4:3	10:11	No	640
NTSC SD Anamorphic 480p 29.97 fps	704	480	29.97	16:9	40:33	No	853
NTSC SD 4SIF Anamorphic 480p 29.97 fps	704	480	29.97	4:3	10:11	No	640
NTSC SD Anamorphic 480p 23.98 fps	704	480	23.98	16:9	40:33	No	853
NTSC SD Anamorphic 480p 23.98 fps	704	480	23.98	4:3	10:11	No	640
NTSC SD Anamorphic 480p 60 fps	704	480	60.00	16:9	40:33	No	853
NTSC SD Anamorphic 480p 60 fps	704	480	60.00	4:3	10:11	No	640
NTSC SD Anamorphic 480p 50 fps	704	480	50.00	16:9	40:33	No	853
NTSC SD Anamorphic 480p 50 fps	704	480	50.00	4:3	10:11	No	640
NTSC SD Anamorphic 480p 30 fps	704	480	30.00	16:9	40:33	No	853
NTSC SD Anamorphic 480p 30 fps	704	480	30.00	4:3	10:11	No	640
NTSC SD Anamorphic 480p 25 fps	704	480	25.00	16:9	40:33	No	853
NTSC SD 4SIF Anamorphic 480p 25 fps	704	480	25.00	4:3	10:11	No	640
NTSC SD Anamorphic 480p 24 fps	704	480	24.00	16:9	40:33	No	853
NTSC SD Anamorphic 480p 24 fps	704	480	24.00	4:3	10:11	No	640
NTSC SD 4SIF Anamorphic 480p 15 fps	704	480	15.00	4:3	10:11	No	640
NTSC SD Anamorphic 480i 29.97 fps	704	480	29.97	16:9	40:33	Yes	853
NTSC SD 4SIF Anamorphic 480i 29.97 fps	704	480	29.97	4:3	10:11	Yes	640
NTSC SD Anamorphic 480i 30 fps	704	480	30.00	16:9	40:33	Yes	853
NTSC SD Anamorphic 480i 30 fps	704	480	30.00	4:3	10:11	Yes	640
NTSC SD Anamorphic 480i 25 fps	704	480	25.00	16:9	40:33	Yes	853
NTSC SD Anamorphic 480i 25 fps	704	480	25.00	4:3	10:11	Yes	640
NTSC SD VGA 480p 59.94 fps	640	480	59.94	4:3	1:1	No	640
NTSC SD SQ VGA 480p 29.97 fps	640	480	29.97	4:3	1:1	No	640
NTSC SD VGA 480p 23.98 fps	640	480	23.98	4:3	1:1	No	640
NTSC SD VGA 480p 60 fps	640	480	60.00	4:3	1:1	No	640
NTSC SD VGA 480p 50 fps	640	480	50.00	4:3	1:1	No	640
NTSC SD VGA 480p 30 fps	640	480	30.00	4:3	1:1	No	640
NTSC SD VGA 480p 25 fps	640	480	25.00	4:3	1:1	No	640
NTSC SD VGA 480p 24 fps	640	480	24.00	4:3	1:1	No	640
VGA 480p 15 fps	640	480	15.00	4:3	1:1	No	640
NTSC SD 480i 29.97 fps	640	480	29.97	4:3	1:1	Yes	640
NTSC SD 480i 23.98 fps	640	480	23.98	4:3	1:1	Yes	640
NTSC SD 480i 30 fps	640	480	30.00	4:3	1:1	Yes	640
NTSC SD 480i 25 fps	640	480	25.00	4:3	1:1	Yes	640
NTSC SD 480i 24 fps	640	480	24.00	4:3	1:1	Yes	640
nHD 360p 59.94 fps	640	360	59.94	16:9	1:1	No	640
nHD 360p 29.97 fps	640	360	29.97	16:9	1:1	No	640

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Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
nHD 360p 23.98 fps	640	360	23.98	16:9	1:1	No	640
nHD 360p 60 fps	640	360	60.00	16:9	1:1	No	640
nHD 360p 50 fps	640	360	50.00	16:9	1:1	No	640
nHD 360p 30 fps	640	360	30.00	16:9	1:1	No	640
nHD 360p 25 fps	640	360	25.00	16:9	1:1	No	640
nHD 360p 24 fps	640	360	24.00	16:9	1:1	No	640
PAL SD Anamorphic 576p 25 fps	544	576	25.00	16:9	32:17	No	1024
PAL SD Anamorphic 576p 25 fps	544	576	25.00	4:3	24:17	No	768
PAL SD Anamorphic 576i 25 fps	544	576	25.00	16:9	32:17	Yes	1024
PAL SD Anamorphic 576i 25 fps	544	576	25.00	4:3	24:17	Yes	768
NTSC SD 3/4 Anamorphic 480p 23.98 fps	544	480	23.98	4:3	20:17	No	640
NTSC SD 3/4 Anamorphic 480p 25 fps	544	480	25.00	4:3	20:17	No	640
NTSC SD 3/4 Anamorphic 480i 29.97 fps	544	480	29.97	4:3	20:17	Yes	640
NTSC SD 3/4 Anamorphic 480i 25 fps	544	480	25.00	4:3	20:17	Yes	640
NTSC SD 3/4 Anamorphic 480p 23.98 fps	528	480	23.98	4:3	40:33	No	640
NTSC SD 3/4 Anamorphic 480p 25 fps	528	480	25.00	4:3	40:33	No	640
NTSC SD 3/4 Anamorphic 480i 29.97 fps	528	480	29.97	4:3	40:33	Yes	640
NTSC SD 3/4 Anamorphic 480i 25 fps	528	480	25.00	4:3	40:33	Yes	640
PAL SD 1/4 Wide 288p 25 fps	512	288	25.00	16:9	1:1	No	512
PAL SD Anamorphic 576p 25 fps	480	576	25.00	16:9	32:15	No	1024
PAL SD Anamorphic 576p 25 fps	480	576	25.00	4:3	8:5	No	768
PAL SD Anamorphic 576i 25 fps	480	576	25.00	16:9	32:15	Yes	1024
PAL SD Anamorphic 576i 25 fps	480	576	25.00	4:3	8:5	Yes	768
NTSC SD Anamorphic 480i 29.97 fps	480	480	29.97	16:9	16:9	Yes	853
NTSC SD Anamorphic 480i 29.97 fps	480	480	29.97	4:3	4:3	Yes	640
NTSC SD Anamorphic 480i 23.98 fps	480	480	23.98	16:9	16:9	Yes	853
NTSC SD Anamorphic 480i 23.98 fps	480	480	23.98	4:3	4:3	Yes	640
NTSC SD Anamorphic 480i 30 fps	480	480	30.00	4:3	4:3	Yes	640
HVGA 320p 59.94 fps	480	320	59.94	3:2	1:1	No	480
HVGA 320p 29.97 fps	480	320	29.97	3:2	1:1	No	480
HVGA 320p 23.98 fps	480	320	23.98	3:2	1:1	No	480
HVGA 320p 60 fps	480	320	60.00	3:2	1:1	No	480
HVGA 320p 50 fps	480	320	50.00	3:2	1:1	No	480
HVGA 320p 30 fps	480	320	30.00	3:2	1:1	No	480
HVGA 320p 25 fps	480	320	25.00	3:2	1:1	No	480
HVGA 320p 24 fps	480	320	24.00	3:2	1:1	No	480
HVGA 320p 15 fps	480	320	15.00	3:2	1:1	No	480
NTSC SD 1/4 Wide 240p 29.97 fps	427	240	29.97	16:9	1:1	No	427
WQVGA 240p 59.94 fps	400	240	59.94	5:3	1:1	No	400
WQVGA 240p 29.97 fps	400	240	29.97	5:3	1:1	No	400
WQVGA 240p 23.98 fps	400	240	23.98	5:3	1:1	No	400
WQVGA 240p 60 fps	400	240	60.00	5:3	1:1	No	400
WQVGA 240p 50 fps	400	240	50.00	5:3	1:1	No	400
WQVGA 240p 30 fps	400	240	30.00	5:3	1:1	No	400
WQVGA 240p 25 fps	400	240	25.00	5:3	1:1	No	400
WQVGA 240p 24 fps	400	240	24.00	5:3	1:1	No	400
WQVGA 240p 15 fps	400	240	15.00	5:3	1:1	No	400
PAL SD 1/4 288p 25 fps	384	288	25.00	4:3	1:1	No	384

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Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
WQVGA 240p 59.94 fps	384	240	59.94	16:10	1:1	No	384
WQVGA 240p 29.97 fps	384	240	29.97	16:10	1:1	No	384
WQVGA 240p 23.98 fps	384	240	23.98	16:10	1:1	No	384
WQVGA 240p 60 fps	384	240	60.00	16:10	1:1	No	384
WQVGA 240p 50 fps	384	240	50.00	16:10	1:1	No	384
WQVGA 240p 30 fps	384	240	30.00	16:10	1:1	No	384
WQVGA 240p 25 fps	384	240	25.00	16:10	1:1	No	384
WQVGA 240p 24 fps	384	240	24.00	16:10	1:1	No	384
WQVGA 240p 15 fps	384	240	15.00	16:10	1:1	No	384
WQVGA 240p 59.94 fps	360	240	59.94	3:2	1:1	No	360
WQVGA 240p 29.97 fps	360	240	29.97	3:2	1:1	No	360
WQVGA 240p 23.98 fps	360	240	23.98	3:2	1:1	No	360
WQVGA 240p 60 fps	360	240	60.00	3:2	1:1	No	360
WQVGA 240p 50 fps	360	240	50.00	3:2	1:1	No	360
WQVGA 240p 30 fps	360	240	30.00	3:2	1:1	No	360
WQVGA 240p 25 fps	360	240	25.00	3:2	1:1	No	360
WQVGA 240p 24 fps	360	240	24.00	3:2	1:1	No	360
WQVGA 240p 15 fps	360	240	15.00	3:2	1:1	No	360
PAL SD Anamorphic 576p 25 fps	352	576	25.00	16:9	32:11	No	1024
PAL SD CVD Anamorphic 576p 25 fps	352	576	25.00	4:3	24:11	No	768
PAL SD Anamorphic 576i 25 fps	352	576	25.00	16:9	32:11	Yes	1024
PAL SD CVD Anamorphic 576i 25 fps	352	576	25.00	4:3	24:11	Yes	768
NTSC SD CVD Anamorphic 480p 29.97 fps	352	480	29.97	4:3	20:11	No	640
NTSC SD 1/2 Anamorphic 480p 23.98 fps	352	480	23.98	4:3	20:11	No	640
NTSC SD 1/2 Anamorphic 480p 25 fps	352	480	25.00	4:3	20:11	No	640
NTSC SD CVD 1/2 Anamorphic 480i 29.97 fps	352	480	29.97	4:3	20:11	Yes	640
NTSC SD 1/2 Anamorphic 480i 25 fps	352	480	25.00	4:3	20:11	Yes	640
PAL SD CIF SIF Anamorphic 288p 29.97 fps	352	288	29.97	4:3	12:11	No	384
PAL SD Anamorphic 288p 25 fps	352	288	25.00	16:9	16:11	No	512
PAL SD CIF SIF VCD Anamorphic 288p 25 fps	352	288	25.00	4:3	12:11	No	384
PAL SD CIF SIF Anamorphic 288p 15 fps	352	288	15.00	4:3	12:11	No	384
PAL SD Anamorphic 288i 25 fps	352	288	25.00	16:9	16:11	Yes	512
PAL SD CIF Anamorphic 288i 25 fps	352	288	25.00	4:3	12:11	Yes	384
NTSC SD SIF VCD Anamorphic 240p 29.97 fps	352	240	29.97	4:3	10:11	No	320
NTSC SD SIF Anamorphic 240p 23.98 fps	352	240	23.98	4:3	10:11	No	320
NTSC SD SIF Anamorphic 240p 25 fps	352	240	25.00	4:3	10:11	No	320
NTSC SD SIF Anamorphic 240p 15 fps	352	240	15.00	4:3	10:11	No	320
NTSC SD SIF Anamorphic 240i 29.97 fps	352	240	29.97	4:3	10:11	Yes	320
QVGA 240p 59.94 fps	320	240	59.94	4:3	1:1	No	320
NTSC SD 1/4 QVGA 240p 29.97 fps	320	240	29.97	4:3	1:1	No	320
QVGA 240p 23.98 fps	320	240	23.98	4:3	1:1	No	320
QVGA 240p 60 fps	320	240	60.00	4:3	1:1	No	320
QVGA 240p 50 fps	320	240	50.00	4:3	1:1	No	320
QVGA 240p 30 fps	320	240	30.00	4:3	1:1	No	320
QVGA 240p 25 fps	320	240	25.00	4:3	1:1	No	320
QVGA 240p 24 fps	320	240	24.00	4:3	1:1	No	320
QVGA 240p 15 fps	320	240	15.00	4:3	1:1	No	320
HQVGA 160p 59.94 fps	256	160	59.94	16:10	1:1	No	256

