



# **Open Broadcaster Software Studio (Multiplatform) Help Guide**

(app. ver. 28.0.0)

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# Contents

<b><a href="#">Introduction</a></b> .....	<b>5</b>
<a href="#">Welcome</a> .....	5
<a href="#">Installing OBS Studio</a> .....	5
<a href="#">Let's start!</a> .....	6
<a href="#">Using online Forum</a> .....	7
<b><a href="#">An Overview of Open Broadcaster Software Studio</a></b> .....	<b>8</b>
<a href="#">Work more efficiently</a> .....	8
<a href="#">Enjoy unlimited creative options</a> .....	8
<a href="#">Relax while your PC is working hard</a> .....	9
<b><a href="#">What's New in OBS Studio</a></b> .....	<b>10</b>
<a href="#">Stay free</a> .....	10
<a href="#">Stay competitive</a> .....	10
<a href="#">Work fast and accurate</a> .....	11
<a href="#">CHANGES since v27.0.1 of the application</a> .....	11
<b><a href="#">Looking at the Work Area</a></b> .....	<b>17</b>
<a href="#">Getting familiar with the work area</a> .....	17
<a href="#">About the work area</a> .....	17
<a href="#">Using menu bar</a> .....	17
<a href="#">Using canvas preview area</a> .....	33
<a href="#">Using Stats window</a> .....	36
<a href="#">Taking Screenshots</a> .....	37
<a href="#">Other controls</a> .....	38
<b><a href="#">Creating Scenes in OBS Studio</a></b> .....	<b>42</b>
<a href="#">About scenes and layers (OBS Studio)</a> .....	42
<a href="#">Getting started</a> .....	42
<a href="#">Full screen preview (scene)</a> .....	47
<a href="#">Multi-view of scenes</a> .....	49
<a href="#">Scene transitioning</a> .....	52
<b><a href="#">Getting Sources into OBS Studio</a></b> .....	<b>62</b>



<a href="#">About video and audio sources</a> .....	62
<a href="#">About video resolution and audio sample rate</a> .....	62
<a href="#">Add new audio/video source to OBS Studio scene</a> .....	64
<a href="#">Source management</a> .....	66
<a href="#">Select multiply sources</a> .....	71
<a href="#">Group Sources</a> .....	73
<a href="#">Set Color (or mark source with a color)</a> .....	75
<a href="#">Full screen preview (source)</a> .....	77
<a href="#">Sources types &amp; properties</a> .....	79
<b><a href="#">Using Layers</a></b> .....	<b>116</b>
<a href="#">About layers (OBS Studio)</a> .....	116
<a href="#">Understanding Layers</a> .....	116
<a href="#">Manage Layers</a> .....	117
<b><a href="#">Filters for Special Effects</a></b> .....	<b>119</b>
<a href="#">About plugin filters</a> .....	119
<a href="#">Using filters</a> .....	119
<a href="#">General Filters: Transform, Blending, Deinterlacing</a> .....	120
<a href="#">Visual Effect Filters</a> .....	134
<a href="#">Sound Effect Filters (Audio/Video)</a> .....	150
<b><a href="#">Additional Tools</a></b> .....	<b>159</b>
<a href="#">About additional tools</a> .....	159
<a href="#">Tools</a> .....	159
<b><a href="#">Recording and Streaming</a></b> .....	<b>179</b>
<a href="#">About recording and streaming</a> .....	179
<a href="#">Recording</a> .....	179
<a href="#">Replay Buffer</a> .....	181
<a href="#">Virtual Camera</a> .....	182
<a href="#">Streaming</a> .....	185
<a href="#">Studio Mode</a> .....	187
<b><a href="#">Themes</a></b> .....	<b>193</b>

<a href="#">About themes</a>	193
<b><a href="#">Manage Profiles</a></b>	<b>195</b>
<a href="#">About profiles in OBS Studio</a>	195
<b><a href="#">Application Settings</a></b>	<b>196</b>
<a href="#">About settings</a>	196
<a href="#">General</a>	196
<a href="#">Stream</a>	201
<a href="#">Output</a>	203
<a href="#">Audio</a>	221
<a href="#">Video</a>	225
<a href="#">Hotkeys</a>	228
<a href="#">Accessibility</a>	230
<a href="#">Advanced</a>	231
<a href="#">Advanced Audio Properties</a>	237
<a href="#">Level meter description</a>	242
<b><a href="#">Command Line Options</a></b>	<b>244</b>
<a href="#">About Command Line Options</a>	244
<a href="#">Command Line Keys</a>	244
<b><a href="#">Shortcuts Linux</a></b>	<b>249</b>
<b><a href="#">Shortcuts Mac</a></b>	<b>252</b>
<b><a href="#">Shortcuts Windows</a></b>	<b>255</b>
<b><a href="#">Legal Notices</a></b>	<b>258</b>
<a href="#">Copyright</a>	258
<a href="#">Credits</a>	258
<b><a href="#">Index</a></b>	<b>259</b>



# Introduction

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## Welcome

Welcome to Open Broadcaster Software Studio MultiPlatform (OBS Studio), the most relevant streaming and recording tool for all platforms. With its integrated Canvas Preview, Source Plugins and Filters, OBS Studio delivers a comprehensive environment for professional streamers and involved people to create sophisticated video broadcasting and recordings for Web services.

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## Installing OBS Studio

You can install OBS Studio onto your hard drive or run it from a removable media. By default, non-portable version of the program store profile-based files and application settings in:

<code>%appdata%\obs-studio</code>	FOR Windows
<code>~/.config/obs-studio</code>	FOR Linux
<code>~/.obs-studio</code>	FOR Linux + XDG
<code>~/Library/Application Support/obs-studio</code>	FOR macOS

Run installer and follow the on-screen installation instructions.

## System requirements

High end PC (Personal Computer) recommended. Capturing, recording and broadcasting is resource demanding task.

OBS Studio uses hardware acceleration of **Direct3D** (from v10.1) or **OpenGL** (from v3.3). Without hardware acceleration it refuses to start. OBS Studio uses hardware acceleration and shaders computing of the installed video card\* to transform and

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combine sources, to render and filter output.

Earlier builds of the OBS Studio were tested on i7-4770K CPU + GTX980 GPU system. This, or same PC configuration, suitable for HD recordings.

Minimum OS (Operation System) requirements to be able to run the application itself, only 64-bit versions, by platforms:

Win	Windows 10 (21H2)** and up
Mac	macOS 10.15 and up
Linux	<distributions of 2020> or newer***

\* Some video cards has build-in hardware encoders. OBS can use Intel's Quick Sync, AMD's VCE, NVIDIA's NVENC.

\*\* Windows 8.1 still can be used to run official builds of the application but full compatibility is not confirmed.

\*\*\* Kernel specific not mentioned but OpenGL v3.3, FFmpeg and Qt is required.

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## Let's start!

Variety of options available for you to learn OBS Studio including Help guide and online Portal. Getting up to speed depends on your experience with previous versions of OBS.

### If you are new to OBS Studio:

See [An Overview of Open Broadcaster Software Studio](#) on page [8](#)

### If you want to create your first scene right now:

See [Getting started](#) on page [42](#)

**If you are an experienced OBS user:**

See [What's New in OBS Studio](#) on page [10](#)

See [CHANGES since v27.0.1 of the application](#) on page [11](#)

**If you want to focus on Web Streaming features:**

See [Streaming](#) on page [185](#)

See [Output](#) on page [203](#)

See [Streaming tab](#) on page [207](#)

**If you want to focus on Recording features:**

See [Recording](#) on page [179](#)

See [Output](#) on page [203](#)

See [Recording tab](#) on page [212](#)

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**Using online Forum**

Online forum provides community-based support with built-in bug report system.

(See [Post OBS Studio log-file](#) on page [18](#))

All users must accept Forum online agreement before asking questions online.

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# An Overview of Open Broadcaster Software Studio

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With OBS Studio you can create high quality video streams for different web services. With this novelty software you can start simple broadcast, make replays and do standalone recordings.

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## Work more efficiently

Workspace controls and quick scene management – OBS Studio gives you the tools you need to keep the work on track and efficient.

**Canvas Preview** Real-time canvas preview gives you ability to view all changes you made to sources appearance and scene composition.

**Studio Mode** Allow to preview all changes made to the scene before it would become on-air.

**Layers** With layers, you can work on one element without changing others. To rearrange elements, simply shift the layer order in the *Sources* list.

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## Enjoy unlimited creative options

**Filters** Each source can change its appearance via *Filters*.

*Crop, Transform, Chroma Key* and many other visual effects

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available by default.

**Plugin Sources** Choose the best plugins from the online community or even write your own. Open source code gives you a choice to modify and create your own future.

**Transitions** Transitions between scenes makes your shows more attractive.

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### **Relax while your PC is working hard.**

**Hardware acceleration** All tasks that require intensive calculation, like transformations, filtering and scene composing completed by Direct3D and OpenGL acceleration.

**Encoding acceleration** NVENC, VCE, Quick Sync can be used for encoding as well as other hardware based encoders via the plugins.

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# What's New in OBS Studio

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## Stay free

Now your imagination is unlimited by innovation technologies developed for the application.

**Studio Mode Control** visually all changes completed to scenes without changing an output. Your spectators always see what you want to show to them, not how you do it.

**Multi-Track** Allows to you to save audio sources in different tracks during recording. Up to 6 tracks supported. You can filter, add heavy effects and adjust level of your microphone later in post processing, without affecting your game's sound, while all sounds stay in sync during recording.

**Multi-Output** Now you can stream at one quality and make recordings at other simultaneously. Good option to stream in prime-time with overheated bandwidth – stream at medium and save it at full quality to upload your high resolution videos later!

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## Stay competitive

OBS Studio delivers enhanced tools to help you achieve your creative best.

**New render engine** Create fast professional OpenGL and Direct3D powered video recordings.



**New audio grabbing engine** Low latency, low memory consumption and multi-track support. All-in-one built-in solution.

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### **Work fast and accurate**

OBS Studio provides new controls over positioning and aligning sources.

**Snap to borders** Fast and accurate positioning of the sources with single mouse move.

**Transform** Customize output view for better appearance with easy mouse moves. No need to look for matched sources and adjust each manually before using them live. Also, all positions, size, cropping and aspect ratios can be adjusted pixel by pixel.

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## **CHANGES since v27.0.1 of the application**

New features, key points.

- ✓ Windows 8.0, macOS 10.15, Ubuntu 18.04 are no longer supported. As well as all 32-bit systems. Nothing special in the code but some dependencies (third party libraries and development software in use) are setting its own limits on future of the obsolete OSes.

See [System requirements](#) on page [5](#)

- ✓ HDR support added. Owners of high-end hardware can get advantage of the higher “bitness” encoding.

- See [Color Format](#) on page [231](#)
- See [Color Space](#) on page [232](#)
- See [SDR White Level](#) on page [233](#)
- See [HDR Nominal Peak Level](#) on page [233](#)
- See [Game Capture](#) on page [88](#)
- See [HDR Tone Mapping \(Override\)](#) on page [142](#)
- ✓ Ease of access was improved. New option to control accessibility of the OBS Studio functions was added to the settings of the application.
  - See [Accessibility](#) on page [230](#)
- ✓ Split files feature added. Long single-file recordings is no longer enforced.
  - See [Automatic File Splitting](#) on page [216](#)
- ✓ New option *Low Latency Audio Buffering Mode (For Decklink/NDI outputs)* to disable dynamic audio buffering added. It may help to keep audio/video synchronized for low latency sources.
  - See [Audio](#) on page [221](#)
- ✓ The usage of `--disable-high-dpi-scaling` command line key was restricted. Now it available only for builds that depends on Qt v5.11-v5.xx.
  - See [Command Line Keys](#) on page [244](#)
- ✓ The *Noise Suppression* algorithms were enhanced. Added support for a new NVIDIA GPU accelerated room echo removal effects.
  - See [Noise Suppression](#) on page [155](#)
- ✓ Added new AI based background removal filter for owners of top NVIDIA graphics cards.
  - See [NVIDIA Background Removal](#) on page [146](#)
- ✓ Capture audio per process is possible now (via a new



capture source). Thus, you can record clear game audio and decide later what notification sounds of your PC will remain in your final video.

See [Application Audio Capture \(BETA\)](#) on page [80](#)

- ✓ PC running macOS can use new source to capture desktops, windows or applications.

See [macOS Screen Capture](#) on page [94](#)

- ✓ Added settings for remote control of the application. The obs-websocket plugin is now fully integrated into OBS Studio.

See [obs-websocket Settings](#) on page [176](#)

- ✓ Buttons were added to the toolbar of the audio mixer pane. It is easier to access Advanced Audio Properties window now.

See [Audio Mixer pane](#) on page [240](#)

- ✓ New option *Check File Integrity* added to re-download OBS Studio files if some are missing or broken from the last update.

See [Help menu](#) on page [17](#)

- ✓ Simple dialog window added to application's menu to quickly allow required permissions for the OBS Studio. The *Review App Permissions* added. (macOS only).

See [Help menu](#) on page [17](#)

- ✓ New *Show pixel alignment guides* option for Preview added. Simple distance measurement helper that can be enabled in the settings.

See [General settings](#) on page [196](#)

- ✓ The injection technique for Syphon capture was removed. It is no longer supported on macOS.

See [Syphon Client](#) on page [101](#)

- ✓ Now the Virtual Camera of OBS can output single source. Configuration window added to setup feeder for the Virtual Camera.  
See [Virtual Camera](#) on page [182](#)
- ✓ Added new layouts to multi-view. Now up to 25 scenes can be previewed simultaneously.  
See [Multi-view of scenes](#) on page [49](#)
- ✓ Now any Stinger transitions can use simple video files (without alpha) as alpha masks.  
See [Mask only](#) on page [59](#)
- ✓ Camera safe areas (according to EBU R 95) can be shown in Preview window for both regular and studio-mode.  
See [General settings](#) on page [196](#)
- ✓ Warning message about any active output on exit may be disabled.  
See [Advanced](#) on page [231](#)
- ✓ Now hotkeys in the list can be filtered out by hotkey too.  
See [Filter by Hotkey](#) on page [230](#)
- ✓ AV1 encoders available for recording.  
See [Recording tab](#) on page [212](#)
- ✓ Added support for the video capture devices from the AJA Video Systems.  
See [AJA I/O Device Capture](#) on page [79](#)  
See [AJA I/O Device Output](#) on page [160](#)
- ✓ New setting *Limit one fullscreen projector per screen* added to control the fullscreen projector's behavior of the OBS Studio.  
See [General settings](#) on page [196](#)
- ✓ OBS Studio docks panes were moved to their own top menu.

- See [Docks menu](#) on page [25](#)
- ✓ The check for missing sources (inaccessible files) can be run manually from the main menu.
  - See [Scene Collections menu](#) on page [21](#)
- ✓ Startup check for missing media files can be turned off (new `--disable-missing-files-check` command line key).
  - See [Command Line Keys](#) on page [244](#)
- ✓ Blending added. New feature to combine sources in more attractive way.
  - See [Blending Mode](#) on page [128](#)
  - See [Blending Method](#) on page [127](#)
- ✓ Now it is possible to hide OBS studio own window from any screen capture. New option *Hide OBS windows from screen capture* added.
  - See [General settings](#) on page [196](#)
- ✓ LUT based video effects runs faster for opaque sources. New option to pass the alpha added.
  - See [Apply LUT](#) on page [136](#)
- ✓ Media playback can accept additional parameters now. The *FFmpeg Options* were added.
  - See [Media Source](#) on page [96](#)
- ✓ Security of the web based sources revised. The *Browser* source access rights added – the *Page permissions*.
  - See [Browser](#) on page [84](#)
- ✓ New ability to move a selected item 10 pixels in preview when holding the *Shift* key while using the arrow keys.
  - See [Shortcuts Linux](#) on page [249](#)
  - See [Shortcuts Mac](#) on page [252](#)
  - See [Shortcuts Windows](#) on page [255](#)

YouTube integration was improved and more, and more, and more... As always, number of known issues were fixed and added few new ^\_^

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# Looking at the Work Area

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## Getting familiar with the work area

The OBS Studio work area is arranged to help you focus on creating and editing high quality streams and recordings.

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## About the work area

The work area consists of the following components:

**Menu bar** The menu bar contains menus for performing tasks. The menus are organized by topic. For example, the *Scene Collection* contains commands for working with scene collections.

**Canvas preview area** The canvas preview area provides real-time preview of the output/edit. Output easily adjustable:

See [Working with sources \(positioning\)](#) on page [44](#)

See [Video](#) on page [225](#)

**Scene management and Control options** Main screen control options hold tools to create and edit output:

See [Creating Scenes in OBS Studio](#) on page [42](#)

See [Output](#) section on page [203](#)

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## Using menu bar

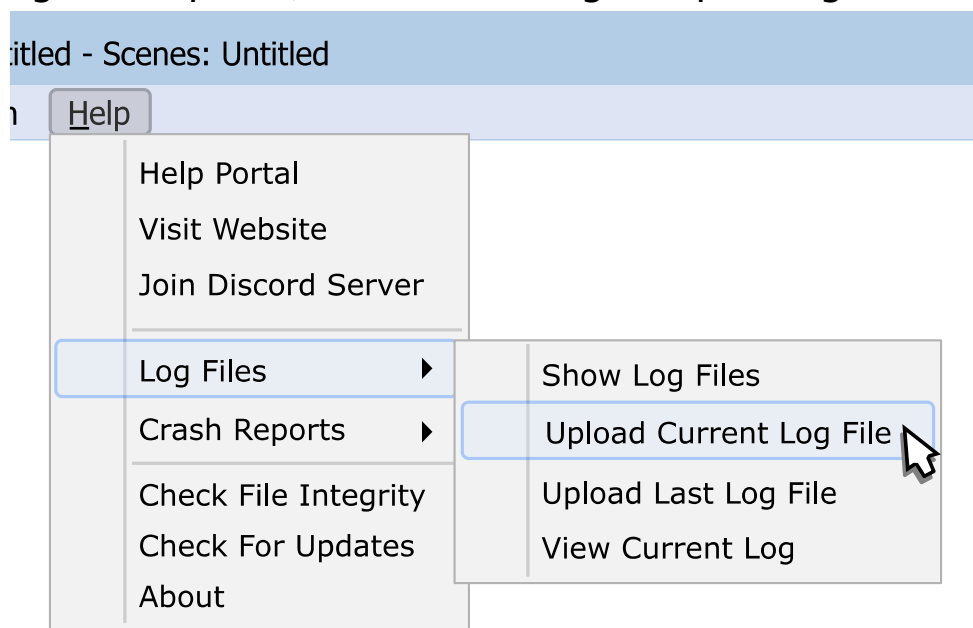
### Help menu

In the Help menu you can go to the online help portal, check for

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program's update, view current log and post log-file online.



To **Post OBS Studio log-file online** (current session):

- 1) go to the *Help* menu;
- 2) choose *Log Files* sub-menu;
- 3) click *Upload Current Log File*, application uploads log-file automatically;
- 4) copy the generated link (URL) and follow OBS Studio's Forum online instructions.

### *Help Portal*

opens in the browser official web-page of the OBS Studio, there you can find some additional info about the application and its usage.

### *Join Discord Server*

opens browser to invite you into OBS Community on Discord. There you can get brief help info on your problem, if any.

### *Log Files*

section allows to to view and manage log-files of the application. The *View Current Log* sub-option displays OBS own the log viewer window that shows text output from the application real-time.

### *Crash Reports*

section allows to view and upload last possible crash-log, if any.

### *Check File Integrity :*

starts local check to find if any OBS Studio files are missing or broken from the last update. If found, application will attempt to re-download all needed files and thus repair current installation. The check will run against latest OBS Studio builds available online.

### *Check for updates*

starts online check for the most latest OBS Studio available. If any will be found the application will prompt to update to the most recent one.

### *About*

opens brief info window about authors, version and license.

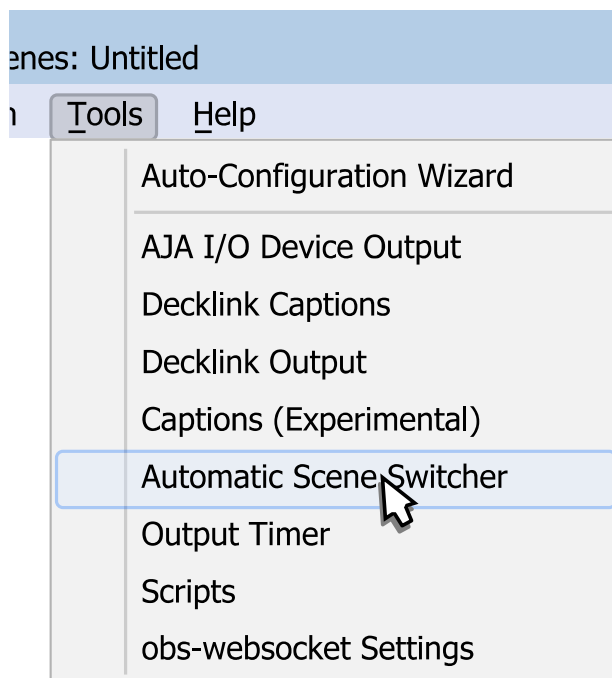
### *Review App Permissions*

(option available for Mac PC)

opens dialog window to quickly allow for the OBS Studio access to the required hardware of the PC.

## Tools menu

Tools menu has fast access to the external plugins and its settings. There you can find additional overlay helpers, scene switchers and other program tools installed in OBS Studio.



### *Auto-Configuration Wizard*

tool to automatically optimize application settings.  
(See [Auto-Configuration Wizard](#) on page [159](#))

### *AJA I/O Device Output*

tool to control AJA Video Systems video capture devices if any installed.  
(See [AJA I/O Device Output](#) on page [160](#))

### *Decklink Captions*

tool to control captions flow from the Blackmagic Design video capture devices if any installed.



(See [Decklink Captions](#) on page [168](#))

### *Decklink Output*

tool to control Blackmagic Design video capture devices if any installed.

(See [Decklink Output](#) on page [168](#))

### *Captions (Experimental)*

tool to add closed captions to the stream using speech recognition.

(See [Captions \(Experimental\)](#) on page [166](#))

### *Automatic Scene Switcher*

tool to switch scenes in special order.

(See [Automatic Scene Switcher](#) on page [163](#))

### *Output Timer*

tool to stop streaming/recording after fixed time interval.

(See [Output Timer](#) on page [170](#))

### *Scripts*

tool to manage custom written automation scripts.

(See [Scripts](#) on page [172](#))

### *obs-websocket Settings*

tool to set remote control over the OBS Studio.

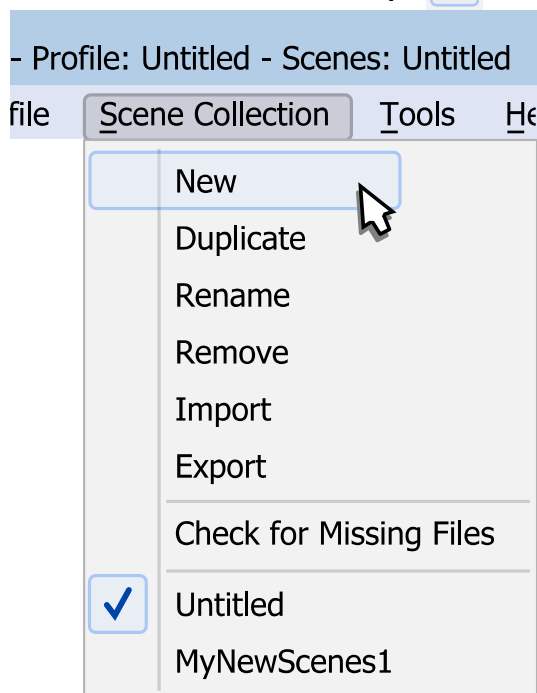
(See [obs-websocket Settings](#) on page [176](#))

## **Scene Collections menu**

Scene Collections menu specifies sets of the scenes you work

with.

Current set (collection) is marked by  icon.



You can create new scene collection by selecting sub-menu option *New*.

### *Duplicate*

sub-menu option makes a copy of the current scene collection.

### *Rename*

sub-menu option allows to specify new name of the current scene collection.

### *Remove*

sub-menu option deletes current scene collection.



Removed scene collections cannot be recovered.

### *Import*

sub-menu option allows to load scene collection from the external folder/device. Scenes from OBS Studio, OBS Classic, XSplit Broadcaster and Streamlabs are supported. Cross-platform sources that are supported by OBS Studio also will be imported.

### *Export*

sub-menu option allows to save current scene collection to the external folder/device.

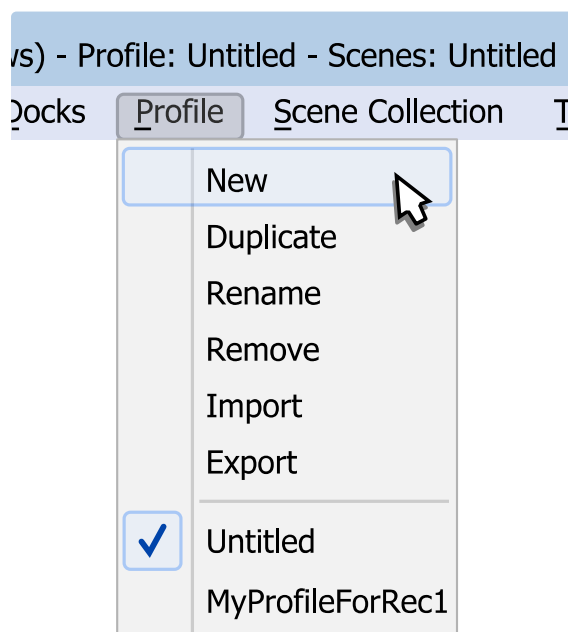
### *Check for Missing Files*

sub-menu option allows to start the check if all media files mentioned in the current scene collection are still in place. (See [Missing Files](#) on page 40)

## **Profile menu**

Profile menu specifies sets of the application settings (profile) you work with.

Current profile is marked by  icon.



You can specify new profile by selecting sub-menu option *New*.

### *Duplicate*

sub-menu option makes a copy of the current profile.

### *Rename*

sub-menu option allows to specify new name of the current profile.

### *Remove*

sub-menu option deletes current profile.



Removed profiles cannot be recovered.

### *Import*

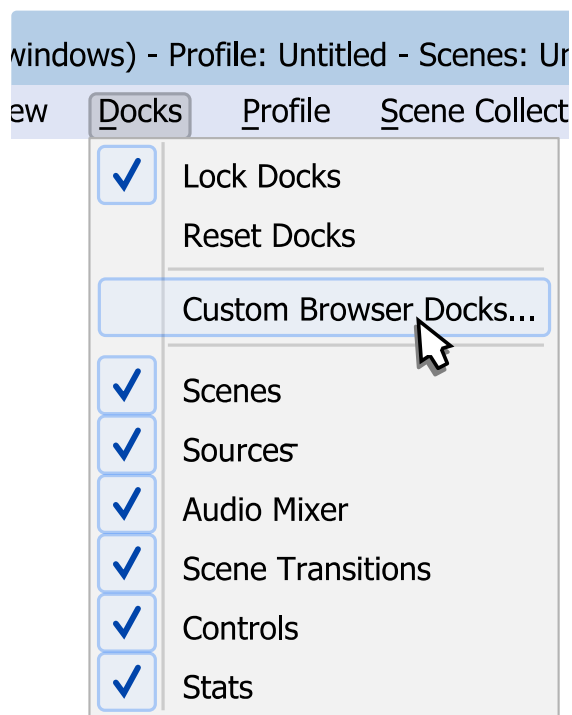
sub-menu option allows to load profile from the external folder/device.

### *Export*

sub-menu option allows to save current profile to the external folder/device.

## Docks menu

Docks menu specifies visibility of main elements of the user interface (UI).



### *Custom Browser Docks...* :

when clicked opens new dialog window where custom browser widget docks can be added/removed. Each new dock pane can point to different web-page, so user don't have to open extra browsers.

### *Scenes* :

if checked, shows [Scenes](#) pane.

### *Sources* :

if checked, shows [Sources](#) pane.

### *Audio Mixer* :

if checked, shows [Audio Mixer pane](#).

### *Scene Transitions* :

if checked, shows [Scene Transitions](#) pane.

*Controls* :

if checked, shows pane of control buttons.

*Stats* :

if checked, shows [Stats](#) as additional docking-pane.

*OTHER\_DOCKING\_PANE* :

if checked, shows docking pane of the enabled service or custom web-page.

To restore **default docking panes layout**: choose sub-menu option **Reset Docks**.

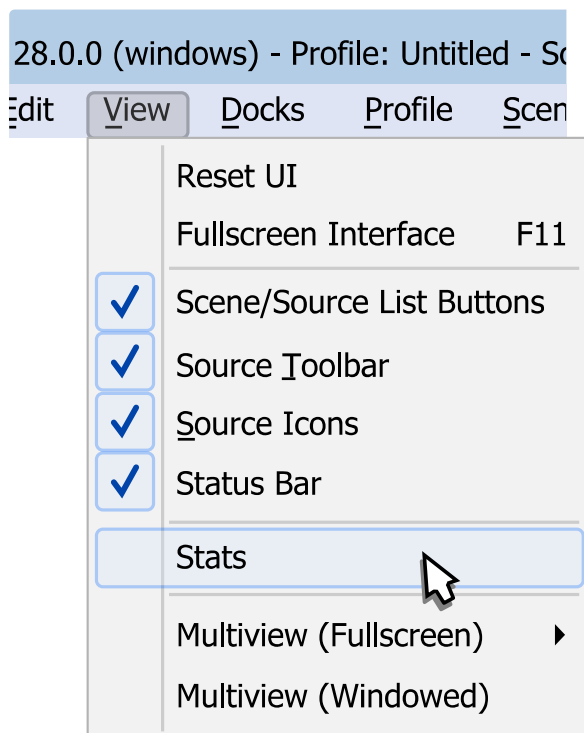
To **keep docked layout static**: leave **Lock Docks** sub-menu option checked by  icon.

To make any **docking-pane float**: perform **drag-and-drop** move over the docking item.

(See [Floating docking-panes](#) on page [38](#))

## View menu

View menu specifies visibility of the user interface (UI) elements.



To restore **default UI appearance**: choose sub-menu option **Reset UI**.

### *Fullscreen Interface*

sub-menu option allows to switch to borderless fullscreen UI of the program. Press *F11* hotkey to switch between normal/borderless-fullscreen view.

### *Scene/Source List Buttons*

if checked, tool-bars at the [Scenes](#) and [Sources](#) lists panes are visible (enabled).

### *Source Toolbar*

if checked, shows [Source Toolbar](#) panel.

### *Source Icons*

if checked, shows small pictures near the sources in [Sources](#) list pane window for better visual indication of sources type.

### *Status Bar*

if checked, shows *Status Bar* with short info in main window.

### *Stats*

sub-menu option shows current output status and resources usage statistic window.

(See [Stats](#) on page [36](#))

### *Multiview (Fullscreen)*

sub-menu option allows to choose display device to show full screen up to 25 combined scenes previews (number is configured in the application's *Settings*).

(See [Multi-view of scenes](#) on page [49](#))

(See [General settings](#) on page [196](#))

### *Multiview (Windowed)*

sub-menu option shows window of up to 25 combined scenes previews (number is configured in the application's *Settings*).

(See [Multi-view of scenes](#) on page [49](#))

(See [General settings](#) on page [196](#))

UI elements marked by  icon are visible (checked).

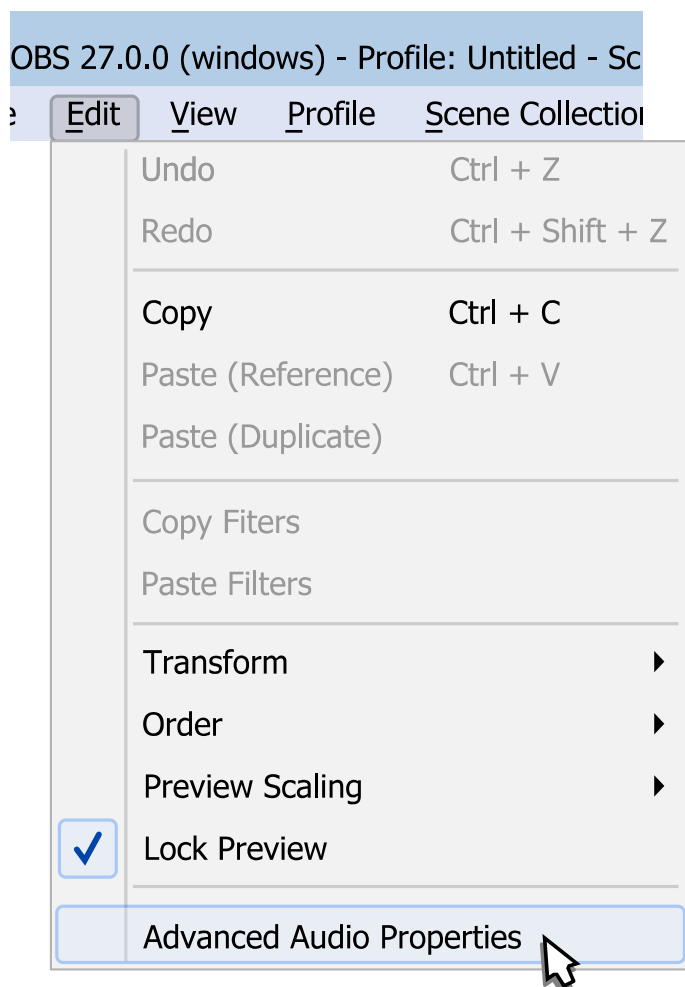


If UI not visible – its functions not disabled. Many options still available through right-click menus or [Hotkeys](#).

## **Edit menu**

Edit menu has fast navigation links to most used properties of the sources and scenes.





### *Undo*

reverts last user action (positioning and editing sources).

### *Redo*

restores recently reverted user action (positioning and editing sources).

### *Copy*

sub-menu option copies selected source to clipboard.

### *Paste (Reference)*

use it to paste source from clipboard inserting it into the scene as [add existing](#).

### *Paste (Duplicate)*

use it to paste source from clipboard inserting it into the scene as full copy.



Copy/Paste sources between *Scene Collections* not possible yet.  
(See [Scene Collections menu](#) on page [21](#))

### *Copy Filters*

sub-menu option copies all [filters](#) of the selected source to clipboard.

### *Paste Filters*

use it to paste all [filters](#) from clipboard to the selected source.



Copy/paste of the filters between the *Scene Collections* not possible.  
(See [Scene Collections menu](#) on page [21](#))

It is possible to copy/paste filters individually (one by one) in the lists of the Visual Effect Filters and cross the sources.  
(See [Visual Effect Filters](#) on the page [134](#))

### *Transform*

sub-menu option applies transform to the sources.  
(See [Transform](#) on page [120](#))

### *Order*

sub-menu option allows to rearrange the layers.  
(See [Layer shift \(order\)](#) on page [118](#))

### *Preview Scaling*

sub-menu option allows to change viewing size of the preview window.

(See [Preview Scaling](#) on page [34](#))

### *Lock Preview*

sub-menu option, if marked by  icon then editing of the source position and size in the preview window via [manual re-sizing transform](#) inaccessible. This setting prevents editing of the scene by accident.

(See [Working with sources \(positioning\)](#) on page [44](#))



Uncheck *Lock Preview* option to enable edit in the preview window.

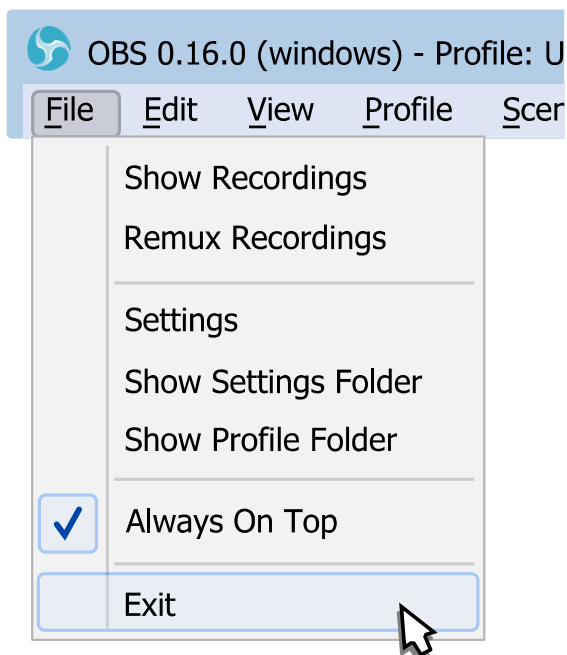
### *Advanced Audio Properties*

sub-menu option opens audio mixer dialog window.

(See [Mixer](#) on page [237](#))

## **File menu**

File menu has general program settings and options.



### *Show Recordings*

sub-menu option opens in default file manager a directory specified for the recordings.

### *Remux Recordings*

sub-menu runs small build-in application for quick remux video files to different container without re-encoding. For example, FLV to MP4.

### *Settings*

sub-menu opens application *Settings* window.  
(See [Application Settings](#) on page [196](#))

### *Show Settings Folder*

sub-menu opens in default file manager of the system the directory where application stores its settings.

### *Show Profile Folder*

sub-menu opens in default file manager of the system the directory where application stores its profiles.

### *Always On Top*

sub-menu option, if marked by  icon then application always visible over other windows.

### *Exit*

sub-menu closes OBS Studio application.

---

## Using canvas preview area

By mouse right-click over preview area you can access to the menu of the source preferences and change scene appearance.

### Enable Preview

If *Enable Preview* option is marked by  icon then current output rendered to the preview area. Canvas size of the preview area depends on [Application Settings](#).

(See [Video](#) on page [225](#))

Uncheck *Enable Preview* option to disable preview.

### Lock Preview

If *Lock Preview* option is marked by  icon then editing of the source position and size in preview window via [manual re-sizing transform](#) inaccessible. This setting prevents editing of the whole scene collection by accident.

(See, also [Working with sources \(positioning\)](#) on page [44](#))

Uncheck *Lock Preview* option via right-click menu or by *View menu* to enable edit in preview window.



You can lock/unlock sources individually via sources lock icon.

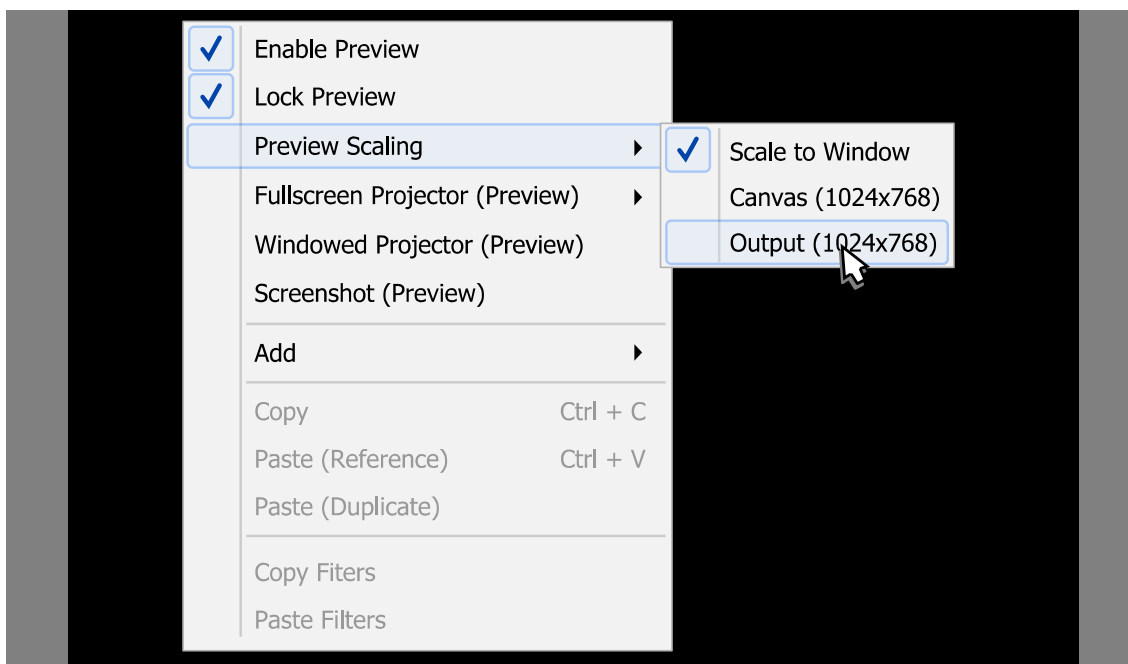
(See [Lock source](#) at page 67)

(See [Unlock source](#) at page 67)

## Preview Scaling

To scale preview window to fixed size of output (1:1 scale):

- 1) right-click on the preview area;
- 2) choose from sub-menu *Output (1024x768)* option, where *1024x768* is your current output resolution defined via field [Output \(Scaled\) Resolution](#), page 225.



Current scale of the preview window marked by  icon.

Hold *Spacebar* key to drag and navigate the preview window by mouse when visible area is smaller than current preview window

size (*Preview Scaling* is set to *Canvas* or *Output*).

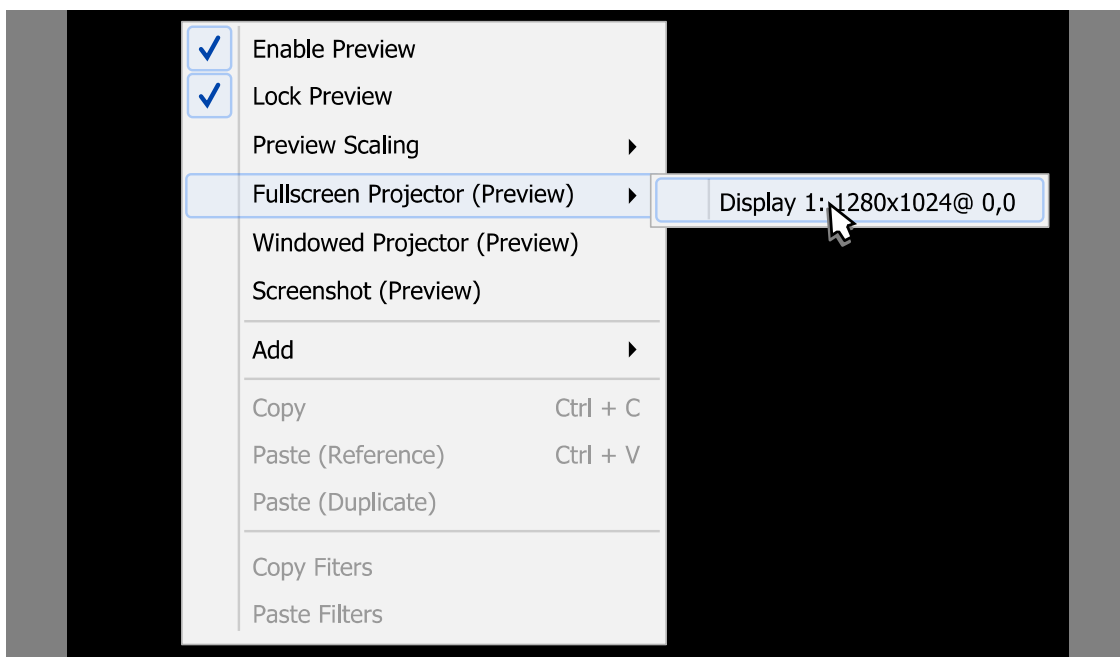
Hold *Spacebar* key to zoom the preview window by mouse wheel when visible area is smaller than current preview window size (*Preview Scaling* is set to *Canvas* or *Output*).

To restore **default zoom level** – set any *Preview Scaling* mode again.

### Full screen preview (canvas)

To preview canvas in full screen:

- 1) right-click on the preview area;
- 2) choose sub-menu *Fullscreen Projector (Preview)*;
- 3) select output device.



To exit full screen preview mode: press *Esc* button.

### Windowed Projector (canvas)

To preview canvas in standalone resizable window:

- 1) right-click on the preview area;
- 2) choose sub-menu *Windowed Projector (Preview)*.

To change the projector type between windowed mode/full screen mode: right-click over the projector window and choose corresponding menu.

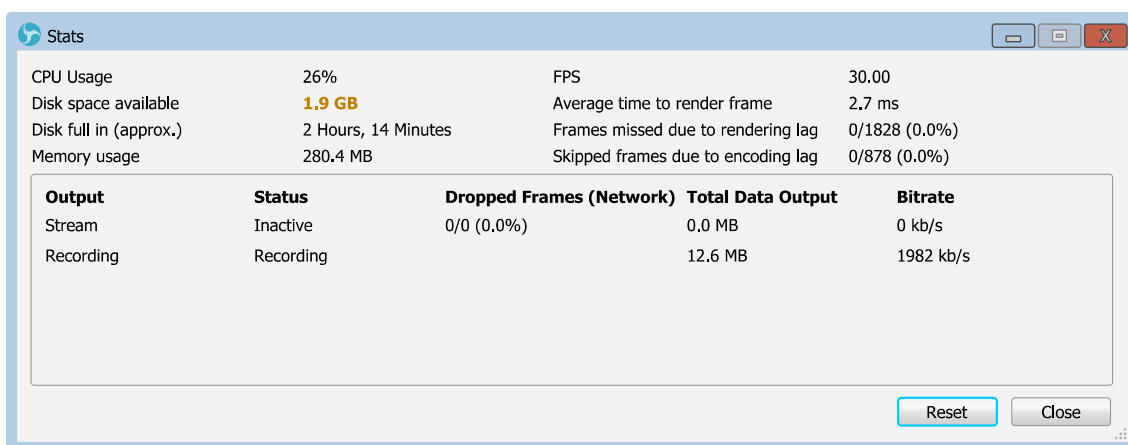
The *Fit window to content* option of windowed projector when clicked just fits the oversized window to the source borders (removes black bars during manual resize if there left any).

To make projector displayed over the other windows: right-click over the projector window and click *Always On Top* menu option.

---

## Using Stats window

*Stats* window shows output status of the OBS Studio, recent statistic on PC resources usage and encoding performance.





Parameters at **warning** level has yellow–orange color.

Parameters at **error** level has red color.

You can renew current statistic by pressing *Reset* button.

To open current *Stats* window, click corresponding [View menu](#) option (*Stats* window has own docking–pane too).

(See [View menu](#) on page [26](#))

To open *Stats* window automatically, check the [Open stats dialog on startup](#) option or use it as docking–pane.

(See [General settings](#) on page [196](#))

(See [View menu](#) on page [26](#))

---

## Taking Screenshots

You can take screenshot of any source you see in OBS Studio preview at any time. Corresponding options are located in right–click menus of the *Scene*, *Source*, *Program* and *Preview* views of the application.

Selected sources may take screenshots by global hotkey. Just set the *Screenshot Selected Source* hotkey.

(See [Hotkeys](#) on page [228](#))

All screenshots saved in PNG format under the same directory as recordings.

(See [File menu](#) on page [31](#))

## Other controls

You can use advanced features of the OBS Studio user interface (UI) to get additional control over the working area and source appearance.

### Interactive windows

Some sources may require user input (logging on the external website, accept confirmations etc.)

To interact with this kind of *Sources*, right-click over the source and choose the option *Interact*. The source content will open in a new window – there you can make your interactive changes.

### Floating docking-panes

To make UI of the OBS Studio more handy you can place and/or combine into tabs any available docking-pane ([Sources](#) list pane, [Scenes](#) list pane, [Audio Mixer pane](#) etc).

To make docking-pane float or combine it into tabs:

- 1) make unchecked the *Lock Docks* option;  
(See [Lock Docks](#) on page [26](#))
- 2) grab by mouse the header of the docking-pane;
- 3) place pane to the new free area of the screen;
- 4) release the mouse button. Now the docking-pane is floating window.

(See [Illustration 1. Make pane float](#) on page [39](#))



Illustration 1. Make pane float

By placing floating docking-pane over the OBS Studio main UI sides you can make it docked again.

By placing floating docking-pane over the other dock pane from the main UI – the docking-pane will be combined into tabs.

To revert all changes and return to **default layout** use the *View menu Reset UI* option or *Docks menu Reset Docks* option.

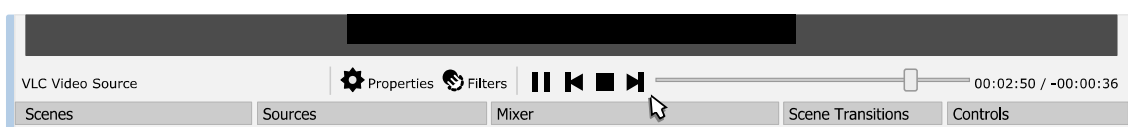
(See [Reset UI](#) on page [27](#))

(See [Reset Docks](#) on page [26](#))

## Media playback toolbar

Media playback controls of the media Sources embedded into Source Toolbar.

*Source Toolbar* is special area of the UI where the Source specific controls are shown. By default it is placed above the Sources pane and below preview window.



Toolbar consist of 3 zones that displays (left to right):

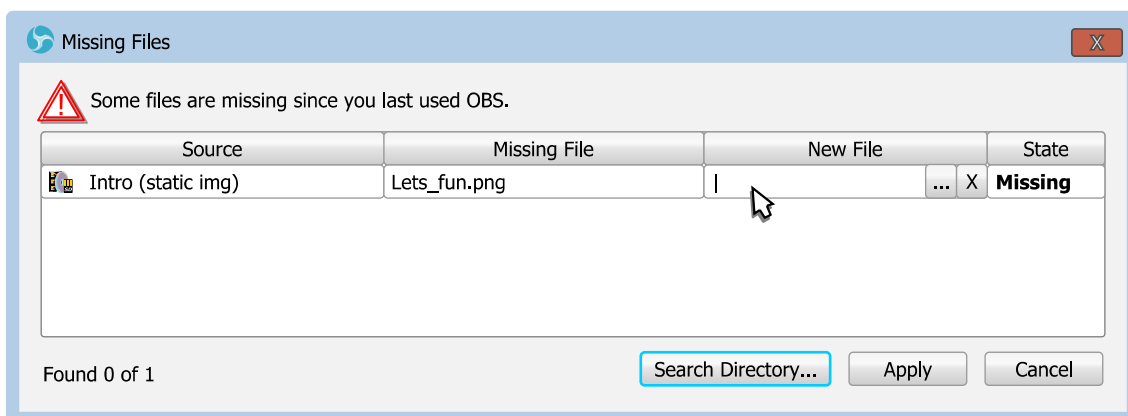
- Source name – current selected source name.
- Buttons to access basic functions – [Sources types & properties, filters.](#)
- Widgets to view and set Source specific controls – media playback, media navigation (if supported), refresh, and some others.

Visibility of the Source Toolbar is controlled via View menu.

(See [View menu](#) on page [26](#))

## Missing Files dialog

Missing files dialog window appears on application startup or on *Scene Collections* switch when some of the *Sources* has inaccessible media files (removed drive, renamed etc.).



The files check can be start manually from the *Scene Collections menu*.

All dialog entries has next meaning:

*Source* :

shows the source name that wasn't properly loaded because

of the inaccessible media file.



*Missing File* :

shows the inaccessible media file name (the full path to it will be shown as context tip).

*New File* :

text prompt to type a new path that points to the new file.

Click:

-  {...} : to **locate** the file manually (or to force any new);
-  {X} : to **forget** about the file (to empty path, clear).

*State* :

shows user's resolution on each missing file.

For example,

the path to the original file still **missing**;

the path was recently **cleared**;

the path was **replaced** by a new one;

exact file was **found** by the recently given path.

*Search Directory {button}* :

opens new dialog to select the folder where *Missing File(s)* may lie. The search for corresponding file names will be done automatically.

Manipulation with sources/layers at preview area explained in:

[Getting started](#) on page [42](#);

[Using Layers](#) on page [116](#);

[Working with sources \(positioning\)](#) on page [44](#);

[manual re-sizing transform](#) on page [123](#);

[easy cropping](#) on page [125](#); of the guide.

# Creating Scenes in OBS Studio

## About scenes and layers (OBS Studio)

OBS Studio uses scenes to combine output stream. Scene is combination of the video layers. Each layer has one input source. Different sets of layers joined into one scene. Only current scene (i.e. selected scene) goes to the output stream. So, you can prepare number of scenes and switch between them on the fly (this action named *Transition*) to change your output stream appearance.

## Getting started


The first time you start the application, the blank scene named *Scene* appeared under the *Scenes* list pane. Its content is visible as empty list of the *Sources*.



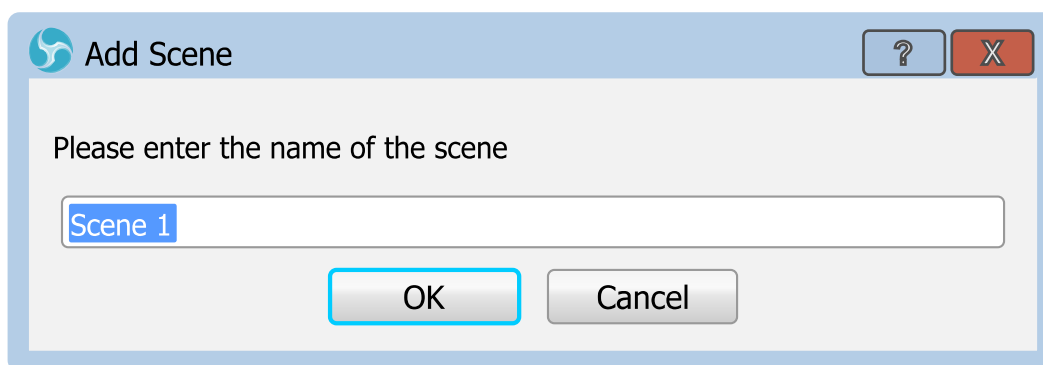


Visibility of the each list/pane and toolbar is switchable.  
(See [View menu](#) at page [26](#))

## Create a new scene

You can create a new scene in the *Scenes* list by clicking  icon on the toolbar of the *Scenes* list. Or by right-clicking at the empty space of the *Scenes* list and choosing action *Add*.

When you create a new scene, dialog will appear where you can specify the name of the new scene.



Give to the scenes informative names like "Intro", "Pause" and so on.

Broadcasting of the empty scene is not the best option – **just add a source** of your future video **to the scene!** The source can be your camera, gameplay, PC display, any compatible audio/video device or media file (other stream).

## Add source to scene

To add source to scene use [Getting Sources into OBS Studio](#) method.  
(See [Getting Sources into OBS Studio](#) on page [62](#))

## Ready to start?

If you ready to start your first recording/streaming use main interface control buttons to run the task.

(See [Recording and Streaming](#) on page [179](#))

## Adjust Output

All video sources in scenes can be adjusted to match your output. As well as output can be adjusted to your requirements.

(See [Video](#) on page [225](#))

(See [Output](#) on page [203](#))

## Working with sources (positioning)

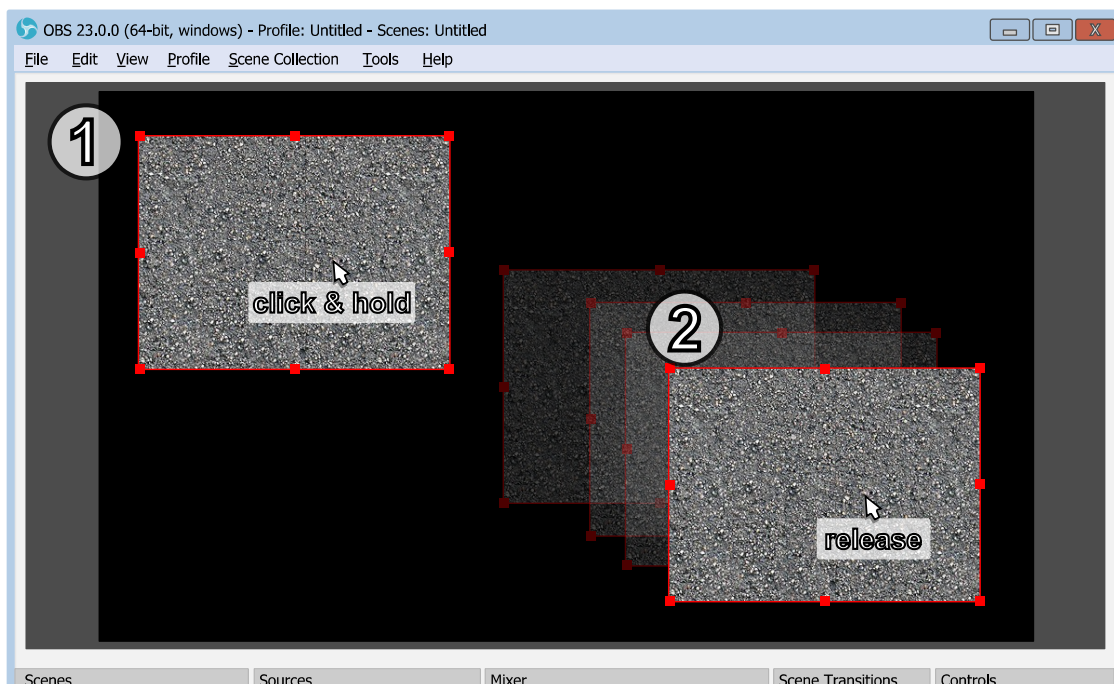
Source inside one scene can be moved to a different position by mouse drag-and-drop.

To perform source move:

- 1) click and hold left mouse button at the center of the **red** rectangle (bounding box) of the chosen source and drag it to the new position;
- 2) release the mouse button.

(See [Illustration 2. Source move](#) on page [45](#))





*Illustration 2. Source move*

 You can temporarily disable snapping by holding down the *Ctrl* key while dragging sources. (See [General settings](#) on page [196](#))

Make sure that *Lock Preview* option unchecked. (See [Lock Preview](#) on page [33](#))

Make sure that source not locked. (See [Lock source](#) at page [67](#)) (See [Unlock source](#) at page [67](#))

## Source transform

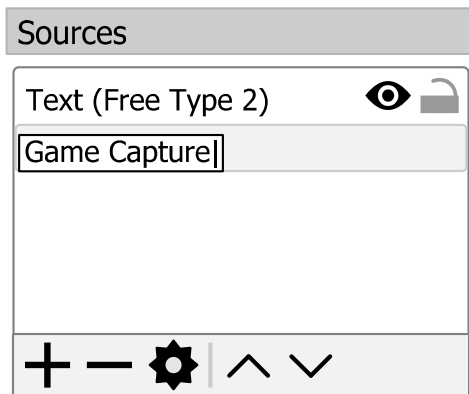
Each source can be adjusted via its layer's [Transform](#). (See [Using Layers](#) on page [116](#))

## Rename scene (source)


To rename scene or source:

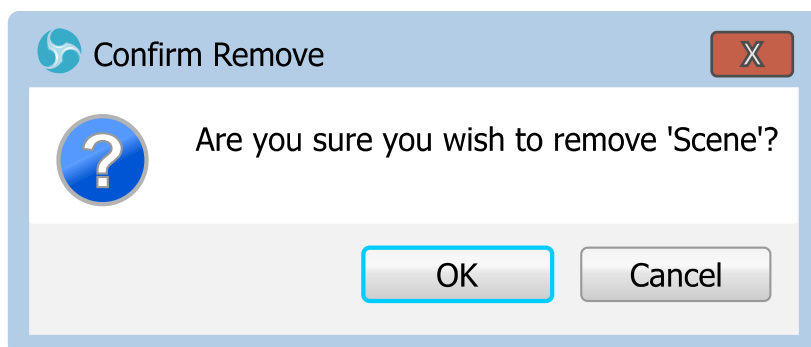
- 1) right-click on the selected scene (source) in the *Scenes* list pane (*Sources* list pane);
- 2) choose *Rename* option. Blinking cursor will appear near

- the name of the scene (source);
- 3) specify a new name and press *Enter*.



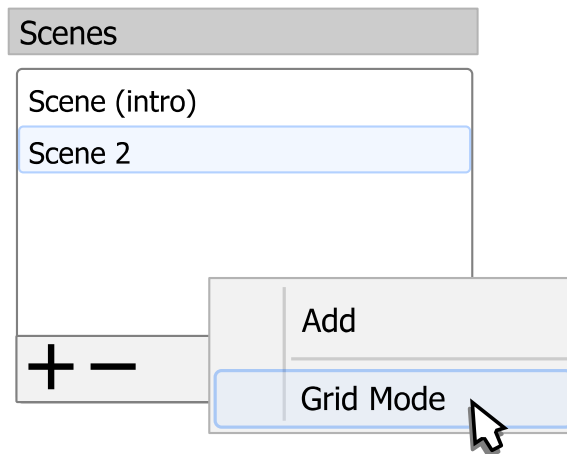
### Remove scene

To completely remove scene from a *Scenes* list: hit  icon on the toolbar of the *Scenes* list and agree to the confirmation dialog.



### Switch scene's layout

The *Scenes* list pane has two main layouts: list and grid. Each scene (name) in the pane can be represented as list entry or compact button.



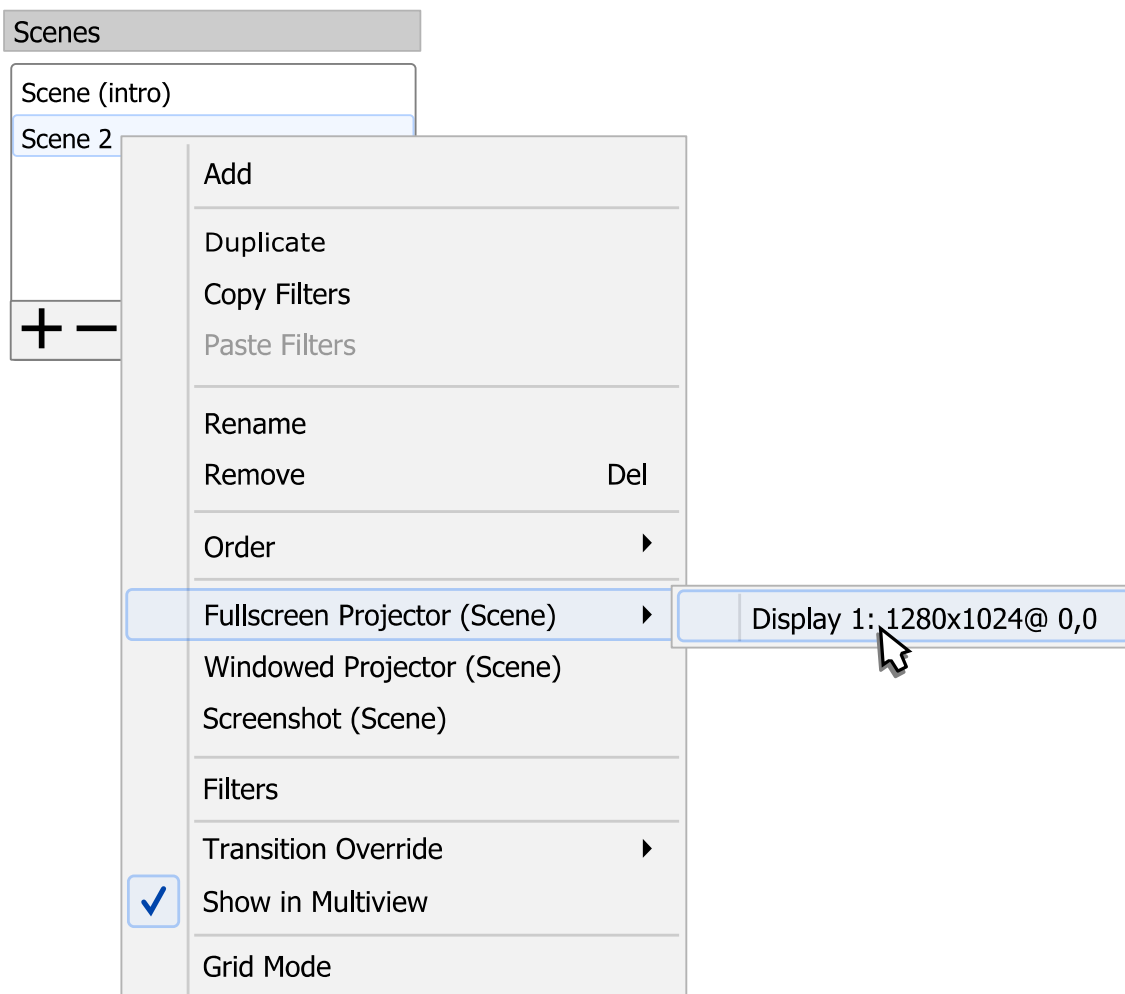
To **switch** between different *Scenes* list pane layouts: right-click over the *Scenes* pane and choose corresponding option (*Grid Mode* or *List Mode*).


---

### Full screen preview (scene)

To preview current scene in full screen:

- 1) right-click on the selected scene in *Scenes* list pane;
- 2) choose sub-menu *Fullscreen Projector (Scene)*;
- 3) select output device.



 You can preview whole video output via right-clicking at preview window and choosing sub-menu *Fullscreen Projector (Preview)* (See [Full screen preview \(canvas\)](#) on page [35](#)).

To exit full screen preview mode: press *Esc* button.

### Windowed Projector (scene)

To preview current scene in standalone resizable window:

- 1) right-click on the selected scene in *Scenes* list pane;
- 2) choose sub-menu *Windowed Projector (Scene)*.

To change the projector type between windowed mode/full screen mode: right-click over the projector window and choose

corresponding menu.

The *Fit window to content* option of windowed projector when clicked just fits the oversized window to the source borders (removes black bars during manual resize if there left any).

To make **projector displayed over the other windows**: right-click over the projector window and click *Always On Top* menu option.

---

## Multi-view of scenes

Multi-view allows to preview number of scenes in one window.

To open new multi-view window see *View menu* options:

[Multiview \(Windowed\)](#) on page [28](#)

[Multiview \(Fullscreen\)](#) on page [28](#)

See possible layout of the *Multiview (Fullscreen)* at [Illustration 3.](#)

[Multiview \(Fullscreen\) example](#) on page [50](#)

In multi-previews **current preview** (edit) scene marked by **green** outline.

In multi-previews **program (live)** scene marked by **red** outline.

Click once on one of the multi-previews **to switch current preview (edit)** to the desirable scene (perform [Scene transitioning](#)).

In [Studio Mode](#) you can click twice (depending on [General settings](#) of the application) on one of the multi-previews to **switch program (live)** to the desirable scene.

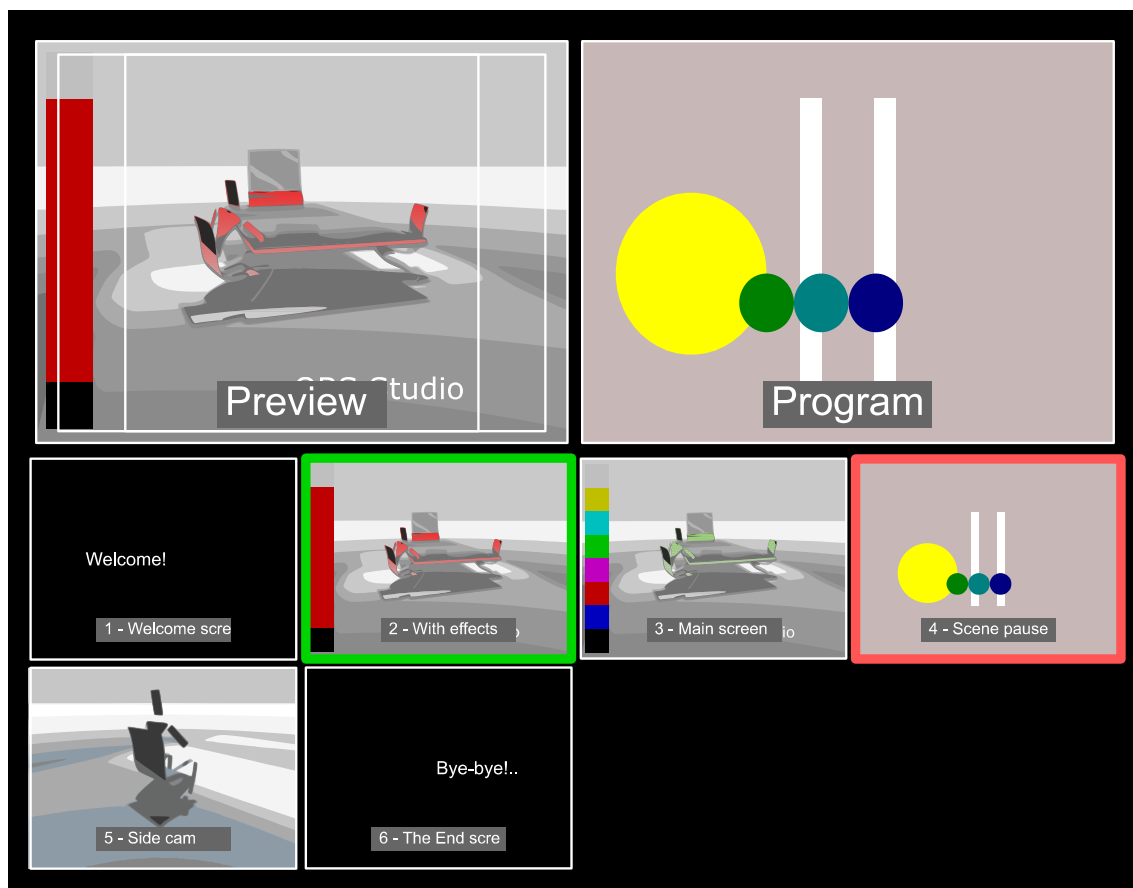


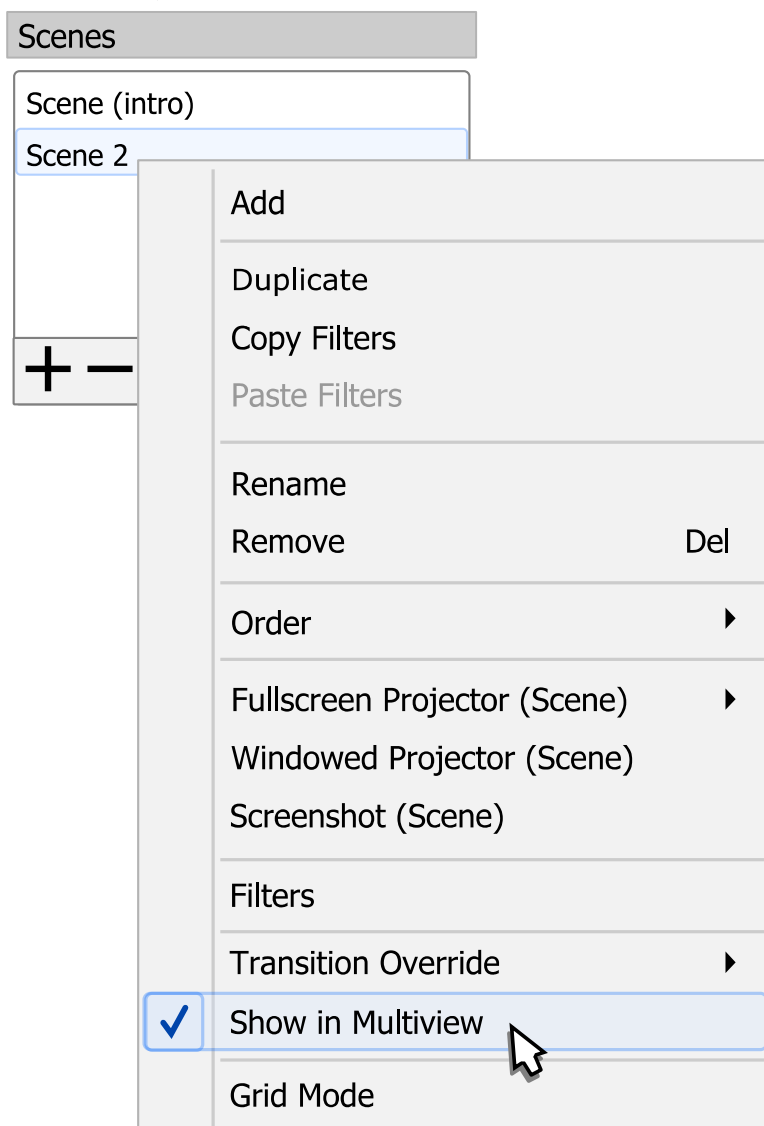
Illustration 3. Multiview (Fullscreen) example

To exit *Multiview (Fullscreen)* mode: press *Esc* button.

To include scene to the multi-view window make checked the scene option *Show in Multiview* :

- 1) right-click over the selected scene in [Scenes](#) pane;
- 2) click on *Show in Multiview* option to make it checked by  icon;
- 3) the scene becomes available in both [Multiview \(Fullscreen\)](#) and [Multiview \(Windowed\)](#) multi-views at last free position

(push back).



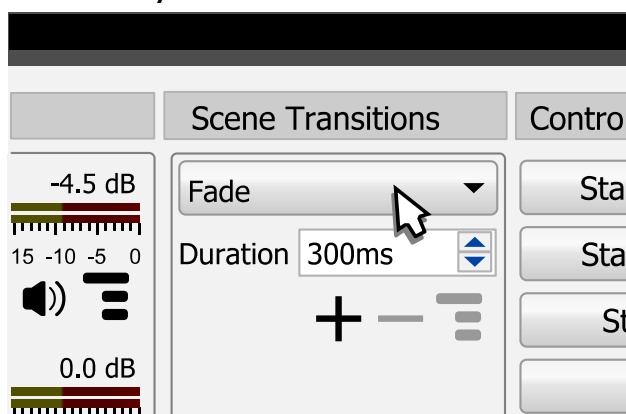
To **exclude scene from multi-view** make *Show in Multiview* unchecked.

To change layout and number of the previewed scenes in the multi-view see [General settings](#) on page [196](#).

## Scene transitioning

You can setup transition effect when switching between the scenes.

Recent Transition effect is specified in the corresponding drop down list of the *Scene Transitions* pane (main window). All effects performed by GPU.



The transition effect setting is global. Any scene switching will apply the same effect. To set transition effect for specific scene see [Transition Override \(per scene transitions\)](#) on page 54.



Keep in mind that the 'global setting' also means that if you don't add configurable transition to the list – you'll be unable to select it for the [Transition Override \(per scene transitions\)](#).


To **make current other transition effect**: choose any transition effect from the drop down list of the main window [Scene Transitions](#) pane.

To **add new configurable transition effect** to the list of the current transitions: click **+** icon in the [Scene Transitions](#) pane. The sub-menu with configurable transitions should appear. Select desirable transition effect from the list. Dialog window should appear where you can specify a new name for the



configurable transition. Then you can configure some options of the transition itself.

To **remove selected configurable transition**: click  icon in the [Scene Transitions](#) pane.

To **re-configure selected transition**: click  icon under the [Scene Transitions](#) drop down list. Context menu will appear. Select *Properties* from this menu. Options dialog for the selected transition will appear, complete changes and close dialog window by clicking *OK* button.



Some transitions effects are non-configurable.

How long the transition lasts is defined by the *Duration* parameter, in milliseconds. Parameter available only for simple effects that directly supports variable duration of the transition.

Transition size (affected area) always fits the Preview. If transition effect itself smaller/larger – it will be automatically scaled to fit the current preview.

To **perform transition from scene to scene**, simply select new scene in [Scenes](#) list pane, the transition effect will be applied automatically.

You can specify [Hotkeys](#) to switch to each scene or you can use [Multi-view of scenes](#) window to switch by the live previews of the scenes.

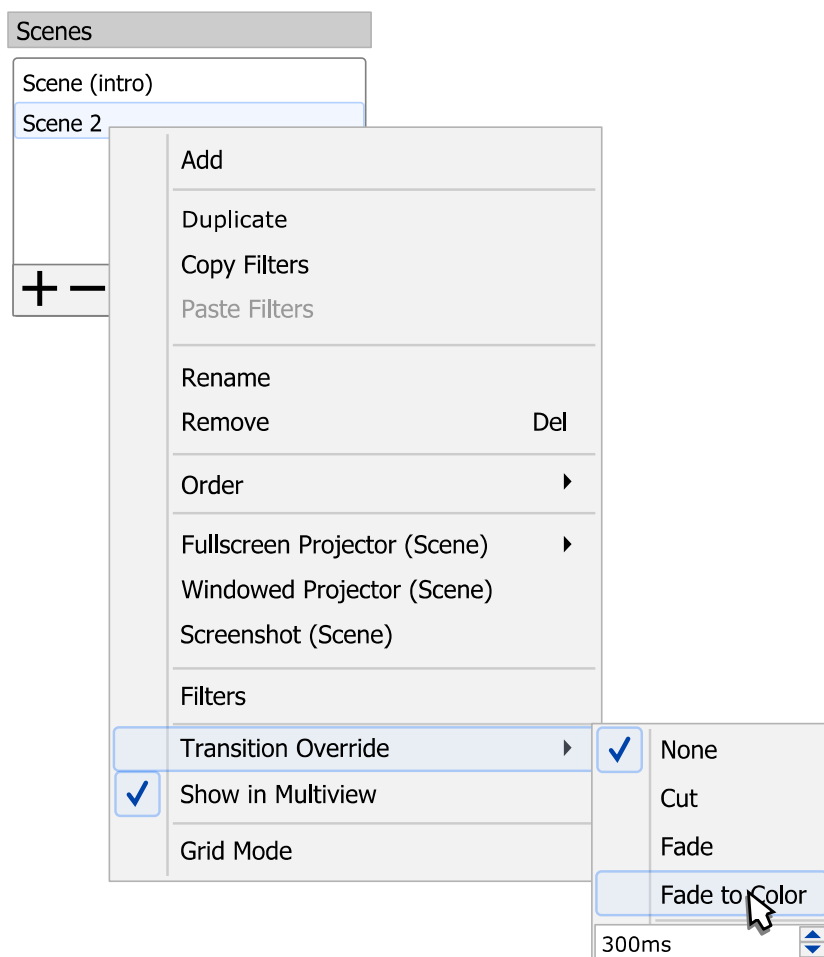
(See [Hotkeys](#) on page [228](#))

(See [Multi-view of scenes](#) on page [49](#))

## Transition Override (per scene transitions)

To apply any transition effect from the [Scene Transitions](#) list individually to the scene:

- 1) right-click on the selected scene in [Scenes](#) list;
- 2) select *Transition Override* sub-menu;
- 3) choose desirable transition effect. Chosen effect will be marked by  icon.
- 4) If needed, override transition duration too by setting new duration value in milliseconds at the bottom field of the same sub-menu.



To use global transition setup for the scene, apply transition

override: *None*.

The show/hide actions for the source can has its own transition effects.

(See [Show/Hide transition](#) on page [69](#))

## Transitions types

By default, next transitions types available:

### ***Cut*** [non-configurable]

switches from one scene to another immediately, the simplest type, low resources cost.

### ***Fade*** [non-configurable]

switches from one scene to another in dissolve way, moderate resources cost.

Options

- *Duration* :  
defines duration of the complete scene change, in milliseconds.

### ***Fade to Color*** [configurable]

switches from one scene to another by fade into intermediate color, moderate resources cost.

Options

- *Duration* :  
defines duration of the complete scene change, in milliseconds.
- *Color* :  
defines intermediate color of the frame during

transition. Shows color in the hexadecimal format – #RRGGBB.

- *Peak Color Point* :  
defines rise and fall speeds of the color maximum (lower values means faster rise).
- *Preview Transition* :  
when clicked, the transition effect will playback in the preview area of the properties window by changing test image letter “A” (green) to letter “B” (blue).

### ***Luma Swipe*** [configurable]

switches from one scene to another by fading into luma level of the control image, high resources cost.

#### Options

- *Duration* :  
defines duration of the complete scene change, in milliseconds.
- *Image* :  
specifies type of the transition effect (type of the control image).
- *Softness* :  
defines softness of the transition.
- *Invert* :  
if checked, inverts direction of the transition.
- *Preview Transition* :  
when clicked, the transition effect will playback in the preview area of the properties window by changing test image letter “A” (green) to letter “B” (blue).

### ***Slide*** [configurable] :

switches from one scene to another by horizontal or vertical frame replacement, moderate resources cost.

#### Options

- *Duration* :  
defines duration of the complete scene change, in milliseconds.
- *Direction* :  
specifies direction of the frame movement (Left, Right, Up, Down).
- *Preview Transition* :  
when clicked, the transition effect will playback in the preview area of the properties window by changing test image letter “A” (green) to letter “B” (blue).

#### **Stinger** [configurable] :

switches from scene “A” to scene “B” using custom intermediate video file as overlay (alpha channel supported, track matte supported), high resources cost.

#### Options

- *Video File* :  
specifies video file which will be used as intermediate video overlay (or alpha mask) during transition.  
Transition ends when playback of the video file ends.

**Supported media types:** mp4, ts, mov, flv, mkv, avi, gif, webm).

Files in .mov container with *qtrle* encoder was tested for intermediate videos with 8-bit alpha support.



FFmpeg can be used to make the stinger video (with alpha channel) from 2 standalone files (without alpha channels). The files should has same dimensions and frame rate. One file represents stinger and track matte, second – only alpha channel of the stinger (lies on the stinger's half). For example:

```
ffmpeg -i "C:/Temp/stinger_and_track_matte.mp4" -vf
```

```
"movie='C:/Temp/stinger_alpha.mp4'[a];[in][a]alphamerge" -c:v qtrle  
"C:/Temp/stinger_output.mov"
```

- *{Audio} Transition Point Type* :  
specifies type of the start point measurement for the scene change. Next options available:
  - *Transition Point (frame)* :  
defines **frame** at which picture from scene “A” replaced with picture from scene “B”. Frame number measured from the start of the intermediate video file.
  - *Transition Point* :  
defines **time** at which picture from scene “A” replaced with picture from scene “B”. Time measured from the start of the intermediate video file, in milliseconds.



If the [Track Matte](#) option is in use (see below) then *Transition Point Type* changes to *Audio Transition Point Type* and its control options (related to “picture”) just begins to control audio replacement point.

- *Use hardware decoding when available* :  
if checked, hardware acceleration will be used to playback the video file of the transition.
- *Use Track Matte* :  
if checked, the scene replacement (cross-fade between scene “A” and “B”) will be controlled via the track matte's part of the video file. The amount of the scene “A” is controlled by the black color of the video file. Amount of the scene “B” – by the white color (i.e. “black to white”). The alpha channel data located on the track matte's side of the each frame of the video is ignored. New options became available:
  - *Matte Layout* :

- *Same file, side-by-side (stinger on the left, track matte on the right) :*

Each frame of the stinger video file will be divided in half horizontally. Left half of the frame will be used as the stinger itself, the right half – as the track matte.

- *Same file, stacked (stinger on top, track matte at the bottom) :*

Each frame of the stinger video file will be divided in half vertically. Top half of the frame will be used as the stinger itself, the bottom half – as the track matte.

- *Mask only :*

Whole frame of the stinger video file will be used as the track matte (thus, no intermediate overlay displayed).



The audio transition point is controlled by the [Transition Point Type](#) option (see above).

If stinger has no alpha channel – the stinger part of the video will play full screen and will cover any cross-fade that will be in the background (so your track matte become useless).


Usually, the video file shares both the track matte video and the intermediate overlay (stinger) video. This is robust solution. The track matte and the stinger separated only in space by width or height, thus always stays synchronized frame by frame.

For animated transitions without intermediate overlay use [Mask only](#) option and video file that contains only track matte (covers whole frame). No alpha channel is needed in this case.

- *Invert Matter Colors :*

if checked, amount of the Scene “A” will be controlled by the white color, and Scene “B” – by the black color

of the track matter part of the frame (i.e. “white to black”).

- *Audio Monitoring* :  
specifies control for intermediate file's audio output.  
Next options available:
  - *Monitor Off* :  
intermediate file that in use shall route its audio stream through the mixing options specified by [Tracks](#) settings.  
(See [Advanced Audio Properties](#) on page 237).
  - *Monitor Only (mute output)* :  
intermediate file that in use shall route its audio stream only through the output device specified by [Monitoring Device](#).  
(See [Monitoring Device](#) on page 223)  
 Routing media's source audio stream with *Monitor Only (mute output)* allow to user to hear the sound through the output device specified by [Monitoring Device](#) and adjust volume of the media source by ear.
  - *Monitor and Output* :  
intermediate file that in use shall route its audio stream through the output device specified by [Monitoring Device](#) and through the mixing options specified by [Tracks](#) settings.  
(See [Advanced Audio Properties](#) on page 237)
- *Audio Fade Style* :  
specifies type of the audio transition between scenes.  
Next options available:
  - *Fade out to transition point then fade in* :  
audio from scene “A” fades out to [Transition Point \(frame\)](#) and then audio from scene “B” fades in.



- *Crossfade* :  
audio from scene “A” fades out to transition's end;  
audio from scene “B” fades in from the start of the transition.
- *Preview Transition* :  
when clicked, the transition effect will playback in the preview area of the properties window by changing test image letter “A” (green) to letter “B” (blue).

### ***Swipe*** [configurable]

switches from one scene to another by horizontal or vertical frame movement, moderate resources cost.

#### Options

- *Duration* :  
defines duration of the complete scene change, in milliseconds.
- *Direction* :  
specifies direction of the frame movement (Left, Right, Up, Down).
- *Swipe In* :  
if checked, new scene will appear as side layer (instead of top/bottom one).
- *Preview Transition* :  
when clicked, the transition effect will playback in the preview area of the properties window by changing test image letter “A” (green) to letter “B” (blue).

# Getting Sources into OBS Studio

---

## About video and audio sources

Internet streams can combine different sets of video and audio sources. You can work with both type of sources in OBS Studio. OBS Studio can hold up to 6 audio tracks and 1 video in the same output stream (recording video), while number of inputs unlimited. Recording and streaming can be run independently and may stop at any time.

**Video sources** Video sources – digital video content provided by applications (usually game or camera).

**Audio sources** Audio sources – digital audio content provided by applications (usually game sound or mic).

---

## About video resolution and audio sample rate

In order to produce high-quality streams, it is important to understand how video resolution matches to canvas aspect ratio, and how to avoid of re-sampling audio tracks.

## Video resolution and aspect ratio

Video resolution is an image size visible to viewer. It's width and height in pixels named 'Video Resolution'.

Usually, video plays at full resolution on the screen. Due to a different screen sizes and resolutions available on market, it is wise to make streams compatible with common displays. Also,

---



sources can use different resolution inputs (each can be adjusted by OBS Studio).

(See [Transform](#) on page [120](#))

### Maintain aspect ratio of the video

To maintain aspect ratio (width\_in\_pixels / height\_in\_pixels) of the input video, when it displayed, use combination of *cropping* and *Transform*.

(See [Filters for Special Effects](#) on page [119](#))

To make sure that the output video has the same aspect ratio with the preview window – always set preview's canvas size (resolution) with the same aspect ratio as output video.

(See [Video](#) on page [225](#))

### Audio sample rate

Digital copy of sound uses quantization algorithm for numeric representation. Thus, each sound stream consist of number of digit sets (samples) flow. That number must exceed, at least twice, the highest frequency of the sound stream. Human's ear can recognize frequencies up to 20000 Hz Thus, most common audio sample rates are 44100 Hz and 48000 Hz.

If your main audio input has 44100 Hz sample rate, then use in OBS Studio: 44,1 kHz setting. To reduce quantization noises – avoid sample rate conversions.

(See [Audio](#) on page [221](#)).



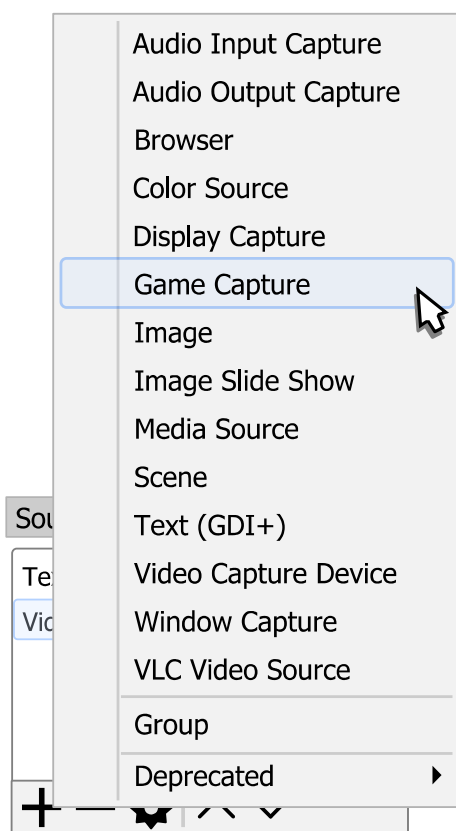
For Windows platform you can view and change your sampling settings:

- Windows OS, sampling settings location  
Recording (or Playback) devices>Properties>Advanced>Default Format when device running in shared mode;
- OBS Studio application, sampling settings location  
Settings>Audio>Sample Rate.

## Add new audio/video source to OBS Studio scene

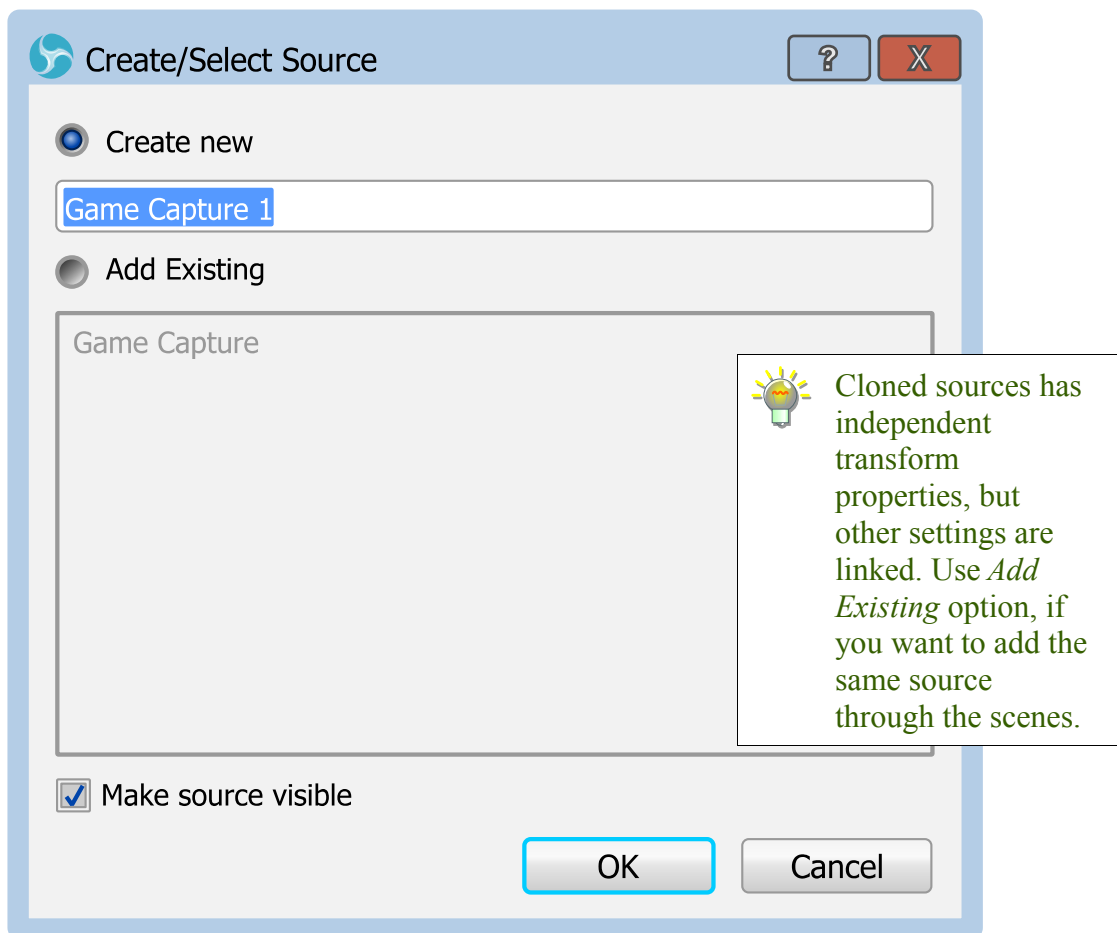
To add new video/audio source to the current scene: click **+** icon on the toolbar of the [Sources](#) list pane. Or right-click at the empty space of the [Sources](#) list pane and choose action *Add*.

The pop-up list of the supported sources types should appear. Choose desirable one, for example: 'Game Capture'.



 For camera input try [Video Capture Device](#) source first.

In the next dialog you can specify the name of the **new** source or **add existing** one (in other words – make a clone, paste as reference).