continues on next page

Table 2 – continued from previous page

Profile Name	Width	Height	FPS	DAR	SAR	Interlaced	SAR Adjusted Width
HQVGA 160p 29.97 fps	256	160	29.97	16:10	1:1	No	256
HQVGA 160p 23.98 fps	256	160	23.98	16:10	1:1	No	256
HQVGA 160p 60 fps	256	160	60.00	16:10	1:1	No	256
HQVGA 160p 50 fps	256	160	50.00	16:10	1:1	No	256
HQVGA 160p 30 fps	256	160	30.00	16:10	1:1	No	256
HQVGA 160p 25 fps	256	160	25.00	16:10	1:1	No	256
HQVGA 160p 24 fps	256	160	24.00	16:10	1:1	No	256
HQVGA 160p 15 fps	256	160	15.00	16:10	1:1	No	256
HQVGA 160p 59.94 fps	240	160	59.94	3:2	1:1	No	240
HQVGA 160p 29.97 fps	240	160	29.97	3:2	1:1	No	240
HQVGA 160p 23.98 fps	240	160	23.98	3:2	1:1	No	240
HQVGA 160p 60 fps	240	160	60.00	3:2	1:1	No	240
HQVGA 160p 50 fps	240	160	50.00	3:2	1:1	No	240
HQVGA 160p 30 fps	240	160	30.00	3:2	1:1	No	240
HQVGA 160p 25 fps	240	160	25.00	3:2	1:1	No	240
HQVGA 160p 24 fps	240	160	24.00	3:2	1:1	No	240
HQVGA 160p 15 fps	240	160	15.00	3:2	1:1	No	240
PAL SD QCIF Anamorphic 144p 29.97 fps	176	144	29.97	4:3	12:11	No	192
PAL SD QCIF Anamorphic 144p 25 fps	176	144	25.00	4:3	12:11	No	192
PAL SD QCIF Anamorphic 144p 15 fps	176	144	15.00	4:3	12:11	No	192
NTSC SD SIF 1/2 Anamorphic 120p 23.98 fps	176	120	23.98	4:3	10:11	No	160
NTSC SD SIF 1/2 Anamorphic 120p 25 fps	176	120	25.00	4:3	10:11	No	160
QQVGA 120p 59.94 fps	160	120	59.94	4:3	1:1	No	160
QQVGA 120p 29.97 fps	160	120	29.97	4:3	1:1	No	160
QQVGA 120p 23.98 fps	160	120	23.98	4:3	1:1	No	160
QQVGA 120p 60 fps	160	120	60.00	4:3	1:1	No	160
QQVGA 120p 50 fps	160	120	50.00	4:3	1:1	No	160
QQVGA 120p 30 fps	160	120	30.00	4:3	1:1	No	160
QQVGA 120p 25 fps	160	120	25.00	4:3	1:1	No	160
QQVGA 120p 24 fps	160	120	24.00	4:3	1:1	No	160
QQVGA 120p 15 fps	160	120	15.00	4:3	1:1	No	160
NTSC SD SQ CIF 96p 29.97 fps	128	96	29.97	4:3	1:1	No	128
NTSC SD SQ CIF 96p 25 fps	128	96	25.00	4:3	1:1	No	128
NTSC SD SQ CIF 96p 15 fps	128	96	15.00	4:3	1:1	No	128

1.14 Import & Export

Video editing projects (including tracks, clips, and keyframes) can be **imported** and **exported** from OpenShot Video Editor in widely supported formats (**EDL**: Edit Decision Lists, and **XML**: Final Cut Pro format). For example, if you start editing a video in a different program (Adobe Premier, Final Cut Pro, etc…), but later need to move all your edits to OpenShot (or vice versa).

1.14.1 EDL (Edit Decision Lists)

The following features are supported when importing and exporting an EDL file with OpenShot.

EDL Option Name	Description
EDL Format	CMX-3600 (a very widely supported variation)
Single Track	Only a single track can be imported at a time (this is a limitation of the EDL format)
Tape Name	Only **AX** and **BL** tape names are currently supported in OpenShot
Edits (V and A)	Only edits are currently supported (transitions are not yet supported)
Opacity	Opacity keyframes are supported
Audio Levels	Volume keyframes are supported

Example EDL Output

```
:caption: Example EDL format supported by OpenShot:

 TITLE: Clips - TRACK 5
 FCM: NON-DROP FRAME

 001  BL       V     C        00:00:00:01 00:00:03:17 00:00:00:01 00:00:03:17
 001  AX       V     C        00:00:00:01 00:00:10:01 00:00:03:17 00:00:13:17
 * FROM CLIP NAME: Intro.png

 002  BL       V     C        00:00:00:01 00:00:05:09 00:00:13:17 00:00:18:25
 002  AX       V     C        00:00:00:01 00:00:10:01 00:00:18:25 00:00:28:25
 * FROM CLIP NAME: FileName.mp4
 * OPACITY LEVEL AT 00:00:00:01 IS 0.00%  (REEL AX)
 * OPACITY LEVEL AT 00:00:01:01 IS 100.00%  (REEL AX)
 * OPACITY LEVEL AT 00:00:09:01 IS 100.00%  (REEL AX)
 * OPACITY LEVEL AT 00:00:10:01 IS 0.00%  (REEL AX)

 003  BL       V     C        00:00:00:01 00:00:33:15 00:00:28:25 00:01:02:09
 003  AX       V     C        00:00:14:25 00:00:34:29 00:01:02:09 00:01:22:13
 003  AX       A     C        00:00:14:25 00:00:34:29 00:01:02:09 00:01:22:13
 * FROM CLIP NAME: FileName2.mp4

 004  BL       V     C        00:00:00:01 00:00:26:25 00:01:22:13 00:01:49:07
 004  AX       A     C        00:00:00:01 00:02:20:01 00:01:49:07 00:04:09:07
 * FROM CLIP NAME: Music.wav
 * AUDIO LEVEL AT 00:00:00:01 IS -99.00 DB  (REEL AX A1)
 * AUDIO LEVEL AT 00:00:03:01 IS 0.00 DB  (REEL AX A1)
 * AUDIO LEVEL AT 00:02:17:01 IS 0.00 DB  (REEL AX A1)
 * AUDIO LEVEL AT 00:02:20:01 IS -99.00 DB  (REEL AX A1)
```

1.14.2 XML (Final Cut Pro format)

The following features are supported when importing and exporting an XML file with OpenShot. This XML format is supported in many video editors (not just Final Cut Pro). In fact, most commercial video editors have some support for importing and exporting this same XML format.

XML Option Name	Description
XML Format	Final Cut Pro format (but most commercial video editors also support this format)
All Tracks	All video and audio tracks are supported
Edits	All clips on all tracks are supported (video, image, and audio files). Transitions are not yet supported.
Opacity	Opacity keyframes are supported
Audio Levels	Volume keyframes are supported

Example XML Output (tree view)

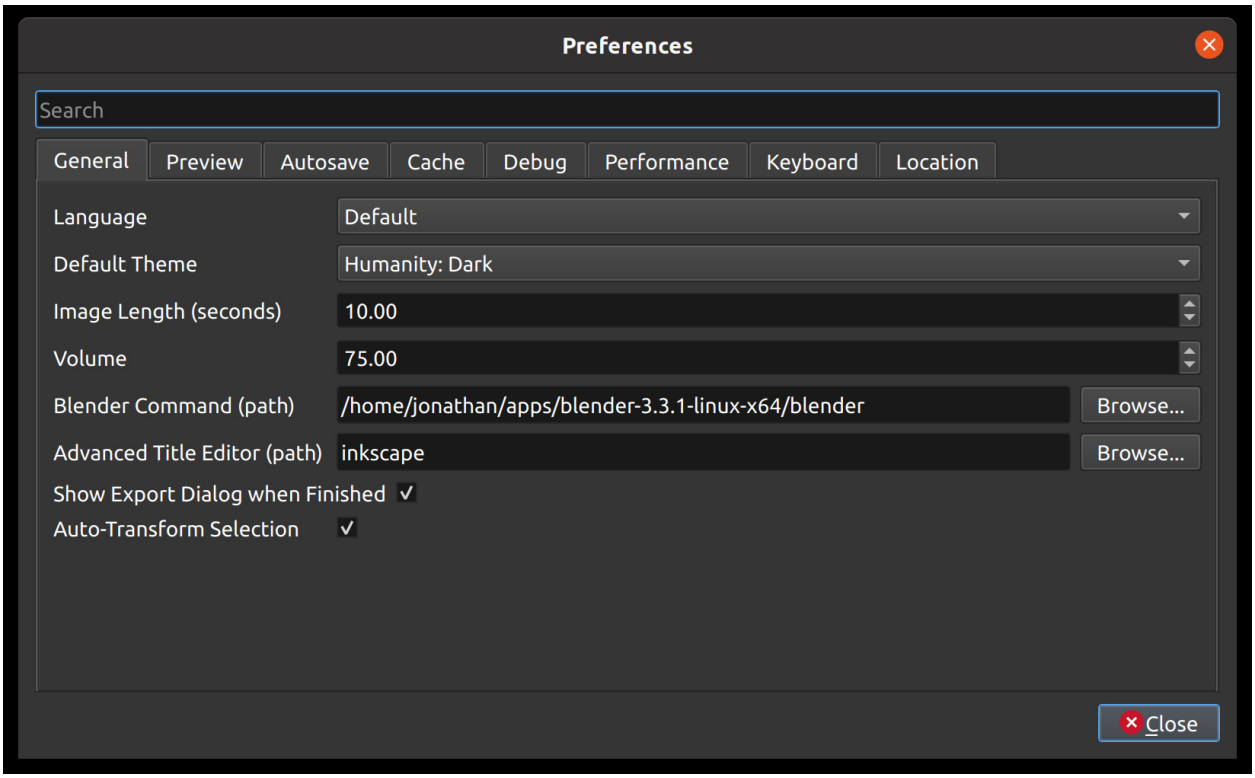
```
▼ xmeml {2}
  ▼ sequence {31}
      uuid : 60cb1fb8-7dac-11e9-abb0-f81a67234bcb
      duration : 249.215625
    ▼ rate {2}
        timebase : 30.0
        ntsc : TRUE
      name : Clips.xml
    ▼ media {2}
      ▼ video {2}
        ▶ format {1}
        ▼ track [2]
          ▼ 0 {7}
              enabled : TRUE
              locked : FALSE
            ▼ clipitem [2]
              ▶ 0 {19}
              ▶ 1 {19}
              _MZ.TrackTargeted : 0
              _TL.SQTrackExpanded : 0
              _TL.SQTrackExpandedHeight : 25
              _TL.SQTrackShy : 0
          ▶ 1 {7}
      ▼ audio {4}
          numOutputChannels : 2
        ▶ format {1}
        ▶ outputs {1}
        ▶ track [2]
    ▼ timecode {4}
      ▶ rate {2}
```

1.15 Preferences

The Preferences window contains many important settings and configuration options for OpenShot. They can be found in the top menu under *Edit→Preferences*. Many settings will require OpenShot to be restarted after your changes are applied.