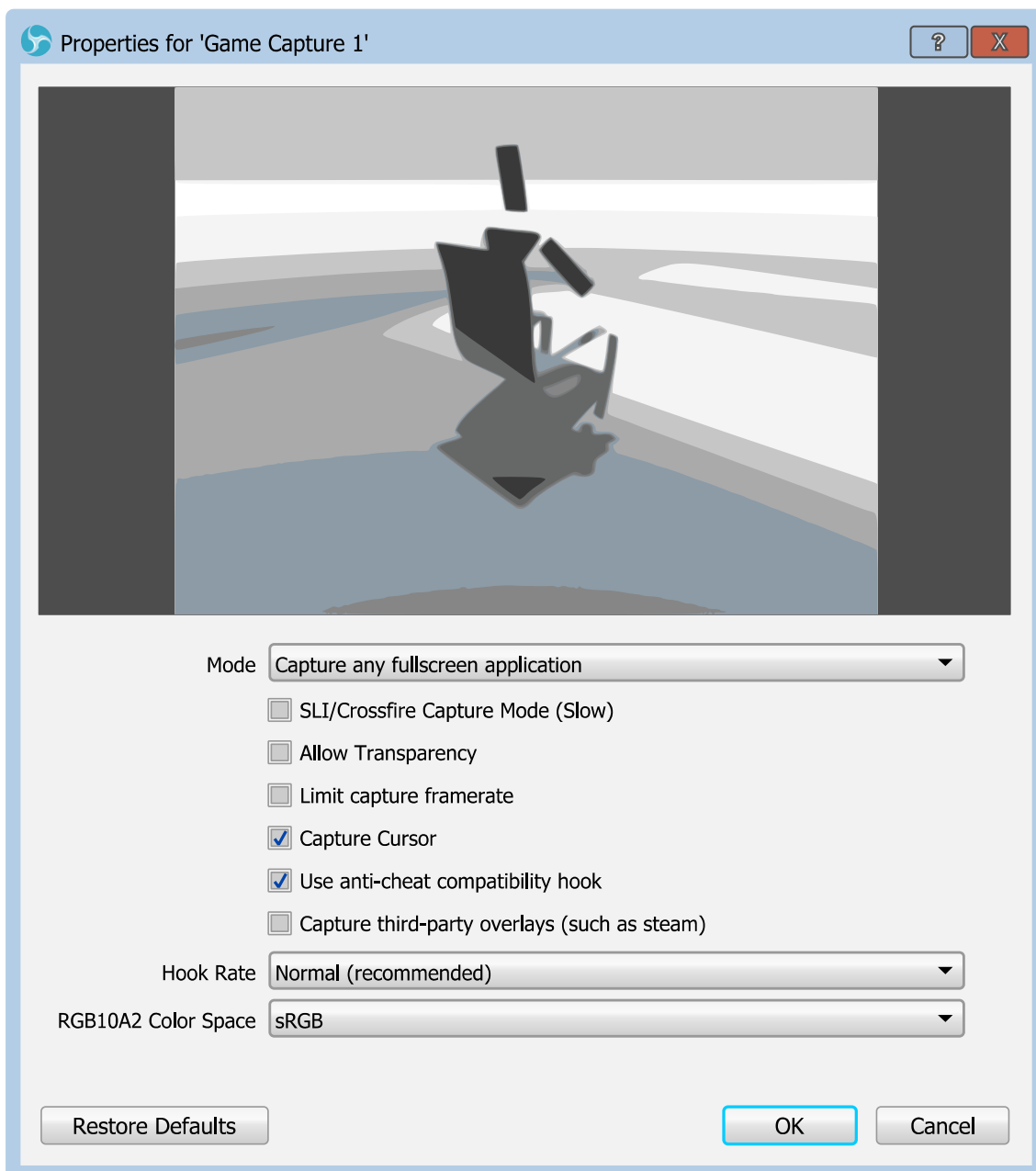


### *Make source visible*

check-box determines – will be this source enabled for output rendering or not. You can change this setting later. (See [Temporary disable source](#) on page [67](#))

Enter new name and click *OK* button. OBS Studio will add source to the canvas preview and opens properties dialog for the newly created source input.

If required, adjust the properties and close dialog window by clicking *OK* button.





## Source management

Sources has simple controls through application's user interface. You can disable, lock, group, remove, copy, transform, add filters and reconfigure your sources.

### Temporary disable source

To temporary disable existing source or make it invisible:

click  icon in the [Sources](#) list, right to the source you wish to disable.


The icon changes to , source excluded from the rendered output (if source has audio it will be excluded from the mixer processing too).


Disable the source can has its own visual effect (transition).

(See [Show/Hide transition](#) on page [69](#))

### Temporary enable source

To temporary enable existing source or make it visible:

click  icon in the [Sources](#) list, right to the source you wish to enable.


The icon changes to , source included in the rendering output (if source has audio it will be included to the mixer processing too).


Enable the source can has its own visual effect (transition).

(See [Show/Hide transition](#) on page [69](#))

### Lock source from preview edit

To lock the source from accidental editing in preview:

click  icon in the [Sources](#) list, right to the source you wish to exclude from the edit.

The icon changes to , source excluded from accidental edit in the preview.

### Unlock source to preview edit

To unlock the source, to be able to edit it in preview:

click  icon in the [Sources](#) list, right to the source you wish

to enable for edit.


The icon changes to , source editable in preview window.



To lock/unlock whole preview window from accidental edit use [Lock Preview](#) from context menu or main menu [Lock Preview](#) option.

## Disable audio source


To disable audio source or mute it:

click  icon in the *Audio Mixer pane*, right to the source you wish to disable.

The icon changes to , source disabled (muted).

## Enable audio source


To enable audio source:

click  icon in the *Audio Mixer pane*, right to the source you wish to enable.

The icon changes to , source enabled.

## Configure source

To re-configure selected source:

click  icon on toolbar under the [Sources](#) list pane (or right under the source – in case of the audio from the *Audio Mixer pane*). Dialog window of available options will appear.

Choose needed, complete changes and close all opened dialog windows by clicking *OK* button.

## Rename source

To rename source:

- 1) right-click on the selected source (layer) in the *Sources* list;
- 2) choose *Rename* option. Blinking cursor will appear near the name of the source;



3) specify a new name and press *Enter*.  
(See [Rename scene \(source\)](#) on page 45)



Sources names supports rich text, a subset of HTML 4 markup, for example:

`<b>Front</b> camera`


`<font color=#005f5f>Side</font> camera`

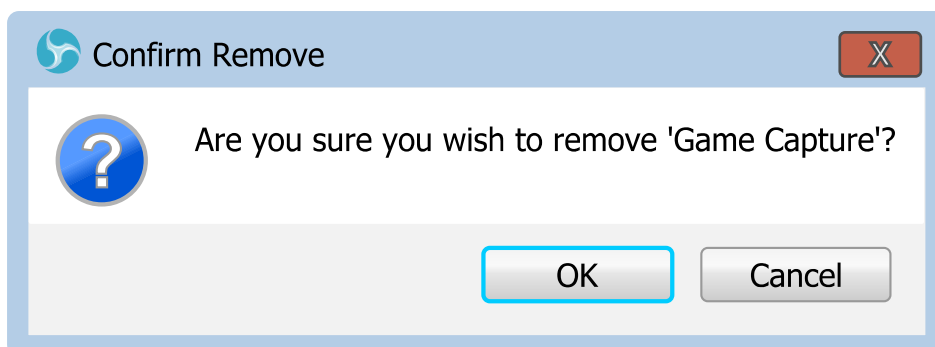


**Front** camera

Side camera

## Remove source


To **completely remove selected source** from the current scene click  icon on the toolbar of the [Sources](#) list pane. And agree to the confirmation dialog.



## Show/Hide transition

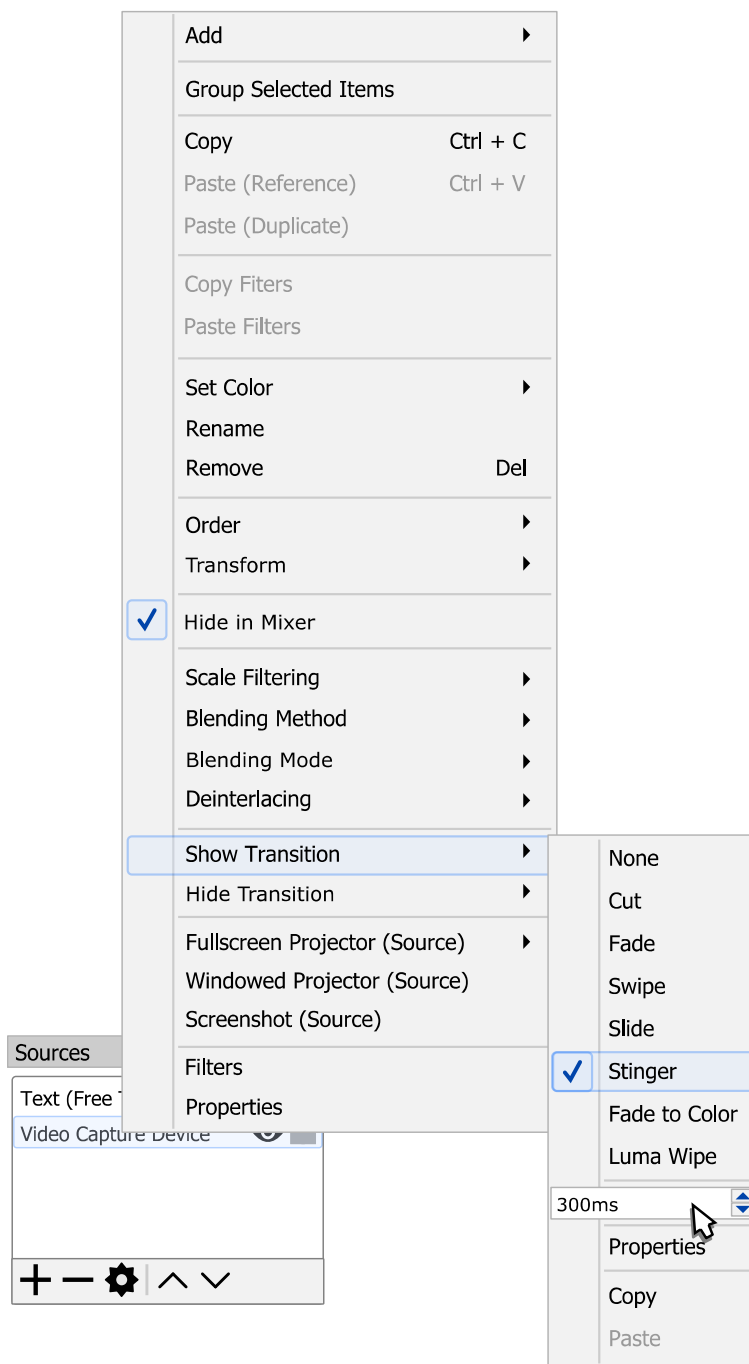
Every source in OBS Studio can has its own visual effect per hiding and showing (disable/enable).

To **apply any transition effect individually to the source**:

- 1) right-click on the selected source in the [Sources](#) list;
- 2) select *ShowTransition* sub-menu (or *HideTransition*);
- 3) choose desirable transition effect. Chosen effect will be marked by  icon.
- 4) If needed, override transition duration too by setting new duration value in milliseconds at the bottom field of the

same sub-menu.

- 5) The menu entry to access the properties of the newly created transition will be available at the bottom of the list.



To return to default behavior of the show/hide for the source, apply to both show/hide transitions: *None*.

Show/hide transitions can be copied between the sources via the same right-click menu and corresponding copy/paste sub-entries.

---

### Select multiply sources

To select few sources in once:

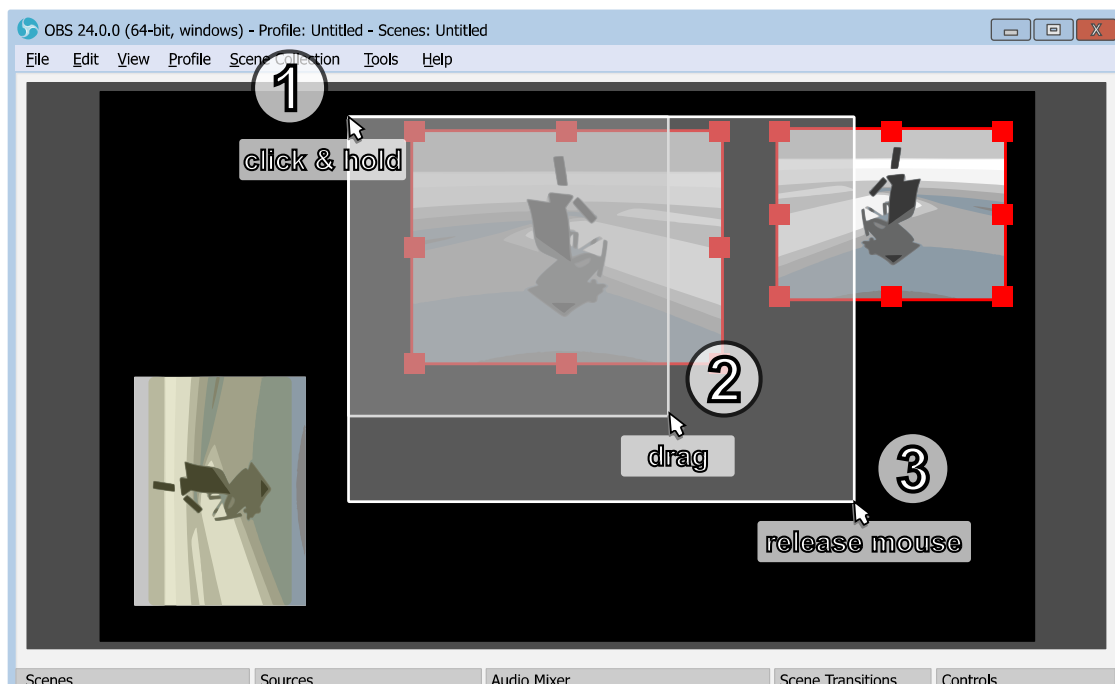
hold *Shift* key and click on the required source in the the [Sources](#) list pane.

or

in the canvas preview area click an empty space and perform drag-n-drop mouse move to cover all desirable for selection sources by the box selector.

The source will became highlighted – source added to the selection.

(See [Illustration 4: Multiply selection. Box selector](#) on page [72](#))



*Illustration 4: Multiply selection. Box selector*

### To remove few sources from the selection:

hold *Shift* key and click on the required source in the the [Sources](#) list pane.

or

hold the *Alt* key and in the canvas preview area click an empty space and perform drag-n-drop mouse move to cover all unneeded sources by the box selector.

The source highlight disappears – source removed from the selection.

### To add multiply sources to the selection:

hold the *Shift* key and in the canvas preview area click an empty space and perform drag-n-drop mouse move to cover all sources (that should be added to the selection) by the box selector.

The sources becomes highlighted – sources added to the selection.

#### To invert sources selection:

hold the *Ctrl* key and in the canvas preview area click an empty space and perform drag–n–drop mouse move to cover all required sources by the box selector inside current selection.

The sources highlight inverts – sources that were selected under the box selector area now removed from the selection, all not selected sources – added to the selection.

---

## Group Sources

Sources can be grouped into single item (technically, new source) that has its own properties. Grouping of the sources simplifies scene management. You can apply [Transform](#), add [filter](#), [Temporary disable source](#) and [Lock source](#) of this grouped sources at once, while sources inside the group will remain untouched.

(See [Illustration 5. Ungrouped \(1\) vs Grouped \(2\) sources in the Sources list](#) on page 74)



Group of the sources very similar to special [Scene](#) source.

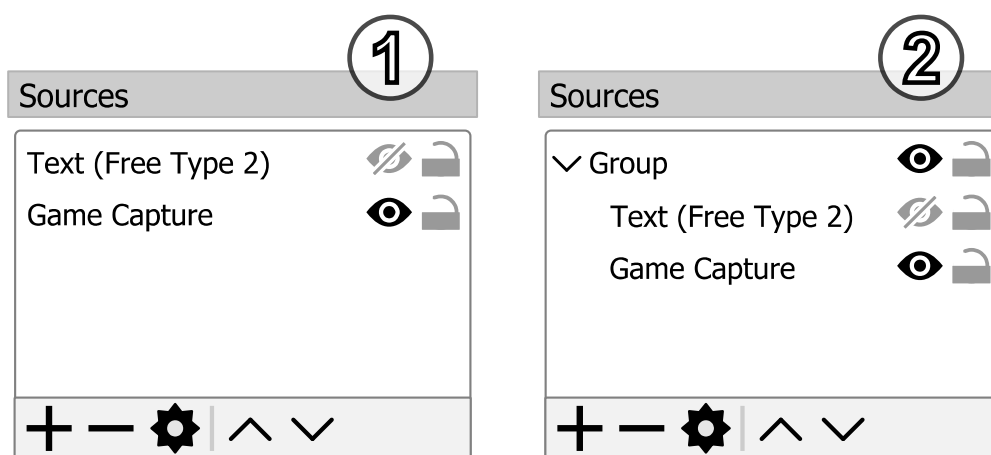


Illustration 5. Ungrouped (1) vs Grouped (2) sources in the Sources list


Each new group has name and may contain other [Sources](#).

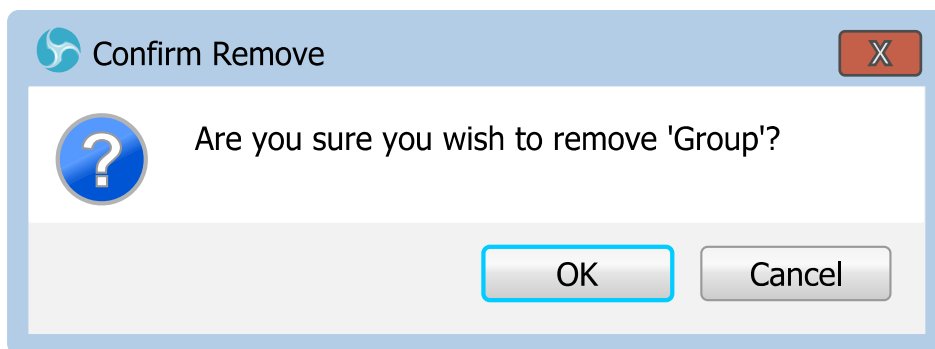
To **add new empty group** right-click over the empty space in the [Sources](#) list pane, choose context menu option *Add* and click option *Group*. New group will be created and prompt to rename the group will be shown, press the *Enter* key to confirm the new group's name.

To **add existing sources into the group** select the sources and drag-n-drop them via mouse move into the existing group.

To **gather several sources under the new group** right-click over the selected sources and click sub-menu option *Group Selected Items*. New group will be created and prompt to rename the group will be shown, press the *Enter* key to confirm the new group's name.

To **break apart whole group of sources** right-click over the selected group's name and click option *Ungroup*.

To remove selected Group and all of its contents click  icon on the toolbar of the [Sources](#) list pane. And agree to the confirmation dialog.



The *Group* of sources can be collapsed (the contents of the group becomes hidden from the sources list) or can be expanded (the hidden contents of the group becomes visible in the sources list).

To collapse/expand the group click on the group's icon (left to the group's name) in the [Sources](#) list pane or double-click over the desirable group's name.

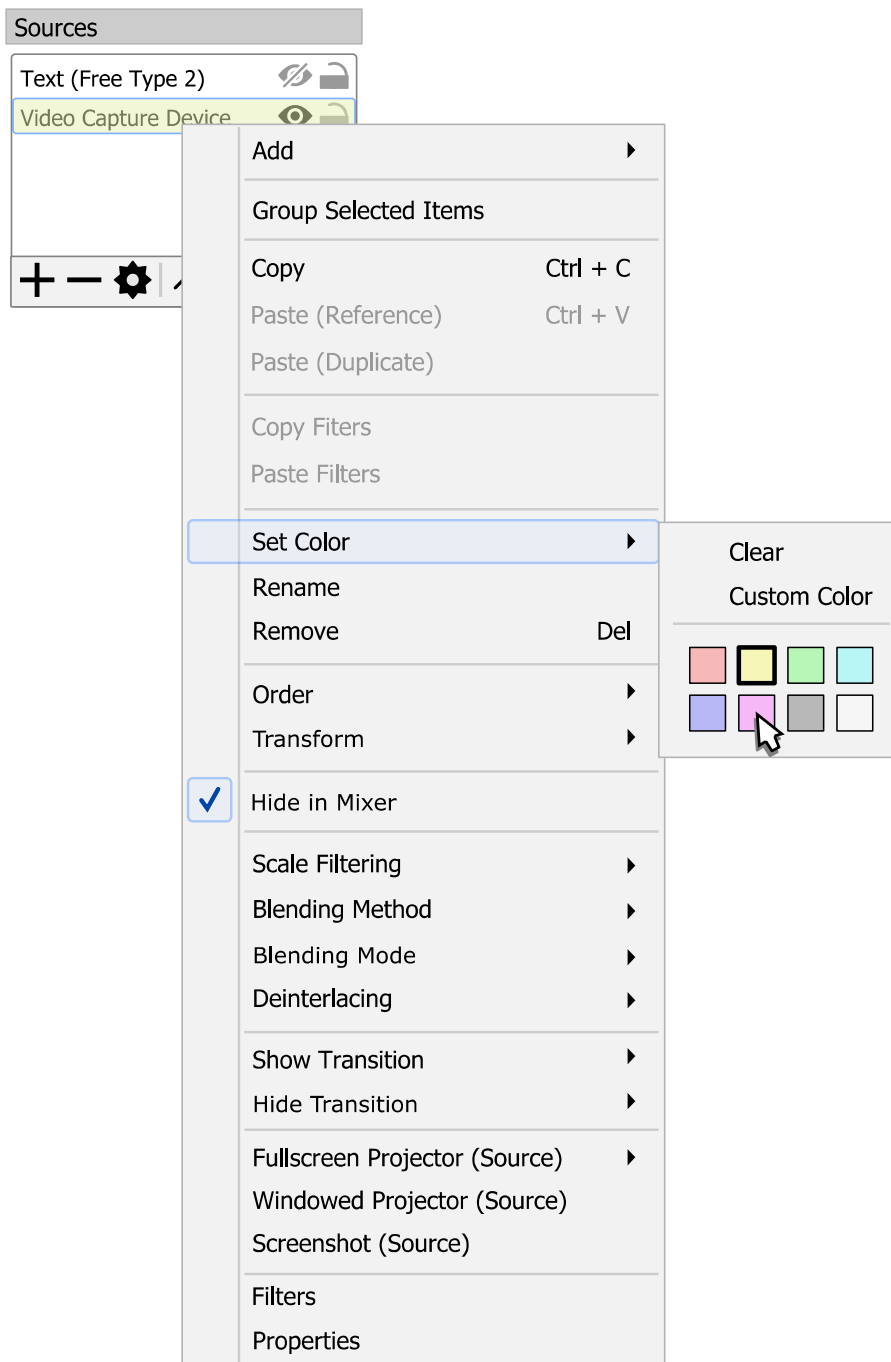
---

### **Set Color (or mark source with a color)**

It is possible to mark any source in the [Sources](#) list pane by the color. Selected color will be shown as background for source's name in the sources list only.

To mark any source with the color in the sources list right-click over the selected source and choose sub-menu option *Set Color*. Then click on the desirable color rectangle from the sub-

menu to set the predefined color, or set custom color via *Custom Color* option.



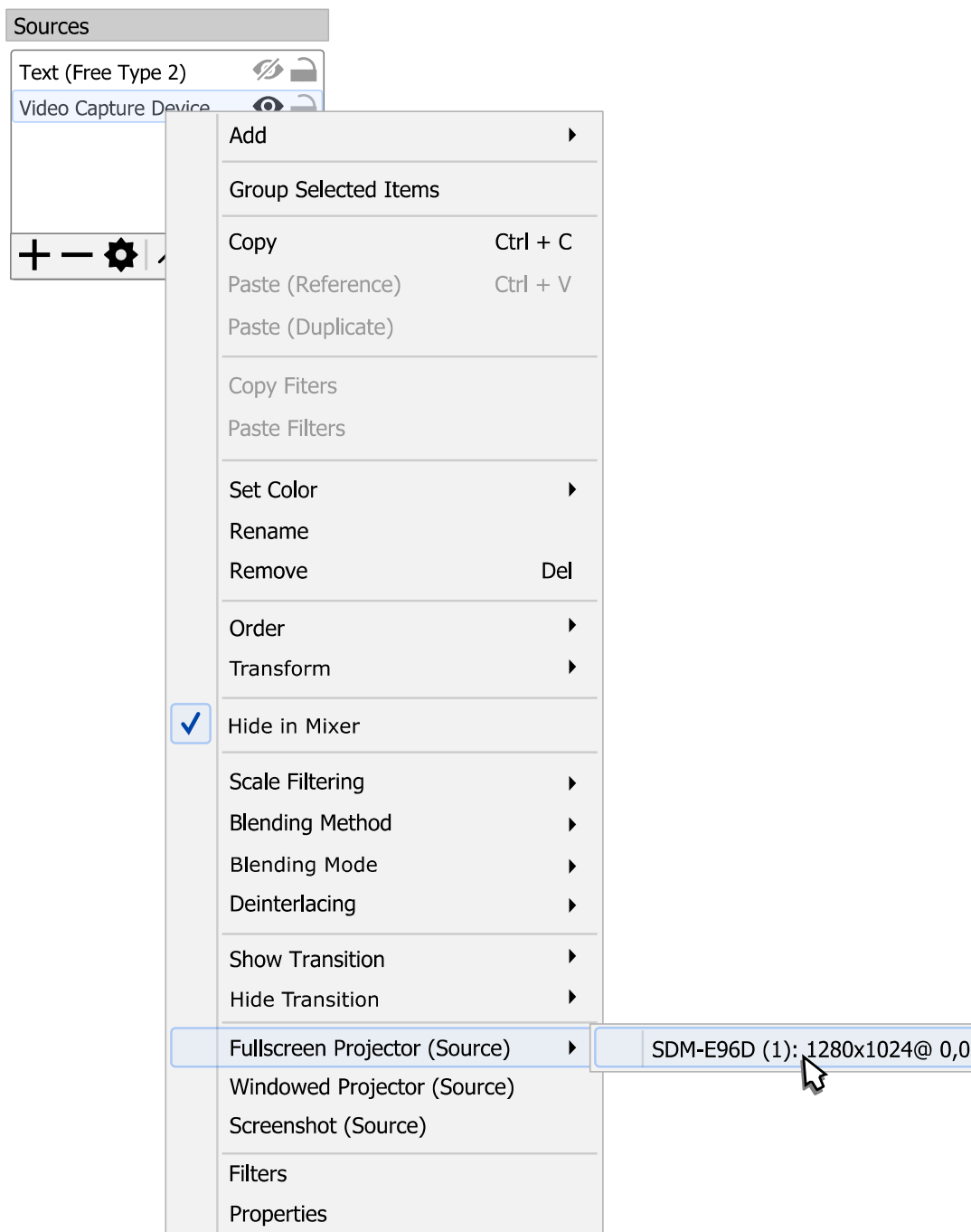
To remove any color marking from the source right-click over the selected source, choose sub-menu option *Set Color* and make option *Clear* checked with the  icon.



## Full screen preview (source)

To preview source in full screen:

- 1) right-click on the selected source (layer) in [Sources](#) list pane;
- 2) choose sub-menu *Fullscreen Projector (Source)*;
- 3) select output device.



To exit full screen preview mode: press *Esc* button.

### Windowed Projector (source)

To preview source in standalone resizable window:

- 1) right-click on the selected source (layer) in [Sources](#) list pane;

2) choose sub-menu *Windowed Projector (Source)*.

To **change the projector type** between **windowed mode/full screen mode**: right-click over the projector window and choose corresponding menu.

The *Fit window to content* option of windowed projector when clicked just fits the oversized window to the source borders (removes black bars during manual resize if there left any).

To **make projector displayed over the other windows**: right-click over the projector window and click *Always On Top* menu option.

---

## Sources types & properties

By default, next sources types available in OBS Studio:

### AJA I/O Device Capture

(video input devices from AJA Video Systems)

Suitable to capture video and audio if you are owner of some of the AJA Video Systems capture devices.

#### Properties

*Device* :

specifies video device installed in the system.

**Supported devices**: availability of the AJA Video Systems devices depends on OS installation and hardware. AJA Video Systems devices from “Kona”, “Corvid” and “Io” product lines should work well.

***Device :***

specifies video device installed in the system.

***Input :***

specifies video connection of the device that will be used for the capture (HDMI, SDI etc).

***Video Format :***

specifies video mode of the device digital input (1080p23.98, 720p59.94 etc).

***Pixel Format :***

specifies format of the video received from the device (YUV-8, BGR-8 etc).

***SDI Transport :***

specifies standard (speed) for the SDI inputs of the device. Option available when the *Input* (see above) is set to SDI.

***SDI 4K Transport :***

specifies 4K-capable standard (speed) for the SDI inputs of the device. Option available when the *Input* (see above) is set to SDI and will apply only for 4K video formats.

***Deactivate when not showing :***

if checked, device will be turned off when not displaying. This also disables sound from the device.

***Use Buffering :***

if checked, device buffering enabled.

**Application Audio Capture (BETA) **

(source available for Windows 10 build 19041 and up)

Suitable to capture sound directly from the application before it will be mixed with other sounds on your desktop.

## Properties

### *Window :*

specifies window or application's name to get the sound from.

### *Window Match Priority :*

specifies priority for the window type or application type recognition.

## Audio Capture Device (ALSA)

(source available for Linux PC)

Suitable to capture sound of your audio devices when you PC is capable to run ALSA (Advanced Linux Sound Architecture).

## Properties

### *Device :*

specifies audio device for capture.

### *Rate :*

defines audio sample rate for the device.

## Audio Input Capture

Suitable to capture sound of input devices on your desktop (line-in sources, microphones etc).

## Properties

### *Device :*

specifies audio input device for capture.

### *Use Device Timestamps :*

if checked, OBS Studio will use time-stamps from the specified device. [Unchecked by default]

## Audio Input Capture (OSS)

(source available for Linux PC)

Suitable to capture sound of audio devices when you PC is capable to run OSS (Open Sound System).

### Properties

#### *DSP :*

list of the available signal processing devices to capture sound from. Open Sound System (OSS) compatible OS and PC required.

#### *Custom DSP Path :*

specifies exact path to the device if custom DSP is selected for processing.

#### *Sample rate :*

Sample rate for the processing audio.

#### *Channels :*

Number of channels to process.

#### *Sample format :*

format of the PCM samples received from the DSP device.

## Audio Output Capture

Suitable to capture sound from output devices on your desktop (speakers, headphones etc).

### Properties

#### *Device :*

specifies audio output device to capture.

#### *Use Device Timestamps :*

if checked, OBS Studio will use time-stamps from the specified device. [Checked by default]

## Blackmagic Device

Suitable to capture video and audio if you are owner of some of the Blackmagic Design capture devices.

### Properties

#### *Device :*

specifies video device installed in the system.

**Supported devices:** availability of the Blackmagic Design devices depends on OS installation and hardware. Blackmagic Design devices from “UltraStudio”, “DeckLink” and “Intensity” product lines should work well.

#### *Video Connection :*

specifies the video input connection that will be used for the capture.

#### *Audio Connection :*

specifies the audio input connection that will be used for the capture.

#### *Mode :*

specifies video mode of the device digital output (NTSC, PAL, 1080p23.98, 1080i50 etc).

#### *Pixel Format :*

specifies format of the video received from the device (8-bit YUV, YUV 4:2:0 etc). Option available only if the *Mode* (see above) is set to other than auto.

#### *Color Space :*

specifies color space of the video received from the device (BT.601, BT.709 etc).

***Color Range :***

specifies color range of the video received from the device.

***Channel :***

specifies audio input configuration, number of channels (2ch, 5.1ch, 7.1ch etc).

***Swap FC and LFE :***

if checked, the Front Center channel and Low Frequency Effects channel of the audio received from the device will be swapped.

***Use Buffering :***

if checked, device buffering enabled.

***Deactivate when not showing :***

if checked, device will be turned off when not displaying. This also disables sound from the device.

***Allow 10 Bit (Required for SDI captions, may cause performance overhead) :***

if checked, the 10-bits pixel formats will be allowed for auto pick up by the algorithm when the device *Mode* (see above) is set to auto.

**Browser**

Suitable to add picture of the web-page/site to your output.

**Properties*****Local file {check-box} :***

defines either web page will be downloaded from the internet or use local copy instead (if you have any).

Next options available:

- *Local file :*



path to the local resource.

*URL :*

specifies internet address of the desirable web–page, like “https://obsproject.com/browser–source” or any else. Option available only if *Local file* is checked.

*Width :*

defines width of the source in pixels.

*Height :*

defines height of the source in pixels.

*Use custom frame rate :*

defines either use own rendering frame rate for the web page or use global setting defined at [Application Settings](#), [Video](#) section. Next options available:

- *FPS :*  
defines frame rate of the webpage rendering, in frames per second.

*Custom CSS :*

specifies additional Custom Style Sheets to be used together with the loaded internet page.



Default global style overriding is set as:

```
body { background-color: rgba(0, 0, 0, 0); margin: 0px auto; overflow: hidden; }
```

*Shutdown source when not visible :*

if checked, source rendering will stop. If web–page has any sound in it it will be muted too.

*Refresh browser when scene becomes active :*

if checked, browser will refresh the page as soon as source becomes visible.

*Page permissions :*

Defines the level of access rights the loaded web page will have in OBS. In other words, how strict will be sandboxing rules for the loaded web page and how many controls it may have over the OBS itself.

*Refresh cache of current page* {button} :

when clicked, the cache of the current opened web page will be flushed.

Browser's cache is stored at `plugin_config\obs-browser\Cache` folder of the user's folder where application stores its profile-based files and settings. Use [File menu](#) to access this folder.

(See [Show Settings Folder](#) on page 32)

*Reroute audio to OBS* {*Control audio via OBS*} :

if checked, the sounds of the browser source will appear in application as audio sources of the *Audio Mixer pane* (by default, the browser renders its sounds directly to the desktop audio device).



To click anything on the web page opened via the *Browser* source use right-click menu option [interact](#).

(See [Interactive windows](#) on page 38)

To enable hardware acceleration of the plugin's internal drawing make checked [Enable Browser Source Hardware Acceleration](#) option.

(See [Advanced](#) on page 231)

## Color Source

Suitable to add solid color rectangle to your output.

### Properties

*Color* :

defines color of the rectangle. Shows color of the background in the hexadecimal format - #RRGGBB.

*Width* :

defines width of the rectangle filled with the solid color, in pixels.

*Height :*

defines height of the rectangle filled with the solid color, in pixels.

## Display Capture

Suitable to capture video from your whole desktop.

### Properties

*Capture Method :*

specifies the way the display will be captured. Next options available :

- *Automatic :*  
auto-select algorithm. Defaults to the DXGI textures duplication unless it unavailable or if a PC has battery and multiple GPU adapters are present.
- *DXGI Desktop Duplication :*  
method commonly used for GDI applications.
- *Windows 10 (1903 and up) :*  
method uses new API from Microsoft – Windows Graphics Capture. Available only for Windows 10 since version 1903. Suitable for capturing monitors connected to different video cards. Some following options may be unavailable if this method is in use.



At some point the Microsoft decided to inform the Windows users that some of theirs displays/windows is capturing by given to it a hardcoded yellow border. This only affects the Windows Graphics Capture method and the behavior may change in the future.

### *Display :*

specifies display that will be captured.

### *SLI/Crossfire Capture Mode (Slow) :*

if checked, program will use compatibility mode for systems with two or more video cards installed.



Enabling *SLI/Crossfire Capture Mode (Slow)* option can slightly decrease capture performance due to additional VRAM to RAM downloading and uploading job. Use it with SLI and CrossFire, if capture task cannot be completed in usual way.

### *Capture Cursor :*

if checked, system cursor will be captured to the video.

## Game Capture

Suitable to capture video from your desktop applications that using hardware accelerated drawing of graphic content (games mainly).

### Properties

#### *Mode :*

specifies capture source (window) selection method.

Next options available:

- *Capture any fullscreen application :*

if selected, OBS Studio will try to hook (capture) to any full screen application.



If you got hook errors in log – temporary disable your security software. To capture UWP (Metro/Store) applications make sure that OBS Studio folder has access rights of user group *ALL APPLICATION PACKAGES* with permissions to *Read & execute|List folder contents|Read*.

- *Capture specific window :*

if selected, you can specify the window that will be captured.



Use *Capture specific window* option with executable name specified (see [below](#)), if you switching screens (alt-tabbing) too often.

- *Capture foreground window with hotkey* :  
if selected, you can specify any foreground window that will be captured by 'Capture foreground window' hotkey. Window remembered until 'Deactivate capture' hotkey is pressed.

(See [Hotkeys](#) on page [228](#))



Use *Capture foreground window with hotkey* option, if you switching screens (alt-tabbing) too often and want to capture only specific window for a some time.

#### *Window* :

specifies capture window or application's name.

Option available only if *Mode: Capture specific window* is selected.

#### *Window Match Priority*:

specifies priority for window type recognition. Option available only if *Mode: Capture specific window* is selected.

#### *SLI/Crossfire Capture Mode (Slow)* :

if checked, program will use compatibility mode for systems with two or more video cards installed.



Enabling *SLI/Crossfire Capture Mode (Slow)* option can slightly decrease capture performance due to additional VRAM to RAM downloading and uploading job. Use it with SLI and CrossFire, if capture task cannot be completed in usual way.

#### *Allow transparency* :

if checked, alpha channel can be applied.

#### *Limit capture framerate* :

if checked, capture processing will be completed in fixed intervals, regardless the input can provide higher fps values.



Enable *Limit capture framerate* if you experience CPU overload with very high fps video rendering (for example, game source itself isn't locked at 30fps or rendered without vertical sync, and thus, can run at 300fps instead – that overloads CPU).

#### *Capture Cursor :*

if checked, system cursor will be captured to the video.

#### *Use anti-cheat compatibility hook :*

if checked, OBS Studio will try to hook the application to capture it in an unusual way. [Checked by default]



Try to enable *Use anti-cheat compatibility hook* if you experienced hook errors with certain games.

#### *Capture third-party overlays (such as steam) :*

if checked, additional overlays (Steam like) will be captured to the video output.

#### *Hook Rate :*

specifies how fast attempting to hook the process when trying to capture newly created window (if old one not valid anymore). In other words, how fast recently started game will appear in OBS Studio. Next options available:

- *Slow :*  
sets interval up to 4 sec.
- *Normal (recommended) :*  
sets interval up to 2 sec.
- *Fast :*  
sets interval up to 1 sec.

- *Fastest* :

sets interval up to 0.2 sec.



Do not set it for too fast. Make sure that all other applications successfully loaded its own hooks, modules and graphics libraries (for example, Steam overlay uses same hook technology), otherwise result may become unpredictable.

### *RGB10A2 Color Space* :

specifies color space for the source when the captured image (technically texture) has color depth more than 8-bits per component:

- *sRGB* :  
sets sRGB color space.
- *Rec. 2100 (PQ)* :  
sets Rec. 2100 color space with PQ transfer function.

## Image



Suitable to add single image to your output.

### Properties

#### *Image file* :

path to the local image.

**Supported image types:** bmp, tga, png, jpeg, jpg, jxr, gif, psd, webp.



For animated GIF use [Media Source](#) input.

Formats availability depends on OS.

#### *Unload image when not showing* :

if checked, free memory, when image not in use.

## Image Slide Show



Suitable to add image slides to your output.

## Properties

### *Visibility behavior :*

specifies playback control for all pictures (slides) of the *Image files* list. Next options available:

- *Stop when not visible, restart when visible :*  
stops playback of the slides in *Image files* list when source invisible and restart playback from the top of the *Image files* list if source became visible.
- *Pause when not visible, unpause when visible :*  
pause playback of the slides in *Image files* list when source invisible and resume playback from the current point in *Image files* list if source became visible.
- *Always play even when not visible :*  
continuously playback slides in *Image files* list, regardless of the source visibility.

### *Slide Mode :*

specifies control over the slides playback order, i.e. manual (via [Hotkeys](#)) or automatic.

### *Transition :*

specifies transition effect from image to image.

### *Time Between Slides :*

defines duration of the one frame (image) in slideshow, in milliseconds.

### *Transition Speed :*

defines duration of the complete change between frames (images), in milliseconds.

### *Loop :*

if checked, slideshow will play infinity times.



*Hide when slideshow is done :*

if checked, makes the source transparent as soon as playback ends.

*Randomize Playback :*


if checked, ignores images order and output shuffle list.

*Bounding Size/Aspect Ratio :*


defines aspect ratio or size of the shown images. May be used as internal restriction to any [Transform](#) settings.


*Image files :*

list of the images/directories included in the slideshow. Top file is a first on playback. Source will load images up to the 400 MBytes RAM limit (raw data) at a time to reduce memory usage. Images are loaded and deleted from RAM when necessary.

 : click icon to add new images to the *Image files* list.

- *Add Files* :  
opens dialog to add multiply files;
- *Add Directory* :  
opens dialog to add folder;

 : click icon to remove selected images/directories from the *Image files* list.

 : click icon to change (replace) selected image in the *Image files* list.

 : click icon to shift selected images/directories one level

up in the *Image files* list.

▼ : click icon to shift selected images/directories one level down in the *Image files* list.

## Intel(R) RealSense(TM) 3D Camera GreenScreen

Suitable to capture video if you are owner of some of the Intel's camera devices.

### Properties

*Device* :

specifies video device/camera installed in the system to capture video from.

**Supported devices:** availability of the Intel's camera devices depends on OS installation and hardware.

## JACK Input Client

(source available for Linux PC)

Suitable to capture sound from audio devices when you PC is capable to run JACK (Audio Connection Kit).

### Properties

*Number of Channels* :

defines number of audio channels available for input.

*Start JACK Server* :

if checked, starts jack server.

## macOS Screen Capture

(source available for Mac PC)

(requires macOS 12.5 and up)

Suitable to capture video and audio from your desktop applications when your PC is capable to run ScreenCaptureKit.

## Properties

### *Method :*

specifies which method will be used during capture.

### *Display Capture :*

method suitable for capturing whole screen.

### *Window Capture :*

method suitable for capturing single window.

### *Application Capture :*

method suitable for capturing all windows from single application (per desktop).

### *Display :*

specifies display to capture.

### *Application :*

specifies application to capture.

### *Window :*

specifies window to capture.

### *Show windows with empty names :*

if checked, windows with empty names will be listed for window capture method.

### *Show fullscreen and hidden windows / applications :*

if checked, hidden windows and applications will be listed for window capture method.

### *Show cursor :*

if checked, system cursor will be captured to the video.

 Audio for the source will be automatically captured only if you have macOS 13.0 and up.

## Media Source

Suitable to add video and audio media files (streams) to your output.

### Properties

*Local File* {check-box} :

if checked, enables local path browse.

- *Local File* :

path to the local resource.

**Supported media types:** mp4, m4v, ts, mov, flv, mkv, avi, mp3, ogg, aac, wav, gif, webm).

- *Loop* :

if checked, source will play infinity times.

To create playlist (here it means concatenation of files with same codecs), make txt file:



```
ffconcat version 1.0

file my_file01.flv
duration 1
file myfile-02.flv
duration 1
file myfile.flv
duration 1
```

and place it in the same folder as your *my\_file01.flv*, *myfile-02.flv*, *myfile.flv* (media's filename does not contain a protocol specification and is relative and all components only contain characters from the portable character set {letters, digits, period, underscore and hyphen} and have no period at the beginning of a component); “duration 1” is optional parameter, the list is read at once, so if reading one of the files fails – whole list wouldn't playback. Choose that *txt* file as *Local File* to play files sequentially.

For more info see Demuxers (Concat) on developer's internet page.

*Input* :

specifies "file" to be parsed by FFmpeg demuxer (general input string for libavformat library). Option available only if *Local File* is unchecked.



"File" in meaning of the FFmpeg can be regular file, pipe, network stream, grabbing device, etc.

Local relative/absolute path to the file also acceptable:

`.\..\..\Temp\file.png` (this is example of the Windows relative path from the application's .exe to the destination file).

### *Input Format :*

specifies type of the ffmpeg demuxer for input.

Enabled demuxers depends on build. Option available only if *Local File* is unchecked.



Recently available input formats are – aa, applehttp, apng, asf, concat, flv (use it in case of RTMP input), gif (animated), image2 (sequences), mov mp4 3gp QuickTime, mpegts, mpjpeg. For auto-selection leave *Input Format* field empty.

### *Restart playback when source becomes active :*

if checked, source will start its playback from the start, each time you make it active (enabled/visible).



For each source you can specify *Restart* hotkey via *Hotkeys*. When pressed, it will playback media from the start. *Play*, *Pause* and *Stop* also available as hotkeys.

(See [Hotkeys](#) on page 228)

### *Network Buffering :*

specifies amount of the data buffered when reading media source over a network, in Mbytes (0 is no buffering).

### *Reconnect Delay :*

specifies time in seconds to wait before attempting to establish new connection if recent one was broken.

### *Use hardware decoding when available :*

if checked, OBS Studio will try to use hardware

acceleration to playback the source.

*Show nothing when playback ends :*

if checked, makes the source transparent as soon as playback ends.

*Close file when inactive :*

if checked, frees file from usage when source not active (not playbacks, not visible). Thus file in use can be updated (overwritten) from the OS.

*Speed (percent) :*

specifies the playback speed of the media source, in percentage.

*YUV Color Range :*

specifies type of the input video color range (Auto, Partial, Full).



Overbright clipping and darkness in shadows of the imported video may take place when wrong color range specified. Set *YUV Color Range: Auto* – to let the decoder detect input color range automatically.

*Apply alpha in linear space :*

if checked, the alpha channel of the video (if any) will be forced to process as it has no gamma correction.

[Unchecked by default]

*Seekable :*

if checked, performs HTTP source as seekable. Forces time range header reading. [Unchecked by default]



Not all HTTP sources allow time range header reading.

*FFmpeg Options :*

defines custom settings, that overrides any default settings for FFmpeg playback; parameters separated

with space. For example, `rtsp_transport=tcp`  
`rtsp_flags=prefer_tcp`

## Scene

Suitable to make “nested” scenes. Dummy source for scene cloning.

### Properties

No properties available.



Source can be adjusted via changes completed to the “parent” of the cloned scene.

## Screen Capture (PipeWire)

(source available for Linux PC)

(only for systems with EGL interface)

Suitable to capture video from your desktop applications when you PC is capable to run PipeWire.

### Properties

*Select Monitor :*

specifies screen that will be captured.

*Reload {button}:*

refreshes capture session/list of the displays.

*Show Cursor :*

if checked, system cursor will be captured to the video.

## Screen Capture (XSHM)

(source available for Linux PC)

Suitable to capture video from your desktop applications when

your PC is capable to run XSHM (X Shared Memory) extension.

## Properties

### *Screen :*

specifies screen that will be captured.

### *Capture Cursor :*

if checked, system cursor will be captured to the video.

### *Advanced Settings :*

if checked, next options become available.

- *X Server :*

specifies X Server (configuration).

### *Crop Top :*

defines amount of pixels cropped from top of the window.

### *Crop Left :*

defines amount of pixels cropped from left of the window.

### *Crop Right :*

defines amount of pixels cropped from right of the window.

### *Crop Bottom :*

defines amount of pixels cropped from bottom of the window.

## **Sndio input client**



(source available for Linux PC)

Suitable to capture sound from audio devices when your PC is capable to run sndio software layer (sound server and API for OpenBSD).



## Properties

*Device* :

specifies audio device to capture.

*Rate* :

specifies sample rate of the device audio.

*Bits per sample* :

specifies samples resolution, in bits.

*Number of Channels* :

defines number of audio channels available for the device.

## Syphon Client



(source available for Mac PC)

Suitable to capture video and audio from your desktop applications when you PC is capable to run Syphon.

## Properties

*Source* :

specifies source of Syphon frame sharing service.

*Allow Transparency* :

if checked, alpha channel can be applied.

*Crop* :

if checked, cropping to capture applied.

- *Crop left* :

defines amount of pixels cropped at left of the capture.

- *Crop top* :

defines amount of pixels cropped at top of the capture.

- *Crop right* :  
defines amount of pixels cropped at right of the capture.
- *Crop bottom* :  
defines amount of pixels cropped at bottom of the capture.

*Syphon License* :

when clicked – displays Syphon's license.

## Text (Free Type 2)



**(Deprecated)**

Suitable to add simple text to your output.

### Properties

*Select font* :

opens standard font select window (system installed fonts available only).

*Text* :

write there your text, which should be displayed as text source.

*Read from file* :

if checked, OBS Studio will use content from the text file instead of *Text* field.

*Enable Antialiasing* :

if checked, edges of the text will be smoothed (default).

*Chat log mode* :

if checked, last **N** number of lines of the input file will be used as text source. **N** determined via:

- *Chat log lines* :

number of the lines shown in the *Chat log mode*.

Option available only if *Chat log mode* is checked.

*Text File (UTF-8 or UTF-16)* :

path to the text file.

Supported code pages: UTF-8, UTF-16.

*Color 1* :

defines top color of the gradient fill. Shows color of the font body in the hexadecimal format – #RRGGBB.

*Color 2* :

defines bottom color of the gradient fill. Shows color of the font body in the hexadecimal format – #RRGGBB.

*Outline* :

if checked, text becomes outlined.

*Drop Shadow* :

if checked, text will cast shadow.

*Custom text width* :

defines custom text width in pixels. Zero value means no restrictions.

*Word Wrap* :

if checked, words will be wrapped to maintain width defined by *Custom text width*.

## Text (GDI+)



Suitable to add simple text to your output.

## Properties

*Select font* :

opens standard font select window (system installed)

fonts available only).

*Text* :

write there your text, which should be displayed as text source.

*Enable Antialiasing* :

if checked, edges of the text will be smoothed (default).

*Text transform* :

specifies text capitalization, next options available:

- *None* : text appears without changes.
- *Uppercase* : all letters becomes capitalized.
- *Lowercase* : all letters becomes non-capitalized.
- *Start Case* : first letters or each word becomes capitalized.

*Read from file* :

if checked, OBS Studio will use content from the text file instead of *Text* field (new dialog window will appear to select the text file itself).

*Text File (UTF-8)* :

path to the text file.

Supported code pages: UTF-8.

*Vertical* :

if checked, uses vertical text left-to-right writing method of displaying for the text block.



Do not use *Vertical* option with Latin letters – it may become rotated 90 degree clockwise instead of vertical effect. Try Chinese, Japanese etc. characters set that supports vertical scripting.

*Color* :

defines color of the font. Shows color of the font body in the hexadecimal format – #RRGGBB.

*Opacity :*

defines opacity of the font.

*Gradient :*

if checked, enables gradient fill over the text body.

Next options available:

- *Gradient Color :*  
defines color of the gradient fill. Shows color of the gradient fill over the font body in the hexadecimal format – #RRGGBB.
- *Gradient Opacity :*  
defines opacity of the gradient fill.
- *Gradient Direction :*  
defines the angle for the direction of the linear gradient fill. In degrees.

*Background Color :*

defines color of the font background. Shows color of the font background in the hexadecimal format – #RRGGBB.

*Background Opacity :*

defines opacity of the background.

*Alignment :*

specifies horizontal alignment of the text inside text block [Left], [Center], [Right].

*Vertical Alignment :*

specifies vertical alignment of the text inside text block [Top], [Center], [Bottom].

*Outline :*

if checked, text becomes outlined. Next options available:

- *Outline Size :*

specifies, size of the text outline.

- *Outline Color* :  
specifies, color of the text outline.
- *Outline Opacity* :  
specifies, opacity of the text outline.

#### *Chatlog Mode* :

if checked, last **N** number of lines of the input file will be used as text source. **N** determined via:

- *Chatlog Line Limit* :  
number of the lines shown in the *Chatlog Mode*.  
Option available only if *Chatlog Mode* is checked.

#### *Use Custom Text Extents* :

if checked, enables additional control over text properties. Next options available:

- *Width* :  
defines custom text width in pixels. Truncates width of the text string if it larger than specified value.
- *Height* :  
defines custom text height in pixels. Truncates height of the text string if it larger than specified value.
- *Wrap* :  
if checked, words will be wrapped to maintain width defined by *Width*.

## Video Capture Device

Suitable to capture video and audio if you are owner of some of the media devices (cameras, capture cards etc).

## Properties

**Device :**

specifies video device installed in the system.

**Supported devices:** DirectShow input enabled device for Windows; kernel enabled for Linux; AV Foundation enabled for Mac.

For IP cameras use [Media Source](#) or [VLC Video Source](#).

**Deactivate :**

deactivates selected device.

**Configure Video :**

configure device options if any available.

**Configure Crossbar :**

configure device options if any available.

**Deactivate when not showing :**

if checked, device will be turned off when not displaying. This also disables sound from the device.

**Resolution/FPS Type :**

specifies to use device default resolution or set custom.

- **Resolution :**  
defines the value of the resolution for the device. Option available only if *Resolution/FPS Type* parameter is set to custom.
- **FPS :**  
defines the value of the fps for the device. Option available only if *Resolution/FPS Type* parameter is set to custom.
- **Video Format :**  
specifies type of video format for the device. Option available only if *Resolution/FPS Type* parameter is set to custom.



In some rare cases, camera input may display in purple color, like PAL signal on NTSC screen. If that happen, specify *Video Format* manually.

### *Color Space :*

specifies color space of the input video.

### *Color Range :*

specifies type of the input video color range – Full (PC) or Partial (TV). In other words, how to decode it before it appears in OBS. Default – will select Full for RGB format and Partial for the YUV stored videos.



Regular mp4 video files keeps its video data in YUV compressed format and has Partial (TV) color range.

### *Buffering :*

specifies buffer type for the input device.



*[Auto-detect]* - sets buffer enabled for devices that has internal delay;

*[Enabled]* - forces buffer ON for most accurate playback (but latency may increase);

*[Disabled]* - forces buffer OFF (good for facecam and low latency preview, in cost of accuracy of the playback).

### *Flip vertically :*

if checked, flips video input top down.

### *Apply rotation data from camera (if any) :*

if checked, rotates the device image according to the transferred orientation data.



The orientation data obtained via *CameraControl\_Roll* value of the *IAMCameraControl* programming interface (when supported by the device and OBS Studio build). The *Configure Video* button (see above) usually gives access to the *Camera Control* tab of the device.

### *Audio Output Mode :*

specifies to capture only or make sound heard from other devices (like desktop speakers).



If *Audio Output Mode* set other than 'Capture audio only', then audio may be captured from the general desktop device.

(See [Audio](#) on page 221)



*Use custom audio device :*

if checked, you can specify other audio device for input capture.

- *Audio Device :*  
specifies other audio capture device. Option available only if *Use custom audio device* is checked.

*Autoreset on Timeout :*

if checked, the capturing device will be reset when application doesn't receives new frames for a while (option available for Linux PC).

*Frames Until Timeout :*

specifies the number of missed frames before instruct the device to start the video stream again (option available for Linux PC).

*Input :*

specifies hardware input (option available for Linux PC).

*Camera Controls :*

specifies number of options specific for the device, like saturation, contrast etc. (option available for Linux PC).

*Video Standard :*

specifies video standard of the input (option available for Linux PC).

*DVTiming :*

specifies DV timing (option available for Linux PC).

*Use buffering :*

if checked, device buffering enabled (option available for Linux PC).

## VLC Video Source

Suitable to add video and audio media files (streams) to your output.



Require VLC Player installed (at least, “libvlc”, “libvlccore” libraries and “plugins” folder – last tested v3.0.6); 64-bit player. By default, the libraries [libvlc.5.dylib | libvlc.dll | libvlc.so.5] search locations:

### Mac

/Applications/VLC.app/Contents/MacOS/lib/

/Applications/VLC.app/Contents/MacOS/

### Win

by registry path and key

[HKEY\_LOCAL\_MACHINE\SOFTWARE\VideoLAN\VLC]

“InstallDir”

### Linux

default libs location

## Properties

### *Playlist :*

list of the movies/directories included in the video playlist. Top file is a first on playback.

**Supported media types:** mp4, ts, mov, flv, mkv, avi, mp3, ogg, aac, wav, webm).

### *Loop Playlist :*

if checked, playlist will play infinity times.

### *Shuffle Playlist :*

if checked, randomizes the playback order when multiply media added. If playlist alternates – new order applies.

### *Visibility behavior :*

specifies playback control for all movies in *Playlist*. Next options available :

- *Stop when not visible, restart when visible :*

stops playback of the movies in *Playlist* when source invisible and restart playback from the top of the *Playlist* if source became visible.

- *Pause when not visible, unpause when visible* :  
pause playback of the movies in *Playlist* when source invisible and resume playback from the current point in *Playlist* if source became visible.
- *Always play even when not visible* :  
continuously playback movies in *Playlist*, regardless of the source visibility.

*Network Caching* :

defines duration of the caching for network-based media files, in milliseconds.

*Audio Track* :

defines which sound track (number) to use during playback of the media file.

*Subtitles Enabled* :

if checked enables embedded subtitles rendering over the video footage.


*Subtitle Track* :


defines subtitles track's number to display them over the video. Option available only if *Subtitles Enabled* is checked.


 : click icon to add new movies to the *Playlist*.


- *Add Files* :  
opens dialog to add multiply files;
- *Add Directory* :  
opens dialog to add folder;

- *Add Path/URL* :  
opens dialog to add any path or URL to the file (network hosted files);

 : click icon to remove selected movies/directories from the *Playlist*.

 : click icon to change (replace) selected movie in the *Playlist*.

 : click icon to shift selected movies/directories one level up in the *Playlist*.

 : click icon to shift selected movies/directories one level down in the *Playlist*.



You can override playback order (Next | Previous) and duration (Play/Pause | Restart | Stop) at any time via [Hotkeys](#).  
(See [Hotkeys](#) on page 228)

## Window Capture

Suitable to capture video from your desktop applications.

### Properties

*Window* :

specifies window that will be captured.

*Capture Method* :

specifies the way the window will be captured. Next options available :

- *Automatic* :  
auto-select algorithm depending on window type (UWP application, browser, GDI etc.)

- *BitBlt (Windows 7 and up)* :  
method commonly used for GDI applications.
- *Windows 10 (1903 and up)* :  
method uses new API from Microsoft – Windows Graphics Capture. Available only for Windows 10 since build 1903. Suitable for browser window capturing. Some following options may be unavailable if this method is in use for the current window.



At some point the Microsoft decided to inform the Windows users that some of their displays/windows is capturing. This was done by adding a hardcoded yellow border to the view (tiny strip that not recorded itself). This only affects the Windows Graphics Capture method and the behavior may change in the future.

#### *Window Match Priority* :

specifies priority for window type recognition.

#### *Capture Cursor* :

if checked, system cursor will be captured to the video.

#### *Multi-adapter Compatibility* :

if checked, program will use compatibility mode for systems with two or more video cards installed.



Enabling *Multi-adapter Compatibility* option can slightly decrease capture performance due to additional VRAM to RAM downloading and uploading job. Use it with SLI and CrossFire, if capture task cannot be completed in usual way.

#### *Show Windows with empty names* :

if checked, could show unlisted application's windows to capture (option available for Mac PC).

#### *Show Window shadow* :

if checked, window shadow captured (option available

for Mac PC).

## Window Capture (PipeWire)

(source available for Linux PC)

(only for systems with EGL interface)

Suitable to capture video from your desktop applications when you PC is capable to run PipeWire with EGL (Embedded-System Graphics Library).

### Properties

*Select Window :*

specifies window that will be captured.

*Reload {button}:*

refreshes capture session/list of the windows.

*Show Cursor :*

if checked, system cursor will be captured to the video.

## Window Capture (Xcomposite)

(source available for Linux PC)

Suitable to capture video from your desktop applications when you PC is capable to run X Composite extension.

### Properties

*Window :*

specifies window that will be captured.

*Crop Top :*

defines amount of pixels cropped from top of the window.

*Crop Left :*

defines amount of pixels cropped from left of the window.

*Crop Right :*

defines amount of pixels cropped from right of the window.

*Crop Bottom (pixels) :*

defines amount of pixels cropped at bottom of the window.

*Swap red and blue :*

if checked, swaps Red and Blue channel colors in captured window.

*Lock X server when capturing :*

if checked, X server locked while capturing.

*Include X border :*

if checked, X border included in video.

*Use alpha-less texture format (Mesa work around) :*

if checked, special texture format is used to help capture certain windows with Mesa drivers.

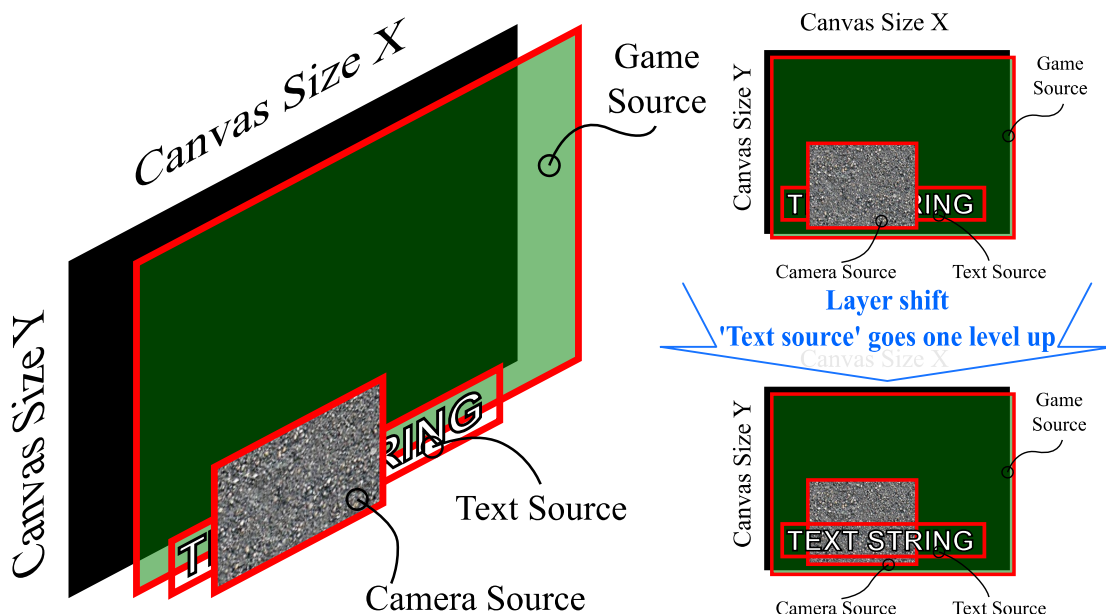
# Using Layers

## About layers (OBS Studio)

OBS Studio uses layers mechanism to render output stream.

## Understanding Layers

Each source added to OBS Studio lies on a different layer. OBS Studio uses layers combination to render output picture that will be streamed or recorded.



Layers can have different properties: size, transparency, color overlay etc. Top layer is the highest in the *Sources* list pane. All layers in the list can be shifted by mouse drag-and-drop. The top layer can cover content of the bottom one – arrange the layers with caution and check its appearance in the Preview.





## Manage Layers

### Add new layer

New layer can be added to OBS Studio scene via add new source option.

(See [Add new audio/video source to OBS Studio scene](#) on page [64](#))

### Rename layer

To rename layer use *Rename* source option.

(See [Rename source](#) on page [68](#))

### Remove layer

Existing layer can be deleted via remove existing source option.

(See [Remove source](#) on page [69](#))

### Temporary disable layer

Layer can be disabled via temporary disable source option.

(See [Temporary disable source](#) on page [67](#))

### Temporary enable layer

Layer can be enabled via temporary enable source option.

(See [Temporary enable source](#) on page [67](#))

### Transform layer

Layer can be changed via *Filters*.

(See [Transform](#) on page [120](#))

### Preview layer Fullscreen

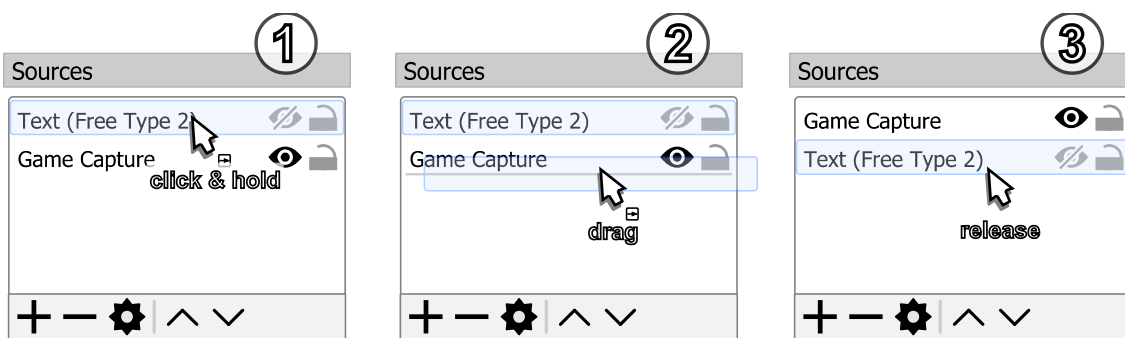
To preview layer in full screen mode, use *Fullscreen Projector* option.



(See [Full screen preview \(source\)](#) on page [77](#))

### Layer shift (order)

To rearrange layers, perform mouse drag-and-drop move over the layer in the [Sources](#) list pane:

- 1) select the layer you want to shift;
- 2) click and hold mouse button;
- 3) move selection to the new order;
- 4) release mouse button.



Or: select a layer from the [Sources](#) list, click icon  on the toolbar of the [Sources](#) list to shift the layer one level up; click icon  to shift selected layer one level down.

Also, you can right-click over the source, select *Order* sub-menu and go to the arrange options.

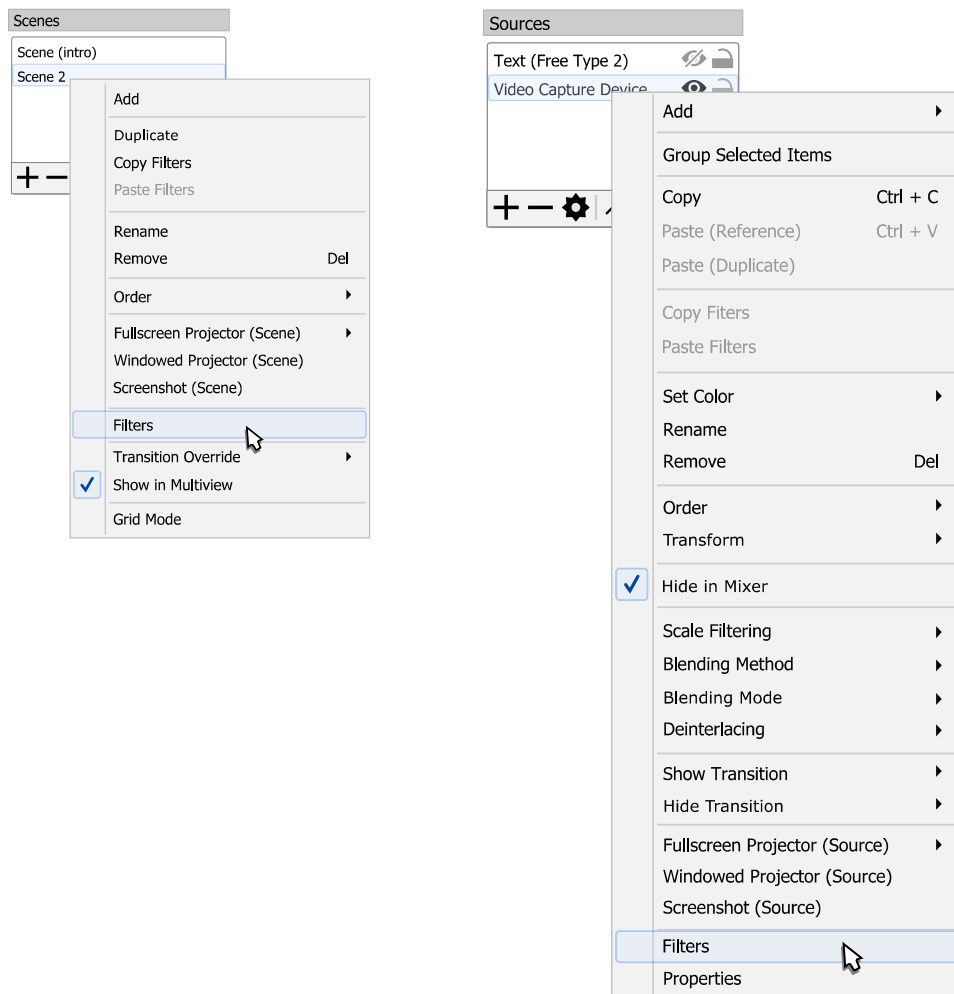
# Filters for Special Effects

## About plugin filters

You can install plugin filters developed by online community. Once installed, the plugin filters appear at the *Filters* list and work in the same way as built-in filters.


## Using filters

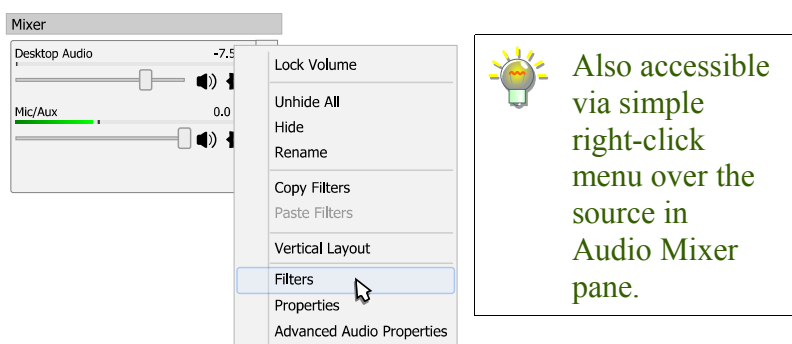
To apply a filter, right-click on source (scene) and choose the appropriate option from the pop-up menu. Some filters available only for video sources, some – only for audio.



Source filters can be accessed from the *Source Toolbar* too.



To access filters on audio source, click  icon in Audio Mixer pane right to the source.



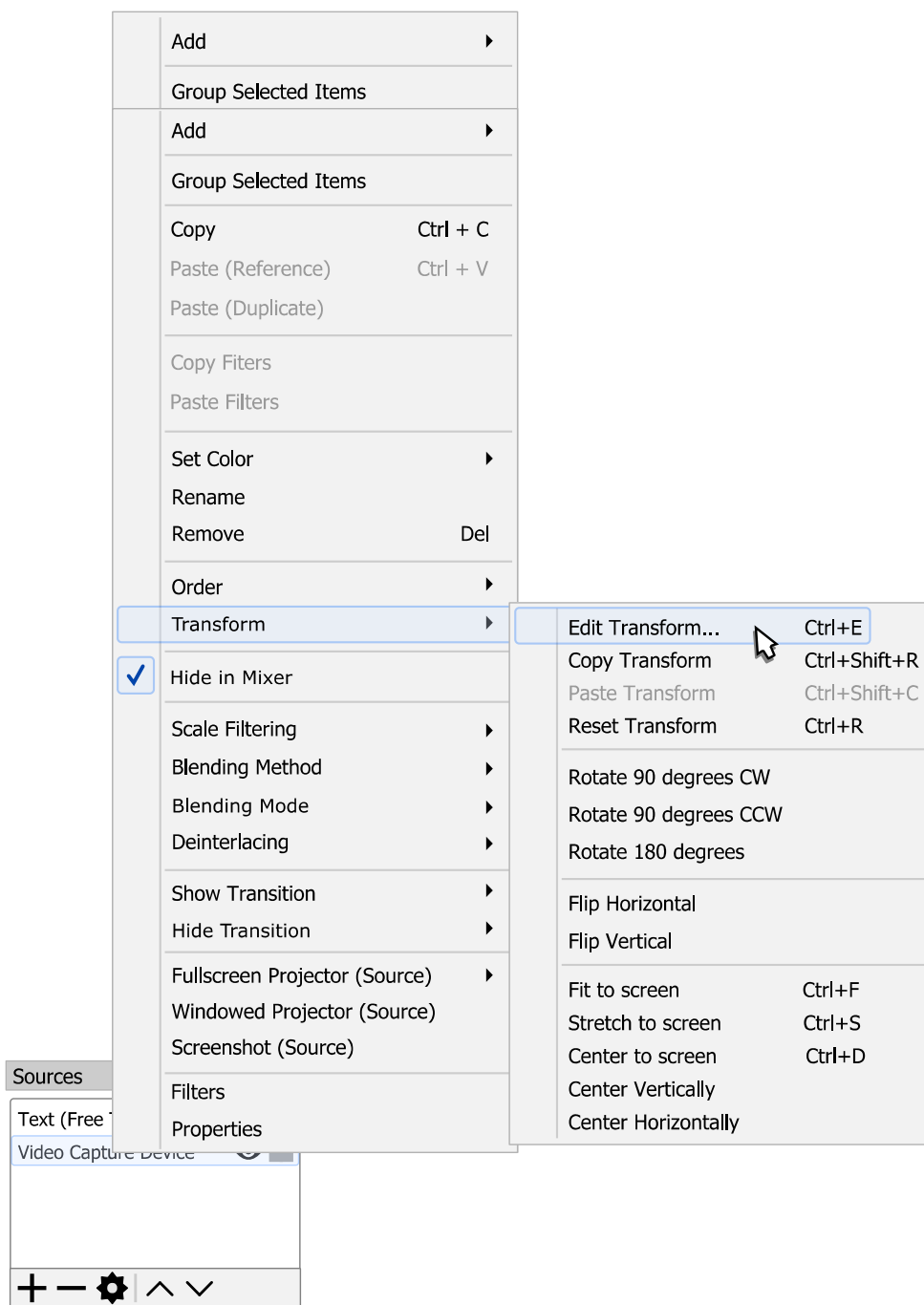
## General Filters: Transform, Blending, Deinterlacing

### Transform

Transform filter changes appearance of the video source: size, mirroring, rotation and cropping.

To make source (layer) transform:

- 1) right-click on the source in the [Sources](#) list pane;
- 2) choose *Transform* sub-menu;
- 3) click on *Edit Transform...*



4) Transform settings dialog will appear. Make changes to the desirable fields and click close window button to complete changes.

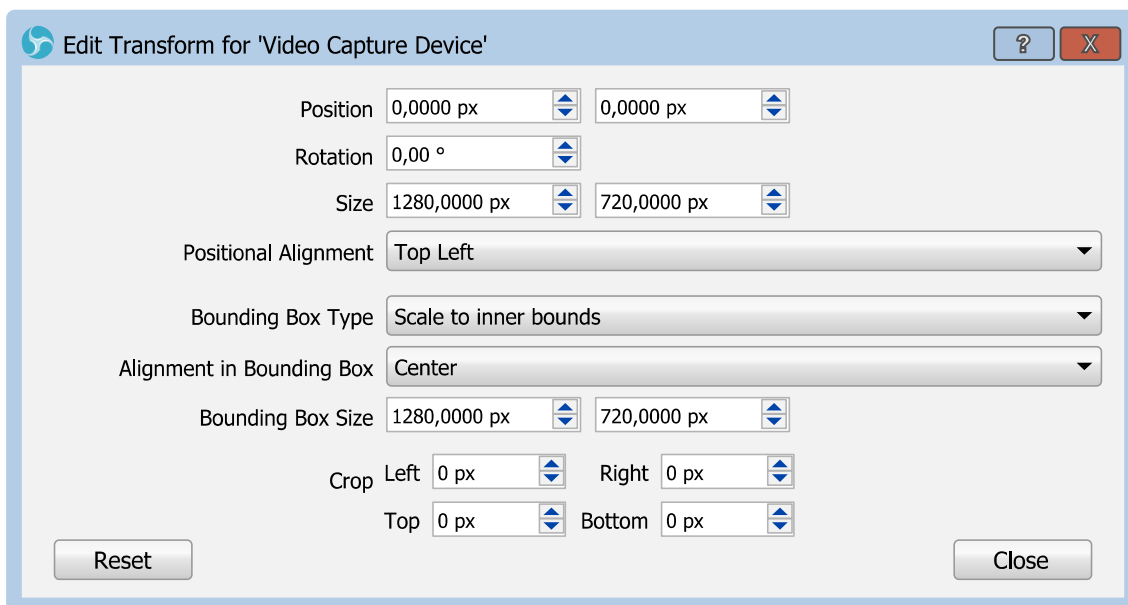


Illustration 6. Transform dialog window

 To get best result from transform filter use [Transform options \(dependencies\)](#) table on page [122](#).

All coordinates measured in pixels and starts at the top left corner of the screen. The highest value is bottom right corner.

Table 1. Transform options (dependencies)

Bounding Box Type	Size parameter	Bounding Box Size	Aspect ratio (defined by)	Alignment in Bounding Box
No bounds	Scale image	-	Fixed (original input)	-
Stretch to bounds	Doesn't affect	Scale image	Variable (Bounding Box Size)	Doesn't affect
Scale to inner bounds	Scale image	Scale image	Fixed (Size parameter)	adjustable
Scale to outer bounds	Scale image	Scale image (image exceed bounds on	Fixed (Size parameter)	adjustable

Bounding Box Type	Size parameter	Bounding Box Size	Aspect ratio (defined by)	Alignment in Bounding Box
		height or width)		
Scale to width of bounds	Scale image	Scale image (width always in bounds)	Fixed (Size parameter)	adjustable
Scale to height of bounds	Scale image	Scale image (height always in bounds)	Fixed (Size parameter)	adjustable
Maximum size only	Scale image	Scale image (but max size of the image is fixed by Size parameter)	Fixed (Size parameter)	adjustable



Fast transform *Fit to screen* (*Ctrl+F*) option sets *Bounding Box Size* to 'Scale to inner bounds', resets *Size* parameter to original input, and sets *Bounding Box Size* to canvas size.

*Stretch to screen* (*Ctrl+S*) option sets *Bounding Box Size* to 'Stretch to bounds', resets *Size* parameter to original input, and sets *Bounding Box Size* to canvas size.

*Center to screen* (*Ctrl+D*) option sets *Position* parameters to center in accordance with *Position Alignment*.

*Reset transform* (*Ctrl + R*) option sets *Position* to (0; 0), *Rotation* to 0, *Size* to source's input size, *Positional Alignment* to 'Top Left', *Bounding Box Type* to 'No bounds', *Crop* to (0; 0; 0; 0).

You can *Copy Transform* values (all-in-one) to clipboard and *Paste Transform* values from clipboard over any selected scene item, including items from different scene collections.

(See [Shortcuts Linux](#) on page 249)

(See [Shortcuts Mac](#) on page 252)

(See [Shortcuts Windows](#) on page 255)

To perform **manual re-sizing transform** of any source in the

preview window:

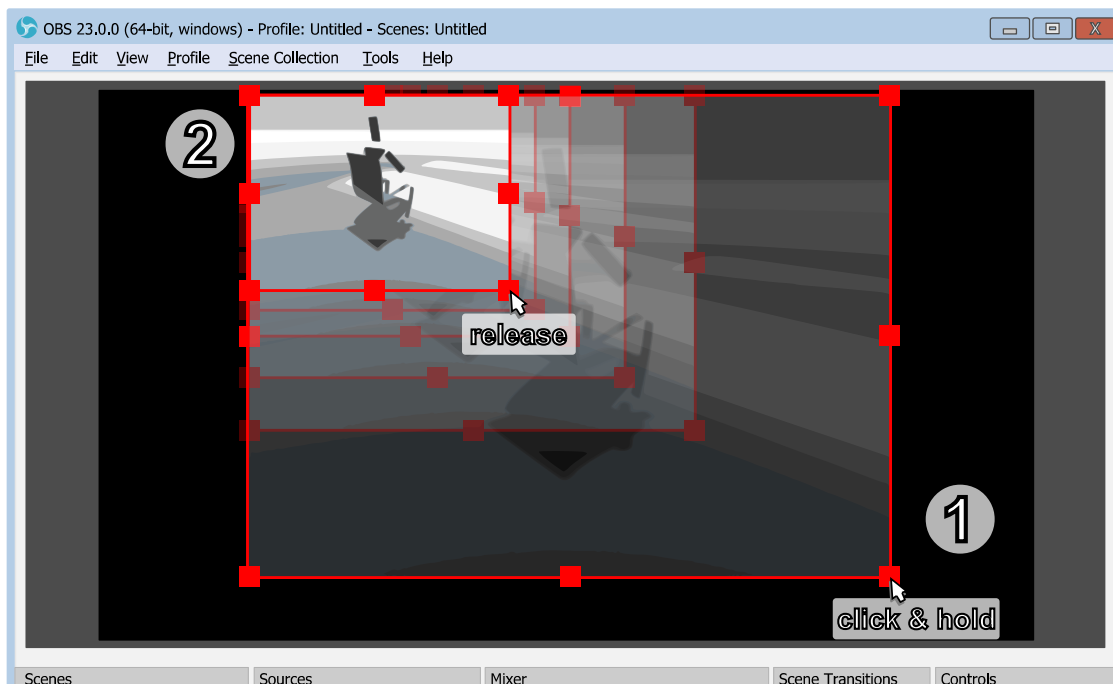
- 1) click and hold mouse button over any small **red** square of the source bounding box, in canvas preview window;



You can choose any available source, and drag its any bounding box circle in any direction.

- 2) move mouse to a new position to achieve desirable scale of the source (layer);
- 3) release mouse button.

(See [Illustration 7. Transform with mouse move](#) on page [124](#))



*Illustration 7. Transform with mouse move*



You can temporary disable snapping by holding down the *Ctrl* key while re-sizing. (See [General settings](#) on page [196](#))

You can stretch the source to any new size by holding down *Shift* key while re-sizing. This sets *Size* parameter of the source to the new custom value.

(See [Table 1. Transform options \(dependencies\)](#) on page [122](#))

Make sure that [Lock Preview](#) option unchecked.



(See [Lock Preview](#) on page [33](#))

Make sure that source not locked.

(See [Lock source](#) at page [67](#))

(See [Unlock source](#) at page [67](#))

To perform **easy cropping** (alt-cropping) move, over any source in the preview window:

1) set *Bounding Box Type* of the source to 'No bounds';

(See [Transform](#) on page [120](#))



Since v22.0.0 of the application you may ignore this step and leave *Bounding Box Type* of the source unchanged.

2) press and hold *Alt* key;

3) click and hold mouse button over any small **red** square of the source bounding box, in canvas preview window;

4) move mouse to new position to achieve desirable cropping of the source (the cropped side of bounding box turns **green** color);

5) release mouse button;

6) release *Alt* key.

(See [Illustration 8. Easy cropping with mouse move](#) on page [126](#))



Cropping values stored in relative coordinates under the *Crop* section of the *Scene Item Transform* window.

(See [Illustration 6. Transform dialog window](#) on page [122](#))

Make sure that *Lock Preview* option unchecked.

(See [Lock Preview](#) on page [33](#))

Make sure that source not locked.

(See [Lock source](#) at page [67](#))

(See [Unlock source](#) at page [67](#))

On Linux you may find out that *Alt + Mouse* reserved for other actions (like window dragging). In this case look for the solutions online, also try *Super + Alt + Mouse* combination instead.

On Mac use *Option + Mouse* key combination.

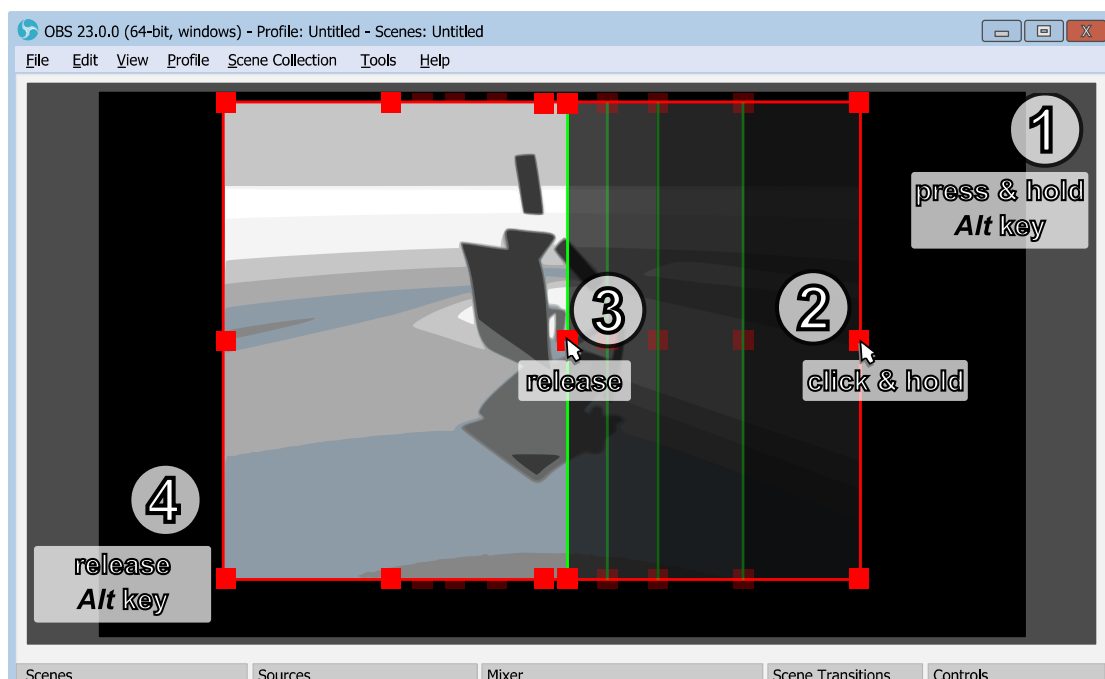


Illustration 8. Easy cropping with mouse move

To perform **manual rotation** of any source in the preview window:

- 1) in canvas preview window click and hold mouse button over the small **red** circle on top of the lever that marks the top of the source's bounding box;
- 2) move mouse to new position around the source to achieve desirable rotation of the source;
- 3) release mouse button.

(See [Illustration 9. Rotation with mouse move](#) on page [127](#))



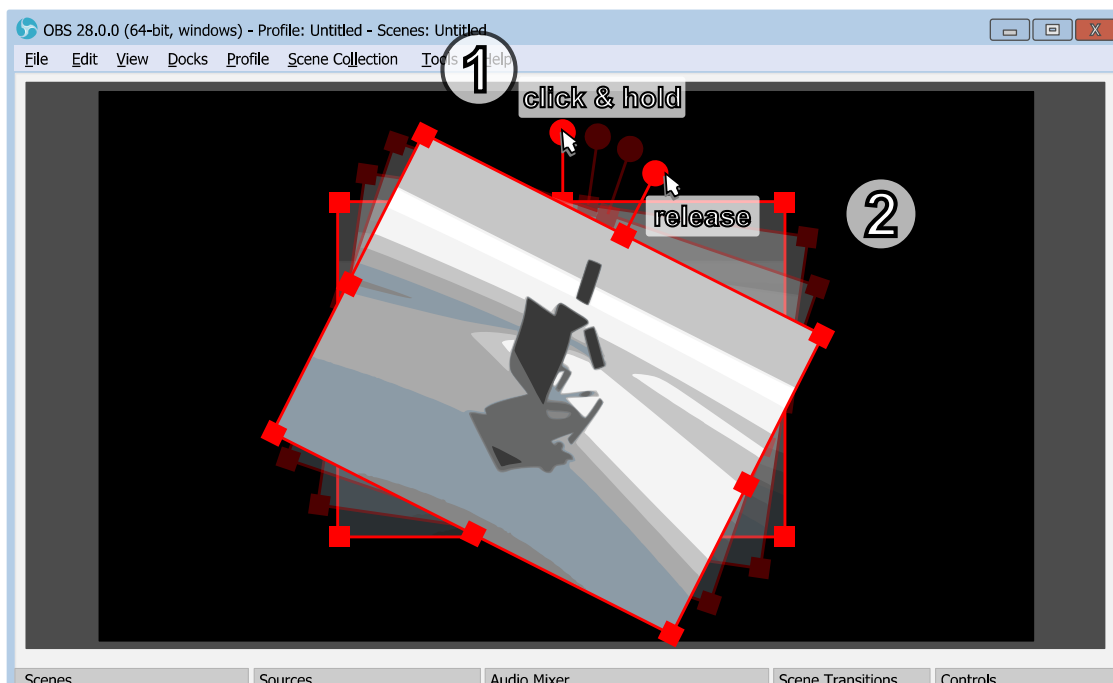
Rotation values stored in the *Rotation* field of the *Scene Item Transform* window. (See [Illustration 6. Transform dialog window](#) on page [122](#))

You can temporary disable 45 degree snapping by holding down the *Ctrl* key while rotating.

To enable 15 degree snapping hold down the *Shift* key while rotating.

Make sure that *Lock Preview* option unchecked.  
(See [Lock Preview](#) on page 33)

Make sure that source not locked.  
(See [Lock source](#) at page 67)  
(See [Unlock source](#) at page 67)



*Illustration 9. Rotation with mouse move*

## Blending Method

Blending Method specifies either image data for blending will be processed in linear or non-linear way.

To apply different blending method for the source:

- 1) right-click on the video source in the [Sources](#) list;
- 2) select *Blending Method* sub-menu;
- 3) choose desirable blending method. Chosen method marked by  icon.

Available blending methods:

*Default* :

performs blending in linear space.

*SRGB Off* :

performs blending in non-linear space with premultiplied alpha.



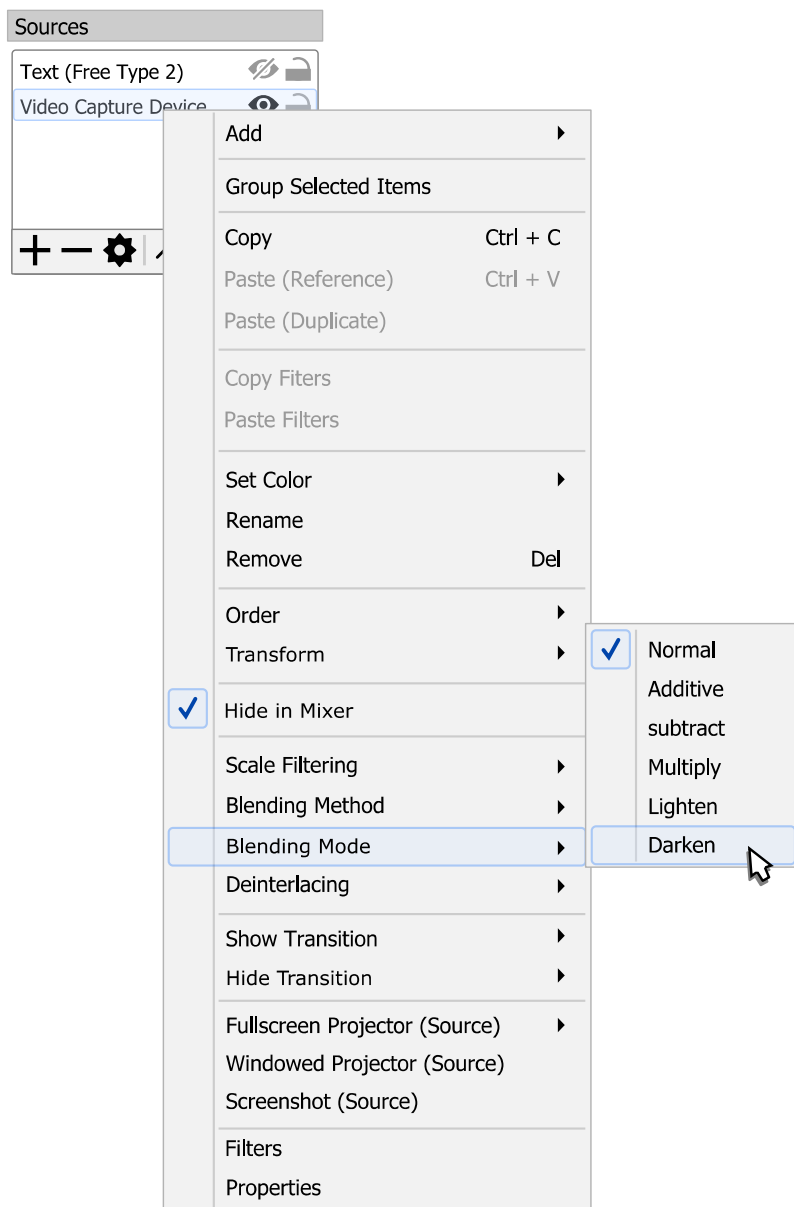
Only some sources with complex rendering (for example the *Browser* source) may need the *SRGB Off* method to be set to get desirable visual effect.

## Blending Mode

Blending Mode filter specifies visual effect of blending of the video source with the underlying scene content.

To apply blending filter:

- 1) right-click on the video source in the [Sources](#) list;
- 2) select *Blending Mode* sub-menu;
- 3) choose desirable blending filter. Chosen filter marked by  icon.



For examples of blending performed in linear alpha space see [Illustration 10. Blending Mode examples](#) on page [130](#).


To change default *Blending Method* see [Blending Method](#) on page [127](#).