NOTE: Some features such as *Animated Titles* and *external SVG editing* require setting the paths for **Blender** and **Inkscape** under the General tab. And if you notice audio playback issues, such as audio drift, you may need to adjust the audio settings under the Preview tab.

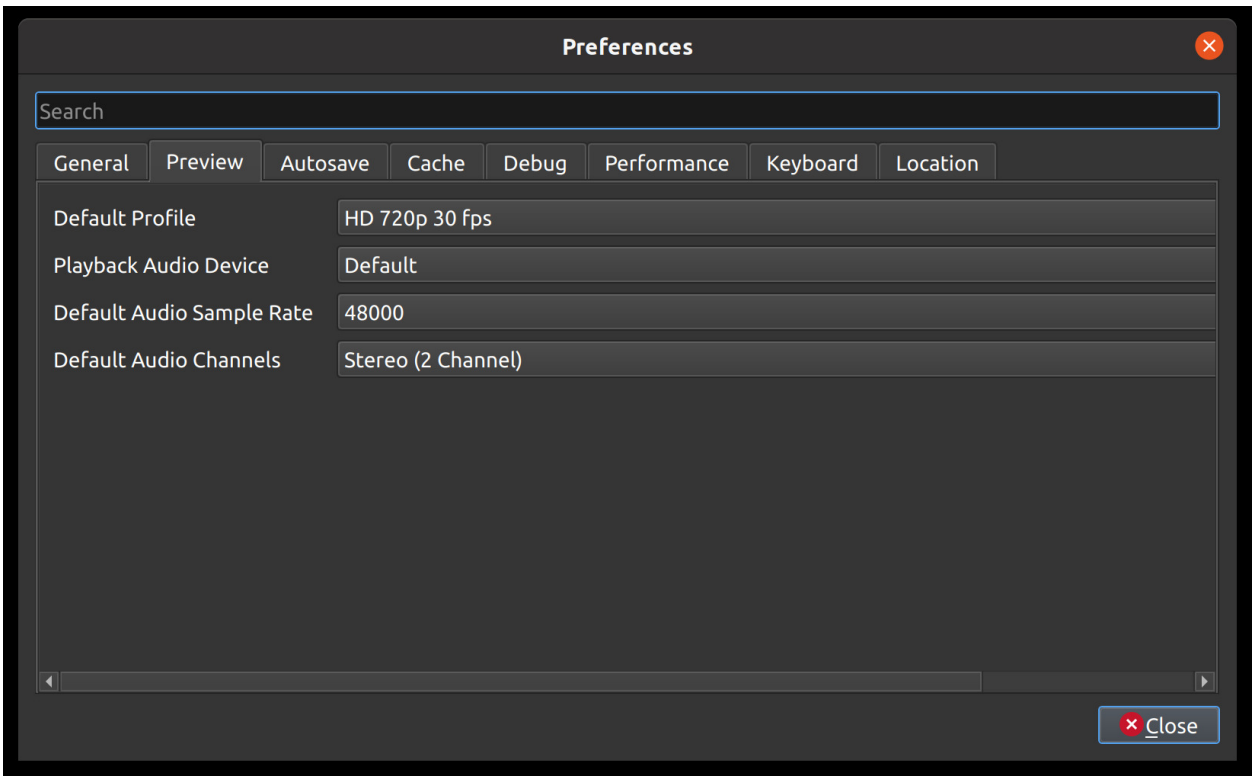
1.15.1 General



The General tab of the Preferences window allows you to modify the settings that apply to OpenShot as a whole.

Setting	Default	Description
Language	Default	Choose your preferred language for OpenShot menus and windows
Default Theme	Humanity:Dark	Choose your theme for OpenShot, either Light, Dark or None
Image Length (seconds)	10.00	How long the image displays on the screen when added to the timeline
Volume	75.00	The percentage of the volume of the clip when added to the timeline
Blender Command (path)	*<blank>*	The path to the binary for Blender (version 2.8+)
Advanced Title Editor (path)	*<blank>*	The path to the binary for Inkscape
Show Export Dialog when Finished	*<checked>*	Displays the Export Video windows after the export is finished

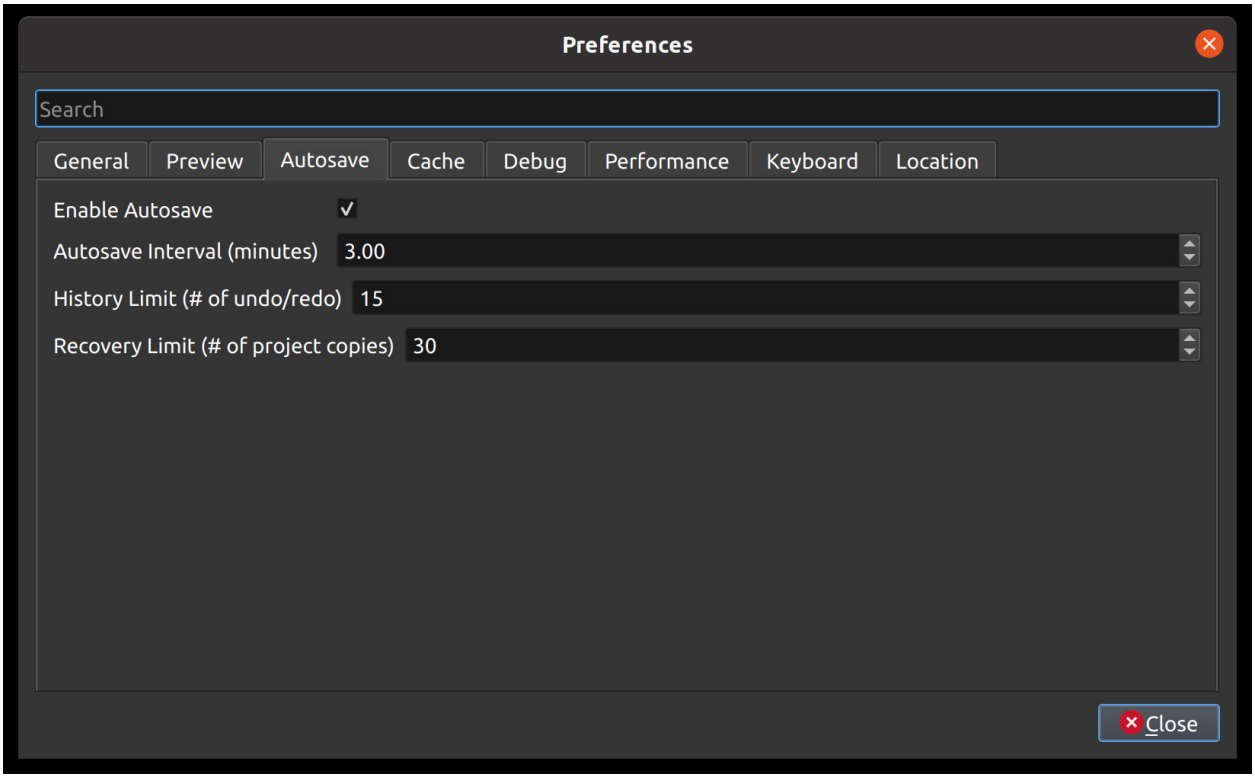
1.15.2 Preview



The Preview tab of the Preferences window allows you to set a **Default Video Profile** for your project, if you have a preference for a specific editing profile. More about *Profiles*. Also, you can adjust the real-time preview audio settings, for example, which audio device and sample rate to use.

Setting	Default	Description
Default Video Profile	HD 720P 30 fps	Select the profile for Preview and Export defaults
Playback Audio Device	Default	
Default Audio Sample Rate	44100	
Default Audio Channels	Stereo (2 Channel)	

1.15.3 Autosave

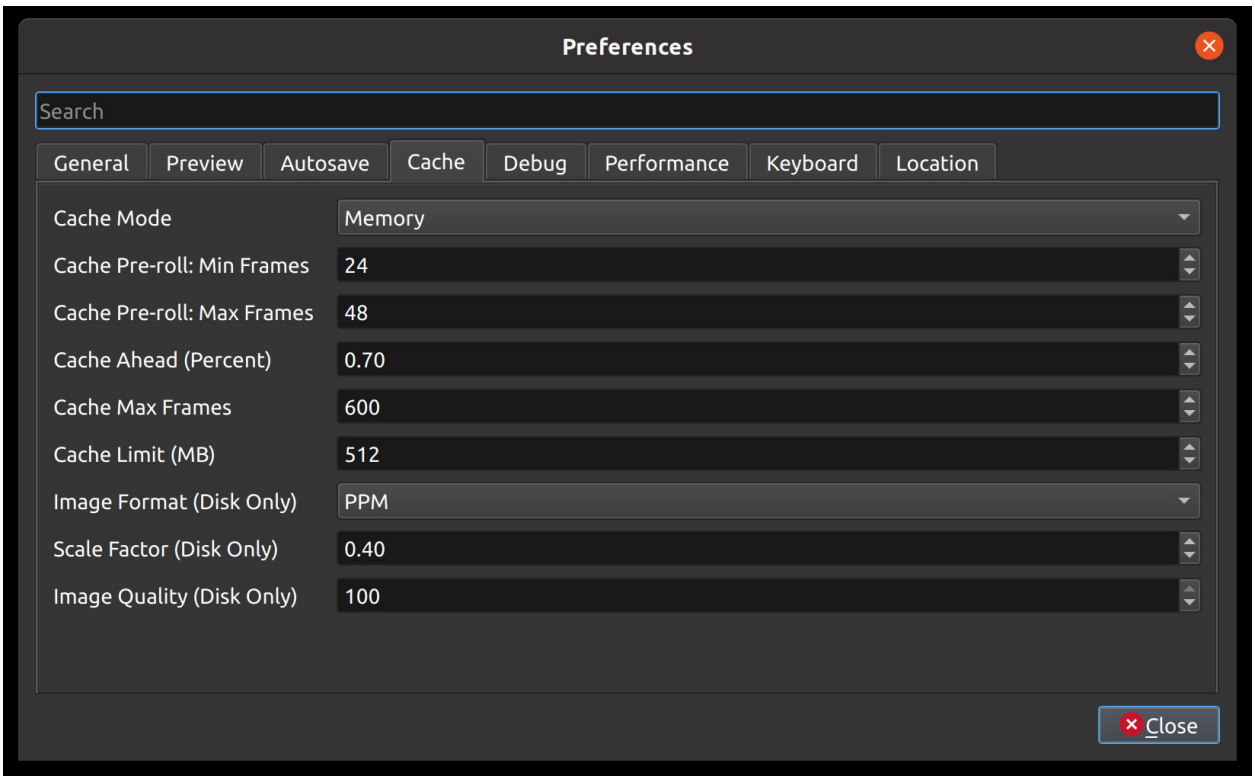


Autosave is a saving function in OpenShot which automatically saves the current changes to your project after a specific number of minutes, helping to reduce the risk or impact of data loss in case of a crash, freeze or user error.