Illustration 10. Blending Mode examples

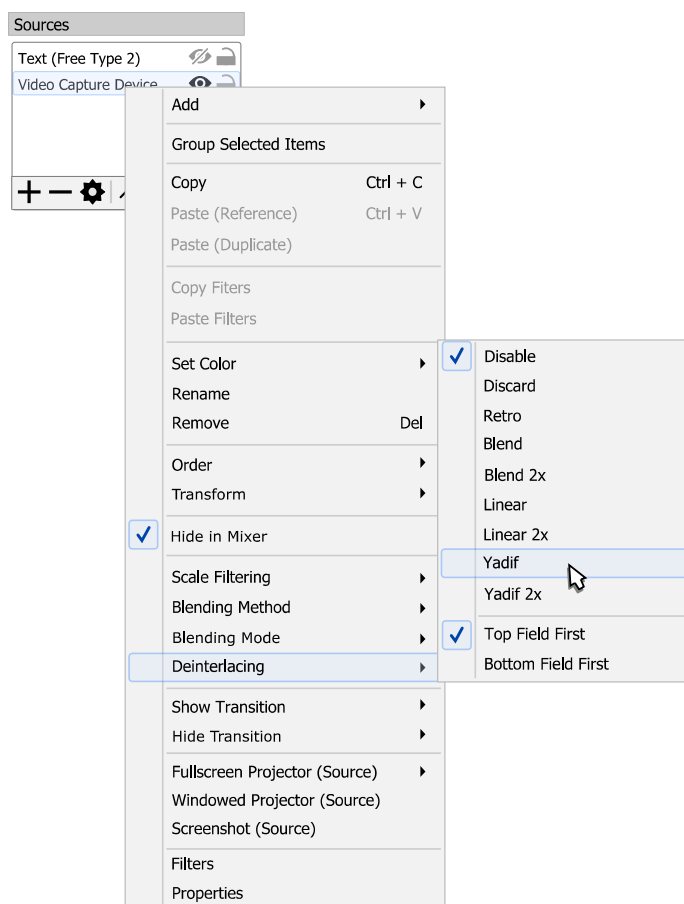
## Deinterlacing

Deinterlacing filter converts interlaced source into progressive video.

 *Deinterlacing* filter available only for supported types of the input sources. If your input has visible horizontal stripes on fast moving objects, probably you have interlaced source – apply deinterlacing filter.

To apply deinterlacing filter (remove interlacing of the video):

- 1) right-click on the interlaced source in the [Sources](#) list;
- 2) select *Deinterlacing* sub-menu;
- 3) choose desirable deinterlacing filter and specify first field (Top or Bottom). Chosen filter marked by  icon.



To remove deinterlacing filter, apply deinterlacing filter *Disable*.

Deinterlacing filters (from simplest to complex):

- *Discard* :  
only display one of the half-pictures (displaying each line twice), discard the other.
- *Retro* (Bob or Discard 2x) :  
display each half-picture like a full picture, by simply displaying each line twice. Double framerate.
- *Blend* :  
averages both half-pictures into single frame.
- *Blend 2x* :  
averages half-pictures into frames (if needed previous used). Double framerate.
- *Linear* :  
interpolates lines of one half-picture, discard the other.
- *Linear 2x* :  
interpolates lines of each half-picture. Double framerate.
- *Yadif* :  
interpolates lines of one half-picture using info from both fields.
- *Yadif 2x* :  
interpolates lines of each half-pictures using info from both fields. Double framerate.

## Scale Filtering

Scale Filtering determines mathematics algorithm used for interpolation when image scaled up or down.

To apply scale filtering or simply force to use one of the scale

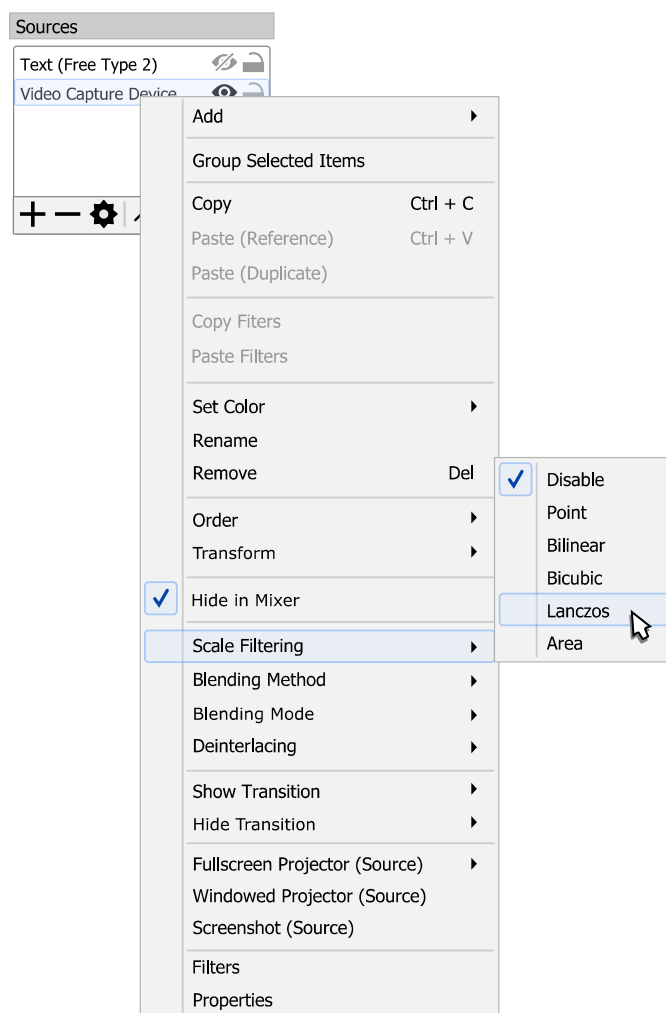


algorithms for any selected item:

- 1) right-click on the source in [Sources](#) list pane;
- 2) select *Scale Filtering* sub-menu;
- 3) choose desirable scale filter from the list. Chosen filter marked by  icon.



For *Bicubic* and *Lanczos* algorithms, if the item's scale is under half of the source's original size, then application uses the *Bilinear Low Resolution Downscale* algorithm.



To remove scale filter, apply scale filter *Disable*.


Scale filters (from simplest to complex):

- *Point* (or Nearest-neighbour) :  
uses 1 pixel sample.
  - *Bilinear* :  
uses 4 pixels samples.
  - *Area* (weighted sum of pixel areas) :  
uses 4, 6 or 9 pixels samples.
  - *Bicubic* :  
uses 16 pixels samples.
  - *Lanczos* :  
uses 36 pixels samples.
- 

## Visual Effect Filters

The top filter in the list applies first in the filters queue, the bottom – applies last from all filters.

Let's apply, for example, the [Crop/Pad filter](#).

To apply [Crop/Pad filter](#) under the *Filters* dialog: click  icon on the toolbar of the *Effects Filters* list. Or right-click at the empty space of the *Effects Filters* list and choose action *Add*.

(See [Illustration 11. Filters dialog window](#) on page [135](#))

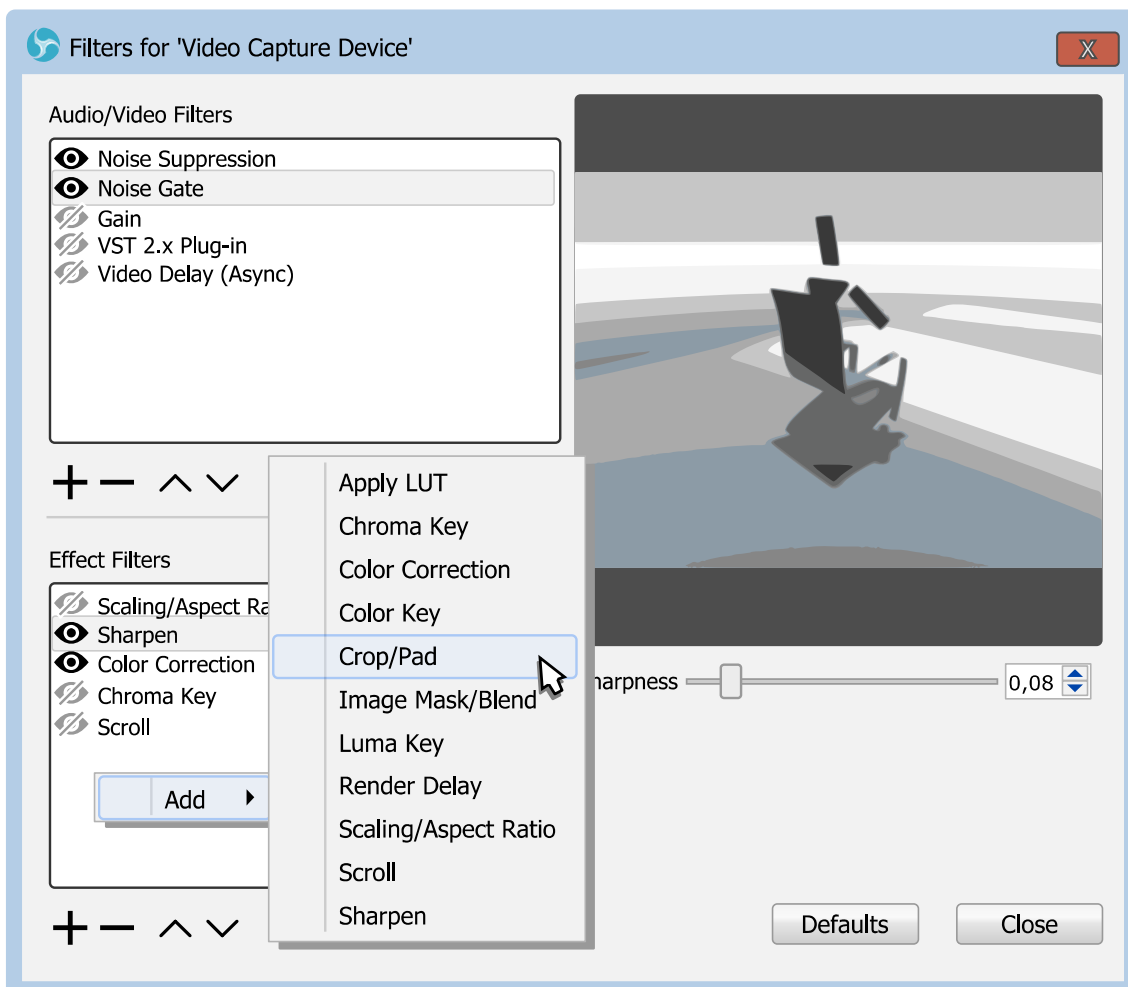
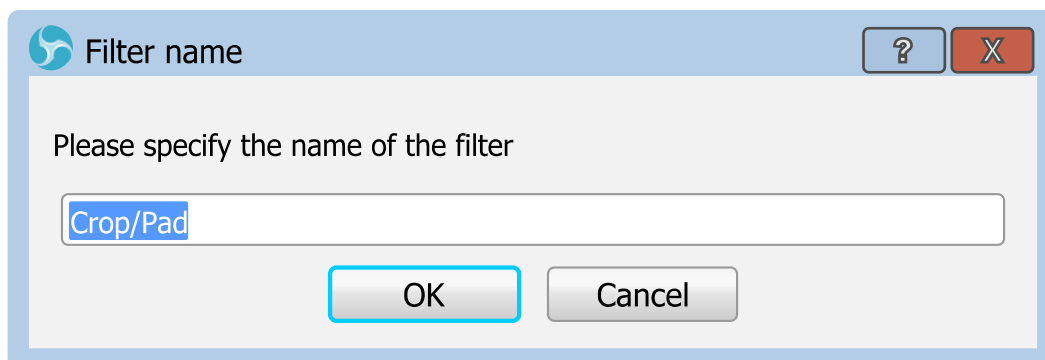


Illustration 11. Filters dialog window

New dialog will appear where you can specify the name of the new filter.



[Crop/Pad](#) filter properties accessible right to the *Effects Filters*

list.

Make changes to filter's properties and close dialog window.

To **copy any single filter to the clipboard** right-click over the recently added filter and **click *Copy (Ctrl + C)*** option. The filter is copied into the clipboard of the PC.

To **paste any single filter from the clipboard** right-click in the empty space of the filters list and **click *Paste (Ctrl + V)*** option. The filter is copied into the clipboard of the PC.

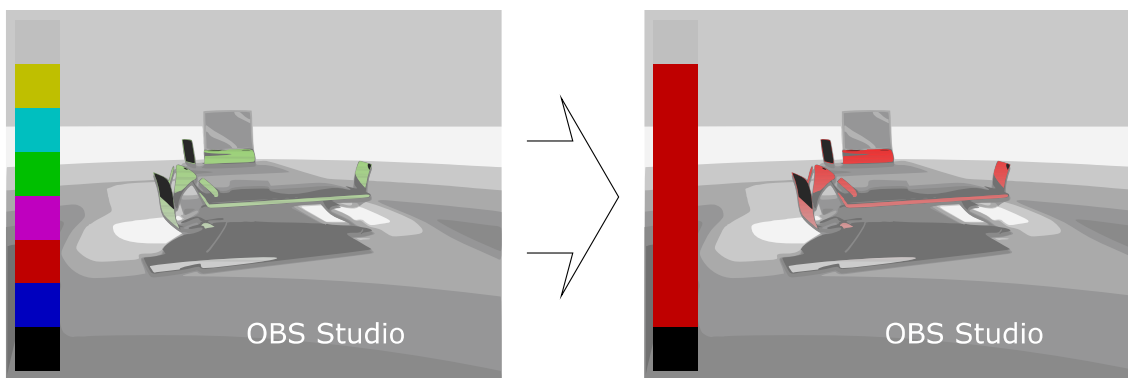
To **make copy of the existing filter but with different name** right-click over the recently added filter and **click *Duplicate*** option. The new window will appear to give the new name to the filter. Or simply copy/paste the filter in the same place (list) – the filter will be renamed automatically.



It is possible to copy/paste filters cross the sources but not between the *Scene Collections*.

## Apply LUT

Apply LUT filter do color styling of the video. The filter similar to color profiling and color grading, it applies color Look-Up Table (LUT) to produce visual effect.



## Properties

### *Path* :

specifies path to the profiling color table (\*.CUBE, \*.PNG files).

### *Amount* :

defines level of the effect. Lower values – less changes completed to the original image. Applies in linear space. (Default is 1.0 , i.e. full impact)

### *Passthrough Alpha* :

if checked, enables speed-up optimizations for opaque sources. The setting ignored when the *Amount* (see above) is changed from the default.



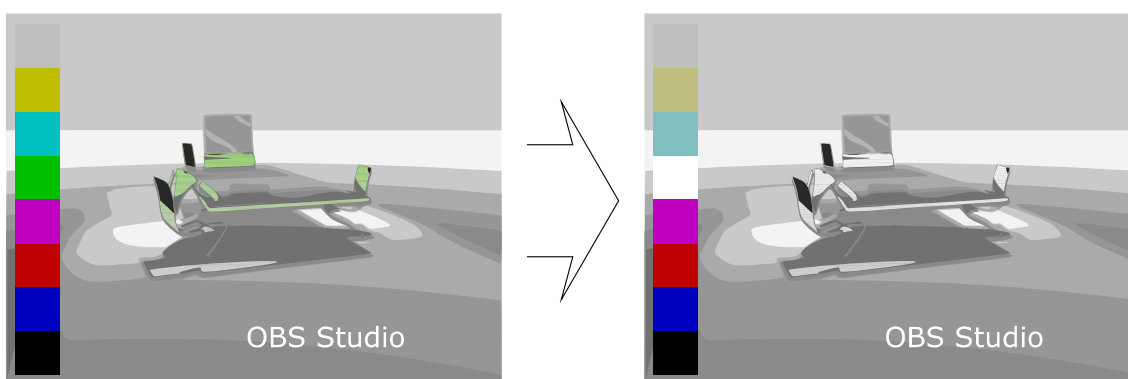
To make new OBS Studio compatible custom LUT in PNG format – just apply same color adjustments to the file “original.png” (neutral LUT table) as you do it for images in any editor program. Save changes and use this recently changed LUT file in OBS Studio. Always keep copy of the neutral LUT file to be able to make new LUTs from the scratch.

## Chroma Key

Chroma Key filter cuts video's background using information based on a specified color ('green screen').



Use well lightened solid color backgrounds to achieve best results with *Chroma Key* filter.



## Properties

***Key Color Type :***

specifies key color of the background that will be extracted.

***Key Color :***

defines color of the background. Shows color of the background in the hexadecimal format - #RRGGBB.

***Similarity (1-1000) :***

defines color similarity.

***Smoothness (1-1000) :***

defines color smoothness of the extraction.

***Key Color Spill Reduction (1-1000) :***

defines color spill reduction.

***Opacity :***

defines image opacity in %.

***Contrast :***

defines image contrast.

***Brightness :***

defines image brightness.

***Gamma :***

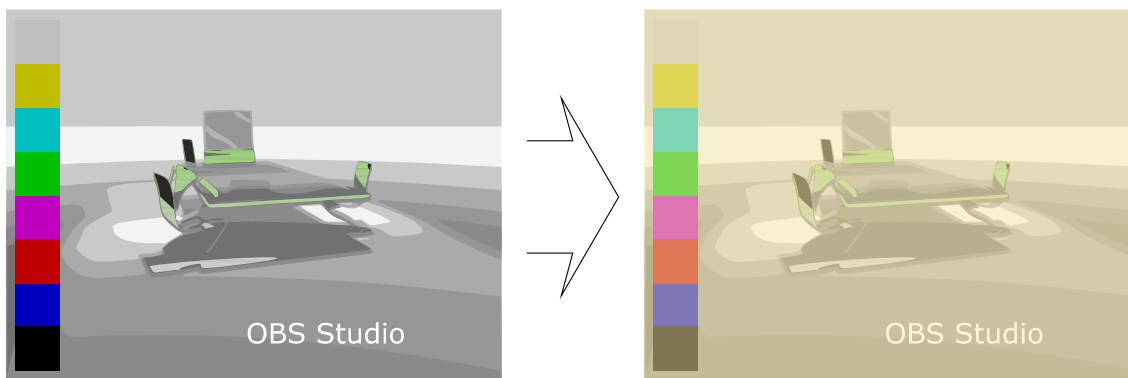
defines image gamma.

## Color Correction

Color Correction filter makes some adjustments to image color and appearance.



Use *Color Correction* to achieve special effects.



## Properties

### *Gamma* :

defines image gamma.

### *Contrast* :

defines image contrast.

### *Brightness* :

defines image brightness.

### *Saturation* :

defines image saturation.

### *Hue Shift* :

defines image hue, in degrees.

### *Opacity* :

defines image opacity in normalized units (from 0.0 to 1.0 that equals 0..100%).



Uses linear representation of the sRGB format, thus the 0.50 setting has visual feel of the 74% of the opacity, the 0.22 has feel of the 50% etc.

### *Color Multiply* :

defines color tint of the image. Shows color of the background in the hexadecimal format - #RRGGBB.

### *Color Add* :

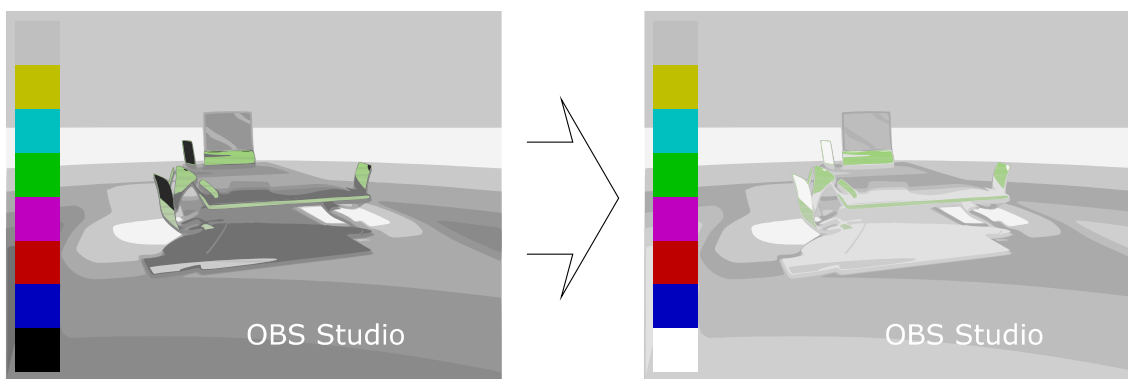
defines color overlay of the image. Shows color of the background in the hexadecimal format - #RRGGBB.

## Color Key

Color Key filter removes video's background. Same as *Chroma Key* filter.



If *Color Key* produce robust result, then try to use [Chroma Key](#) filter.



## Properties

*Key Color Type* :

specifies key color of the background that will be extracted.

*Key Color* :

defines color of the background. Shows color of the background in the hexadecimal format - #RRGGBB.

*Similarity (1-1000)* :

defines color similarity.

*Smoothness (1-1000)* :

defines color smoothness of the extraction.

*Opacity* :

defines image opacity in %.

*Contrast* :

defines image contrast.

*Brightness* :

defines image brightness.



*Gamma* :

defines image gamma.

## Crop/Pad

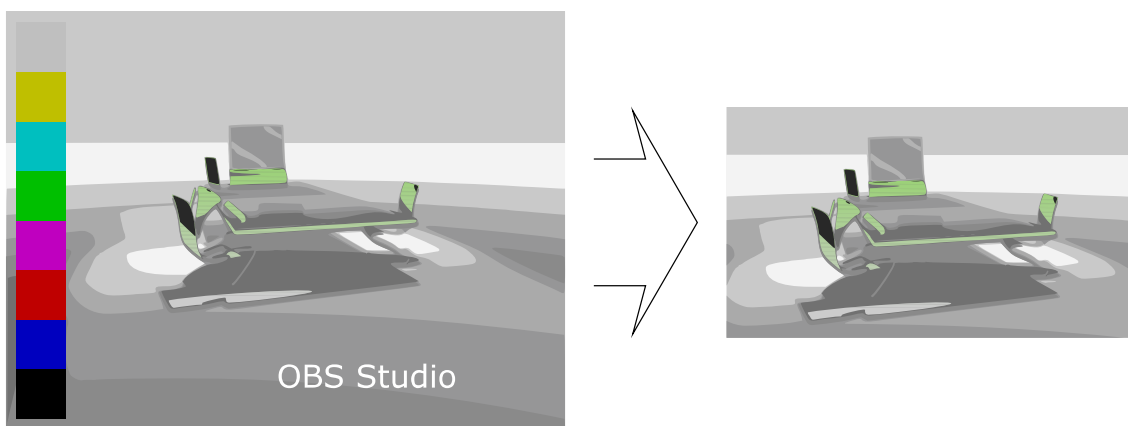
Crop/Pad filter cuts the unneeded parts of the video source from top, bottom, left, right sides. Or adds transparency areas to top, bottom, left, right side of the video.



Use *Crop/Pad* filter if you have letter-boxed source or you want to make a letter-boxed source.

Always apply *Crop/Pad* filter first (move it at the top of the list) – that leaves to render less data, thus you can free some CPU/GPU power.

This filter acts independently of any cropping performed via 'easy cropping' function. (See [easy cropping](#) on page [125](#))



## Properties

*Relative* :

if checked, all coordinates of the image calculated as relative. Next options become available:

- *Left* :  
defines crop/pad value from the left side of the source's image.
- *Top* :

defines crop/pad value from the top side of the source's image.

- *Right* :  
defines crop/pad value from the right side of the source's image.
- *Bottom* :  
defines crop/pad value from the bottom side of the source's image.



Positive values – do cropping, negative values – do padding.

*X* :

defines new image size in pixels starting from top left corner by X coordinate (horizontal axis).

*Y* :

defines new image size in pixels starting from top left corner by Y coordinate (vertical axis).

*Width* :

defines new image width in pixels.

*Height* :

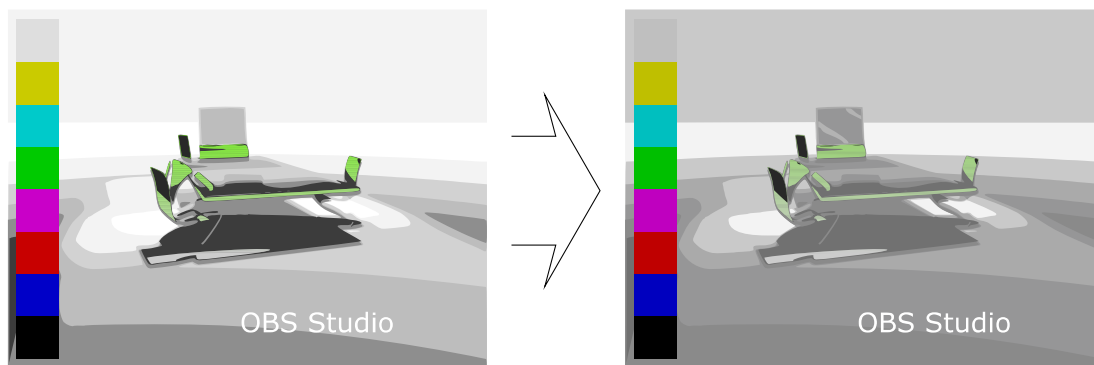
defines new image height in pixels.

## HDR Tone Mapping (Override)

HDR Tone Mapping (Override) filter overrides the default tone mapping of the HDR source to fit it into the canvas with different color range setting.



The HDR Tone Mapping (Override) filter physically modifies the final output. If you want only to preview all of your HDR sources with different luminance level on SDR display look at the [SDR White Level](#) on page [233](#).



## Properties

### *Tone Transform* :

specifies the conversion destination (resulting color range) and algorithm (Tone Mapping Operator).

### *SDR White Level* :

defines the level of luminance to render the higher “bitness” sources into lower “bitness” spaces, in nits ( $\text{cd}/\text{m}^2$ ). Option available only if *Tone Transform* setting (see above) points to the SDR destination of the final color conversion.



The multiplier = 1 (no adjustments made) when the *SDR White Level* set to 80 nits.

### *HDR Input Maximum* :

defines peak level of luminance for the input composition, in nits ( $\text{cd}/\text{m}^2$ ). Option available only if *Tone Transform* setting (see above) points to the HDR destination of the final color conversion.

### *HDR Output Maximum* :

defines peak level of luminance for the output composition, in nits ( $\text{cd}/\text{m}^2$ ). Option available only if *Tone Transform* setting (see above) points to the HDR destination of the final color conversion.



New maximum luminosity for the source needs recalculation if input luminosity of the HDR source doesn't match the parameter [HDR Nominal](#).

[Peak Level](#) on page 233 set for the whole output. Thus, sources with different ranges and different luminosity levels can be combined together on one canvas without being shaded a lot or over-brighten.

## Image Mask/Blend

Image Mask/Blend filter sets opacity or blends the source to the specified image.



*Image Mask/Blend* useful to produce round-looking camera's inputs.



## Properties

**Type :**

specifies type of mask and blend.



If alpha mask is present in the image file itself, then choose type *Alpha Mask (Alpha Channel)* to use it.

**Path :**

specifies path to local image file.

**Supported image types:** bmp, tga, png, jpeg, jpg, gif.

**Color :**

defines color tint of the image. Shows color of the background in the hexadecimal format - #RRGGBB.

**Opacity :**

defines image opacity in normalized units (from 0.0 to 1.0 that equals 0..100%).



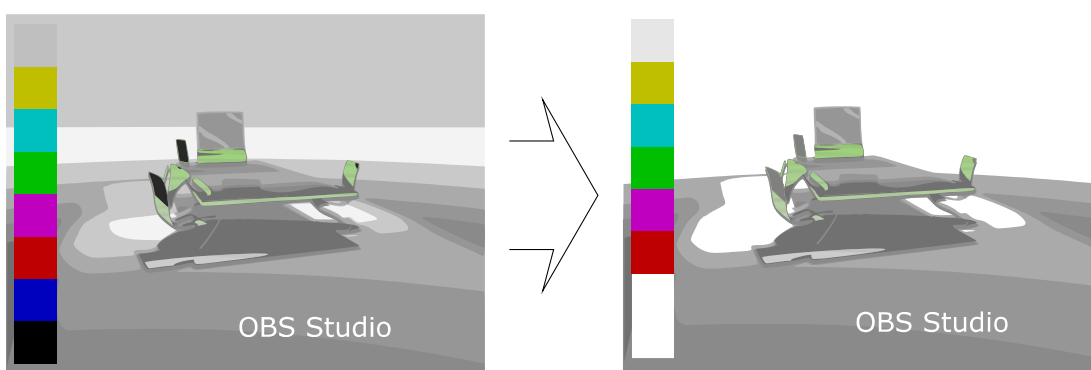
Uses linear representation of the sRGB format, thus the 0.50 setting has visual feel of the 74% of the opacity, the 0.22 has feel of the 50% etc.

**Stretch Image (discard image aspect ratio) :**

if checked, mask will be stretched to match source's size.

## Luma Key

Luma Key filter cuts video's background using information based on a specified luminance of the source (ignoring color value).



## Properties

### *Luma Max* :

defines maximum luminance that will be treated as upper value to make the pixel transparent.

### *Luma Min* :

defines minimum luminance that will be treated as lowest value to make the pixel transparent.

### *Luma Max Smooth* :

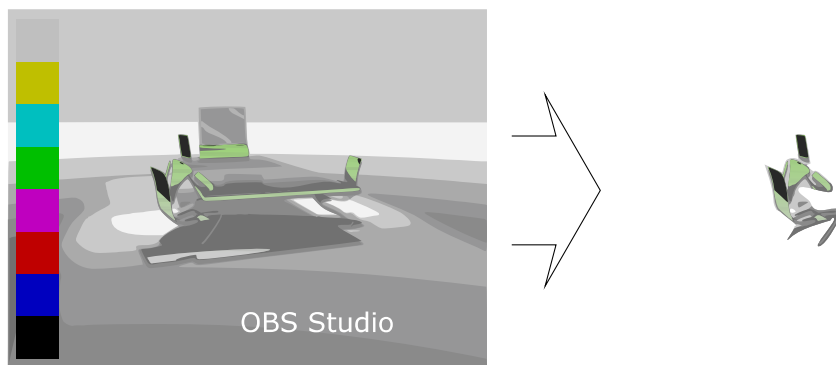
defines smooth of the pixels selection at the maximum luminance.

### *Luma Min Smooth* :

defines smooth of the pixels selection at the minimum luminance.

## NVIDIA Background Removal

NVIDIA Background Removal filter cuts video's background using AI algorithms. Based on the NVIDIA Video Effects SDK. Uses hardware acceleration. To work and enable requires NVIDIA GPUs with Tensor Cores.



### Properties

#### *Mode :*

specifies complexity of the algorithm to cut the background. Next options available:

#### *Quality (higher GPU usage, better quality) :*

if selected, algorithm is accurate and uses normal amount of GPU resources.

#### *Performance (lower GPU usage, good quality) :*

if selected, algorithm is less accurate but has low impact on GPU.

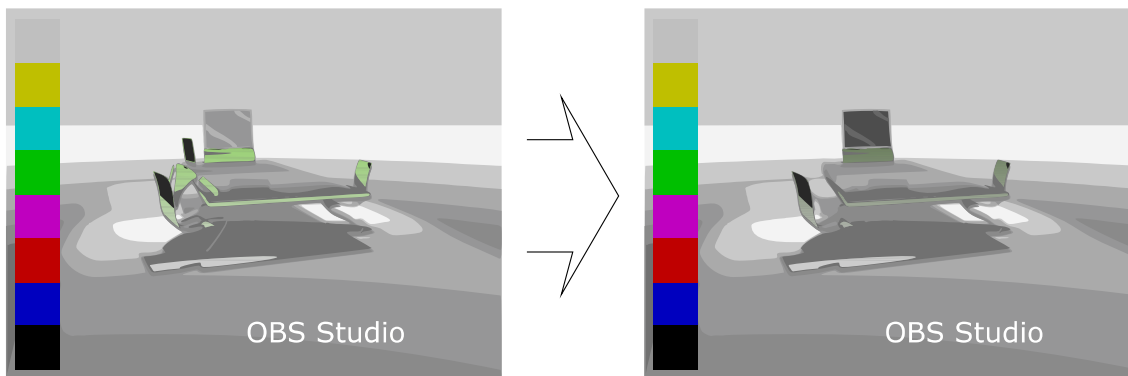
#### *Threshold :*

defines smoothness of the background cut at the edge of the main object.

 The algorithms used in the *NVIDIA Background Removal* filter also known as AI Greenscreen FX, and may not work for sources which size is less then 512x288 pixels.

### Render Delay

Render Delay filter can hold video for small amount of time (showing nothing) and only then render it.



### Properties

*Delay (milliseconds) :*

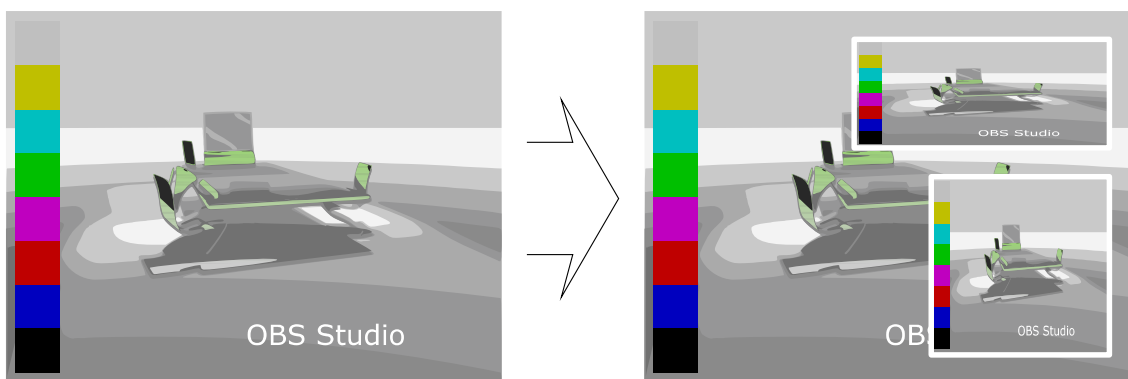
defines video delay of the source, in milliseconds.



*Render Delay* – data stored in Video RAM almost uncompressed, so 1 second of 1920x1080@30fps can cost about 94..187MB of video memory.

### Scaling/Aspect Ratio

Scaling/Aspect Ratio filter overrides default scaling filter of the source/scene.



### Properties

*Scale Filtering :*

specifies mathematics algorithm of the scaling

(interpolation algorithm).



For *Bicubic* and *Lanczos* algorithms if the item's scale is under half of the source's original size, application uses the *Bilinear Low Resolution Downscale* shader instead.

*Point* scaling allow old-looking style for retro art.

If your source (camera) produces stretched image by default, and you want to correct this, then apply filter *Scaling/Aspect Ratio* and set desirable aspect ratio of the image to the field *Resolution* (type it manually in **WidthScale:HeightScale** format, or just exact size **WidthxHeight** format).

**Resolution :**

specifies resolution or aspect ratio of the scaled image. This field must be set to other than *None* to apply filtering specified by *Scale Filtering* field.

**Undistort center of image when scaling from ultrawide :**

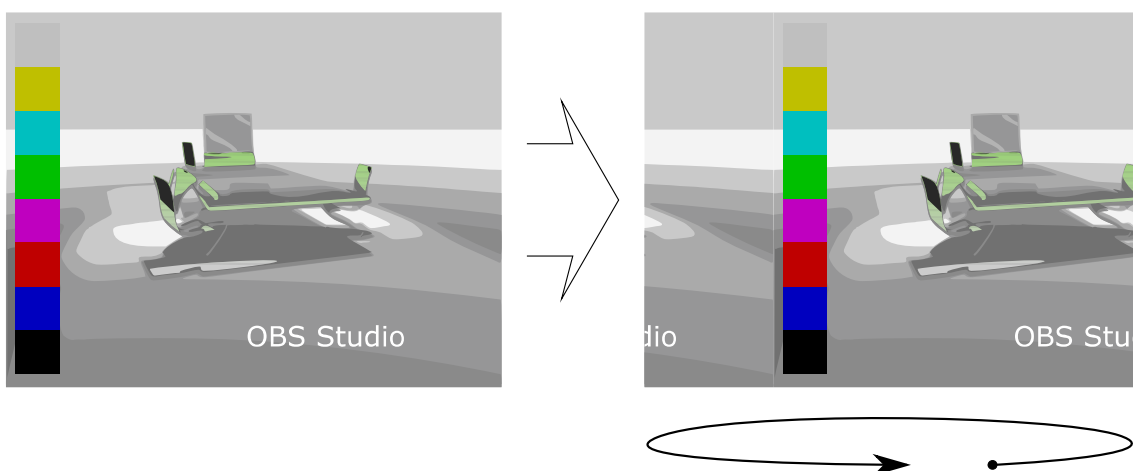
if checked, makes center of the image uniform scaled while left and right sides has distorted look.

## Scroll

Scroll filter enables source self move along the bounding box.



Use *Scroll* filter together with the text source to make scrolling string.





## Properties

### *Horizontal Speed :*

defines speed of the horizontal movement of the source inside the bounding box.

### *Vertical Speed :*

defines speed of the vertical movement of the source inside the bounding box.

### *Limit Width :*

if checked, limits scrolling width of the source.

- *Width :*  
defines max width of the scroll (where image repeats itself), in pixels.

### *Limit Height :*

if checked, limits scrolling height of the source.

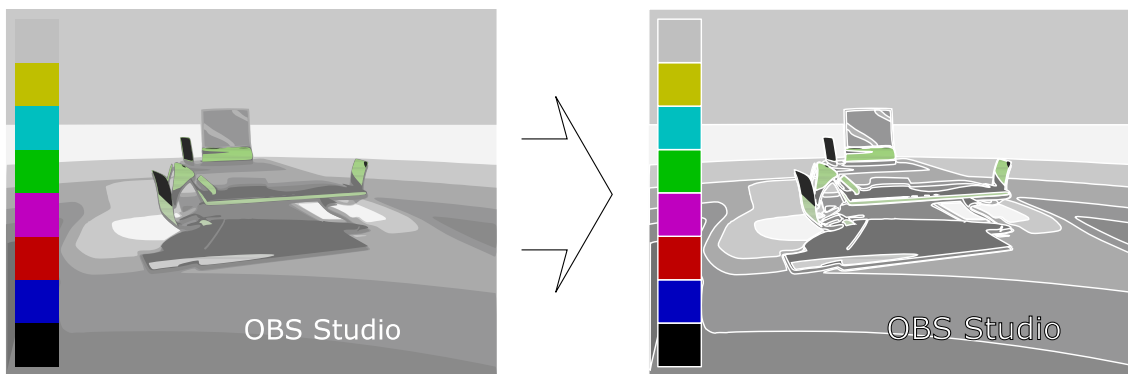
- *Height :*  
defines max height of the scroll (where image repeats itself), in pixels.

### *Loop :*

if checked, scroll source infinite times. When unchecked - scroll out only (image doesn't repeats).

## Sharpen

Sharpen filter slightly sharpens video.



## Properties

*Sharpness* :

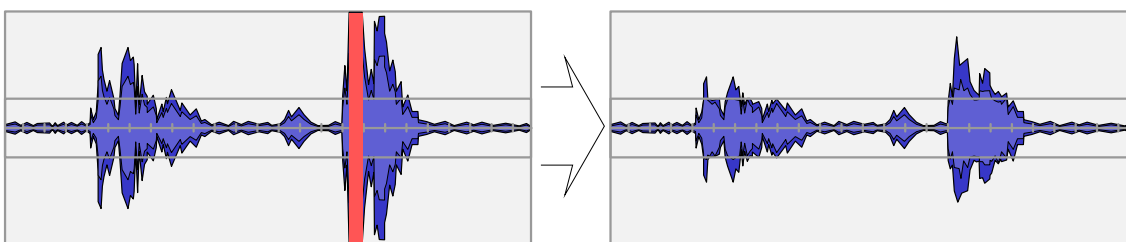
defines strength of sharpness enhancement.

---

## Sound Effect Filters (Audio/Video)

### Compressor

Compressor filter lowers dynamic range of the audio. Also, can be used as simple limiter.



## Properties

*Ratio (X:1)* :

defines compression ratio of the input signal.

*Threshold (dB)* :

defines the level from which all sounds will affect filtering by this filter, in decibels.

*Attack (ms)* :

defines front length of the sound signal, in milliseconds (how fast filter reacts on signal level change).

*Release (ms)* :

defines back length of the sound signal, in milliseconds (how fast filter fades from its changes).

*Output Gain (dB)* :

defines gain of the output after filtering, in decibels.

### *Sidechain/Ducking Source* :

specifies different audio source (if any) which will be used as side-chain audio track (helper track, smother track) to adjust current audio.

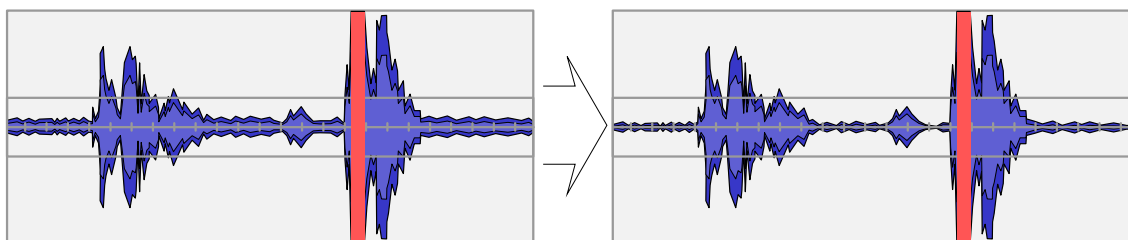


Compression value applied to the current audio source, but values to trigger this compression are taken from side-chain audio source (helper track, mute track, smother track). So, if side-chain track audio fits threshold gate then the main track is compressed (applies *Ratio ... Output Gain*). Kind of "**audio ducking**" feature when filter used as simple audio limiter.

Some systems has global build-in ducking feature, see [Windows audio ducking](#) on page [223](#)

## Expander

Expander filter uppers dynamic range of the audio. Can be used as smooth noise floor filter.



## Properties

### *Presets* :

specifies used preset. Next options available:

- *Expander* :  
sets filter's values for common use.
- *Gate* :  
sets filter's values for aggressive processing below specified threshold.

### *Ratio (X:1)* :

defines expansion ratio of the input signal.

**Threshold (dB) :**

defines minimum level below which all sounds will affect filtering by this filter, in decibels.

**Attack (ms) :**

defines front length of the sound signal, in milliseconds (how fast filter reacts on signal level change).

**Release (ms) :**

defines back length of the sound signal, in milliseconds (how fast filter fades from its changes).

**Output Gain (dB) :**

defines gain of the output after filtering, in decibels.

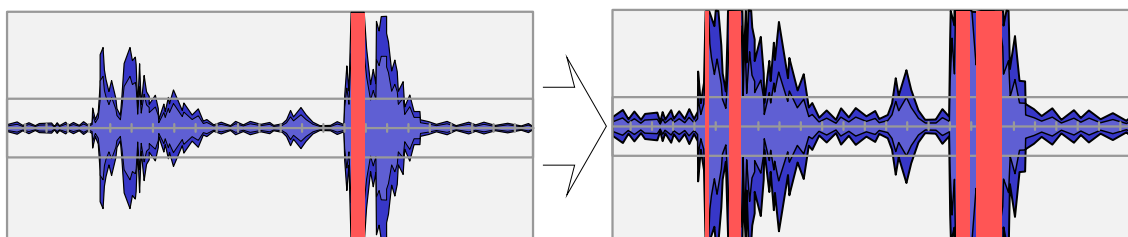
**Detection :**

specifies detector of the signal change. Next options available:

- **RMS :**  
uses Root-Mean-Square for calculation (10 milliseconds window).
- **Peak :**  
uses signal spikes detector (instantaneous values of the signal).

**Gain**

Gain filter makes audio source louder.



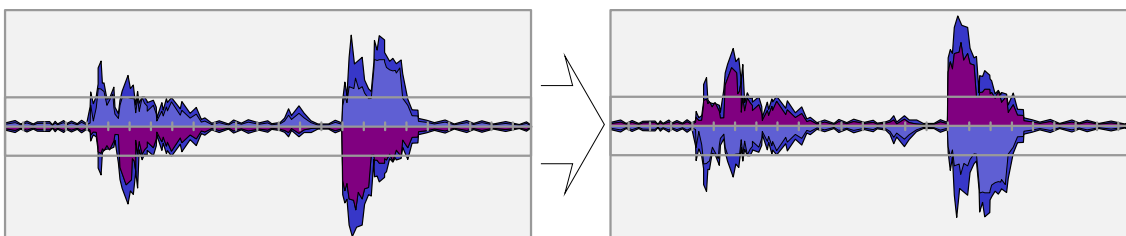
## Properties

*Gain (dB)* :

defines gain of the audio, in decibels.

## Invert Polarity

Invert Polarity filter inverts amplitude of each audio signal, making each source's channel complementary to the original.

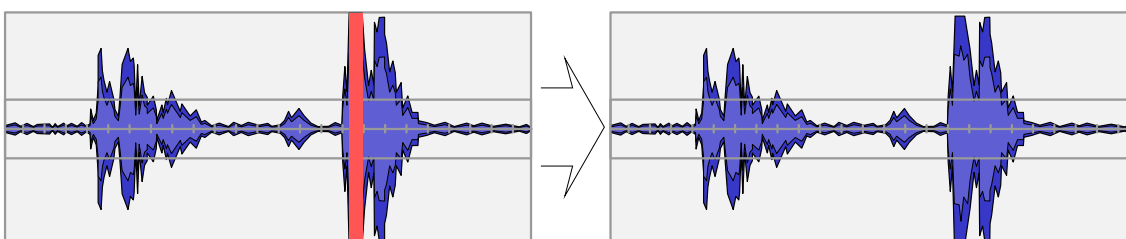


## Properties

No configurable properties available.

## Limiter

Limiter filter sets hard limits on sound amplitude. Can lower possible distortion effects for very loud sounds.



## Properties

*Threshold (dB)* :

defines the max level at which all sounds will be hard limited, in decibels.

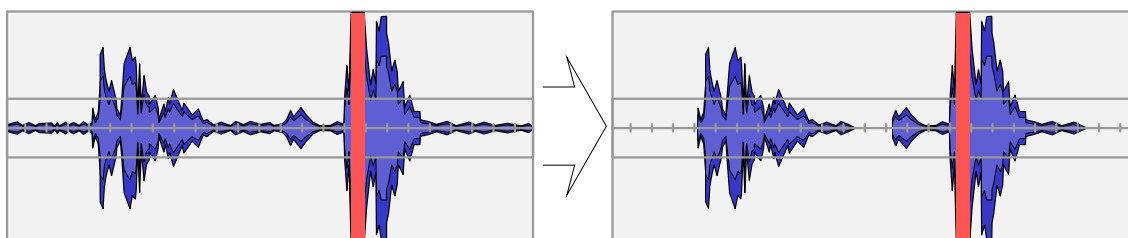
*Release (ms)* :

defines back length of the sound signal, in milliseconds (how fast filter fades from its changes).

The attack of the filter is hard-coded to 1 microsecond.

## Noise Gate

Noise Gate filter cutoff all sounds lower than defined volume level in audio input. Filters sound signal pikes on start.



## Properties

*Close Threshold (dB) :*

defines close threshold, in decibels, i.e. volume level to mute sound signal.

*Open Threshold (dB) :*

defines open threshold , in decibels, i.e. volume level to unmute sound signal.