Recovery

Before each save, a copy of the current project is created in a recovery folder, to further reduce the risk of data loss. The recovery folder is located at `~/.openshot_qt/recovery/` or `C:\Users\USERNAME\.openshot_qt\recovery`. If you need to recover a corrupt or broken `*.osp` project file, please find the most recent copy in the recovery folder, and copy/paste the file in your original project folder location (i.e. the folder that contains your broken project), and then **open** this recovered project file in OpenShot. Many versions of each project are stored in the recovery folder, and if you still have issues with the recovered `*.osp` file, you can repeat this process with older versions contained in the recovery folder.

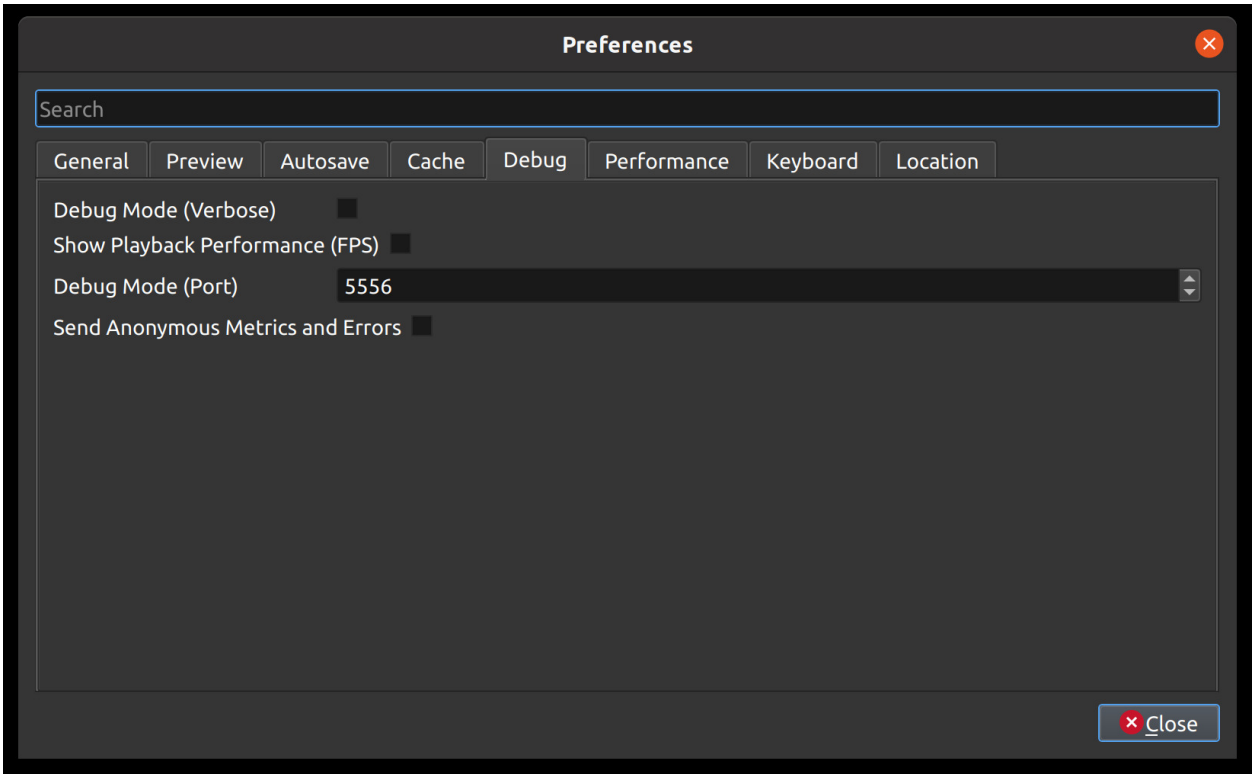
1.15.4 Cache



Cache settings can be adjusted to make real-time playback faster or less CPU intensive. The cache is used to store image and audio data for each frame of video requested. The more frames that are cached, the smoother the real-time playback will be. However, the more that needs to be cached requires more CPU to generate the cache. There is a balance, and the default settings provide a generally sane set of cache values, which should allow most computers to playback video and audio smoothly. See *Playback*.

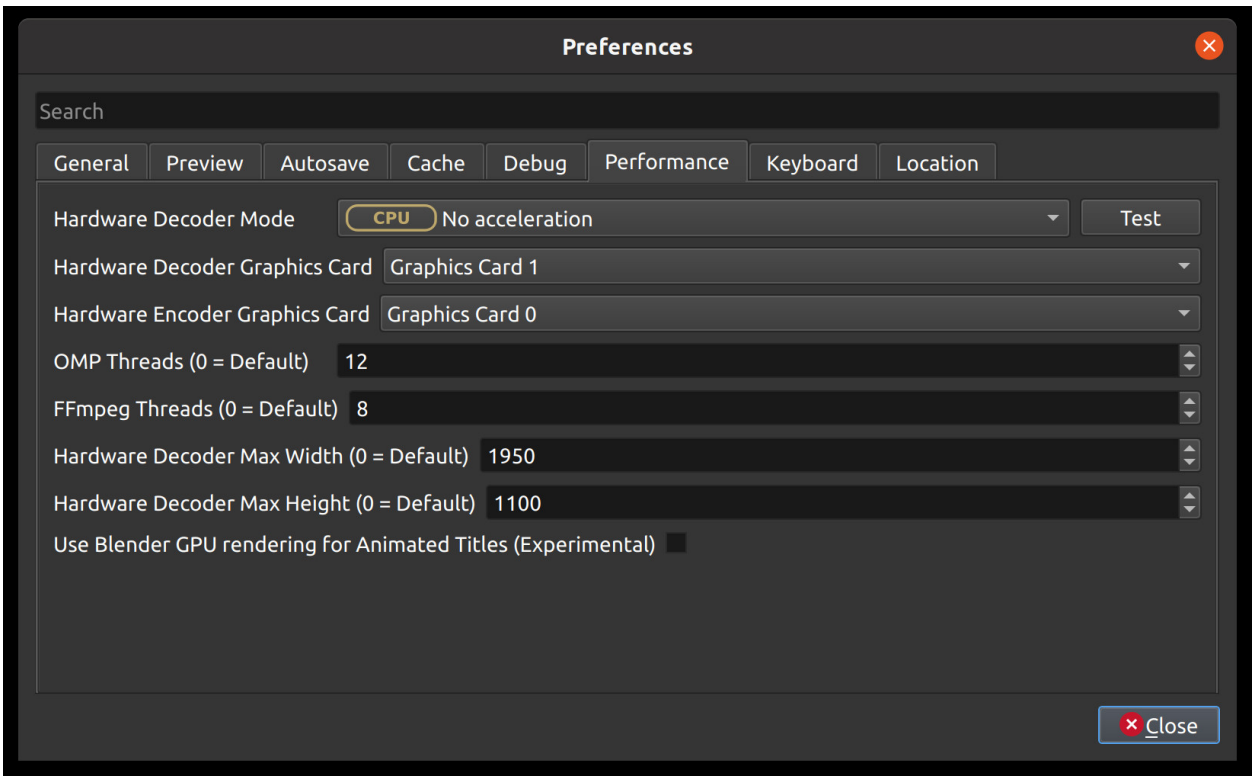
Setting	Description
Cache Mode	Choose between Memory or Disk caching (memory caching is preferred). Disk caching writes image data to the hard disk for later retrieving, and works best with an SSD.
Cache Limit (MB)	How many MB are set aside for cache related data. Larger numbers are not always better, since it takes more CPU to generate more frames to fill the cache.
Image Format (Disk Only)	Image format to store disk cache image data
Scale Factor (Disk Only)	Percentage (0.1 to 1.0) to reduce the size of disk based image files stored in the disk cache. Smaller numbers make writing and reading cached image files faster.
Image Quality (Disk Only)	Quality of the image files used in disk cache. The higher compression can cause more slowness, but results in smaller file sizes.
Cache Pre-roll: Min Frames:	Minimum # of frames that must be cached before playback begins. The larger the #, the larger the wait before playback begins.
Cache Pre-roll: Max Frames:	Maximum # of frames that can be cached during playback (in front of the playhead). The larger the #, the more CPU is required to cache ahead - vs display the already cached frames.
Cache Ahead (Percent):	Between 0.0 and 1.0. This represents how much % we cache ahead of the playhead. For example, 0.5 would cache 50% behind and 50% ahead of the playhead. 0.8 would cache 20% behind and 80% ahead of the playhead.
Cache Max Frames:	This is an override on the total allowed frames that can be cached by our caching thread. It is defaulted to 600 frames, but even if you give a huge amount of RAM to OpenShot's cache size, this will override the max # of frames cached. The reason is… sometimes when the preview window is very small, and the cache size is set very high, OpenShot might calculate that we can cache 30,000 frames, or something silly which will take a huge amount of CPU, lagging the system. This setting is designed to clamp the upper limit of the cache to something reasonable… even on systems that give OpenShot huge amounts of RAM to work with.

1.15.5 Debug



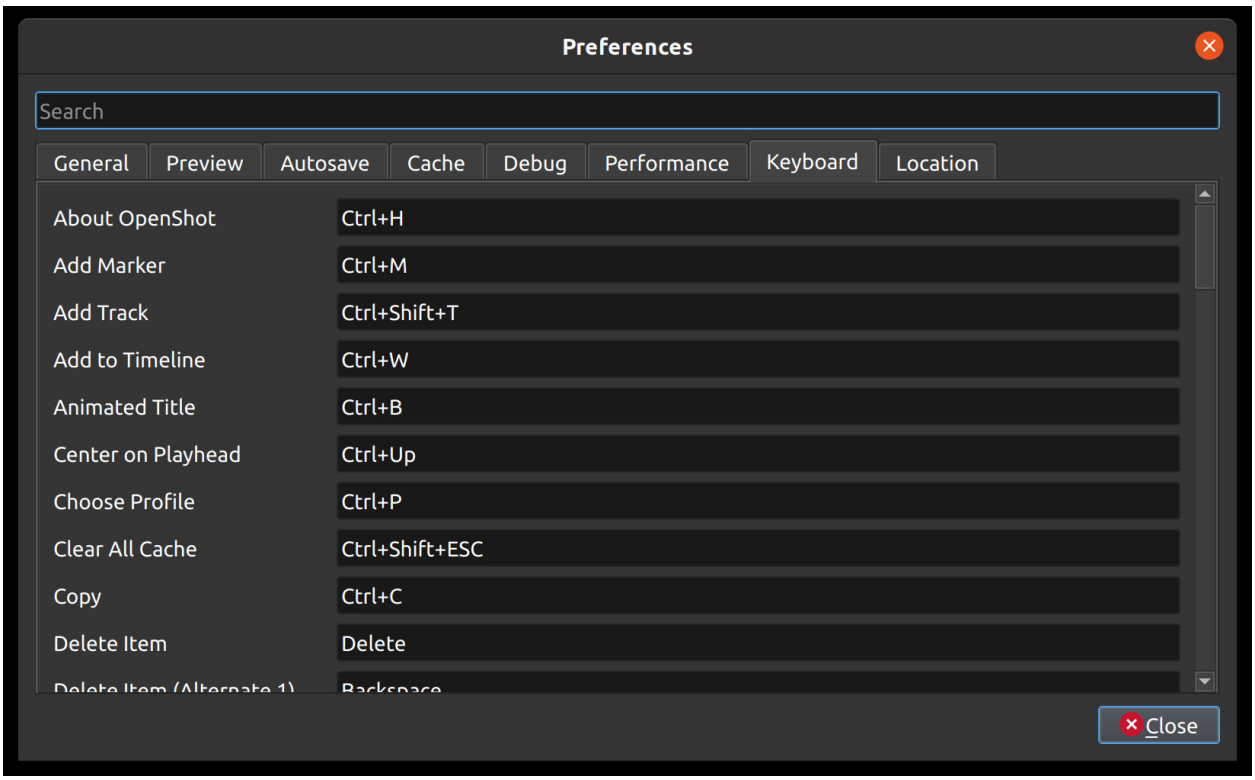
Here you can modify how much data should be logged. Normally, *Debug Mode (verbose)* is off. The default port is 5556. If you want to help improve OpenShot you can enable **Send Anonymous Metrics and Errors**.

1.15.6 Performance



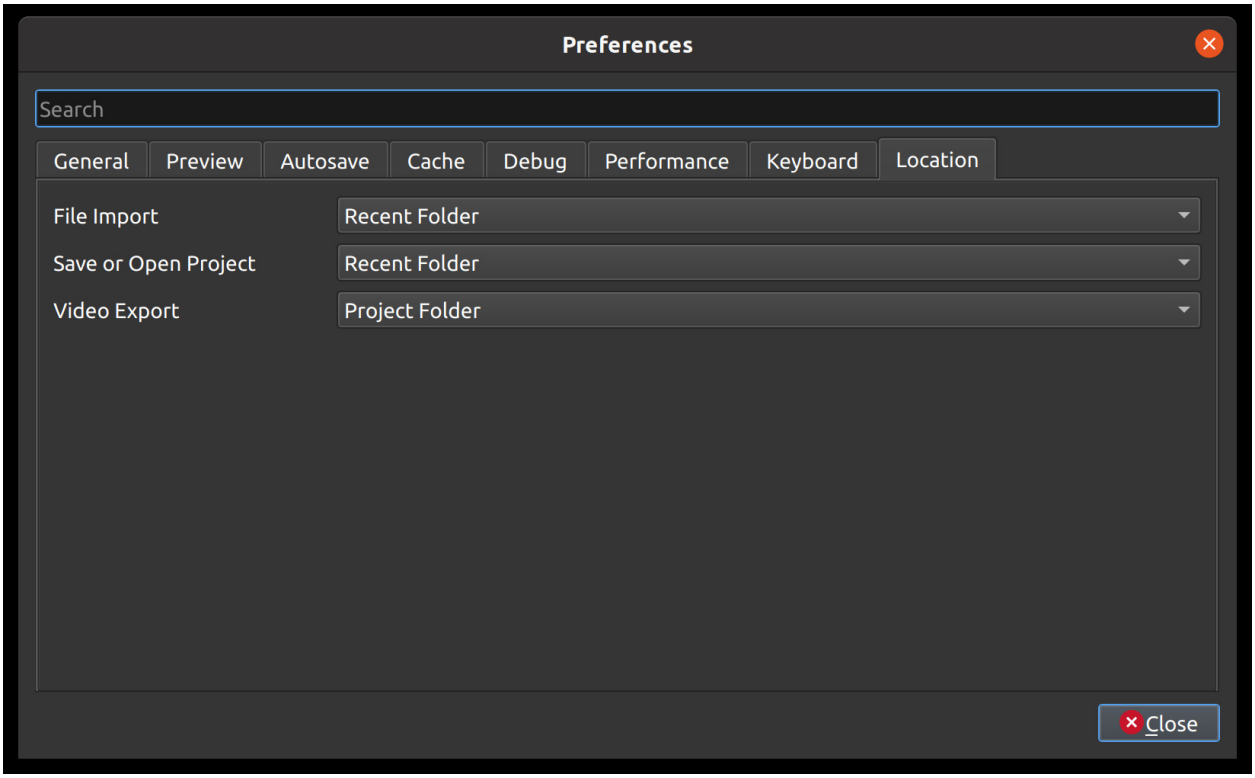
Please keep in mind that GPU hardware acceleration is experimental at the moment. OpenShot supports both decoding and encoding acceleration. For more information take a look at our Github HW-ACCEL Doc. NOTE: On systems with older graphics cards, hardware acceleration may not always be faster than CPU encoding.

1.15.7 Keyboard



This is where hotkeys can be seen and re-assigned, as described under *Keyboard Shortcuts*.

1.15.8 Location



Default file path locations for saving/opening projects, importing files, and exporting videos can be configured here. This can save you time by defaulting the open/save file dialogs to the most appropriate starting folder (options described below).

Setting	Description
File Import	Default folder to choose when importing a file
Save or Open Project	Default folder to choose when saving or opening a project file
Video Export	Default folder to choose when exporting a video

Values	Description
Recent Folder	The last folder used for this same operation. Project folders, Import folders, and Export folders are tracked separately.
Project Folder	The current project folder (or the user's home folder, if the project is not yet saved)

1.15.9 Reset (Default Values)

To reset **all** preferences to their default values, please delete the `openshot.settings` file and re-launch OpenShot. The settings file can be located at this path: `~/.openshot_qt/openshot.settings` or `C:\Users\USERNAME\.openshot_qt\openshot.settings`. When OpenShot is re-launched, it will create the missing `openshot.settings` file with default values.

Optionally, you can delete the entire `.openshot_qt/` folder and re-launch OpenShot. However, please make a **backup** of any customized folders: **emojis, presets, profiles, recovery, title_templates, transitions, or yolo**. For example, your `/recovery/` sub-folder contains backup copies of all your existing projects (`*.osp` files).

Deleting the `.openshot_qt/` folder is the quickest method to restore OpenShot preferences and settings to their Default values (i.e. also called a *clean install*). When OpenShot is re-launched, it will create any missing folders (i.e. `.openshot_qt/`) and settings files. See our step-by-step guide for more information about **clean installs** of OpenShot.

1.16 Playback

The preview window is where video & audio playback takes place in OpenShot Video Editor. The preview window utilizes real-time video rendering, caching, re-sampling, and image scaling. This is the primary area for watching back (and listening to) your edits, giving you the feedback needed to make adjustments. It is also one of the most costly operations to your CPU, and requires a modern computer and some reasonable assumptions and factors (listed below).

1.16.1 Real-Time Preview

Many factors affect how smoothly the **real-time video preview** can playback on your computer. This requires a fast, modern multi-threaded CPU, lots of RAM (memory), and a modern GPU. We have listed many of the important factors below.

Factor	Description
CPU	If your CPU is too slow or has too few cores, you will likely experience a slow, choppy preview. We recommend installing OpenShot on fairly modern computer. See *System Requirements* for more details on the hardware requirements for OpenShot Video Editor.
Memory	If your available RAM memory is too limited, you will likely see huge drops in real-time performance, and your entire system will lag. We recommend installing additional RAM in your computer, if possible. See *System Requirements*.
Cache	Your cache settings in the OpenShot Preferences are very important for determining how many frames to processes in advance. A value too low or too high can cause lag during the real-time video preview. The cache is also related to the available RAM. The higher the cache values, the more RAM and CPU is needed. We recommend experimenting with the Cache Preferences in OpenShot if you are experiencing issues with smooth playback. See *Cache*.
Preview Size	The height x width of your preview dock (widget) is very important for smooth real-time previews. The larger the window size, the more pixels must be rendered per frame, and the more CPU and RAM are required. It is recommended to keep reducing the preview window size until you achieve smooth video playback. On a slower computer, the preview window size might need to be very small for real-time previews (i.e. 320 x 240).
Profile	Your project profile determines which size (width x height) and frame rate (FPS) are used during both playback and exporting. For example, if you are using a FHD 1920x1080 sized profile, you can also choose a smaller profile with the same aspect ratio (`16x9` in this example), to improve the preview speed on slower computers. See *Profiles* for more information on available profiles.
FPS (Frame Rate)	The FPS of your project is also very important, and a large factor for smooth video playback. For example, a 60 FPS video must render twice the number of frames, compared to a 30 FPS video. If you are experiencing slow downs in real-time performance, it can be helpful to reduce your project's FPS to a lower value, such as 30 or 24.
Matching Rates	It is very important to match your source assets FPS and Sample Rate with your Project FPS and Project sample rate. If either rate does not match exactly, it requires lots of additional CPU and RAM for OpenShot to normalize the mismatching rates. This can lead to audio pops, mis-alignments, duplicate frames, and extra lag in the real-time video preview. You can right-click a file and choose *File Properties*, to inspect the source asset rates, and ensure they match your Project settings (shown at the top of OpenShot). See *Properties*.
Source Assets	For example, if you are editing 4K 60 FPS source assets, this is likely going to put a strain on your system. A common solution is using another tool (such as FFmpeg) to create a copy (or proxy) of all your source assets, at a lower resolution (and maybe even a lower FPS). It is recommended to keep these proxy video files in their own folder, separate from the original video files. Once you have completed your video editing with the proxy files, simply copy/paste your **.osp* project file back into the original folder, and export the higher quality, original files.
Audio Device	If you are still having issues with audio lag or sync, please verify you are using the correct Audio Device for playback (in the OpenShot Preferences). See *Preview*. Also, verify your default audio device (on your operating system) is using the same sample rate. On certain operating systems (such as Windows), mismatching sample rates can cause severe audio / video sync problems. Be sure to restart OpenShot after changing the audio device.

1.16.2 Audio Troubleshooting

If you are still experiencing audio related issues, and the above real-time playback factors did not resolve your issue, here are some additional troubleshooting steps you can take.