To get best of the *Noise Gate* filter, set *Close Threshold* to minimum and set *Open Threshold* to maximum, then adjust *Open Threshold* until level meter in [Audio Mixer pane](#) begins to react (to environmental noise, if you adjusting mic), and then make adjustments to the *Close Threshold* again (about 8dB lower). For example, *Close Threshold* = -96 dB *Open Threshold* = 0 dB, you'll find out that at *Open Threshold* = -30 dB level meter begins to react, then set *Close Threshold* = -38 dB. Threshold values are negative, thus -38 dB lower than -30 dB. *Close Threshold* level value should be lower than *Open Threshold*. For mic – make all adjustments in silent.

*Attack Time (milliseconds) :*

defines front length of the sound signal, in milliseconds (duration of the fade-in).

*Hold Time (milliseconds)* :

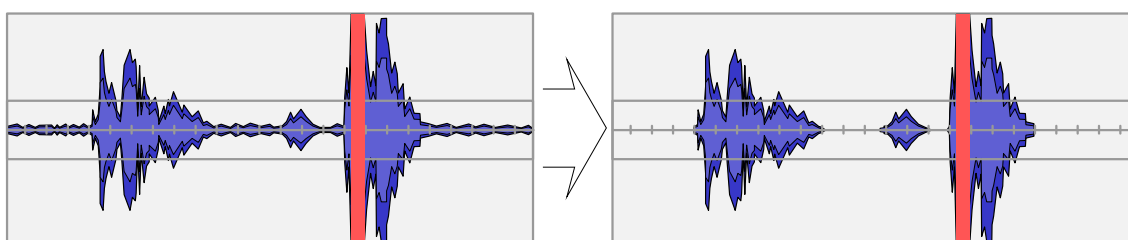
defines hold time of the sound signal, in milliseconds (duration of the pause before 'close' should trigger, when *Close Threshold* level already reached, i.e. time hysteresis for 'close').

*Release Time (milliseconds)* :

defines back length of the sound signal, in milliseconds (duration of the fade-out).

## Noise Suppression

Noise Suppression filter lowers noise level of the audio source.



## Properties

*Method* :

specifies noise reduction algorithm. Next options available:

- *RNNoise (good quality, more CPU usage)* :  
AI based algorithm.
- *Speex (low CPU usage, low quality)* :  
Algorithm based on libspeex library.
  - *Suppression Level (dB)* :  
defines noise reduction level of the audio, in

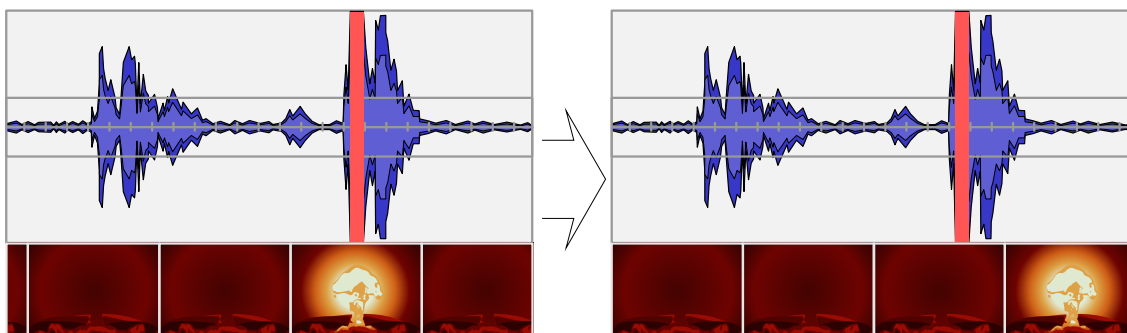
decibels. Higher value – more noise hiss removed.

- *NVIDIA Noise Removal* ,  
*NVIDIA Room Echo Removal*,  
*NVIDIA Noise Removal + Room Echo Removal* :  
AI based algorithms. Based on the NVIDIA MAXINE Audio Effects (AFX) SDK. Uses hardware acceleration. To work and enable requires NVIDIA GPUs with Tensor Cores. Depending on the setting it can remove the background noise, the empty room echo or both the room echo and the noise.
  - *Suppression Intensity* :  
defines amount of the noise reduction.  
Higher value – more noise hiss/echo removed.

### Video Delay (Async)

Video Delay (Async) filter delays video of the source, while audio capturing of the source ignores this filter. Makes video and audio asynchronous. Applies only to sources that contains both tracks (video+audio). Common usage is *Video Capture Device* source, which usually imports both tracks into OBS Studio and sometimes can link to alternate audio source or has buffered/filtered audio import that can cause additional undesirable delay.





### Properties

*Delay (milliseconds) :*

defines video delay of the source, in milliseconds.

### VST 2.x Plug-in

VST 2.x Plug-in filter can use any external VST plugin v2 installed in the system. Thus, almost any real-time audio effect is available for OBS Studio via this entry.

### Properties

*VST 2.x Plug-in :*

external plugin selection. Availability of plugins depends on system.

*Open interface when active :*

if checked, each time when plugin selected its interface window opens automatically.

**To open settings window of the external plugin** click *Open Plug-in Interface* button (button's name changes to *Close Plug-in Interface*).



By default, the VST 2.x Plug-in searches for libraries [*\*.vst | \*.dll | \*.so | \*.o*] in:

#### Mac

*/Library/Audio/Plug-Ins/VST/*

*~/Library/Audio/Plug-ins/VST/*

Win

C:/Program Files/Steinberg/VstPlugins/

C:/Program Files/Common Files/Steinberg/Shared Components/

C:/Program Files/Common Files/VST2

C:/Program Files/Common Files/VSTPlugins/

C:/Program Files/VSTPlugins/

Linux

by VST\_PATH environmental variable or:

/usr/lib/vst/

/usr/lib/lxvst/

/usr/lib/linux\_vst/

/usr/lib64/vst/

/usr/lib64/lxvst/

/usr/lib64/linux\_vst/

/usr/local/lib/vst/

/usr/local/lib/lxvst/

/usr/local/lib/linux\_vst/

/usr/local/lib64/vst/

/usr/local/lib64/lxvst/

/usr/local/lib64/linux\_vst/

~/.vst/

~/.lxvst/

# Additional Tools

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## About additional tools

OBS Studio supports external plugins. All external plugins and its settings available under the main menu *Tools* , if other not mentioned by the plugin's creator.

(See [Tools menu](#) on page [20](#))

OBS Studio will look for directories specified by the OBS\_PLUGINS\_PATH and OBS\_PLUGINS\_DATA\_PATH environment variables to load external plugins in addition to the default program's location.

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## Tools

All program tools are optional if other not mentioned.

See [Auto-Configuration Wizard](#) on page [159](#)

See [AJA I/O Device Output](#) on page [160](#)

See [Automatic Scene Switcher](#) on page [163](#)

See [Captions \(Experimental\)](#) on page [166](#)

See [Decklink Captions](#) on page [168](#)

See [Decklink Output](#) on page [168](#)

See [Output Timer](#) on page [170](#)

See [Scripts](#) on page [172](#)

See [obs-websocket Settings](#) on page [176](#)

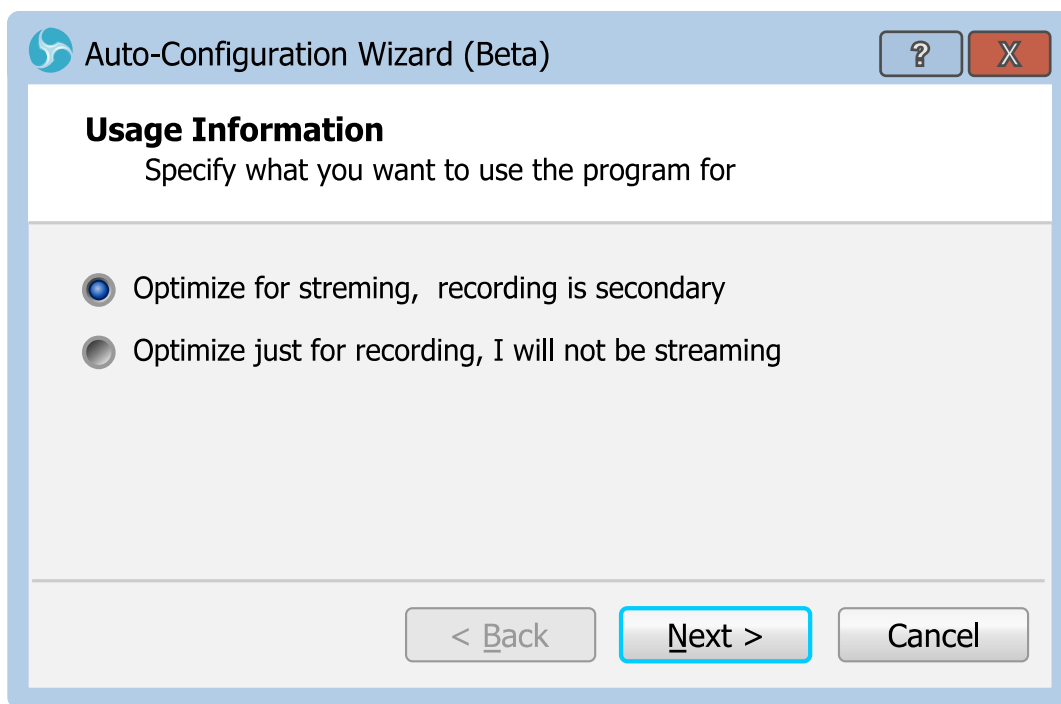
## Auto-Configuration Wizard

Auto-Configuration Wizard tool designated to automatically

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optimize application's main settings for streaming and recording.

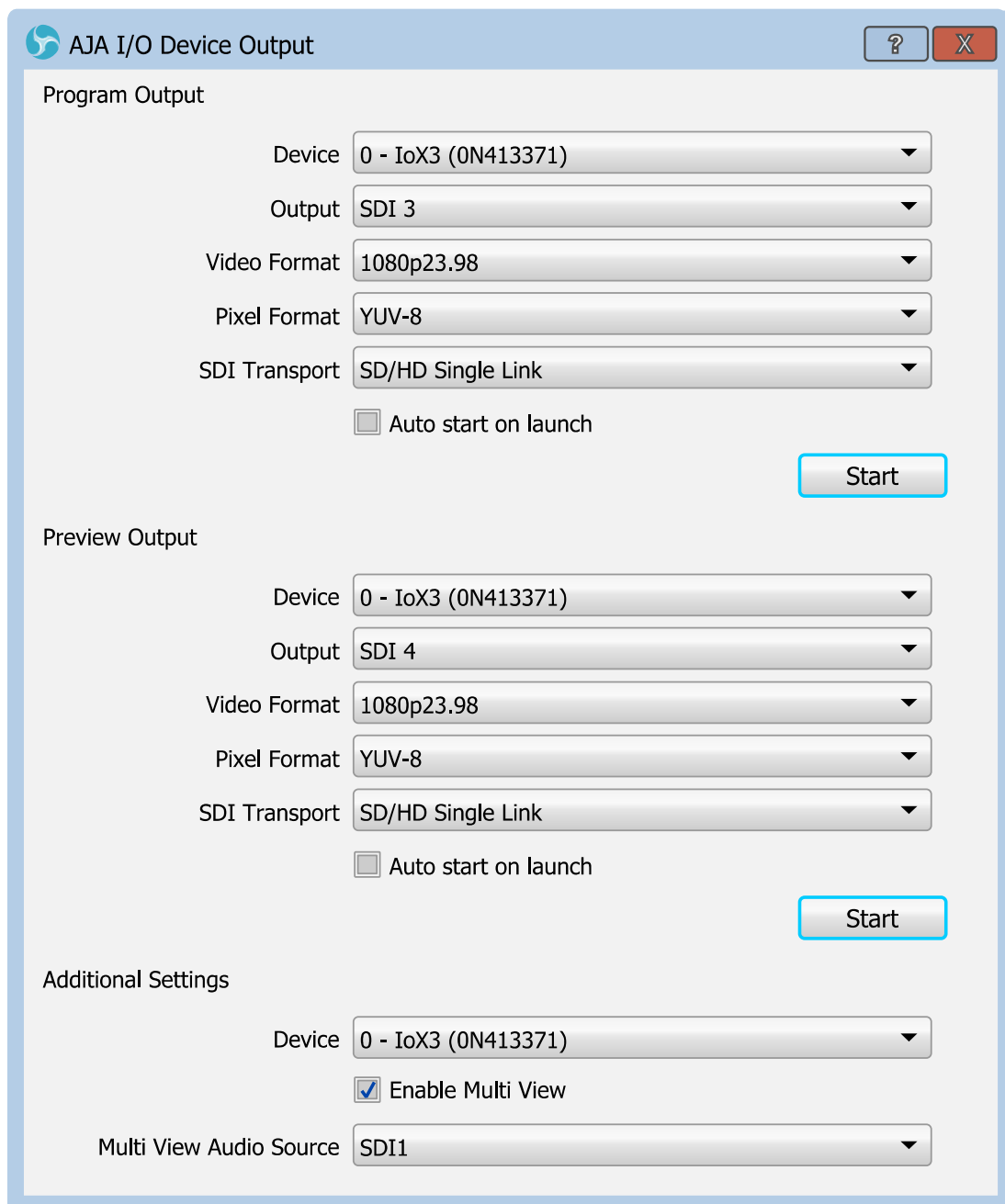


Wizard will run few performance tests of the PC and suggest to apply new optimized settings at the end.

Only single audio track setups supported by this wizard.  
(See Output Mode: [Simple](#) on page [204](#))

### AJA I/O Device Output

AJA I/O Device Output tool designed to output through the AJA Video Systems video capture devices directly from the OBS Studio.



## Properties

### *Device :*

specifies video device installed in the system.

**Supported devices:** availability of the AJA Video Systems devices depends on OS installation and hardware. AJA Video Systems devices from “Kona”, “Corvid” and “Io” product lines should work well.

*Output :*

specifies connection used for the device digital output (HDMI, SDI etc).

*Video Format :*

specifies video mode of the device digital output (1080p29.97, 720p59.94 etc).

*Pixel Format :*

specifies format of the video outputted from the device (YUV-8, BGR-8 etc).

*SDI Transport :*

specifies standard (speed) for the selected SDI output of the device. Option available when the *Output* (see above) is set to SDI.

*SDI 4K Transport :*

specifies 4K-capable standard (speed) for the selected SDI output of the device. Option available when the *Output* (see above) is set to SDI and will apply only for 4K video formats.

*Auto start on launch :*

if checked, the device output will be started with the launch of OBS Studio.

## Additional Settings Properties

(Option available only for AJA HDMI Multi View capable devices)

*Device :*

specifies video device installed in the system that will be used for the AJA HDMI Multi View feature.

*Enable Multi View :*

if checked, enables HDMI Multi View output for the selected device. Option available only when the HDMI

Multi View capable device selected.

*Multi View Audio Source* :

specifies connection that will be used for audio pass-through to the HDMI Multi View output. Option available only when the HDMI Multi View capable device selected.

**To start Program output (or the Preview's output) for the selected capture device** – click *Start* button. Button switches to checked state and its name changes to “Stop”.

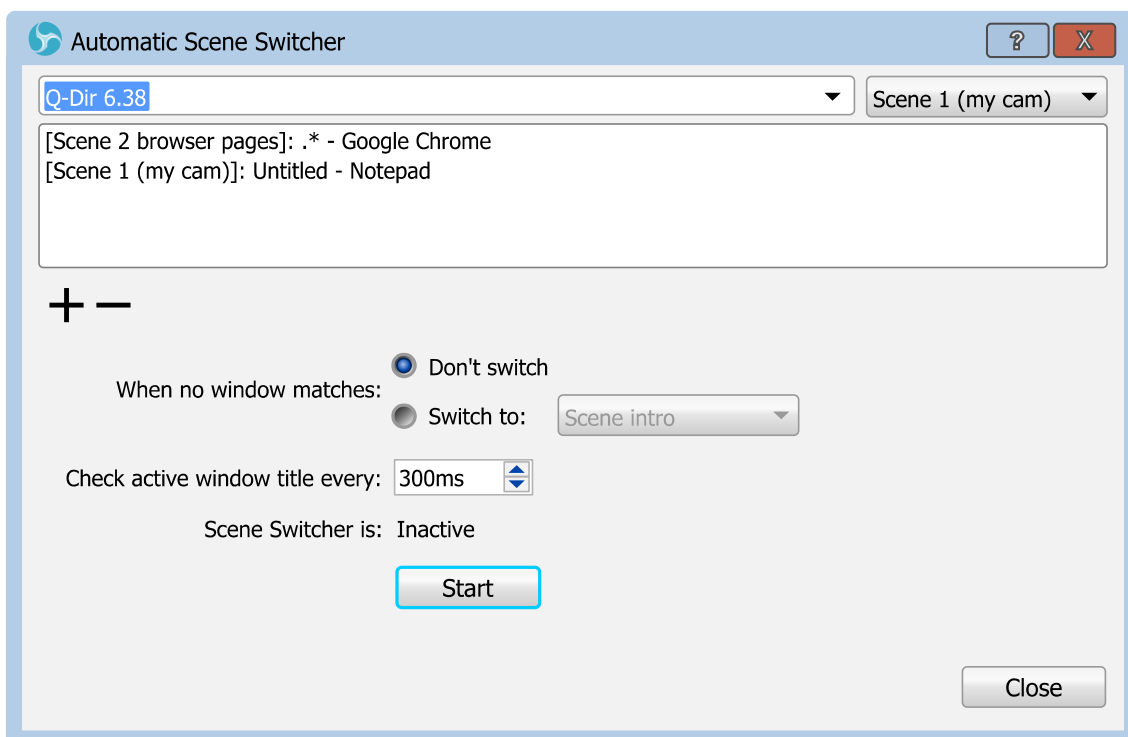
**To stop Program output (or the Preview's output) for the selected capture device** – click *Stop* button. Button switches to unchecked state and its name changes to “Start”.

To enable output of the Preview and Program (separately) – enter the *Studio Mode* of the application.

(See [Studio Mode](#) on page [187](#))

### Automatic Scene Switcher

Automatic Scene Switcher tool designed to help switch OBS Studio scenes in accordance to the current active window.



You can setup batch of the scene switching and use it when you alt-tabbing between program windows. The current output scene should change by follow your tabbing. By default, global transition's filter is used.

(See [Scene transitioning](#) on page [52](#))

## Properties

At the top of the properties window there is:

- drop down list of the available program windows (left);
- drop down list of the available OBS Studio scenes.

You can type regular expression (mask) in the field of the drop down list of the available program windows.



From the list of metacharacters `{ } [ ] ( ) ^ $ . | * + ? \` for regular expression, most popular are:

- `.` – point, matches any single character;
- `[ ]` – matches a single character that is contained within the brackets. You can specify massive of the characters inside the brackets, but only one used for compare;
- `[ ^ ]` – matches a single character that is not contained within the brackets. You can specify massive of the characters inside the brackets, all excluded from the compare;



\* – matches the preceding element zero or more times. If preceding element is "." then matches any character set (word);  
 {*m*} – matches the preceding element at least *m* times;  
 \ – with following character, a backslash causes the metacharacter to be treated as a literal character. Thus you can use "\[" as meaning of "[" character.

**Example**

Window 1 header: *OBS 0.16.0 (64bit, windows) - Profile: test01 - Scenes: test01*

Window 2 header: *OBS 0.16.1 (64bit, windows) - Profile: test01 - Scenes: test02*

Window 3 header: *OBS 0.16.2 (64bit, windows) - Profile: test01 - Scenes: test03*

Window 4 header: *OBS 0.16.0 (windows) - Profile: test22 - Scenes: test\_1*

Window 5 header: *OBS 0.16.1 (windows) - Profile: t22222 - Scenes: test\_2*

Window 6 header: *OBS 0.16.2 (windows) - Profile: t22233 - Scenes: test\_3*

.*\** – matches 1, 2, 3, 4, 5, 6;

.*\*64bit.\** – matches 1, 2, 3;

.*\*test\_.* – matches 4, 5, 6;

.*\*test\_1* – matches 4;

.*\*test0[13].\** – matches 1, 2, 3; there "1" and "3" within the brackets are literal characters, not a number;

.*\*2{3}.\** – matches 5, 6;

.*\*\(\.....\).* – matches 4, 5, 6;

*OBS 0\.16\.2.\** – matches 3, 6.

**List of the scenes and matching windows :**

specifies the list of the assignments (i.e. Scene – program Window).



: click icon to add new assignment (link/rule) to the *List of the scenes and matching windows*. New assignment (link/rule) based on the current selection of the 'program Window – Scene' pair from the two drop down lists at the top of the properties window (right above the *List of the scenes and matching windows*).



: click icon to remove selected assignment (link/rule) from the *List of the scenes and matching windows*.

*When no window matches :*

specifies action on window change when current window not on the *List of the scenes and matching windows*. Next options available:

- *Don't switch* :  
if selected, do nothing.
- *Switch to* :  
if selected, sets current scene to the scene selected from the drop down list right to the parameter.

*Check active window title every* :

defines refresh rate of the tool's window check trigger, in milliseconds.

Lower value – faster response on program window change.



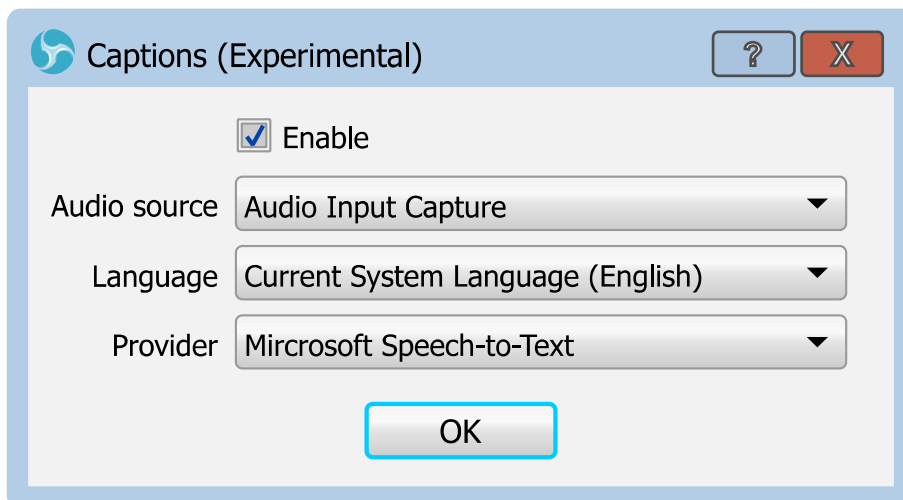
*Scene Switcher is* :

info string, showing current state of the tool (Active, Inactive etc.).

Tool activates (deactivates) by clicking *Start (Stop)* button.

### Captions (Experimental)

Captions (Experimental) tool designed to automatically add closed captions to the stream.



The Captions (Experimental) tool uses system's speech recognition engine (speech-to-text) to make closed captions. The web service and user's player must support closed captions decoding to able to see the subtitles on their screen.

### Properties

*Enable :*

if checked, enables closed captions in the stream.

*Audio source :*

specifies the source of the audio for speech recognition.

*Language :*

specifies the language of the closed captions and language for speech recognition.

*Provider :*

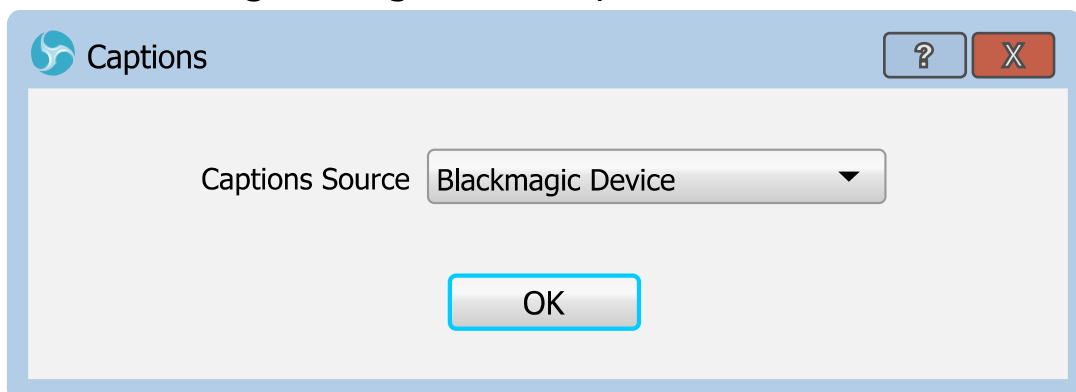
specifies external module for speech recognition that is used right now.



Availability and quality of the speech recognition depends on system.

## Decklink Captions

Decklink Captions tool designed to output via the OBS Studio the cea708 caption data obtained from the Blackmagic Design video capture devices.



## Properties

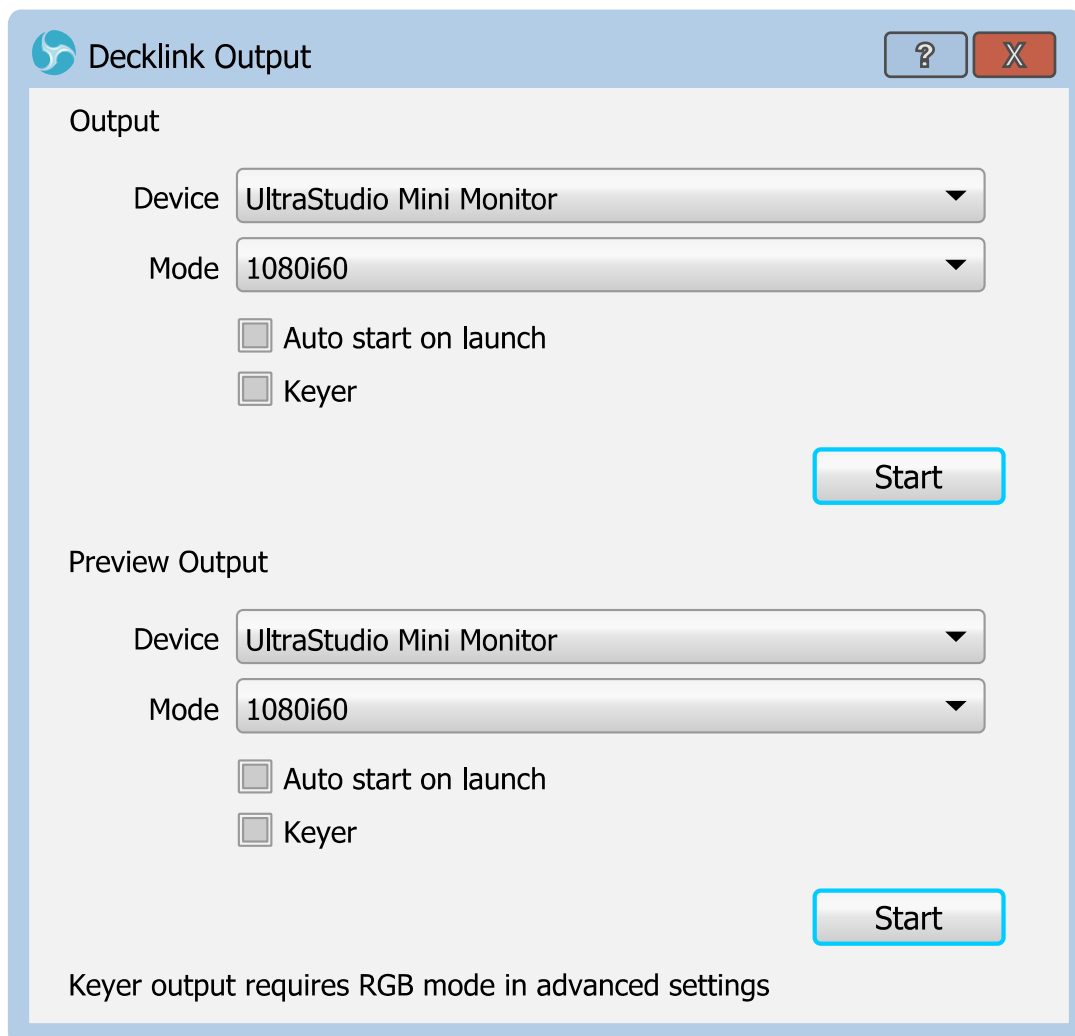
*Captions Source :*

specifies *Blackmagic Device* source from which the cea708 caption data will be transferred (interleaved) into the current OBS Studio output.

(See [Blackmagic Device](#) on page [83](#))

## Decklink Output

Decklink Output tool designed to output through Blackmagic Design video capture devices directly from the OBS Studio.



## Properties

### *Device :*

specifies video device installed in the system.

**Supported devices:** availability of the Blackmagic Design devices depends on OS installation and hardware. Blackmagic Design devices from “UltraStudio”, “DeckLink” and “Intensity” lines should work well.

### *Mode :*

specifies video mode of the device digital output (NTSC, PAL, 1080p23.98, 1080i50 etc).

### *Autostart on launch :*

if checked, the device output will be started with the launch of OBS Studio.

*Keyer* :

if checked, enables special use of the output that uses alpha channel information to acts like a “keyer” over all footage. This option needs RGB color format to be set in OBS Studio for output.

(See [Advanced](#) on page [231](#))

**To start Program output (or the Preview's output) for the selected capture device** – click *Start* button. Button switches to checked state and its name changes to “Stop”.

**To stop Program output (or the Preview's output) for the selected capture device** – click *Stop* button. Button switches to unchecked state and its name changes to “Start”.

To enable output of the Preview and Program (separately) – enter the *Studio Mode* of the application.

(See [Studio Mode](#) on page [187](#))

## Output Timer

Output Timer tool designed to automatically stop streaming or recording event after fixed amount of time elapsed.



## Properties

### *Stop streaming after :*

defines time interval to stop streaming event (hour, minutes, seconds).

### *Enable streaming timer every time :*

If checked, the timer should start countdown automatically when you begin streaming via [Start Streaming](#) button.

### *Streaming stopping in :*

shows remaining time of the streaming event.

### *Stop recording after :*

defines time interval to stop recording event (hour, minutes, seconds).

### *Enable recording timer every time :*

If checked, the timer should start countdown automatically when you begin recording via [Start Recording](#) button.

### *Recording stopping in :*

shows remaining time of the recording event.

Tool activates (deactivates) by clicking *Start (Stop)* button in accordance to the event.

You can terminate streaming/recording event before timer ends from OBS Studio main interface as usual.

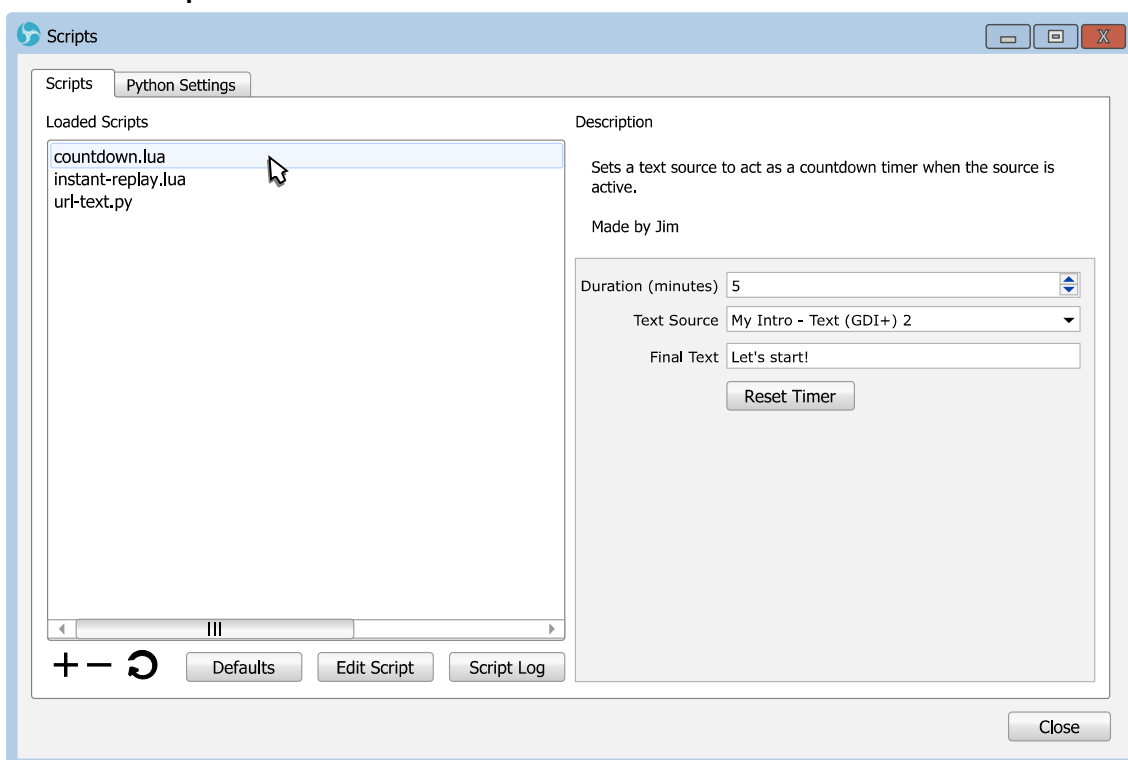
(See [Recording](#) on page [179](#))

(See [Streaming](#) on page [185](#))

Also, you can start *Output Timer* while streaming/recording already active.

## Scripts


Scripts tool designed to automate different tasks and extend application capabilities by using custom written scripts.



Programming languages supported by *Scripts* tool:

- LuaJIT v2 (which is close to Lua 5.1);
- Python v3 (see [Python Settings](#) below for details).



 Both LuaJIT (.lua) and Python (.py) written scripts can use third party external libraries – this potentially weakens the security of the system.


Improperly written scripts can result in bad capture performance and application crash.


## Properties


*Scripts* tab – holds list of the loaded scripts, its controls and options. Next controls available on this tab:

### *Loaded Scripts* :

list of the loaded scripts.

 : click icon to add new script to the list of the loaded scripts.

 : click icon to remove selected script from the list of the loaded scripts.

 : click icon to reload selected script. The script will restart.

### *Defaults* :

resets the script settings to default values.

### *Edit Script* :

opens associated editor program to change the script's algorithm.

### *Script Log* :

opens new window with script's own logging info (if any).

### *Description* :

short info on the selected script itself.

Below the *Description* there is user adjustable script's properties (optional).

*Python Settings* tab – holds controls to customize the path to the Python's main executable file (the Python installation folder).



On Windows, you must install, at least, Python v3.6 (64-bit) to be able to use the *.py* scripts files.

Location of the each already loaded script can be found under the right-click menu over the script's name, just click the *Open file location* option.

### Scripts shipped with the application:


- *clock-source.lua* :  
places new source named *Lua Clock* to the *Add* list of new sources. *Lua Clock* source renders simple analog clocks of the current system time zone.
- *countdown.lua* :  
replaces *Text* field of the specified text source with the simple countdown timer 00:00:00.
- *instant-replay.lua* :  
plays back the last [Replay Buffer](#) file in the specified media source.
- *pause-scene.lua* :  
when switching to specified scene – pauses current recording, when switching from the specified scene – continues current recording.
- *url-text.py* :  
replaces *Text* field of the specified text source with the text from the URL.

Working example of the Lua script – "**countdown.lua**" you can find in:

`application's_folder\data\obs-plugins\frontend-tools\scripts`

This script replaces *Text* field of the specified text source with the simple countdown – 00:00:00.

**To enable the "countdown.lua" script:**

- 1) add *Text (GDI+)* or *Text (Free Type 2)* source to the [Scene](#);  
(See [Getting Sources into OBS Studio](#) on page [62](#))
- 2) open *Scripts* tool;  
(See [Tools menu](#) on page [20](#))
- 3) add script by clicking **+** button and navigating the "countdown.lua" file;
- 4) click reload script button (  ) to refresh the list of recently added text sources and choose desirable one at the *Text Source* drop down list of the script's properties.

The example script ("countdown.lua") starts to work immediately.

The script will run until the end of the countdown, then message defined by the field *Final Text* of the script properties will be shown instead of the 00:00:00.

**To reset the countdown timer of the "countdown.lua" script:**

- press *Reset Timer* button of the script properties;
- disable/enable text source;  
(See [Temporary enable source](#) on page [67](#))
- switch to scene that has source affected by this script.  
(See [Scene transitioning](#) on page [52](#))

**To change the countdown duration** – just type new value in *Duration (minutes)* field of the script properties. Changes

applies immediately.

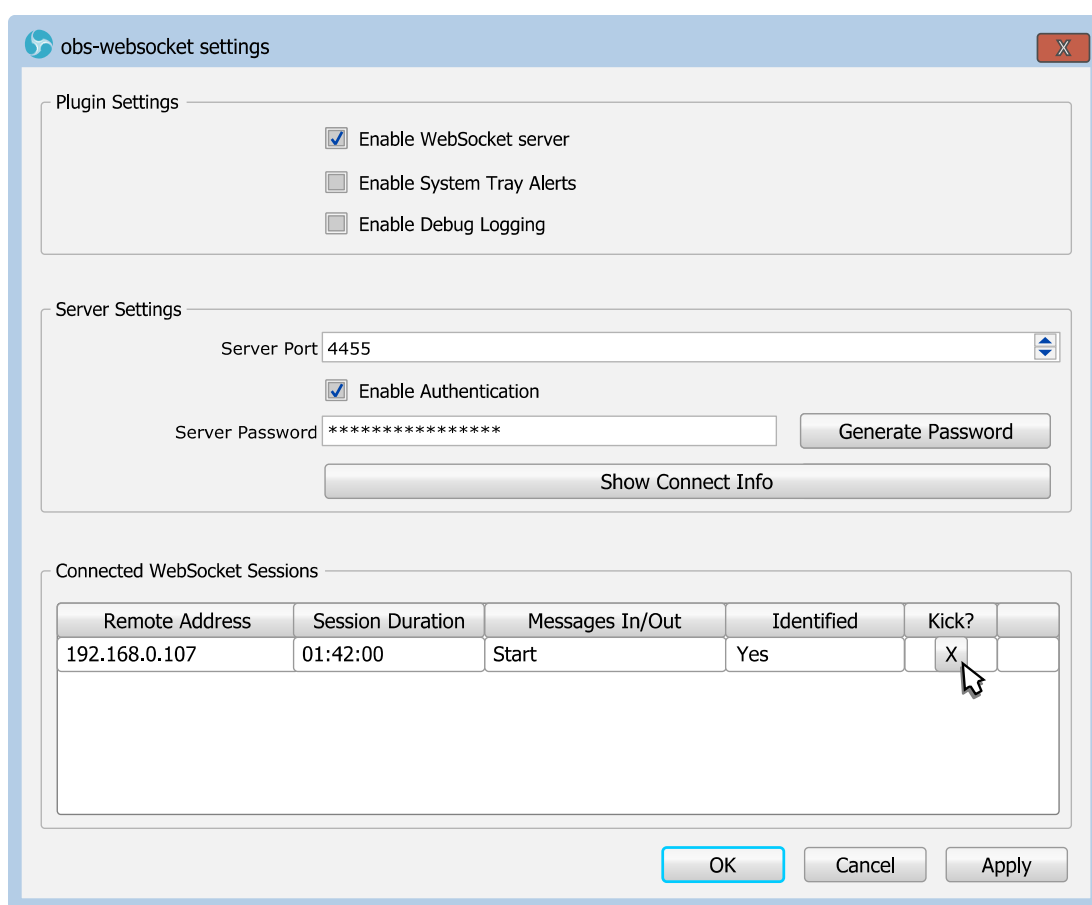


The example script "countdown.lua" doesn't work if [Duplicate Sources](#) is checked while you are working in [Studio Mode](#).

For more info on scripts writing check the developer's internet page [obsproject.com].

## obs-websocket Settings

obs-websocket Settings tool designed to support remote control of the OBS Studio by third-party programs.



OBS Studio does not shipped with the remote control program. OBS Studio only provides interface and the settings for the remote control to work, but not the program that can control the OBS Studio itself! Remote control applications should be downloaded and installed separately on the devices (smartphones, portable computers etc) that will be used to control your instance of OBS Studio.

Remote controls only available inside local network (usually to any device that is connected to the same router). Despite this

limitation, the security software of your OS still may block the application's main executable file from the external connections.



Please, check your firewall settings for any blocked operation/executable if remote control for OBS Studio doesn't work.

obs-websocket uses versioned protocol, thus OBS will NOT work with all pre-release clients (may require protocol v5.x.x and up). To be honest, the author of this doc was unable to test obs-websocket tool, because was unable to find working client v5+ at the moment of writing -\_-

If you want to expose your obs-websocket server to external Internet, you may use a third-party localhost tunneling services.

## Properties

### *Enable WebSocket Server :*

if checked, starts the special service that will monitor and execute remote requests to the OBS Studio.

### *Enable System Tray Alerts :*

if checked, the system tray will show important notifications about remote events.

### *Enable Debug Logging :*

if checked, additional info will be written to the logs for debug purposes. The setting resets on each OBS Studio start to not flood the log-file with excessive information.

### *Server Port :*

defines the port number that will be used for connection. Default value is 4455. The port should be allowed for TCP (Internet Protocol number 6) communication.

### *Enable Authentication :*

if checked, the obs-websocket server will use password check before accepting the commands from new remote clients.

*Server Password* :

defines password to connect to the server for remote control.

*Generate Password* {button} :

when clicked, a new password will be generated and used for authentication for remote control of OBS Studio.

*Show Connect Info* {button} :

opens new window where you can find and copy address/port/password in not encrypted state or get QR code with all this settings embedded to use them in specialized remote clients that supports QR scanning.

*Connected WebSocket Sessions* table – holds the list of the activity of the remote clients that are connected to the OBS Studio right now.

OBS WebSocket adds new command line keys to the main program to simplify automation of some connection tasks. (See [Command Line Keys](#) on page [244](#))

# Recording and Streaming

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## About recording and streaming

Two types of output takes place in OBS Studio:

*Local recording* – when captured material is stored on the local PC;

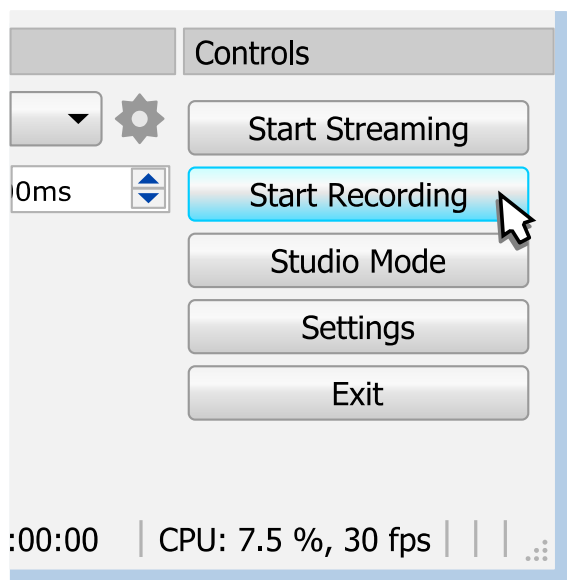
*Network streaming* – when captured material is streamed over the Web.

Both types of output in OBS Studio can be running simultaneously and independently.

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## Recording

User may start and stop record at any time. Click the button *Start Recording* to begin recording current scene.



The button's name changes to *Stop Recording*. Right to it will

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appear new pause (  ) button.



For some custom recording settings (*Use stream encoder* , *Custom Output (FFmpeg)* etc.) pause feature not available, thus the button to pause recording simply not appear.

Click the  button to pause/continue recording.

Click the button *Stop Recording* to stop recording current scene.



When stop recording triggered, button's name changes to 'Stopping Recording...'



Recording will stop automatically when disk free space is below 50 MBytes.

For fast access to your recordings, use [File menu](#) *Show Recordings*.  
(See [Show Recordings](#) on page [32](#))

To change default path where recordings stored in Output Mode: Simple, see [Recording path](#) on page [205](#).

To change default path where recordings stored in Output Mode: Advanced, see [Recording path](#) on page [213](#).

You may define hotkeys (shortcuts) to start and stop recording.  
(See [Hotkeys](#) on page [228](#))

For fine tuning Recording in Output Mode: Simple, see [Recording](#) on page [205](#).

For fine tuning Recording in Output Mode: Advanced, see [Recording tab](#) on page [212](#).



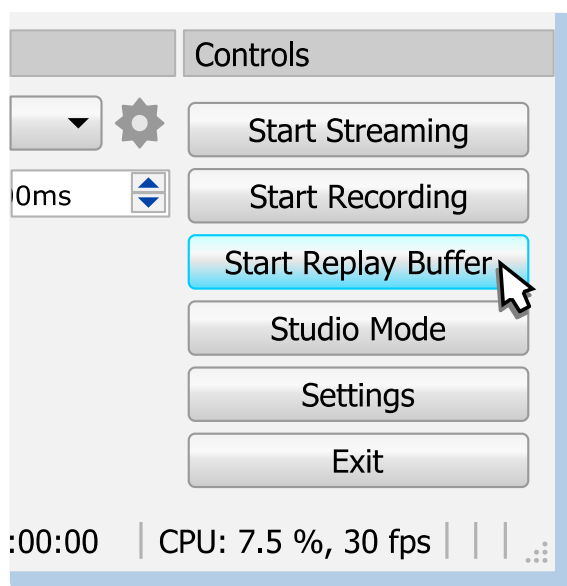
## Replay Buffer

User may start and stop Replay Buffer feature at any time. Click the *Start Replay Buffer* button to begin recording current scene to the PC memory (RAM) using circular buffer technology. This allows to save short fragment of the real-time footage (for the past few seconds) to playback it again later or repeat it immediately (i.e. make replay).


**To enable** Replay Buffer button, **check the option** [Enable Replay Buffer](#).

(See [Output Mode: Simple](#) on page [204](#))

(See [Output Mode: Advanced](#) on page [207](#))



If enabled, new button *Start Replay Buffer* added to the Controls pane.

**To save** last fragment of the recorded video **from the RAM to the disk** – use hotkey *Save Replay* or click  button (next to the *Stop Replay Buffer* button).

(See [Hotkeys](#) on page [228](#))

When Replay Buffer started, the button's name changes to *Stop Replay Buffer*.

Click the button *Stop Replay Buffer* to stop recording current scene using circular buffer technology.



When stop replay buffer triggered, button's name changes to 'Stopping Replay Buffer...'

For **fine tuning** Replay Buffer:

See [Enable Replay Buffer](#) on page [206](#) {*Output Mode: Simple*}

See [Enable Replay Buffer](#) on page [220](#) {*Output Mode: Advanced*}

---

## Virtual Camera

*OBS Virtual Camera* is special virtual device that will be added to your system programmatically. It feeds only by the running OBS. When OBS Studio is not running the Virtual Camera will show simple image as a reminder that it is in the OFF state.



Virtual Camera may not available for some systems. Originally it was designed to work for Windows based PCs only.