Step	Description
Latest Daily Build	Verify you are running the latest daily build of OpenShot: https://www.openshot.org/download#daily
Clean Install	See *Reset (Default Values)* for a clean install
Audio Device	Check that the Playback Audio Device is set correctly for your sound output under Preferences in the Preview tab. Restart OpenShot after changing the settings. You can also try a different audio device (USB, audio over HDMI from the video card, etc.) to rule out other audio issues. Disable *automatic sound suppression* for voice calls during microphone activity, and disable *Audio Enhancements* under the advanced settings tab of your audio device (not all audio devices have these settings). See *Preview*.
Sample Rate	Ensure that the *Default Audio Sample Rate* and *Default Audio Channels* on the Preview tab of the Preferences window match your hardware. You can also check these settings in the operating system control panel (i.e. Windows Sound Control Panel). See *Preview*.
Volume	Ensure that the volume does not exceed 100% on overlapping clips (such as an audio track combined with a video track). Lower the volume on individual clips if needed. See *Volume Mixing*.
Headphones	If you're using headphones, plug them in before starting OpenShot. Launching OpenShot with no speakers, headphones, or valid audio playback device can cause OpenShot to freeze during playback.
OS Updates	Update your operating system and any pending security updates. Some audio issues, especially audio device specific issues, can be resolved with an operating system update.

1.17 Developers

If you are a programmer (or want to become a programmer), and are interested in developing new features, fixing bugs, or improving the user interface for OpenShot, the following sections will explain how to get started and get involved!

1.17.1 The Big Picture

OpenShot Video Editor has 3 main components, a Python & PyQt user interface (openshot-qt), a C++ audio library (libopenshot-audio) and a C++ video library (libopenshot). If you are not familiar with Python, PyQt, or C++, those would be great topics to research and learn more about at this point.

However, many bugs can be fixed and new features added with only Python knowledge, since the C++ components are not involved in the user interface at all. Python is an amazing language, and is super fun to learn, and is the only prerequisite skill needed to become an OpenShot developer!

Warning: The instructions that follow are for Ubuntu Linux, which is the easiest environment to configure for OpenShot development. If you are using another OS, I suggest running a virtual machine with Ubuntu LTS before continuing any further.

If you must use a Windows or Mac system for development, start by referring to the build notes in the `libopenshot` wiki. Building the library with all of its dependencies is the most challenging part of the process.

- Windows Build Instructions

- Mac Build Instructions

1.17.2 Getting the Latest Source Code

Before we can fix any bugs or add any features, we need to get the source code onto your computer.

Use git to clone our 3 repositories:

```
git clone https://github.com/OpenShot/libopenshot-audio.git
git clone https://github.com/OpenShot/libopenshot.git
git clone https://github.com/OpenShot/openshot-qt.git
```

1.17.3 Configuring your Development Environment

In order to actually compile or run OpenShot, we need to install some dependencies on your system. The easiest way to accomplish this is with our Daily PPA. A PPA is an unofficial Ubuntu repository, which has our software packages available to download and install.

```
sudo add-apt-repository ppa:openshot.developers/libopenshot-daily
sudo apt-get update
sudo apt-get install openshot-qt \
                     cmake \
                     libx11-dev \
                     libasound2-dev \
                     libavcodec-dev \
                     libavdevice-dev \
                     libavfilter-dev \
                     libavformat-dev \
                     libavresample-dev \
                     libavutil-dev \
                     libfdk-aac-dev \
                     libfreetype6-dev \
                     libjsoncpp-dev \
                     libmagick++-dev \
                     libopenshot-audio-dev \
                     libprotobuf-dev \
                     libqt5svg5-dev \
                     libswscale-dev \
                     libunittest++-dev \
                     libxcursor-dev \
                     libxinerama-dev \
                     libxrandr-dev \
                     libzmq3-dev \
                     pkg-config \
                     python3-dev \
                     protobuf-compiler \
                     qtbase5-dev \
                     libqt5svg5-dev \
                     libxcb-xfixes0-dev \
                     qtmultimedia5-dev \
                     swig
```

At this point, you should have all 3 OpenShot components source code cloned into local folders, the OpenShot daily PPA installed, and all of the required development and runtime dependencies installed. This is a great start, and we are now ready to start compiling some code!

1.17.4 libopenshot-audio (Build Instructions)

This library is required for audio playback and audio effects. It is based on the JUCE audio framework. Here are the commands to build it:

```
cd libopenshot-audio
mkdir build
cd build
cmake -DCMAKE_INSTALL_PREFIX=dist ..
make
make install
```

Essentially, we are switching to the `libopenshot-audio/build` folder, then running `cmake ..` on the parent folder. This finds dependencies and creates all the needed Makefiles used to compile this library. Then `make` uses those Makefiles to compile this library, and `make install` installs them in the location we specified. If `CMAKE_INSTALL_PREFIX` isn't set, the files will install to `/usr/local/` (by default) and `make install` will require administrative privileges to run.

1.17.5 libopenshot (Build Instructions)

This library is required for video decoding, encoding, animation, and just about everything else. It does all the heavy lifting of video editing and video playback. Here are the commands to build it:

```
cd libopenshot
mkdir build
cd build
cmake -DLIBOPENSHOT_AUDIO_DIR=../../libopenshot-audio/build/dist ..
make
```

Essentially, we are switching to the `libopenshot/build` folder, then running `cmake ..` on the parent folder. This finds dependencies and creates all the needed Makefiles used to compile this library. Then `make` uses those Makefiles to compile this library. Because we provided the location of our compiled `libopenshot-audio` installation, that version of the library will be used instead of the system version (if any).

We don't install our `libopenshot` after building, because we don't need to. For testing purposes, we can tell OpenShot to use `libopenshot` right from our `build` directory.

1.17.6 openshot-qt (Launch Instructions)

This is our main PyQt Python application. Because it is written in Python, it does not require any compiling to run. To launch OpenShot from the source code with our newly-built `libopenshot-audio` and `libopenshot` libraries, use the following commands:

```
cd openshot-qt
PYTHONPATH=../libopenshot/build/src/bindings/python
python3 src/launch.py
```

This should launch the OpenShot user interface. Any changes you have made to the source code files (`*.py` Python files, `*.ui` PyQt UI files, etc…) will be included. This requires the `libopenshot-audio` and `libopenshot` libraries, and if anything went wrong with the steps above, OpenShot will likely not launch.

If OpenShot launches at this point, congratulations! You now have a working local version of OpenShot, which is running off your local source code. Try making some changes to the source code and re-launch OpenShot… you should now see your changes!

1.17.7 GitHub Issues

Now that you have successfully compiled and launched OpenShot Video Editor from source code, be sure to check out our list of bug reports on GitHub: OpenShot Issues. Also, you are encouraged to fill out our quick contributor form and introduce yourself!

1.17.8 Share your Changes

Once you have fixed a bug or added an amazing new feature, be sure to share it with the OpenShot team. Ideally, we can merge this into our main source code branch. The easiest way to share your changes is by creating a fork of our repo, pushing your changes back to GitHub, and creating a Pull Request. A Pull Request lets the OpenShot team know you have changes ready to be merged. Then we can review things, give feedback, and hopefully merge your changes into the main branch.

1.18 Contributing

Want to help improve OpenShot (*and make some friends in the process*)? Please consider joining our open-source team by filling out this quick contributor form and introduce yourself! All volunteers are welcome, regardless of skills or skill level. **Let's build something amazing!**

1.18.1 How to Contribute

There are many different ways to help and support OpenShot, including:

- Testing
- Translations
- Documentation
- Customer Service
- Social Media / Marketing
- Software Development
- Art / Design / UI
- User Community
- Donations

All of these areas are **equally important**, so we would love to know which ones appeal to you the most. Please take a moment and fill-out our quick contributor form.

1.18.2 Did you find a bug?

Please use our step-by-step bug reporting page: https://openshot.org/issues/new/ to troubleshoot a potential new bug. This guide will instruct you on how to delete you log files, test with the latest daily build, and search for duplicate bug reports (in case someone else has already reported this same issue). At the end of the guide, it will help you create a detailed and useful bug report for our development team and volunteers.

1.18.3 Software Developers

OpenShot uses GitHub to manage issues and source code: https://github.com/OpenShot. Please read our guide on Becoming a Developer for a step-by-step guide on compiling OpenShot and making your first pull request on GitHub.

1.18.4 Made with Love

OpenShot Video Editor is a volunteer effort and a **labor of love**. Please be patient with any issues you find, and feel free to get involved and help us fix them!

Thank you for your support!
– *OpenShot Team*

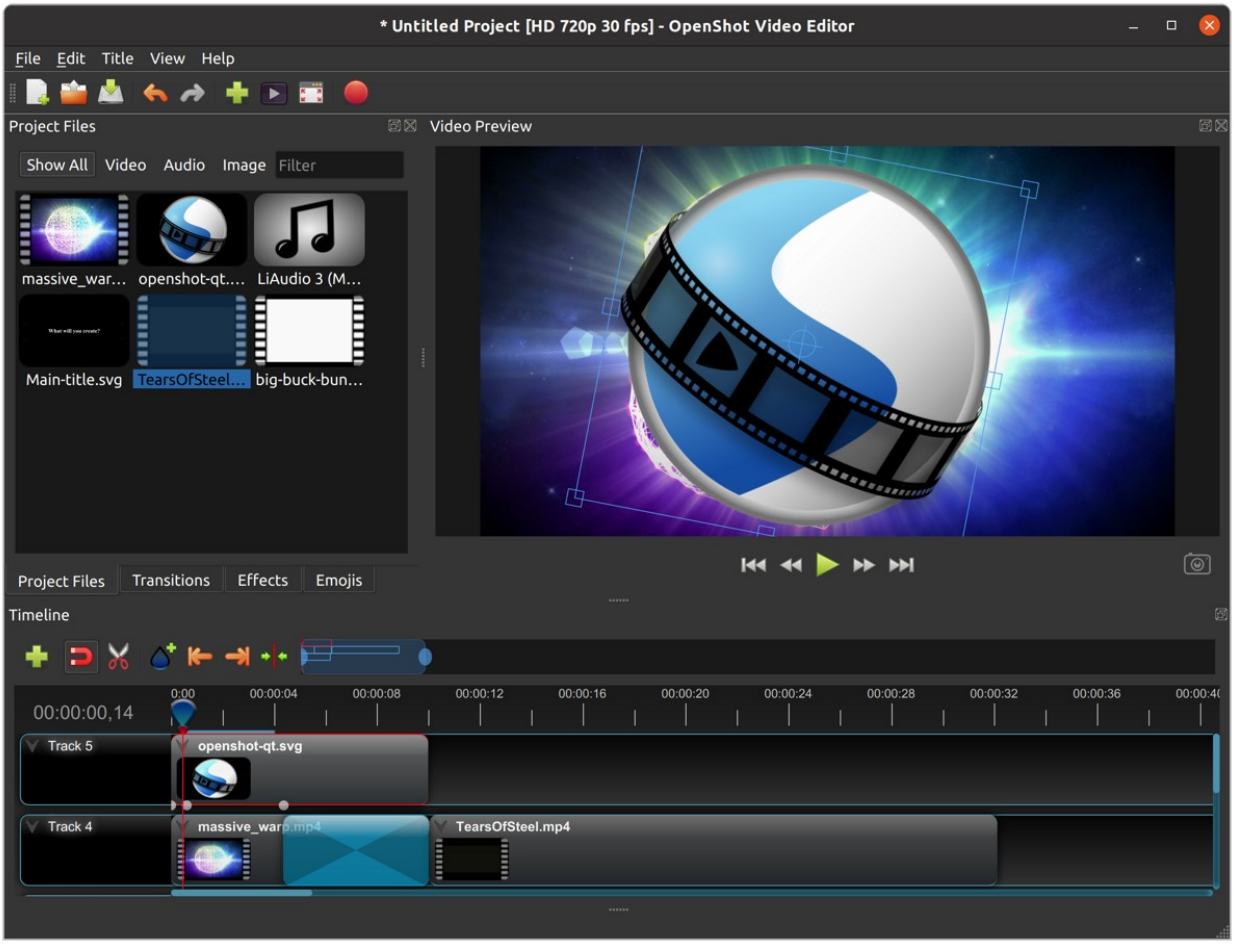
1.19 Learn More

We are working hard to expand this user guide and to improve OpenShot Video Editor, but if you are stuck and don't know where to turn, OpenShot has several sources for additional information.

1. OpenShot has several YouTube Tutorials available to help you learn more.
2. OpenShot has a Reddit User Community dedicated to users helping users, answering questions, and discussing video editing and OpenShot topics.
3. If you would like to help improve this User Guide, view source on GitHub.
4. If you have discovered a new bug, please Report a Bug.
5. If you need professional support, you can open a ticket by sending an message to support@openshot.org or Schedule a call.

1.20 Glossary

There is much technical terminology in today's fast-moving media-centric world. If you find yourself wondering what a video production term or an acronym means, you are certainly not alone. Like most industries, video production has a language all its own. Here is a list of terms commonly found in video editing. Becoming familiar with these terms only makes your job easier.



1.20.1 Definitions

These definitions are a work-in-progress. Please let us know if you need a term defined by contacting support@openshot.org.

-A- -B- -C- -D- -E- -F- -G- -H- -I- -J- -K- -L- -M- -N- -O- -P- -Q- *-R- -S- -T-* -U- *-V- -W-* -X- -Y- *-Z-*

-A-

A-Roll:
The Principal video that is usually someone speaking.

Aliasing:
The undesirable jagged or stair-stepped appearance of angled lines in an image, graphic, or text.

Alpha:
Alpha blending is a convex combination of two colors allowing for transparency effects in computer graphics. The value of alpha in the color code ranges from 0.0 to 1.0, where 0.0 represents a fully transparent color, and 1.0 represents a fully opaque color.

Alpha Channel:
An alpha channel is a channel in an image or movie clip that controls the opacity region.

Ambient Noise:
Ambient noise is background noise specific to the shooting location.

Animation:
The technique of making inanimate objects or drawings appear to move in motion pictures or computer graphics.

Anti-Aliasing:
Anti-aliasing is a process for smoothing jagged lines in an image. Anti-aliasing can also mean a method of filtering out erroneous frequencies in an audio signal.

Artifact:
An artifact is undesired data in an image because of digital processing.

Aspect Ratio:
The ratio of width to height in a flat surface or 2-dimensional abstract construction, such as an image, video, character, or pixel. The standard ratios for NTSC SD videos are 4:3 (or 1.33:1) and HD 16:9 (or 1.77:1). The most common aspect ratios for motion pictures are 1.85:1 and 2.35:1.

ATSC:
ATSC is a digital broadcast standard that replaced the older analog NTSC standard. The standard covers both standard and high-definition formats.

Audio Sample Rate:
The number of samples taken per second to reproduce audio digitally. The higher the sample rate, the higher the quality of the digital audio. A rate of 44,100 samples per second produces CD-quality audio and captures the range of human hearing.

-B-

B-roll:
B-roll is supplemental footage that provides supporting details and greater flexibility when editing video. Common examples include the footage used to cut away from an interview or news report to help tell the story.

Bit:
The elementary unit for digital storage. A BIT can be either a 1 (one) or a 0 (zero).

Bit Depth:
In digital graphics and video, bit depth indicates the number of colors an image can display. A high-contrast (no gray tones) black and white image is 1bit, meaning it can be off or on, black or white. As bit depth increases, more colors become available. 24-bit color allows for displays of millions of colors. Similarly, in digital audio, bit depth indicates the number of bits per sample. The higher the number, the better the sound quality.

Bitrate:
The frequency at which bits (binary digits) pass a given physical or metaphorical point, measured in bps (bits per second). For every second in the video, the Bit Rate, or Data Rate, is the amount of data used each second. The bitrate, in Kilobits per second, can be variable or constant.

Blue Screen:
A blue screen is a blue background that the subject stands in front of that the computer later replaces with another background in post-production. See also blue screen compositing and green screen.

Blue Screen Compositing:
The process of making all blue elements in an image transparent and placing a different background underneath.

-C-

Capture:
The process of transferring source video from a camcorder or tape deck to a computer. If the source video is analog, the capture process converts the video to digital.

Channel:
A channel is one of several grayscale components used to make up a color image. Red, green, and blue channels make up RGB images, with an optional alpha channel for transparency.

Chromakey:
Chromakey is a method of creating transparency in a video source by selecting a specific "key color" to create an alpha matte. It is frequently used on news programs to display weather graphics behind talent and for visual effects compositing.

Clip:
A digitized or captured portion of video, audio, or both. Clips are media files added to the Timeline, usually part of a more extensive recording.

Codec:
Codec is a video compression technology used to compress data in a video file. Codec stands for "Compression Decompression." An example of a popular codec is H.264.

Color Correction:
The process of altering the color of a video, especially one shot under less than ideal conditions, such as low light.

Compositing:
Construction of a composite image by combining multiple images and other elements.

Coverage:
Coverage is the process of shooting additional footage and camera angles to cover the action in the scene. Coverage is so that the editor has a more excellent range of choices when the film reaches the post-production stage.

Compression:
The process of reducing data, such as in an audio or video file, into a form that requires less space.

Crop Factor:
Crop factor is a number (typically from 1.3-2.0) that represents the ratio of a sensor's imaging area to that of a full-frame sensor. Try multiplying the focal length of your lens by your camera sensor's crop factor. It gives you the focal length for the lens/sensor combination.

Crawl:
Crawl is a text effect where the text moves right-to-left (in the English-speaking world).

Cross-fade:
A cross-fade is a simultaneous fade-in of one audio or video source as another fades out so that they overlap temporarily. Also called a dissolve.

Cut:
A cut is an instantaneous change from one shot to another.

Cut-in (Insert Shot):
It is a type of shot that most often shows the objects the subject is in contact with or manipulating. Cut-in shots are correspondingly helpful to b-roll because they stray from the subject for a short time.

Cutting on Action:
Cutting on action is a technique used to create a more interesting scene. The concept is simple… when you cut in the middle of an action, it will appear less jarring and more visual interesting.

-D-

Data Rate:
The amount of data moved over time (for example, 10 MB per second). Often used to describe a hard drive's ability to retrieve and deliver information.

Denominator:
The number or expression below the line in a fraction (such as 2 in ½).

Digital Video:
Digital video is an electronic representation of moving visual images (video) in the form of encoded digital data. In contrast, analog video represents moving visual images with analog signals. Digital video comprises a series of digital images displayed in rapid succession.

Digitize:
To convert analog video or audio to digital form.

Dissolve:
Dissolve is an image transition effect where one picture gradually disappears as another appears. Also called a cross-fade.

-E-

Editing:
Editing is the process or result of selectively sequencing video and audio clips into a new video file. Typically involves reviewing raw footage and transferring desired segments from source footage into a new predetermined sequence.

Effect:
Synthetic sounds and animations created in the digital domain applied to a clip to change a specific parameter of video or audio. Examples: the color of a visual element or the reverb on an audio track.

Encode:
To merge the individual video signals (for example, red, green, and blue) into a combined signal, or to convert a video file to a different format using a codec.

Export:
Export refers to the process of assembling your edited video project into a single file that then plays back on its own, shared, or uploaded.

-F-

Fade:
A fade is the gradual diminishing or heightening of visual or audio intensity. Usage: fade-out, fade to black, fade-in, or fade up from black.

Fade-in:
1.(n.) a shot that begins in total darkness and gradually lightens to full brightness. 2. (v.) To gradually bring sound from inaudibility to the required volume.

Fade-out:
1.(n.) a shot that begins in full brightness and gradually dims to total darkness. 2. (v.) To gradually bring sound from the required volume to inaudibility.

Filter:
A video filter is a software component that performs some operation on a multimedia stream. Multiple filters used in a chain, known as a filter graph, are the process in which each filter receives input from its upstream filter. The filter graph processes the input and outputs the processed video to its downstream filter.

Final Cut:
The final video production, assembled from high-quality clips, and ready for export to the selected delivery media.

Finishing:
The stage that brings together all assets of a piece. Your output from this stage is your master/sub-master.

Footage:
Derived from having feet of film, this is almost synonymous with video clips.

Frame:
In filmmaking, video production, animation, and related fields, a frame is one of the many still images which compose the complete moving picture.

Frames Per Second (fps):
The number of frames played every second. At 15 fps and lower, the human eye can detect individual frames, causing the video to appear jerky.

Frame Rate:
Frame rate (expressed in frames per second or FPS) is the frequency (rate expressed in Hz) at which consecutive images called frames appear on display. The term applies equally to film and video cameras, computer graphics, and motion capture systems. Common Frame Rate Examples: 24, 25, 29.97, 30, 50, 60.

Frequency:
The number of audio cycles per second, expressed in hertz (Hz). Frequency determines the pitch of a sound.

-G-

Gamma:
A measurement of the intensity of mid-tones in an image. Adjusting the gamma adjusts the level of the mid-tones while leaving the blacks and whites untouched.

GPU:
Graphics processing unit. A microprocessor with built-in capabilities for handling 3D graphics more efficiently than a CPU (central processing unit).

Gravity:
Gravity in OpenShot is a property of each clip that sets the clip's initial position on the screen.

Green screen
A green background that the subject stands in front of that is another background in post-production.

Green Screen Compositing
The process of making all green elements in an image transparent and placing a different background underneath, so it appears that the subject is in a different location.

-H-

High Definition (HD):
A general term for a video signal with a significantly higher resolution than standard definition.

HDMI:
High Definition Multimedia Interface. Interface for transmitting high definition digital audio and video data.

HDR:
HDR (high dynamic range) is the compositing of two images, one that correctly exposes the highlights, and another that properly exposes the dark areas. When composited together, you get a properly exposed image.

HDTV:
High Definition TV. A broadcast format that allows for a higher resolution signal than the traditional formats, NTSC, PAL, and SECAM.

HDV:
High Definition Video. The format used to record HDTV-quality data with video camcorders.

Headroom:
The space between the top of a character's head and the top of the frame.

Hiss:
Noise caused by imperfections in the recording medium.

Hue:
The shade of a color. This is the general color category into which the color falls. For example, pink, crimson, and plum are different colors, but they all fall under the hue of red. White, black, and gray tones are not hues.

-I-

Image Stabilizer:
Also referred to as an electronic image stabilizer. A technique used to remove the movement caused by camera shake.