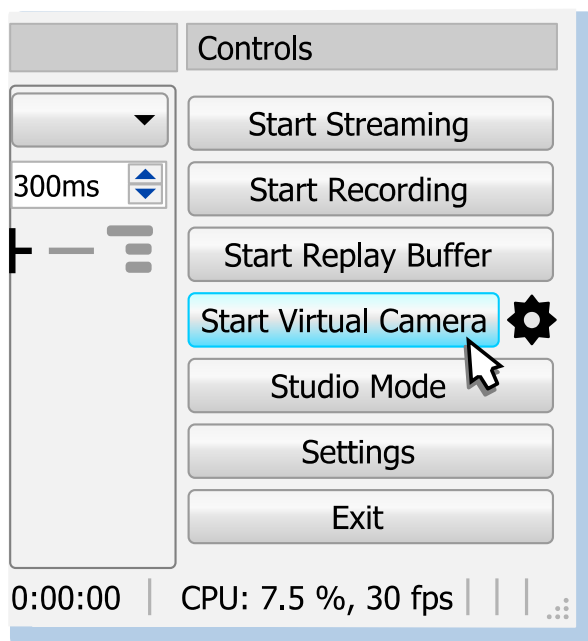
Windows implementation of the virtual camera is based on the own *obs-virtualcam-module* library.

Linux implementation of the virtual camera is based on the *v4l2loopback* library. Internally the virtual device will be started as:

```
pkexec modprobe v4l2loopback exclusive_caps=1 card_label='OBS Virtual Camera' && sleep 0.5
```

Mac will use special *obs-mac-virtualcam* plugin for virtual camera to work.

**To enable** Virtual Camera button, **make sure that the virtual device is installed** (see below for details).



To **install Virtual Camera device** for the Windows PC:

- 1) Close OBS Studio application.
- 2) Navigate next batch file in the File Explorer of the OS:

```
OBS_STUDIO\data\obs-plugins\win-dshow\virtualcam-install.bat
```

where OBS\_STUDIO is the folder where OBS Studio application is installed.

- 3) Run the `virtualcam-install.bat` file (administrator rights required).

To **uninstall Virtual Camera device** from the Windows PC:

- 1) Close OBS Studio application.
- 2) Navigate next batch file in the File Explorer of the OS:

```
OBS_STUDIO\data\obs-plugins\win-dshow\virtualcam-uninstall.bat
```

where OBS\_STUDIO is the folder where OBS Studio application is installed.

- 3) Run the `virtualcam-uninstall.bat` file (administrator rights

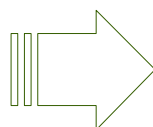
required).



Install/uninstall scripts may not work if you are running OS in the *Safe Mode* or *Server* service is stopped in other way. They both will fail in administrator rights check. As quick workaround just edit both `.bat` files in the next way. Below only first 3 rows are shown. The `checkAdmin` label was replaced with the `checkDLL/uninstallDLLs` depending on the file:

virtualcam-install.bat

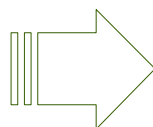
```
@echo off
@cd /d "%~dp0"
goto checkAdmin
```



```
@echo off
@cd /d "%~dp0"
goto checkDLL
```


virtualcam-uninstall.bat

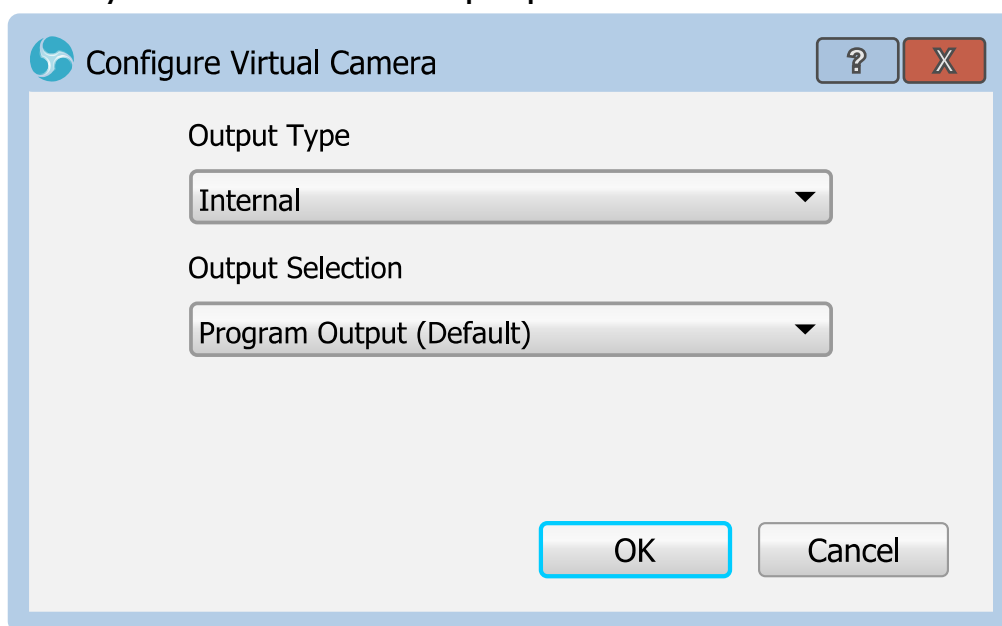
```
@echo off
@cd /d "%~dp0"
goto checkAdmin
```



```
@echo off
@cd /d "%~dp0"
goto uninstallDLLs
```

Save changes and run the scripts again (administrator rights still required).

To configure the feeder of the Virtual Camera click  icon right to the *Start Virtual Camera* button. New window will appear where you can set camera properties.



## Properties

### *Output Type :*

specifies the feeder type, either whole composition of scenes or just single source goes to the Virtual Camera.

### *Output Selection :*

specifies exact feeder source for the Virtual Camera.

To **start feeding the Virtual Camera** click *Start Virtual Camera* button. The button's name will change to *Stop Virtual Camera*

To **stop feeding the Virtual Camera** with the OBS output click *Stop Virtual Camera* button.

OBS Virtual Camera feed can be started automatically by using corresponding command line keys.

(See [Command Line Keys](#) on page [244](#))

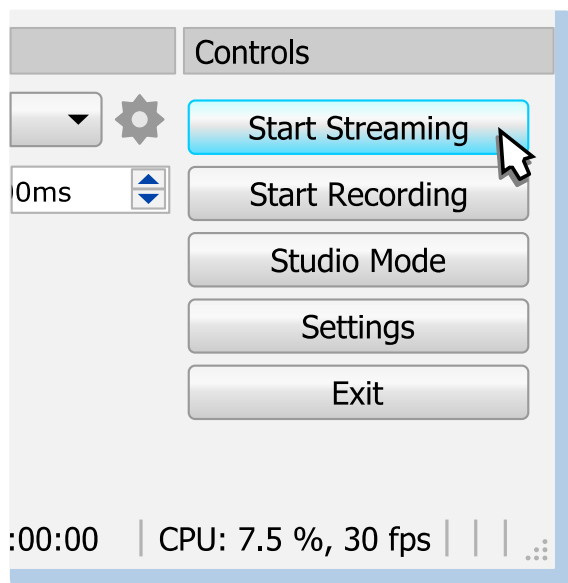


The output of the *OBS Virtual Camera* may be shown in other applications as mirrored. It is normal. Different network conferencing programs usually flips the preview of the device for the owner only but transmits the video as not flipped.

---

## Streaming

User may start and stop stream at any time. Click the button *Start Streaming* to begin streaming current scene.



The button's name changes to *Stop Streaming*.

Click the button *Stop Streaming* to stop streaming current scene.



If you enable *Stream Delay* (buffer), then you'll have two possible options to stop the stream: by click *Stop Streaming* and choose 'Stop Streaming' – application transmit data until empty buffer; or by click *Stop Streaming* and choose 'Stop Streaming (discard delay)' – application immediately stops data transmit.  
(see [Advanced](#) on page [231](#))



When stop streaming triggered, button's name changes to 'Stopping Stream...'

To **change the streaming URL** and web server settings see [Stream settings](#) on page [201](#).

You may **define hotkeys** (shortcuts) to **start and stop streaming**.  
(See [Hotkeys](#) on page [228](#))

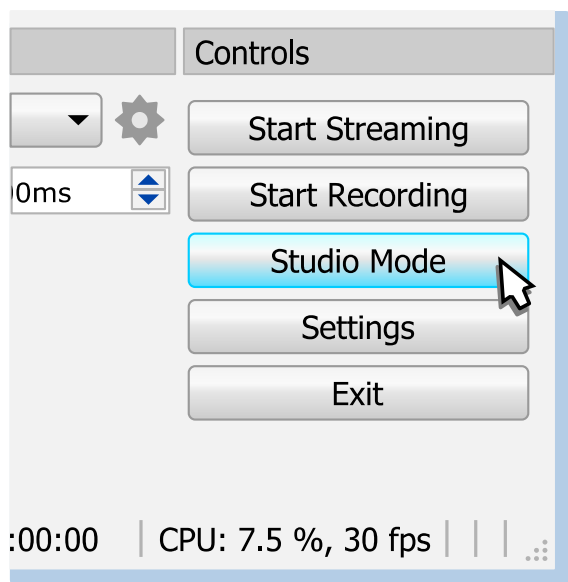
For **fine tuning** Streaming in Output Mode: Simple, see [Streaming](#) on page [204](#).

For **fine tuning** Streaming in Output Mode: Advanced, see [Streaming tab](#) on page [207](#).

## Studio Mode

While streaming or recording you can edit scenes without affecting an output.

To enter the **Studio Mode**: click the *Studio Mode* button (main window).



The button's color changes to 'selected' state (blue).

The preview canvas splits into two screens:

- The left one – scene to edit (or “Preview”).

- The right one – actual output (or “Program”), not editable.

(See [Illustration 12. Studio Mode view](#) on page [189](#))

For vertical layout (portrait mode of the display):


- The top one – actual output (or “Program”), not editable.

- The bottom one – scene to edit (or “Preview”).

(See [Enable portrait/vertical layout for Studio Mode](#) on page [200](#))

To make any changes to scenes in Studio Mode: select scene from the [Scenes](#) list pane and edit it in the left screen.

To adjust Studio Mode interface see [General settings](#) on page [196](#).

To adjust Studio Mode options click  icon at the center of the main window. Next options available:

#### *Duplicate Scene :*

if checked, [Scene](#) virtually doubled, thus you can edit current output scene, while keeping the 'old scene version' at the output. Only transform, position and visibility of the layers are editable.



Always keep *Duplicate Scene* checked if you planning to edit all scenes 'live', including current scene.

#### *Duplicate Sources :*

if checked, sources inside scene virtually doubled, thus you can edit also [Sources types & properties](#). Option accessible only if *Duplicate Scene* is checked.



Not all sources able to copy themselves virtually – changes completed to such sources properties would be shown immediately. First, try to edit not current scene: select current scene (it goes to output), enter [Studio Mode](#), select desirable scene, complete changes, and then make transition (or [exit Studio Mode](#) and switch to already changed scene later).

#### *Swap Preview/Program Scenes After Transitioning :*

if checked, after transition completed in *Studio Mode*, OBS Studio will select scene that was on output before that



transition.



Check *Swap Preview/Program Scenes After Transitioning* if you planning to change and switch between two editable scenes too often. It is rare setting, you may leave it unchecked.

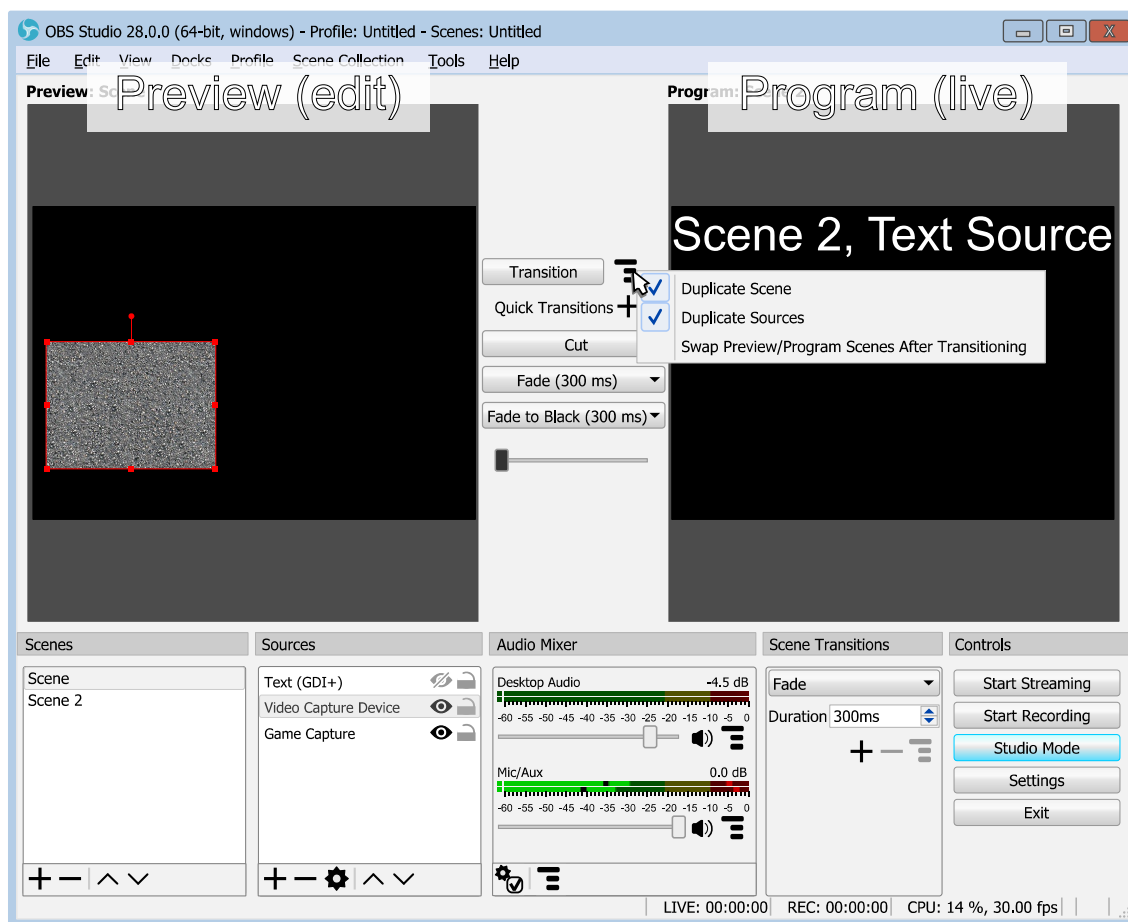


Illustration 12. Studio Mode view

The **changes** made to the scene **become visible** (goes to the output) when you:

- click on *Transition* button (at the center of the main window – between left and right previews);
- double-click [Scene](#) in [Scenes](#) list pane (depending on application's [General settings](#));  
(See [General settings](#) on page [196](#))
- double-click previews in [Multi-view of scenes](#) window.

(See [Multi-view of scenes](#) on page [49](#))

- click [Quick Transitions](#) buttons (at the center of the main window – between left and right previews).
- drag the *T-bar* (at the center of the main window – between left and right previews) from far left to far right position.

New transition type in Studio Mode can be added via *Quick Transitions* button: click  icon at the center of the main window and choose new transition type.

Each *Quick Transitions* is adjustable via its own drop-down menu.

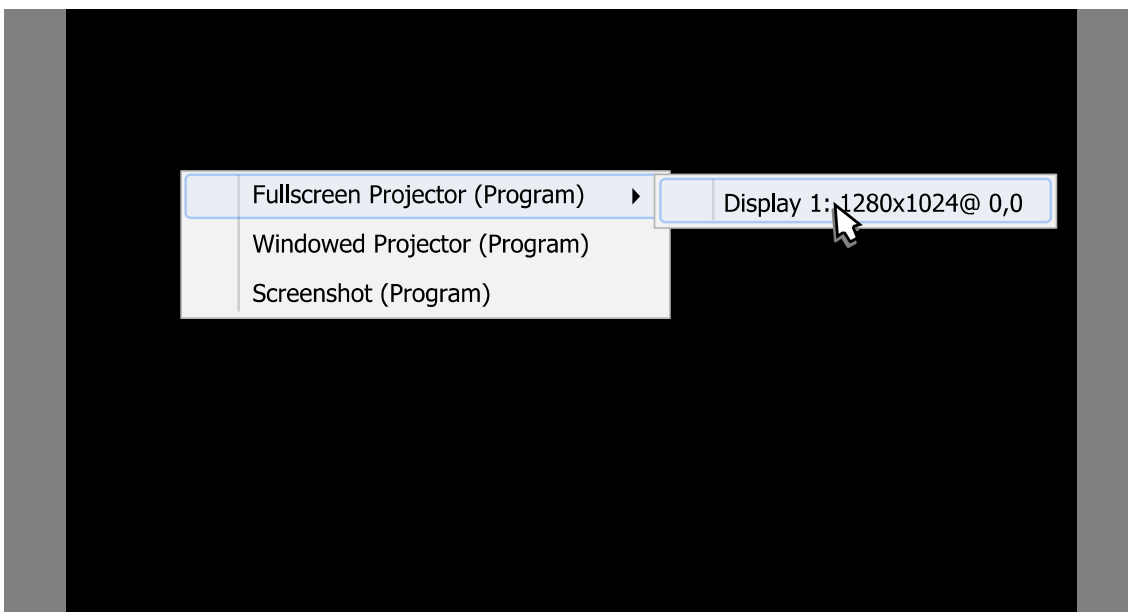
This *Quick Transitions* accessible via application's [Hotkeys](#) too.

*Quick Transitions* ignores [Transition Override \(per scene transitions\)](#) scene setting.

### Full screen preview (program)

To preview program (live) output in full screen:

- 1) enter [Studio Mode](#);
- 2) right-click in the right view ("Program") of the *Studio Mode*;
- 3) choose sub-menu *Fullscreen Projector (Program)*;
- 4) select output device.



To exit full screen preview mode: press *Esc* button.

### Windowed Projector (program)

To preview program (live) output in standalone resizable window:

- 1) enter [Studio Mode](#);
- 2) right-click in the right view ("Program") of the *Studio Mode*;
- 3) choose sub-menu *Windowed Projector (Program)*.

To **change the projector type** between **windowed mode/full screen mode**: right-click over the projector window and choose corresponding menu.

The *Fit window to content* option of windowed projector when clicked just fits the oversized window to the source borders (removes black bars during manual resize if there left any).

To **make projector displayed over the other windows**: right-click over the projector window and click *Always On Top* menu

option.

Program (live) preview as well as editable window preview also available at multi-view window.

(See [Multi-view of scenes](#) on page [49](#))

To **exit Studio Mode** click the button *Studio Mode* again.



Exit from Studio Mode doesn't change an output. OBS Studio will display current output scene (that was on right half of the screen or "Program") at preview window.

# Themes

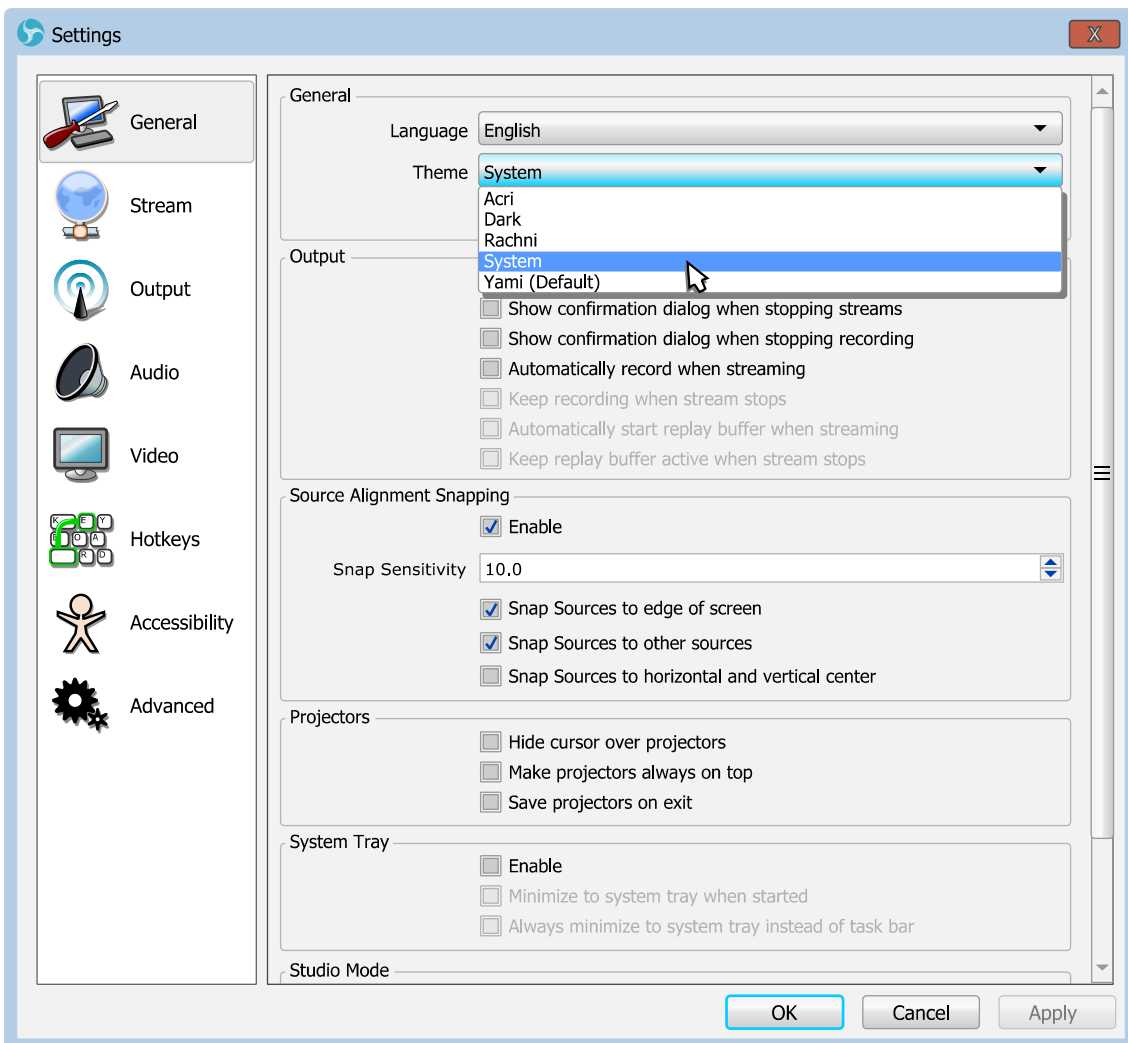
## About themes

OBS Studio can use different program themes (skins).

The 'Dark' theme suitable for evening time streaming, while 'System' theme is versatile.

## Changing current theme

To change current theme click *Settings* button. Navigate to [General](#) options in Settings window, choose a new theme from the drop-down list and click *OK* button to save changes.



## Custom themes

OBS Studio Studio uses *.qss* file format to store application themes (skins). To use any custom theme – place the folder named “themes” (with *\*.qss* files in it) to the user's folder where application stores its profile-based files and settings. Use [File menu](#) to access this folder.

(See [Show Settings Folder](#) on page [32](#))

Make sure that theme name is unique. Otherwise application will use default theme. New theme will be available under the same list with the pre-installed ones.

(See [General settings](#) on page [196](#))

Qt Style Sheet terminology and syntactic rules are almost identical to those of HTML Cascading Style Sheets (CSS) but adapted to the world of widgets.

If you novice to CSS and Qt programming but still want to start your own theme, it is wise to begin from the default themes pre-installed with the application.

---

# Manage Profiles

---

## About profiles in OBS Studio

All program preferences stored as profiles. You can use different settings for frequently used tasks by simply changing profiles.

To change, make new, rename, duplicate, remove, import or export profile use main menu *Profile*.

(See [Profile menu](#) on page [23](#))



More likely path for output and encoder settings will be stored in the profile.

Any information related to [Sources](#) stored in *Scene Collections*.

(See [Scene Collections menu](#) on page [21](#))



Hotkeys, Push-to-talk keys etc. stored in *Scene Collections*, so it is good practice to change *Profile* and *Scene Collections* simultaneously.



# Application Settings

---

## About settings

By default, application is ready to record and to stream out-of-the-box. But for a fine tune and for individual requirements you can adjust every option on your wish. All the settings available through the *Settings* button, main window, or same [File menu](#) option.

---



## General

There is options to specify default interface language, theme, confirmations and snapping options.

## General settings

Defines common settings of the application user interface.

### General

*Language :*

specifies interface language.

*Theme :*

specifies appearance of the program (skin).

(See [Themes](#) on page [193](#))

*Automatically check for updates on startup :*

if checked, the program shall check the update server for new versions of the software available each time it starts.

*Open stats dialog on startup :*

if checked, the [Stats](#) window will open automatically each time you run the application.





*Hide OBS windows from screen capture :*

if checked, the OBS Studio own window will not appear in the capturing software (including OBS Studio itself). Option available only when supported by the system.

## Importers

*Search known locations for scene collections when importing :*

if checked, application will try to find and suggest for import all project files from the supported third party streaming software. Otherwise, user should point to the desirable files manually.

## Multiview

*Click to switch between scenes :*

if checked, allows mouse clicks over the *Multi-view of scenes* previews to switch between *Scenes*.

*Show scene names :*

if checked, shows in previews the labels of the scene names.

*Draw safe areas (EBU R 95) :*

if checked, shows camera safe areas over Preview window in multi-view according to EBU R 95 recommendations.

*Multiview Layout :*

specifies number of the scene previews and its position.  
(See [Multi-view of scenes](#) on page [49](#))

## Output

*Show confirmation dialog when starting streams :*

if checked, confirmation dialog will appear before stream

begins.

*Show confirmation dialog when stopping streams :*

if checked, confirmation dialog will appear before stream ends.



Check *Show confirmation dialog when stopping streams* and *Show confirmation dialog when starting streams* to avoid stop/run a stream by accident.

*Show confirmation dialog when stopping recording :*

if checked, confirmation dialog will appear when recording is about to stop.

*Automatically record when streaming :*

if checked, both streaming and recording started after [Start Streaming](#) button pressed.

- *Keep recording when stream stops :*  
if checked, recording stops only by user action on [Stop Recording](#) button. Option available only if *Automatically record when streaming* is checked.

*Automatically start replay buffer when streaming :*

if checked, both streaming and replay buffer started after [Start Streaming](#) button pressed. Option available only if [Enable Replay Buffer](#) is checked.

(See [Replay Buffer](#) on page [181](#))

- *Keep replay buffer active when stream stops :*  
if checked, replay buffer stops only by user action on [Stop Replay Buffer](#) button. Option available only if *Automatically start replay buffer when streaming* is checked.

## Preview

*Hide overflow :*

if checked, drawing of the bounding box area of the source outside the canvas will be disabled.

*Overflow always visible :*

if checked, for all sources but hidden will be drawn its bounding box areas that lies outside the canvas (no matter if these sources selected or not).

*Show overflow even when source is invisible :*

if checked, the drawing of the bounding box area of the source that lies outside the canvas will be enabled for hidden sources too.

*Draw safe areas (EBU R 95) :*

if checked, shows camera safe areas over Preview window in regular and studio-mode according to EBU R 95 recommendations.

*Show pixel alignment guides :*

If checked, shows distance from sides of the source to all 4 borders in the Preview window. The distance is in pixels. Guides shows direction of the measurement.

## Projectors

*Hide cursor over projectors :*

if checked, cursor shouldn't appear over the projector's screen until right-click action performed by the user.

(See [Full screen preview \(canvas\)](#) on page [35](#))

*Make projectors always on top :*

if checked, other windows shouldn't appear over the projector's screen.

*Save projectors on exit :*

if checked, projector's screen position (Display) remembered on exit and restored upon application startup.

*Limit one fullscreen projector per screen :*

if checked, any new fullscreen projector will replace all

existing fullscreen projectors on the same screen. Thus, over/under placement not allowed.

## Source Alignment Snapping

*Enable :*

if checked, source's bounding box will 'magnetize' to selected elements of the preview window. Next options adjustable when *Source Alignment Snapping: Enable* checked:

- *Snap Sensitivity :*  
defines strength (width) of the snapping zone, in pixels.
- *Snap Sources to edge of the screen :*  
if checked, all sources can snap to edges of the preview window.
- *Snap Sources to other sources :*  
if checked, source can snap to bounding box of another source.
- *Snap Sources to horizontal and vertical center :*  
if checked, source can snap to center of the preview window.

## Studio Mode

*Transition to scene when double-clicked :*

if checked, enables transition to scene by double-click over any scene in [Scenes](#) list pane when in [Studio Mode](#).

*Enable portrait/vertical layout for Studio Mode :*

if checked, enables vertical layout of Preview/Program windows (the Program above the Preview window) when in [Studio Mode](#).

## System Tray

### *Enable :*

if checked, application's icon added to the system tray. You can hide/show application window via tray icon menu.

- *Minimize to system tray when started :*  
if checked, application starts minimized. You can show application from the tray icon menu. Option available only if *Enable* to the system tray is checked.
- *Always minimize to system tray instead of task bar :*  
if checked, when user presses 'minimize window' button – application hides to system tray. Option available only if *Enable* to the system tray is checked.



## Stream

There is options to specify streaming Web service, streaming server, individual stream key or link your account from the web service to the current OBS Studio setup.

### Stream settings

You can use automatically updated list of supported web services or customize your own server

### *Service :*

- specifies a Web service you want to stream to by selecting it from the list of available services.



Some services can add its own docking panes to the user interface of OBS Studio for convenience.

(See [View menu](#) on page [26](#))

- Select *Show All...* from the list to show full list of available services.
- Select *Custom...* from the list to configure your own target server.

*Connect Account (recommended)* {button} :

when clicked opens build-in browser login window to log in to the selected [Service](#).

*Use Stream Key* {button} :

when clicked next options becomes available:

- *Server* :  
specifies the server from the list of the available servers for the selected [Service](#).
- *Stream Key* :  
specifies individual user's stream key. By security reasons key shown wildcards.



Usually, stream key (“stream name” for some services) provided by Web service, in way defined by Web service itself.

- *Show* {button} :  
when clicked, *Stream Key* showed normally (no wildcards).
- *Get Stream Key* {button} :  
when clicked, opens in default browser web page of the [Service](#) where you can get your individual *Stream Key*.

*Ignore streaming service setting recommendations* :

if checked, no restrictions will be set to the maximum output settings (resolution, bitrate etc.) for the current stream.

### Service: **Custom...**

When selected, next options becomes available:

*Server* :

specifies URL to streaming server.

*Stream Key* :

specifies individual user's stream key to the selected server. By security reasons key shown wildcards.

- *Show {button}* :  
when clicked, *Stream Key* showed normally (no wildcards).

*Use authentication* :

if checked, next options available:

- *Username* :  
specifies login on server, if required.
- *Password* :  
specifies password to login on server, if required.
  - *Show {button}* :  
when pressed, *Password* showed normally (no wildcards).



## Output

There is options to define encoder settings, bitrate, output path and number of audio tracks available in output video.

### Output Mode

Under the *Output Mode*: [Simple](#) only one audio track (#1) is forced to output stream/record.

Set *Output Mode* to [Advanced](#) to get advantage of the multi-track feature.

To set *Output Mode* to [Advanced](#) , navigate to *Output* options in *Settings* window, choose *Output Mode*: [Advanced](#) from the drop-down list and click *Apply* button to save changes.

## Output Mode: **Simple**

### Streaming

- *Video Bitrate* :  
defines encoding bitrate for the output video. Value in kbps.
- *Audio Bitrate* :  
defines encoding bitrate for the output sound. Value in kbps.
- *Encoder* :  
encoder type. Default value depends on hardware configuration, versatile one is 'Software (x264)'.



Availability of encoders depends on PC configuration and selected streaming service.

(See [Stream settings](#) on page [201](#))

- *Encoder Presets* :  
presets that increases scanning deep of the encoder algorithm for motion detection. Highest value is *ultrafast* (no scan) for x264 encoder. Lowest value is *fast* (deep scan) for x264 encoder.



Set *Encoder Presets* to *veryfast* or *superfast* – most modern CPUs unable to encode high resolution video in real-time with x264 encoder under lower presets without frames drop. Lower presets generates video with higher quality at the same bitrate. For more details see [CPU usage Preset \(higher = less CPU\)](#) on page [210](#).



- *Enable Custom Encoder Settings (Advanced)* :  
when checked, new options for the encoder available:

- *Twitch VOD Track (Uses Track 2)* :

if checked, audio track #2 will be streamed to the special Twitch VOD service as separate audio track.



**EnableCustomServerVodTrack** parameter set to **true** under the **[General]** section of *global.ini* allows to enable setting a VOD track for any custom service.

(See [Show Settings Folder](#) on page 32)

- *Custom Encoder Settings* :

defines custom encoder settings that overrides any preset settings, parameters separated with space. For example, *qp=24 bframes=0 colormatrix=bt470bg*



List of the parameters depends on the encoder. Default encoder is x264. Look for parameters list on the developer's internet page [[obsproject.com](#)]. Make sure that keys separated with space (no invisible special symbols).

## Recording

- *Recording path* :  
defines directory (folder) where new recordings will be stored.
- *Generate File Name without Space* :  
if checked, a new file name for recording will not contain space symbols.
- *Recording Quality* :  
preset that defines does the recording would be saved under the same as stream encoding settings or not.



Recording under the settings other than *Same as stream* uses more resources in case both recording and streaming running simultaneously.

Up to Lossless quality is possible here. To true lossless quality you need to specify non-subsampled color format at [Advanced](#) of the OBS Studio as well as Full color range.

- **Recording Format :**

defines container format for recordings.



Use mp4 container if you plan to edit your recordings later. Use [Custom Muxer Settings](#) to write a fragmented mp4/mov file (to be able to recover aborted recordings).

- **Encoder :**

encoder type. Default value is 'Software (x264)'. Option available only if the *Recording Quality* (see above) set to other than *Same as stream*.



Availability of encoders depends on PC configuration.

- **Custom Muxer Settings :**

defines custom muxer settings, that overrides any preset settings; parameters separated with space. For example, *movflags=frag\_keyframe*  
*min\_frag\_duration=16000000*



Look for full parameters list of the ffmpeg muxer on the developer's internet page [obsproject.com]. Make sure that keys separated with space (no invisible special symbols).

- **Enable Replay Buffer :**

if checked, enables special output mode with circular buffer recording. This allows to save short fragment of the real-time footage for the past few seconds to playback it again later (make replay). If enabled, next options becomes available:

## Replay Buffer

- **Maximum Replay Time :**

defines max length of the [Replay Buffer](#) fragment stored in the memory, in seconds (i.e. length of the

fragment you able to save to the disk as “replay”).

- *Maximum Memory (Megabytes)* :  
 defines max size of RAM memory used for the [Replay Buffer](#) feature, in Megabytes. Used as additional restriction when estimation based on *Maximum Replay Time* unavailable.



*Enable Replay Buffer* uses much more of the PC memory when [Recording Quality](#) is set to other than *Same as stream*, thus the length of the video fragment available for saving may vary.

To change replay file naming see [Replay Buffer Filename](#) on page [235](#).

### Output Mode: **Advanced**

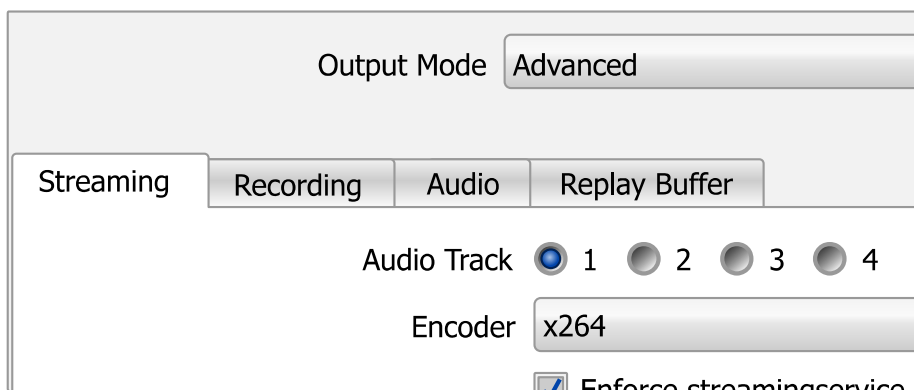
<a href="#">Streaming tab</a> 207	<a href="#">Recording tab</a> 212	<a href="#">Audio tab</a> 219	<a href="#">Replay Buffer tab</a> 220
--------------------------------------	--------------------------------------	----------------------------------	--

### Streaming tab

Streaming tab available only in *Output Mode: Advanced*

(See [Output Mode](#) on page [203](#))

On the streaming tab you can select # of track which will be streamed (now only one track in a stream is supported by most of the Web hosts).



- *Audio Track* :

The number of the audio track that will be streamed.



Only one track is selectable for streaming. Multi-track is available in recordings. (See [Recording tab](#) on page [212](#))

Check what sources goes to this selected track in [Advanced Audio Properties](#) on page [237](#).

- *Twitch VOD Track* :

if checked, selected audio track will be streamed to the special Twitch VOD service as separate audio track. Option available only when application configured to stream to Twitch service.



**EnableCustomServerVodTrack** parameter set to **true** under the **[General]** section of *global.ini* allows to enable setting a VOD track for any custom service (not only for Twitch).

(See [Show Settings Folder](#) on page [32](#))

(See [Stream settings](#) on page [201](#))

- *Encoder* :

encoder type. Default value depends on hardware configuration, versatile one is 'x264'.



Availability of encoders depends on PC configuration and selected streaming service.

(See [Stream settings](#) on page [201](#))

[Next options descriptions here were made for the x264 encoder.](#)

- *Rescale Output* :

when checked, video will be scaled and encoded with different resolution (don't forget to specify new image size). This scaling performed by CPU. Rescale uses *fast\_bilinear* scaling from FFmpeg.



Use [Rescale Output](#) on *Streaming tab* to stream at low resolution while recording still running at full, otherwise leave it unchecked.

- **Rate Control :**

specifies encoding bitrate control for the output video.



*Rate Control* values are:

CBR – constant bitrate;

for compatibility purposes, streaming.

CRF – constant rate factor;

for high-quality local recording.

Parameter also known as Constant Quality (perceptual).

VBR – variable bitrate;

to enable CRF-like encoding with upper limit of *Bitrate* (bitrate = maxrate).

Parameter also known as Constrained Quality.

ABR – average bitrate;

to enable CBR-like encoding but without bitrate padding. Video bitrate can fluctuate with this setting.

CQP – constant quantization parameter;

for high-quality local recording. Unlike CRF keeps quality independent of its visual perception, thus produces bigger files.

Parameter also known as Constant Quality (internally, and in the logs can mean – constant quality parameter).

- **Bitrate :**

defines encoding bitrate for the output video in kbps.

Option available only if *Rate Control* is set to CBR, ABR or VBR.

- **Use Custom Buffer Size :**

when checked, enables custom buffer size settings.

Option available only if *Rate Control* is set to CBR, ABR or VBR.

- **Buffer Size :**

defines buffer size in kb.

If *Buffer Size* = 0 then *Bitrate* limit ignored.



- **CRF :**

defines Constant Rate Factor value of the encoder.

Integer values [0..51] (i.e. [good...bad] quality). Option available only if *Rate Control* is set to VBR or CRF.



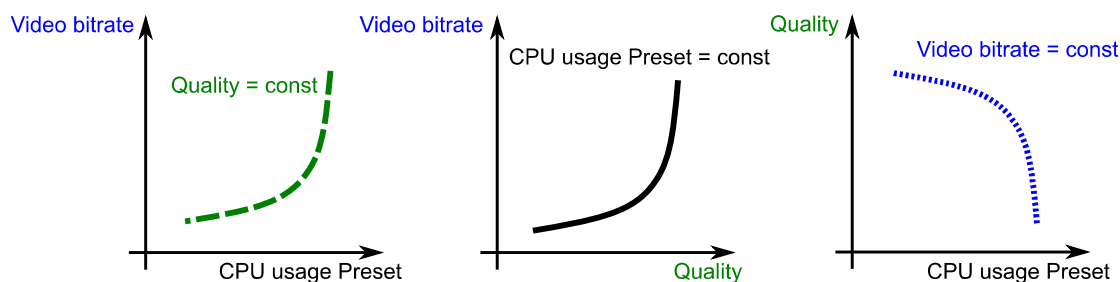
Setting  $CRF = 0$  forces the high444 lossless profile.

- **Keyframe Interval (0 = auto) :**  
forces keyframes insertion into video by fixed time intervals, in seconds. If set to 0, then time intervals calculated automatically.



Set *Keyframe Interval (0 = auto)* manually if you experience long 'trails' and mpeg 'ghost' appearance. Lower values can raise bitrate of the encoding video.

- **CPU usage Preset (higher = less CPU) :**  
presets that increases scanning deep of the encoder algorithm for motion detection. Highest value is *ultrafast* (no scan). Lowest value is *placebo* (deep scan).



Set *CPU usage Preset (higher = less CPU)* to *veryfast* or *superfast* – most modern CPUs unable to encode high resolution video in real-time under lower presets without frames drop. Lower presets generates video with higher quality at the same bitrate.

- **Profile :**  
defines compatibility with hardware players, sets some restrictions to maximum output bitrate.



Use the [Table 2.H264 profiles and levels](#) provided on page 211 and recommendations from your streaming Web service.

- **Tune :**  
encoder's presets for not typical encoding tasks.
- **x264 Options (separated by space) :**

defines custom encoder settings, that overrides any preset settings; parameters separated with space. For example, *qp=24 bframes=0 colormatrix=bt470bg*



Look for parameters list of the x264 encoder on the developer's internet page [[obsproject.com](http://obsproject.com)]. Make sure that keys separated with space (no invisible special symbols).

*Table 2.H264 profiles and levels*

level	Base & Main max kbps	High max kbps	Max Resolution@Frequency (reference frames)
3	10000	12500	352x480@61.4 (12) 352x576@51.1 (10) 720x480@30.0 (6) 720x576@25.0 (5)
3.1	14000	17500	720x480@80.0 (13) 720x576@66.7 (11) 1280x720@30.0 (5)
3.2	20000	25000	1280x720@60.0 (5) 1280x1024@42.2 (4)
4	20000	25000	1280x720@68.3 (9) 1920x1080@30.1 (4) 2048x1024@30.0 (4)
4.1	50000	62500	1280x720@68.3 (9) 1920x1080@30.1 (4) 2048x1024@30.0 (4)
4.2	62500	62500	1280x720@145.1 (9) 1920x1080@64.0 (4) 2048x1080@60.0 (4)
5	135,000	168,750	1920x1080@72.3 (13) 2048x1024@72.0 (13) 2048x1080@67.8 (12) 2560x1920@30.7 (5) 3672x1536@26.7 (5)
5.1	240,000	300,000	1920x1080@120.5 (16) 2560x1920@51.2 (9) 3840x2160@31.7 (5) 4096x2048@30.0 (5)

level	Base & Main max kbps	High max kbps	Max Resolution@Frequency (reference frames)
			4096x2160@28.5 (5) 4096x2304@26.7 (5)
5.2	240,000	300,000	1920x1080@172.0 (16) 2560x1920@108.0 (9) 3840x2160@66.8 (5) 4096x2048@63.3 (5) 4096x2160@60.0 (5) 4096x2304@56.3 (5)

<a href="#">Streaming tab</a> <a href="#">207</a>	<a href="#">Recording tab</a> <a href="#">212</a>	<a href="#">Audio tab</a> <a href="#">219</a>	<a href="#">Replay Buffer tab</a> <a href="#">220</a>
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### Recording tab

Recording tab available only in *Output Mode: [Advanced](#)*.

(See [Output Mode](#) on page [203](#))

On the recording tab you can choose recording *Type: [Standard](#) or [Custom Output \(FFmpeg\)](#)*.



Under recording *Type: Standard* available encoder – x264 (and hardware based relaxes), containers – flv, mp4, mov, mkv, ts, m3u8.

Under recording *Type: Custom Output (FFmpeg)* many other containers and encoders available.

To set recording *Type to Custom Output (FFmpeg)* – navigate to *Output* options in the Settings window, click Recording tab, choose under the *Type* option the *Custom Output (FFmpeg)* from the drop-down list and hit *Apply* button to save changes.

- *Type :*  
sets the output to *Standard* (x264/NVENC/Quick Sync/AMD AMF encoder and flv, mp4 containers) or to



*Custom Output (FFmpeg)* with different container/encoder set.

### Recording Type: **Standard**

- *Recording path* : specifies directory (folder) where new recordings will be stored.
- *Generate File Name without Space* : if checked, a new file name for the recording will not contain spaces.
- *Recording format* : defines container format for recordings.



Use mp4 container if you plan to edit your recordings later. Use [Custom Muxer Settings](#) to write a fragmented mp4/mov file (to be able to recover aborted recordings).

- *Audio Track* : # of the track and quantity of the audio tracks that will be encoded during recording. Maximum 6 audio tracks available for encode.

The screenshot shows the 'Recording' tab in the OBS Studio settings. The 'Output Mode' is set to 'Advanced'. Under the 'Recording' tab, the 'Type' is set to 'Standard'. The 'Recording Path' is 'D:/fps\_mov'. The 'Generate File name without space' checkbox is unchecked. The 'Recording Format' is set to 'mp4'. The 'Audio Track' section has checkboxes for 1, 2, 3, and 4, with 1, 2, and 3 checked. The 'Encoder' is set to '(Use stream encoder)'.



Certain formats (like FLV) do not support multiply tracks per recording.



Use a modern player with ability to playback more than one audio track in the movie (when more then one audio track is selected).

Check what sources goes to the selected tracks in [Advanced Audio Properties](#) on page [237](#).

- **Encoder :**

switches between available encoders. Next options available:



Hardware based encoders may support limited number of modes or settings in comparison to their software based counterparts.

Some encoders may not support the encoding with the color depth more than 8-bits per component. To change the “bitness” of the recordings in OBS Studio see [Color Format](#) on page [231](#).

- **Use stream encoder :**

when selected, reuses streaming encoder settings defined on [Streaming tab](#).

(See [Streaming tab](#) on page [207](#))



When *Encoder: Use stream encoder* is selected, the recorded video will be the same quality as during streaming (no additional processing applied). If better quality is required for the recording then any other encoder should be selected.

- **x264 :**

when selected, enables sets of options for the independent tuning of the recording with x264 encoder. Here, all the settings and not mentioned parameters are the same as for the [Streaming tab](#) on page [207](#).

- **AOM AV1 :**

when selected, enables sets of options for the independent tuning of the recording with AV1

(Alliance for Open Media) encoder. Here, all the settings and not mentioned parameters are the same as for the [Streaming tab](#) on page [207](#).