Importing:
Importing is the process of transferring videos from your camera onto your computer or into a piece of editing software.

Interframe Compression:
A compression scheme, such as MPEG that reduces the amount of video information by storing only the differences between a frame and those preceding it.

Interpolation:
Used in animation to calculate the motion in between two user-generated keyframes so that the editor does not need to animate each frame manually. This speeds up the process and makes the resulting animation smoother.

Intertitles:
Titles that appear on their own between footage. Commonly seen in silent movies to substitute dialogue, also used as chapter headings.

-J-

J-Cut:
An edit in which the audio starts before the video, giving the video a dramatic introduction. Also known as an audio lead.

Jog
To move forward or backward through video by playing it one field or frame at a time.

Jump Cut:
A jump cut is an unnatural, abrupt switch between shots identical in the subject but slightly different in screen location, so the subject appears to jump from one screen location to another.

-K-

Key:
A method for creating transparency, such as a bluescreen key or a chroma key.

Keyframe:
A keyframe is a frame that contains a record of specific settings (e.g., scale, rotation, brightness). Start and endpoints for animated effects. By setting multiple keyframes, you can adjust these parameters as the video plays to animate certain aspects.

-L-

L-Cut:
An L-cut is an edit in which the video ends before the audio. L-cuts act as a subtle transition from one scene to the next.

Letterbox:
A technique used to preserve the original aspect ratio of a motion picture when played on a TV. Letterboxing adds black bars to the top and bottom of the screen.

Linear Editing:
A form of video editing which lays out cuts sequentially, one by one, to produce the final scene. This contrasts with non-linear editing which allows cutting in any order.

Log:
A record of start and end timecode, reel numbers, scene descriptions, and other information for a specified clip.

Lossless:
A compression scheme that results in no loss of data from decompressing the file. Lossless files are generally quite large (but still smaller than uncompressed versions) and sometimes require considerable processing power to decode the data.

Lossy:
Lossy compression is a compression scheme that degrades quality. Lossy algorithms compress digital data by eliminating the data least sensitive to the human eye and offer the highest compression rates available.

-M-

Mark In:
Placing a marker at the beginning of where you want your clip to start.

Mark Out:
Placing a marker at the beginning of where you want your clip to end.

Match Action:
Match action (or match cut) is a technique where an editor will cut from one visually similar scene to another.

Memory Bank:
A Memory Bank is a video that documents specific periods or events in someone's life. It can be set to music, make use of natural sound, record vacations, or just capture moments in everyday life.

Marker:
An object used to mark a location. Clip markers signify essential points within a clip. Timeline markers indicate scenes, locations for titles, or other significant points within an entire movie. Use clip markers and timeline markers for positioning and trimming clips.

Mask:
The transparent area of an image, typically defined by a graphic shape or a bluescreen background. Also called a matte.

Matte:
Matte is an image mask used in visual effects to control applying an effect to certain parts of the image.

Montage:
A montage is a self-contained sequence of shots assembled in juxtaposition to each other to communicate an idea or mood. The implied relationship between seemingly unrelated material creates a new message.

Motion Artifact:
Visual interference caused by the difference between the frame rate of the camera and the motion of the object. The most common display of this is when filming a computer or television screen. The screen flickers or a line scans down it, which is the difference in frame rates and a lack of synchronization between the camera and television.

-N-

Noise:
Undesired data in a video or audio signal. See also artifact.

Non-linear Editing:
An editing system that performs edits at any time, in any order. Access is random, which means that the system can jump to specific pieces of data without having to look through the whole footage to find it.

Numerator:
The number or expression above the line in a fraction (such as 1 in ½).

NTSC:
NTSC is an abbreviation for National Television Standards Committee. NTSC is the group that initially developed the black & white and subsequently color television system. The United States, Japan, and many other countries use NTSC. Five-hundred twenty-five interlaced lines make up NTSC that display at a rate of 29.97 frames per second. ATSC Has now superseded by NTSC.

-O-

Offline Editing:
Editing a rough cut using low-quality clips, and then producing the final cut with high-quality clips, usually on a more sophisticated editing system than that used for developing the rough.

Online Editing:
Doing all editing (including the rough cut) on the same clips that produce the final cut.

Opacity:
An inverse measure of the level of transparency in an image, which is of importance when compositing. An image's alpha channel stores its opacity information.

-P-

PAL:
PAL is an abbreviation for Phase Alternate Line. This is the video format standard used in many European countries. Six-hundred twenty-five lines make up a PAL picture that displays at a rate of 25 frames per second.

Pan:
A horizontal movement of the camera on a fixed axis.

Pan and Scan:
A method of converting widescreen images to a 4:3 aspect ratio. Cropping the video so that it fills the entire screen and panning it into position shows the essential parts of the scene.

Picture in Picture (PIP):
An effect of superimposing a small window of footage over a larger window and the two play at the same time.

Pixel:
One of the tiny dots that make up the representation of an image in a computer's memory. The smallest unit of a digital image.

Pixel Aspect Ratio:
Aspect ratio is the ratio between the width and height of your video; the Pixel Aspect Ratio is the ratio between the width and height of the pixels. A standard Pixel Aspect Ratio is 1:1.

Pixelation:
The display of large, blocky pixels in an image caused by over-enlarging it.

Playhead:
When editing audio or video in a current computer, the Playhead is a graphic line in the Timeline that represents the current accessed position, or frame, of the material.

Post-production (Post):
Post-production (post) is any video production activity following the initial recording. Typically, post involves editing, the addition of background music, voice-over, sound effects, titles, and various visual effects resulting in completed production.

Poster Frame:
A single frame of a clip, selected as a thumbnail to indicate the clip's contents.

Project:
A project is all the files, transitions, effects, and animations that you make or use within OpenShot.

-R-

Raw Footage:
Raw footage is pre-edited footage, usually direct from the camera.

Real-time:
Real-time occurs immediately, without delay for rendering. If a transition occurs in real-time, there is no waiting, the computer creates the effect or transition on-the-fly, showing it the results immediately.

Rendering:
The process by which the video editing software and hardware convert the raw video, effects, transitions, and filters into a new continuous video file.

Render Time:
The render time is the time it takes an editing computer to composite source elements and commands into a single video file. Rendering allows the sequence, including titles and transition effects, to play in full motion.

Resolution:
Resolution refers to the actual number of horizontal and vertical pixels your video contains. Common resolution Examples: (SD) 640×480, (HD) 854x480, (HD) 1280×720, (FHD) 1920×1080, (QHD) 2560x1440, (UHD) 3840x2160, and (FUHD) 7680x4320. Often the numbers that appear vertically refer to the resolution. The examples listed would appear as SD, 480p, 720p, 1080p, 1440p, 4K and 8K, respectively.

RGB:
Monitors, cameras, and digital projectors use the primary colors of light (Red, Green, and Blue) to make images.

RGBA:
A file containing an RGB image plus an alpha channel for transparency information.

Roll:
Roll is a text effect commonly seen in end credits, where text typically moves from the bottom to the top of the screen.

Rough cut:
A rough cut is a preliminary edit of footage in the approximate sequence, length, and content of a finished program.

-S-

Sample Rate:
In digital audio, the number of samples per second. The higher the number, the better the sound quality.

Scene:
Action that occurs in one location at one time.

Scrub:
Scrubbing is an act of moving the cursor or playhead across the Timeline manually. Once specific to audio tracks, the term now also refers to video tracks.

Shot:
A recording of a single take.

Slow-motion:
A shot in which action takes place at a slower than average speed. The camera achieves slow-motion by speeding up the frame rate during recording and then playing back the frames at a slower speed.

Snap:
Snapping quickly positions an object in alignment with grid lines, guidelines, or another object. Snapping causes the object to automatically jump to an exact position when the user drags it to the proximity of the desired location.

Splice:
The process of physically attaching two pieces of film using tape or cement.

Split cut (L-cut or J-cut):
An edit in which the audio starts before or after the picture cut. Used for easing the transition from one scene or shot to another.

Splitscreen:
A unique effect that displays two or more scenes simultaneously on different parts of the screen.

Sound Effects:
Sound effects are contrived audio, usually prerecorded, incorporated with a video soundtrack to resemble a real occurrence. Blowing on a microphone, for example, might simulate wind to accompany hurricane images.

Soundtrack:
The soundtrack is the audio portion of a video recording, often multifaceted with natural sound, voiceovers, background music, or other sounds.

Stabilization:
Image stabilization is a family of techniques that reduce blurring associated with the motion of a camera or other imaging device during exposure.

Standard Definition (SD):
Television broadcasting standard with a lower resolution than high definition.

Step:
The act of moving forward or backward through video one frame at a time.

Still Frame:
A single frame of video is repeated, so it appears to have no motion.

Straight Cut:
The most common edit, consecutive clips placed one after another in the Timeline window. Straight cuts are preferable to transitions when the scenes are similar, and you do not want edits to be noticeable.

Superimposing:
Combining images, where one or more layers involve transparency.

Sync (Synchronization):
Synchronization refers to the relative timing of audio (sound) and video (image) parts during creation, post-production (mixing), transmission, reception, and play-back processing.

SECAM:
Systeme Electronique Couleur Avec Memoire, a TV format used mainly in Eastern Europe, Russia, and Africa.

-T-

Tilt:
Tilting is a cinematographic technique in which the camera stays in a fixed position but rotates up/down in a vertical plane.

Timecode:
The timecode is the discrete address given to each frame of the video (for example, 1:20:24:09). Timecode makes frame-accurate editing possible and allows editors to identify scenes precisely in a log.

Time-lapse:
It is a technique for capturing each frame in a video at a much slower rate than usual. When played back at regular speed, time appears to go by faster. An editing program achieves this by fast-forwarding or increasing the speed of your video.

Timeline:
The Timeline is an editing interface that lays out a video project in a linear fashion consisting of clips laid horizontally across the screen.

Timeline Editing:
Timeline editing is a computer-based method of editing, in which bars proportional to the length of a clip, represent video and audio clips on a computer screen.

Titling:
Titling is the process or result of incorporating on-screen text as credits, captions, or any other alphanumeric communication.

Track:
A separate audio or video layer on a timeline.

Transcode:
Converting a digital file to another digital file format. This usually involves audio and video compression.

Transparency:
Percentage of the opacity of a video clip or element.

Transition:
A method of juxtaposing two scenes. Transitions can take many forms, including cuts, dissolves, and wipes.

Trim:
Removing frames from the beginning, middle, or end of a clip.

-V-

Video Format:
The video format is a standard that determines the way a video signal records on videotape. Standards include DV, 8-mm, Beta, and VHS.

Voiceover:
A term used to describe off-camera narration that is not part of a scene (non-diegetic).

VTR:
A Videotape recorder also referred to as a 'deck'. Decks duplicate videotapes and inputting and outputting from a computer.

-W-

Widescreen:
A format in which the width-to-height ratio of the frame is greater than 4:3 so that it is significantly wider than it is tall.

Wipe:
A wipe is a transition from one shot to another. The edge of the transition moves across the original image as a line or a pattern, revealing the new shot.

-Z-

Zoom:
A shot where the image grows more substantial or smaller by adjusting the focal length of the lens instead of physically moving the camera.