- **CQ Level :**  
defines Constant Quality value for the encoder. Integer values [1..63] (i.e. [good...bad] quality). The encoding software converts this to QP values internally. Option available only if *Rate Control* is set to CQP.
- **Preset :**  
presets that increases scanning deep of the encoder algorithm for motion detection. Highest value is 10 (no scan). Lowest value is 7 (deep scan).



Behavior of the preset is very similar to the [CPU usage Preset \(higher = less CPU\)](#) setting for the x264 encoder that is described on page [210](#).

- **FFMpeg Options :**  
defines custom encoder settings, that overrides any preset settings; parameters separated with space. For example, *denoise-noise-level=100 cpu-used=6*
- **SVT-AV1 :**  
when selected, enables sets of options for the independent tuning of the recording with AV1 (Scalable Video Technology) encoder. Here, all the settings and not mentioned parameters are the same as for the [AOM AV1](#) encoder on page [214](#).
- **OTHER\_ENCODER\_NAME :**  
when selected, enables sets of options for the independent tuning of the hardware based encoder

(depends on system).



Runtimes to operate hardware encoders in OBS Studio usually shipped with the graphic's driver. For example, Quick Sync uses Intel's graphics driver, NVENC uses NVIDIA video driver, AMD VCE uses AMD video driver. If you have problems with the hardware encoder – check the video driver first, keep it up to date or make clean reinstall.

- *Custom Muxer Settings* :

defines custom muxer settings, that overrides any preset settings; parameters separated with space. For example, `movflags=frag_keyframe`  
`min_frag_duration=16000000`



Look for full parameters list of the ffmpeg muxer on the developer's internet page [obsproject.com]. Make sure that keys separated with space (no invisible special symbols).

- *Automatic File Splitting* :

if checked, enables next options to automatically split the file during recording:

- *Split by Time* :

if selected, the recording file will be cut in timed intervals.

- *Split Time* :

defines time interval in minutes to auto-split the recording into files. Each N minutes the recording file will be cut and new recording file will be created next to the existing one.

- *Split by Size* :

if selected, the recording file will be cut when reached certain size.

- *Split Size* :

defines maximum size of the file in megabytes. When recording file reaches specified size, the

recording file will be cut and new recording file will be created next to the existing one.

- *Only split manually* :  
if selected, the recording file will be cut only by *Split Recording File* hotkey.  
(See [Hotkeys](#) on page [228](#))

### Recording Type: **Custom Output (FFmpeg)**

- *FFmpeg Output Type* :  
specifies the FFmpeg's output destination. Next options available:
  - *Output to File* :  
if selected, enables special configuration of the FFmpeg to save the output to the disk.
    - *Generate File Name without Space* :  
if checked, a new file name for recording will not contain space symbols.
  - *Output to URL* :  
if selected, enables special configuration of the FFmpeg to transmit the output over network.
- *File Path or URL* :  
specifies the path or URL for FFmpeg output.
- *Container Format* :  
specifies media container to multiplexing output Audio/Video data.
- *Container Format Description* :  
short info on selected container (if any).
- *Muxer Settings (if any)* :  
specifies custom muxer settings string for FFmpeg output.

- *Video Bitrate* :  
defines bitrate of the video for the output (in kbit/s).
- *Keyframe interval (frames)* :  
defines GOP period (size), in frames.
- *Rescale Output* :  
when checked, video will be scaled and encoded with different resolution (don't forget to specify new image size). This scaling performed by CPU. Rescale uses *fast\_bilinear* scaling from FFmpeg.
- *Show all codecs (even if potentially incompatible)* :  
if checked, shows full list of available encoders for both video and audio. Some media containers has restrictions on encoder use.
- *Video Encoder* :  
specifies video encoder for selected container.
- *Video Encoder Settings (if any)* :  
specifies custom video encoder settings string for FFmpeg output.



General format is *parameter=value*, parameters separated with space.

For example, *libx264* codec requires additional parameter *x264-params* to override the preset settings, thus use it like this (2 parameters overridden for the preset *fast*):  
`preset=fast crf=18 x264-params=fast_pskip=0:bframes=0`

- *Audio Bitrate* :  
defines bitrate of the audio for output (in kbit/s).
- *Audio Track* :  
# of the track and quantity of the audio tracks that will be encoded during recording. Maximum 6 audio tracks available for encode.
- *Audio Encoder* :

specifies audio encoder for selected container.

- *Audio Encoder Settings (if any)* :  
specifies custom audio encoder settings string for FFmpeg output.

<a href="#">Streaming tab</a> 207	<a href="#">Recording tab</a> 212	<a href="#">Audio tab</a> 219	<a href="#">Replay Buffer tab</a> 220
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## Audio tab

Audio tab available only in *Output Mode: [Advanced](#)*.

(See [Output Mode](#) on page [203](#))

Encoding settings available only per track. To adjust mixing options for both recording and streaming, see [Advanced Audio Properties](#) on page [237](#).

Six audio tracks is available for configuration:

- Track 1
  - Audio Bitrate* :  
defines bitrate for encoding audio track #1 in kbps.
  - Name* :  
defines a name for the audio track #1.
  - ...
- Track 6
  - Audio Bitrate* :  
defines bitrate for encoding audio track #6 in kbps.
  - Name* :

defines a name for the audio track #6.

<a href="#">Streaming tab</a>	<a href="#">Recording tab</a>	<a href="#">Audio tab</a>	<a href="#">Replay Buffer tab</a>
<a href="#">207</a>	<a href="#">212</a>	<a href="#">219</a>	<a href="#">220</a>

## Replay Buffer tab

Replay Buffer tab available in *Output Mode*: [Advanced](#).

(See [Output Mode](#) on page [203](#))

Encoding settings controlled by [Recording tab](#).

- *Enable Replay Buffer* :
  - if checked, enables special output mode with circular buffer recording. This allows to save short fragment of the real-time footage for the past few seconds to playback it again later (make replay). Option available only for recording *Type*: **Standard** [page [212](#)]. If enabled, next options becomes available:
    - *Maximum Replay Time (Seconds)* :
      - defines max length of the [Replay Buffer](#) fragment stored in the memory, in seconds (i.e. length of the fragment you able to save to the disk as “replay”).
    - *Maximum Memory (Megabytes)* :
      - defines max size of RAM memory used for the [Replay Buffer](#) feature, in Megabytes. Used as additional restriction when estimation based on *Maximum Replay Time* unavailable.



*Enable Replay Buffer* uses much more of the PC memory when [Recording Quality](#) is set to other than *Use stream encoder* at [Recording tab](#), thus the length of the video fragment available for saving may vary.



To change replay file naming see [Replay Buffer Filename](#) on page [235](#).

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## Audio

Under Audio section of the settings you can adjust audio output sample rate, number of audio channels (Mono, Stereo etc.), default audio input devices and audio sources, volume meter type, push-to-mute/push-to-talk delays.

### General

*Sample Rate :*

defines outputs sample rate (44100, 48000 Hz)

*Channels :*

defines output channels settings (Stereo, Mono etc.)



Surround sound, like 5.1, require much higher bitrates for audio encoding at the same quality as Stereo sound (2.0).

Not all online services supports surround audio ingests, and sometimes services can re-encode audio back to stereo.

Make sure that all your sources, microphone for example, able to output surround 5.1 sound at a right position (the CENTER channel). Thus, you'll be able to mix it in [Advanced Audio Properties](#) without placing averaged microphone's signal to all 5+1 channels of one track.

Look for external plugins that can change the channel position/mix if your microphone outputs to LEFT or RIGHT channels only.

### Global Audio Devices

*Desktop Audio Device :*

specifies device available as default for audio source named 'Desktop Audio Device' that will be placed in all scenes.

*Desktop Audio Device 2 :*

specifies device available as default for audio source named 'Desktop Audio Device 2' that will be placed in all scenes.

#### *Mic/Auxiliary Audio Device :*

specifies device available as default for audio source named 'Mic/Auxiliary Audio Device' that will be placed in all scenes.



Set *Mic/Auxiliary Audio Device* to your microphone's default input device. If you want to mute it per scene individually – use per scene [Audio Input Capture](#) source instead and set this to Disable.

#### *Mic/Auxiliary Audio Device 2...4 :*

specifies device available as default for audio source named 'Mic/Auxiliary Audio Device 2' (and up to 'Mic/Auxiliary Audio Device 4') that will be placed in all scenes.



Use *Desktop Audio Device 2*, *Mic/Auxiliary Audio Device 2...4* in special cases only, other way set it to Disable.

## Meters

#### *Audio Meter Decay Rate :*

specifies falloff speed for volume meters of the [Audio Mixer pane](#). Next options available:

- *Fast :*  
falloff speed is 40 dB/1.7 seconds.
- *Medium (Type I PPM) :*  
falloff speed is 20 dB/1.7 seconds.
- *Slow (Type II PPM) :*  
falloff speed is 24 dB/2.8 seconds.

#### *Peak Meter Type :*

specifies meter type to show the audio levels for volume meters of the [Audio Mixer pane](#). Next options available:

- *Sample Peak* :  
standard meter, –3 dB accepted tolerance.
- *True Peak (Higher CPU usage)* :  
complex meter, lower than –0.5 dB accepted tolerance.  
Uses slightly more CPU power.



Here the “True Peak” in meaning of ITU-R BS.1770, Annex 2.

## Advanced

### *Monitoring Device* :

specifies output device to be used with [Audio Monitoring](#).

### *Disable Windows audio ducking* :

if checked, disables automatic Windows audio volume reducing for [Audio Monitoring](#) when communication devices (like mic) is use.

### *Low Latency Audio Buffering Mode (For Decklink/NDI outputs)* :

if checked, turns off dynamic buffering mode and fixes buffering at 20ms. Too late fragments from the audio sources (if any) will be cut off.



Buffering is important to keep the late sources synchronized in the output. But some sources don't rely on timestamps (and itself running very little buffer, to be as fast as possible). Thus, disabled dynamic buffering can help to keep audio/video synchronization only for these kind of sources, but should be used with caution, because it affects overall capturing and mixing. Normally, OBS Studio can dynamically buffer up to 1 sec of audio data to keep all synchronized.

## Hotkeys

Mic/Aux *{it's just a name of your Audio Input Capture source}*

- *Enable Push-to-mute* :  
if checked, push-to-mute and delay is enabled for Mic/Aux device. For hotkey set, see [Hotkeys](#) on

page [228](#).

- *Push-to-mute* :  
defines push-to-mute delay length in milliseconds for Mic/Aux device.
- *Enable Push-to-talk* :  
if checked, push-to-talk and delay is enabled for Mic/Aux device. For hotkey set, see [Hotkeys](#) on page [228](#).
- *Push-to-talk* :  
defines push-to-talk delay length in milliseconds for Mic/Aux device.

#### Desktop Audio *{it's just a name of your Audio Output Capture source}*

- *Enable Push-to-mute* :  
if checked, push-to-mute and delay is enabled for Desktop Audio device.
- *Push-to-mute* :  
defines push-to-mute delay length in milliseconds for Desktop Audio device.
- *Enable Push-to-talk* :  
if checked, push-to-talk and delay is enabled for Desktop Audio device.
- *Push-to-talk* :  
defines push-to-talk delay length in milliseconds for Desktop Audio device.



## Video

Video options adjust the size of the canvas and output, specifies filter for scaling, defines frame rate of the output.

[Output](#) options can override settings defined here, keep that in mind when selecting aspect ratio for the main output. There are two possible situations shown in the pictures:

[Illustration 13. Output at the same size](#) on page [227](#)

[Illustration 14. Output at different sizes](#) on page [228](#)

that can take place in OBS Studio.

### *Base (Canvas) Resolution :*

defines base rendering resolution (**canvas size**, where everything will be drawn) and thus the canvas preview aspect ratio. Custom resolution supported. Type new resolution in **Width x Height** format. Current aspect ratio will be displayed as rational number next to the option.



Other important parameters of the canvas like final *Color Format* (in other words the “bitness” or “color depth” of the output) can be found in the settings [Advanced](#) on page [231](#).

### *Output (Scaled) Resolution :*

defines main **output resolution**. Settings at *Output (Scaled) Resolution* will be used as input for [Rescale Output](#) operations. Custom resolution supported. Type new resolution in **Width x Height** format. Current aspect ratio will be displayed as rational number next to the option.



If you not sure, set *Base (Canvas) Resolution* = main input resolution (game resolution) = *Output (Scaled) Resolution*.

This can be done in one click via context menu option *Resize output (source size)* over the desirable source. *Resize output (source size)* option not available if source has 0 size.

OBS Studio requires that the *Output (Scaled) Resolution* width is a multiple of 4 and *Output (Scaled) Resolution* height is a multiple of 2 in order to correctly process video data

using hardware optimizations. Special encoding functions of FFmpeg that is used in OBS Studio, sometimes require width multiply of 32 to correctly process the videos.

Some encoders has lower and upper limits on both width and height, thus may rise the errors about the invalid argument.

### *Downscale Filter :*

specifies, filter used in scale operations between [Base \(Canvas\) Resolution](#) and [Output \(Scaled\) Resolution](#) setups.



Bilinear, Area, Bicubic and Lanczos filters acts same as for the [Scale Filtering](#). This downscale operations performed by GPU.

### *Common FPS Values, [Integer FPS Value], [Fractional FPS Value] :*

specifies sets of frame rates (fps) at which OBS Studio will render its output. [defines frame rate at which OBS Studio will render its output – integer or fractional values accepted].



Make attention, that for NTSC standard common value is 29.97 fps (numerator 30000 / denominator 1001) ; for PAL – 25 fps. OBS Studio produces progressive frames.

### *Disable Aero :*

if checked, OBS Studio will try to disable Windows Aero. Option availability depends on OS.



Some transparent windows cannot be captured if Aero disabled.

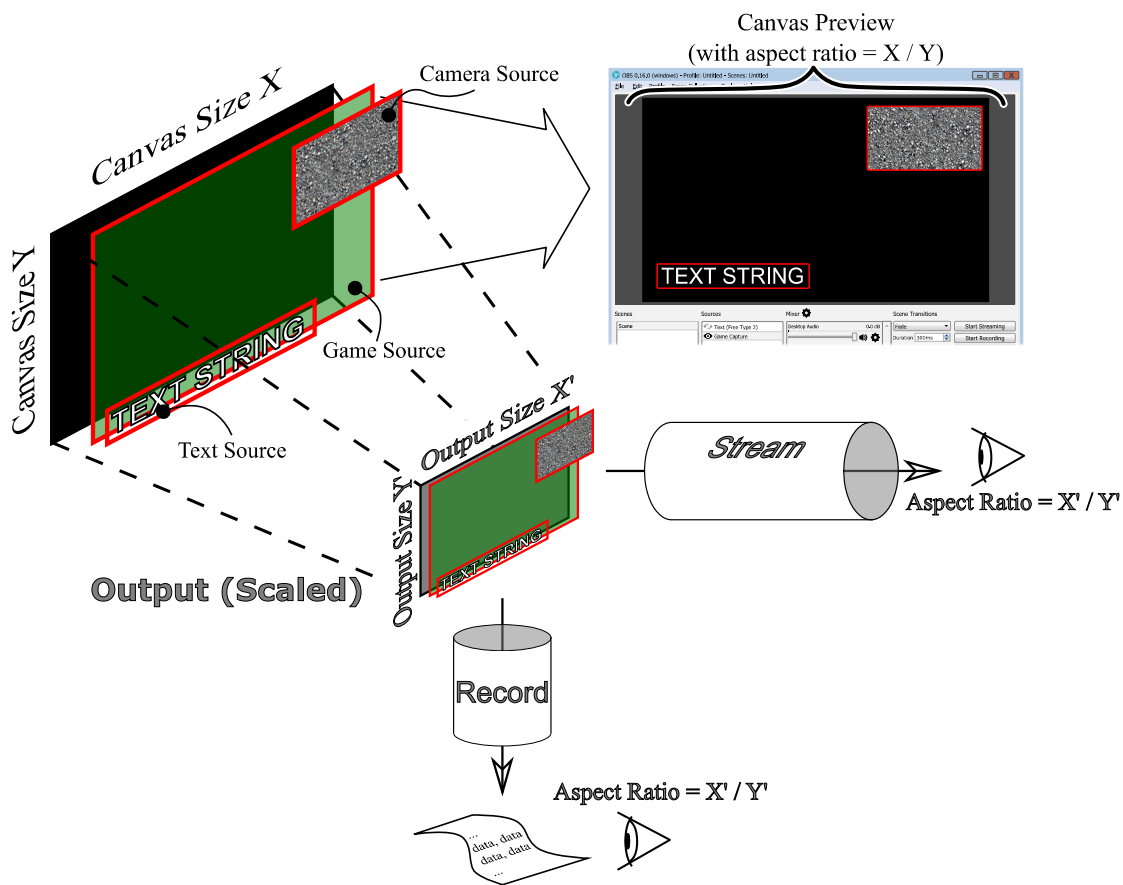


Illustration 13. Output at the same size



If you use [Rescale Output](#) option, then aspect ratio of the output can differ from the aspect ratio of the preview's canvas size. (See [Output](#) settings on page [203](#))

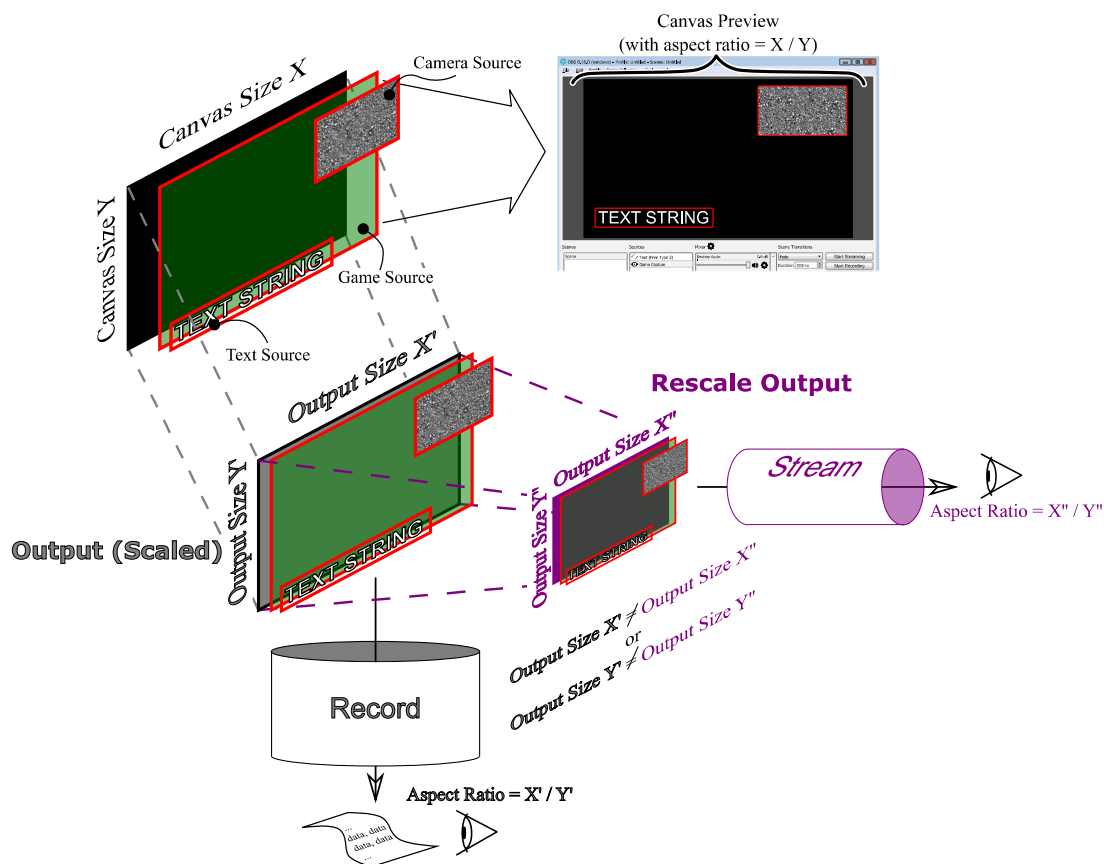


Illustration 14. Output at different sizes



If two resize tasks performed in output with different sizes via [Rescale Output](#), then it can eat more CPU power. Use original size for the local recordings (together with fast profile), and scale down stream by [Rescale Output](#). (See [Output](#) settings on page [203](#))

If encoder don't uses FFmpeg (for example, native NVENC SDK implementation) then [Rescale Output](#) option may be unavailable (or encoder will fallback to FFmpeg instead).



## Hotkeys

Hotkeys section of the settings allow to you to assign custom



keys for common actions, like: controls, sources management and scene transitions.

Navigate to *Hotkeys* option in Settings window, choose a new action, click on empty edit string field and hit desirable key shortcut.

(See [Define hotkeys \(shortcuts\)](#) picture on page [229](#))

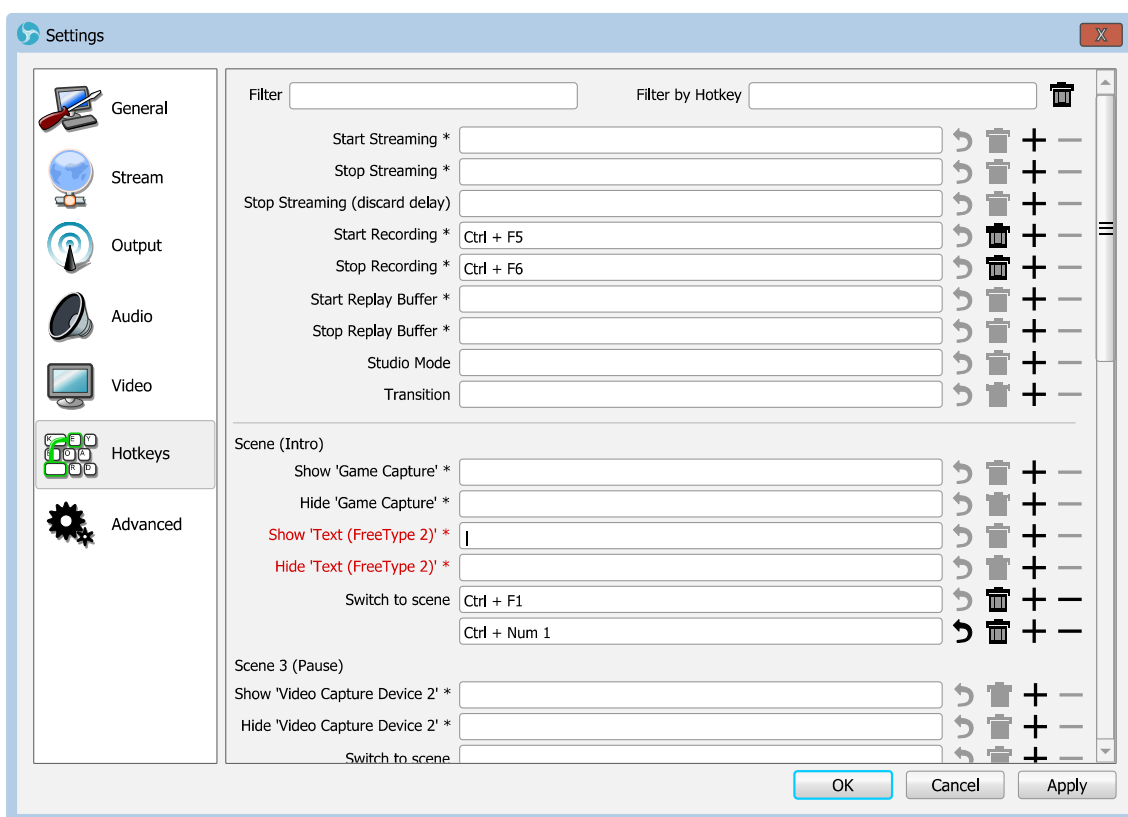



Illustration 15. Define hotkeys (shortcuts)

Each layer in scenes has independent control by hotkeys. By default, *Start Streaming*, *Stop Streaming*, *Start Recording*, *Stop Recording*, *Start Replay Buffer*, *Stop Replay Buffer* and *Save Replay* hotkeys not defined – set up this keys manually.



[Save Replay](#) hotkey only enabled when [Enable Replay Buffer](#) is checked.

OBS Studio (try to run it as administrator) should run with the same privileges as target application (to make hotkeys work when main window of the OBS Studio not in focus).

You can **add another one** shortcut to the same action by clicking the  button.


To **remove additional** shortcut: click  button.

You can **remove shortcut linking** by clicking  button.

To **revert recently changed hotkey** to previous setting just click the  button.

Click *OK* button to save changes and exit.

To **filter out** the hotkeys list **by the source name** use *Filter* field.  
To **filter out** the hotkeys list **by the hotkey** use *Filter by Hotkey* field.

You can **reset filtering** by clicking  button next to the filter's entry field.



## Accessibility

Accessibility section of the settings allows to you to configure ease of access for application functions. You can set more contrast colors, sound notifications etc.

*Use Different Colors :*

if checked, enables different controls to change the appearance of the colored elements of the UI (for example, border of the source, border of the cropped source, volume

indicators etc.). There are color presets for colorblind users.

---



## Advanced

Advanced section of the settings allows to you to change the base configuration settings.



Make changes to this tab with caution. Many options require program restart. Incorrect settings may result in low capture & streaming performance.

### General

- *Process Priority* :  
specifies priority of the application among other tasks.
- *Show active outputs warning on exit* :  
if checked, warning message will be shown on program termination if any output (recording/streaming etc.) is still running.

### Video

- *Renderer* :  
specifies renderer that will be used by OBS Studio to render an output. Depends on system and configuration.

(See [Command Line Options](#) on page [244](#))



**AdapterIdx** parameter under **[Video]** section of *global.ini* allows setting a specific graphics adapter index to use it for Direct3D 11 renderer (default is **AdapterIdx=0**, the place where all stuff rendered and captured from).  
(See [Show Settings Folder](#) on page [32](#))

- *Color Format* :  
specifies color format for the encoder's output.

Common value is *NV12 (8-bit, 4:2:0, 2 planes)*. The higher than 8-bit per component formats may require changes in the *Color Space* setting (see below).

- *Color Space* : specifies color space for the encoder's output (common value is *Rec. 709*). This setting refers to the video color standards, also known as BT.709, BT.601, BT.2100. Cutting-edge standards operates at higher than 8-bit per component ranges, thus the *Color Format* (see above) and the *Encoder* setting should match selected color space and vice-versa.

(See [Encoder](#) on page 214)



Specify *Color Space: Rec. 601* for SD videos (i.e. lower than 720p) that aims at old hardware targets or for all videos that aims at old servers.

From the v26.0.0 of the application the *Rec. 601* setting is flagged in the media file too (as BT.601) and uses SMPTE 170M coefficients (NTSC systems). No undefined behavior anymore.

The *sRGB* setting here means BT.709 standard is in use but with sRGB gamma function (TRC tagged as sYCC) applied instead of native BT.709.

The *HLG* prefix in the name of the format means that the Hybrid Log-Gamma function will be used for the transfer function.

The *PQ* prefix in the name of the format means that the Perceptual Quantizer function will be used for the transfer function.

The mastering display metadata is hard coded to use the white D65 point and the primary colors that is defined by the SMPTE EG 432-1:2010 standard, also known as P3-D65 (Display). Thus, OBS Studio HDR content designed to be viewed on P3-D65 compatible devices and devices that is not capable of covering a wider gamut of the Rec. 2100.

To select right setting – use color test charts and view result on the target device.

- *Color Range* :

specifies color range for the encoder's output, i.e. how to encode the video (common value is *Limited*).



To select right setting – use color range test charts and view result on the target device.

- *SDR White Level* :

defines the level of luminance to render correctly the higher “bitness” sources into lower “bitness” spaces of the display devices, in nits ( $\text{cd}/\text{m}^2$ ). Applies only to preview windows located on **SDR** (Standard Dynamic Range) screens. As soon as the preview window will be moved to other display (with higher “bitness”) this settings will be ignored. In terms of OBS Studio the SDR is everything that has 8–bits per component color depth. Default value is 300 nits.



The multiplier = 1 (no adjustments made) when the *SDR White Level* set to 80 nits.

The *SDR White Level* setting useful if you are:

- using two displays where one has higher “bitness” (HDR capable) and other is not (just casual SDR device), and you want to preview captured HDR content on both displays.
- capturing HDR content and OBS Studio configured to convert it down to SDR for the streaming purposes, and you want to preview this lower “bitness” output back on the HDR display device.

- *HDR Nominal Peak Level* :

defines peak level of luminance for the composition and thus for the encoder's output, in nits ( $\text{cd}/\text{m}^2$ ). Applies only to **HDR** (High Dynamic Range) canvases. In terms of OBS Studio the HDR is everything that has higher than 8–bits per component color depth. Corresponding *Color Format* should be set (see above) for this setting to take effect.

Default value is 1 000 nits.



Minimum luminance for mastering display metadata is hard coded to be 0.

The nominal peak level for conversion between PQ and HLG output will be clipped at 1000 nits maximum according to BT.2408-4:2021 standard.

If you need to set new maximum luminosity level for single source only use [Visual Effect Filters](#).

(See [HDR Tone Mapping \(Override\)](#) on page [142](#))

- *Disable OSX V-Sync* :  
if checked, macOS V-Sync will be disabled (option available for Mac PC).
- *Reset OSX V-Sync on Exit* :  
if checked, macOS V-Sync resets its state after OBS Studio close (option available for Mac PC).

## Recording

- *Filename formatting* :  
specifies filename mask to generate new filename for the recordings.



Default mask format `%CCYY-%MM-%DD %hh-%mm-%ss`. It will make, for example, the file name `2016-04-19 23-40-58` – for the recording started 19 April 2016 at 23:40:58 o'clock. Full list of mask variables available in a hint message over the edit field *Filename formatting* of the application.



To specify directory creation – use symbol “ / ” (slash). For example, mask `myrec%DD/%hh-%mm-%ss`, will create directory `myrec19` first, then file with name `23-40-58` will be placed in it, for recording started 19 April 2016 at 23:40:58 o'clock.

- *Overwrite if file exist* :  
if checked, files with same names will be overwritten.
- *Automatically remux to mp4 (record as mkv)* :  
if checked, automatically starts remuxing process to convert file to mp4, as soon as the recording complete.

Overrides output format to MKV if MP4 was set at

*[Output](#)*.



You can bring up same remuxing dialog manually, see [Remux Recordings](#) on page [32](#).

Take a look at self-contained fragmented *.mp4* format writing if you wish to recover your aborted *.mp4/.mov* recordings. It is possible to write such file through the [Custom Muxer Settings](#)

- *Replay Buffer Filename*
  - *Prefix* :  
the string that will be added before the filename to mark Replay recordings.
  - *Suffix* :  
the string that will be added at the end of the filename to mark Replay recordings.

## Stream Delay

- *Enable* :  
when checked, enables stream delay (“buffer”) feature.



With a setting *Stream Delay: Enable* checked, the stream output appears on-air later, but connection issues has lower impact on the stream smooth play.

- *Duration (seconds)* :  
defines duration of the stream delay in seconds.
- *Preserve cutoff point (increase delay) when reconnecting* :  
if checked, delay will grow after reconnecting, streaming data preserved.



Web server can flush its own buffer if connection lost.

## Automatically Reconnect

- *Enable* :  
when checked, enables reconnect automatically feature.

Next option available:

- *Retry Delay (seconds)* :  
delay between connection attempts.
- *Maximum Retries* :  
number of attempts to establish connection to the streaming server.

## Network

- *Bind to IP* :  
specifies network adapter to use for streaming. RTMP connections only.
- *Dynamically change bitrate to manage congestion (Beta)* :  
if checked will reduce bitrate of the streaming output in case of network failures instead of dropping frames. RTMP connections only.



Experimental feature. Restores streaming bitrate if network is OK just in few minutes after the last drop. For bitrate limit tests enables Numpad 0–6 keys to switch between 0 (no limit), 1000–6000 Kbit/s upper limit presets.

- *Enable networking optimizations* :  
if checked, other method of handling network packets shall be used. RTMP connections only.
  - *Enable TCP pacing* :  
if checked, the application will try to maintain network buffer as fast as possible, keeping its fullness as low as possible. Causes less impact on other networking programs which running simultaneously by the same PC. Kind of scheduling the packets. Option available only if *Enable networking optimizations* is checked.



## Browser

- *Enable Browser Source Hardware Acceleration* :  
if checked, will try to use hardware acceleration for the [Browser](#) source drawing. When unchecked, sends additional command line keys to the plugin to disable acceleration.  
(See [Command Line Options](#) on page [244](#))

## Hotkeys

- *Disable hotkeys when main window is in focus* :  
if checked, all specified Hotkeys will be ignored when main program window is in focus.



---

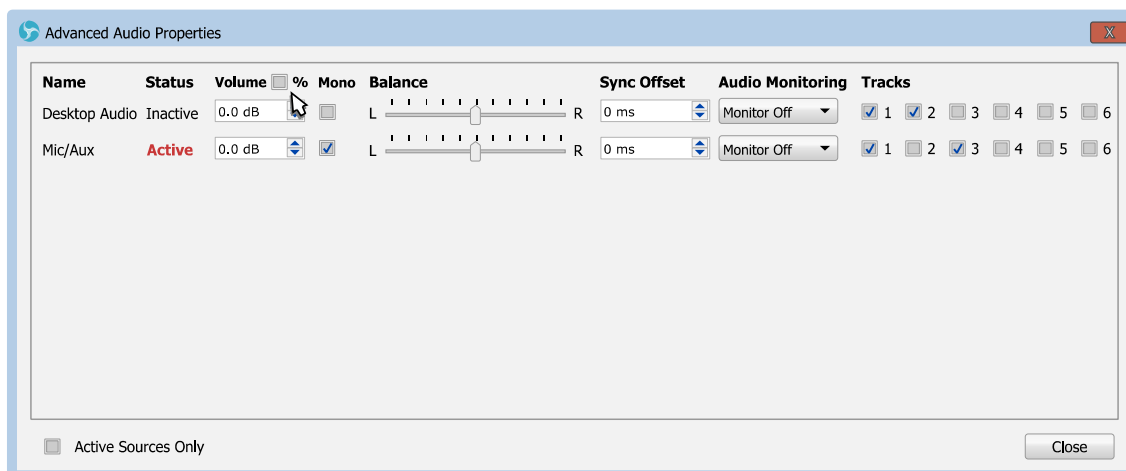
## Advanced Audio Properties

At Advanced Audio Properties you can define special mixing parameters, like channel balance, volume, track's # in media file, source output monitoring and synchronization offset.

(See [Illustration 16. Advanced Audio Properties](#) on page [238](#))

This advanced audio settings (or “Mixer”) accessible through:

- application's [Edit menu](#), sub-menu *Advanced Audio Properties*;
- by right-click over the *Audio Mixer pane* and choose *Advanced Audio Properties* option;
- by click  icon at *Audio Mixer pane* (main window) right to any available audio source and select appropriate option.
- by click  icon at toolbar of the *Audio Mixer pane* (main window) .



*Illustration 16. Advanced Audio Properties*

**Name :**

shows name of the input.

**Status :**

shows if audio source is currently working (active/inactive).

**Volume :**

defines volume of the input in dB (decibels), about  $-96\text{dB}$  is silent.



To change Volume display units from dB (decibels) to % (percents) make checked the checkbox next to the Volume header.

**Mono :**

if checked, mixes sound track to planar audio before encoding. For example, if one of the two input channels of the Stereo track is muted, with this setting enabled application will fill both channels with average sound data (makes planar stereo).

**Balance :**

defines channel balance, volume level between Right (R) and Left (L) channels. Available only for Stereo outputs.

### *Sync Offset :*

defines synchronization offset of the audio source when mixing it into [Tracks](#), in milliseconds (negative values are accepted). It is like offset applied to the source's track (right before it mixed to other tracks), thus it not available in *filters* (always 0 ms for any source).



Set *Sync Offset* to negative value, if your microphone's sound appears too late. Set *Sync Offset* to positive value, if sound appear ahead of the video. The acceptable negative value is fully depends on internal buffer of the device itself (usually less than 950 ms).

All offsets applied on encoding, thus *Audio Monitoring* not affected by offsets – always check the output file or stream.

### *Audio Monitoring :*

specifies control for media source output. Next options available:

- *Monitor Off :*  
the media source shall route its audio stream through the mixing options specified by [Tracks](#) settings (see [below](#)).
- *Monitor Only (mute output) :*  
the media source shall route its audio stream only through the output device specified by [Monitoring Device](#). (See [Monitoring Device](#) on page [223](#))



Routing media's source audio stream with *Monitor Only (mute output)* allow to user to hear the sound through the output device specified by *Monitoring Device* and adjust volume of the media source by ear.

- *Monitor and Output :*  
the media source shall route its audio stream through the output device specified by [Monitoring Device](#) and through the mixing options specified by *Tracks* settings (see [below](#)).

### Tracks :

specifies track's number where input will be mixed (to Track #1, to Track #2, ... ) and encoded.



Set the Track #1 checked for all inputs you want to hear in the stream. And specify this inputs as separate tracks for Track #2, 3, 4..., for recording job, which is running simultaneously.

For example, for Tracks settings shown on the picture [Illustration 16. Advanced Audio Properties](#) on page [238](#), application mixes **Desktop Audio** and **Mic/Aux** devices to Track #1, mixes **Desktop Audio** device only to Track #2, mixes **Mic/Aux** device only to Track #3.

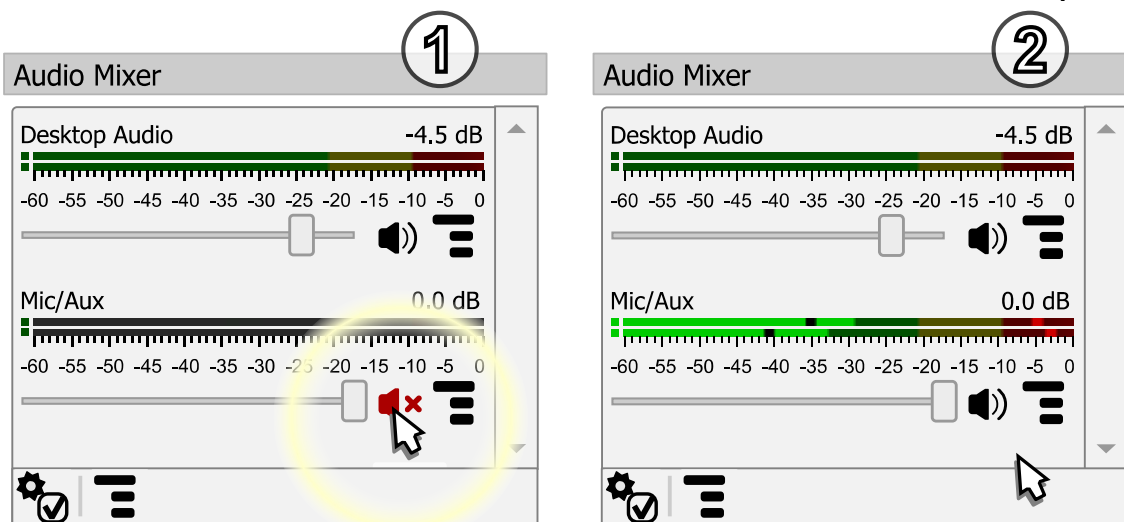
Thus, you should specify:

- 1) on [Streaming tab](#) *Audio Track* #1;
- 2) on [Recording tab](#) *Audio Track* #1, #2, #3 (or only #2, #3 if you planning to mix your audio recordings manually later).

### Active Sources Only :


when checked, only currently working audio sources are listed.


Make sure, that audio source not muted at *Audio Mixer* pane:



See [Enable audio source](#) on page [68](#).

The toolbar at the bottom of the *Audio Mixer pane* has few buttons for fast access to the audio options and controls.

The  toolbar button opens the Advanced Audio Properties window.

The  toolbar button opens context menu with varies of options to show all previously hidden sources, to switch to *Vertical Layout* etc.

**To prevent accidental change of the volume:** right-click over the desirable *Audio Mixer pane* volume slider and make checked the *Lock Volume* option.

If *Audio Mixer pane* list is empty – either you scene lack any audio sources (See [Add new audio/video source to OBS Studio scene](#) on page [64](#)) or some sources were hidden from the list:

to **show all** previously hidden **audio sources** from the *Audio Mixer pane*: right-click over the *Audio Mixer pane* and select *Unhide All* option. Now all audio sources shown;

to **hide any audio source** in the *Audio Mixer pane* :

- right-click over the source in *Audio Mixer pane* and select *Hide in Mixer* option. The source becomes hidden (but not excluded from the tracks “Mixer” processing);
- or you can right-click over the source in *Sources* pane and

click the *Hide in Mixer* option;

if source's *Hide in Mixer* option marked by  icon (right-click menu over the source in *Sources* pane) then its audio representation is hidden from the *Audio Mixer pane* , not from the tracks "*Mixer*" processing [page [237](#)];

to **show in Audio Mixer pane** the single **audio source** that was previously hidden: right-click over the source in the *Sources* pane and make unchecked the *Hide in Mixer* option;

to **copy into buffer any filter** from the audio source of the Audio Mixer pane right-click over the source and select context menu entry *Copy Filters*;

to **paste from the buffer any copied earlier filter** into the audio source of the Audio Mixer pane right-click over the source and select context menu entry *Paste Filters*.

## Level meter description

Level meter of the source temporary turns **red** when signal clipping occur. **Black** marks on meter shows average loudness of the source. Color dots at the beginning of the meter shows audio levels before the fader (volume slider) and before mute control. Color marks on the meter shows peak of the signal, the max value holds for a few seconds. The scale is in dB (decibels).

If *Vertical Layout* option of the right-click menu over the *Audio Mixer pane* is marked by  icon, then mixer's level meters will be drawn vertically.

Basic level meter settings available at the *Settings->Audio* section of the application. (See [Audio](#) on page [221](#))

# Command Line Options

## About Command Line Options

OBS Studio supports additional command line keys to run specific tasks and troubleshoot setups.

## Command Line Keys

You can specify two and more keys simultaneously. Each key separated with space and begins with double minus if other not mentioned.

For full list of supported commands see [Table 3. Command Line Keys](#) on page [244](#). Some external plugins can add to the application its own key options not listed here.

*Table 3. Command Line Keys*

Command line key	Description	Example (Windows)
<code>--allow-opengl</code>	Enables Open GL Renderer for selection in <a href="#">Advanced</a> . Windows only.	<code>obs64.exe --allow-opengl</code>
<code>--always-on-top</code>	Start application with <a href="#">Always On Top</a> checked.	<code>obs64.exe --always-on-top</code>
<code>--collection [scene_collection_name]</code>	Scene Collection with name <code>scene_collection_name</code> will be loaded instead of last used.	<code>obs64.exe --collection MyNewScenes1</code>





Command line key	Description	Example (Windows)
<code>--disable-high-dpi-scaling</code>	Turns off all internal UI scaling for the High DPI display devices (forces the Qt::AA_DisableHighDpiScaling attribute to the Qt's QguiApplication). OS still may scale up the UI on its own. The key available only for Qt v5.11 - v5.xx.	<code>obs64.exe --disable-high-dpi-scaling</code>
<code>--disable-missing-files-check</code>	Application's tool to check for missing files on startup will be disabled (no pop-up window on startup even if there are missing media files).	<code>obs64.exe --disable-missing-files-check</code>
<code>--disable-updater</code>	Application's auto updater tool will be disabled (no online checks for new official release, and thus no pop-up window on startup if there is new version available).	<code>obs64.exe --disable-updater</code>
<code>--help</code> <code>-h</code>	Prints list of available command line keys to standard output (terminal).	<code>obs64.exe --help</code> <code>obs64.exe -h</code>
<code>--minimize-to-tray</code>	Application starts minimized to tray icon (starts hidden to tray). The setting <a href="#">Enable</a> should be enabled in application's settings before use this key.	<code>obs64.exe --minimize-to-tray</code>
<code>--multi</code> <code>-m</code>		

Command line key	Description	Example (Windows)
	Skips multi-instance warning when more than one application started from home or from any portable folder.	<code>obs64.exe --multi</code> <code>obs64.exe -m</code>
<code>--websocket_debug</code>		
	Enables Debug Logging for the <a href="#">obs-websocket Settings</a> tool on each start.	<code>obs64.exe --websocket_debug</code>
<code>--websocket_ipv4_only</code>		
	Binds only to IPv4 interfaces for the <a href="#">obs-websocket Settings</a> tool.	<code>obs64.exe --websocket_ipv4_only</code>
<code>--websocket_password [server_password]</code>		
	Uses <code>server_password</code> string as the Server Password for the <a href="#">obs-websocket Settings</a> tool.	<code>obs64.exe --websocket_password YUJHeddiwUwoSpXF</code>
<code>--websocket_port [port_number]</code>		
	Uses <code>port_number</code> as the Server Port for the <a href="#">obs-websocket Settings</a> tool.	<code>obs64.exe --websocket_port 4455</code>
<code>--portable</code> <code>-p</code>		
	Runs OBS Studio in portable mode (profiles stored in application's home folder).	<code>obs64.exe --portable</code> <code>obs64.exe -p</code>
<code>--profile [profile_name]</code>		
	Profile with name <code>profile_name</code> will be loaded instead of last used.	<code>obs64.exe --profile MyProfileForRec1</code>
<code>--scene [scene_name]</code>		
	The Scene with name <code>scene_name</code> will be specified as current instead of last used	<code>obs64.exe --scene MyBlankScene1</code> “ <code>obs64.exe --startrecording --profile</code>

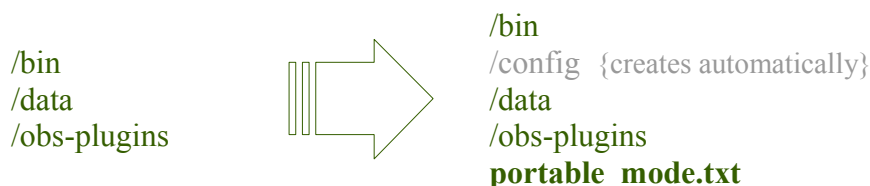
Command line key	Description	Example (Windows)
	in the current Scene Collection.	Rec1 --collection SkypeCall1 --scene SkypeFullscreen1”
<code>--startrecording</code>	OBS Studio starts <a href="#">Recording</a> immediately.	obs64.exe --startrecording obs64.exe --portable --startrecording
<code>--startreplaybuffer</code>	OBS Studio starts <a href="#">Replay Buffer</a> immediately.	obs64.exe --startreplaybuffer obs64.exe -p --startreplaybuffer
<code>--startstreaming</code>	OBS Studio starts <a href="#">Streaming</a> immediately	obs64.exe --startstreaming obs64.exe --portable --startstreaming
<code>--startvirtualcam</code>	OBS Studio starts <a href="#">Virtual Camera feed</a> immediately	obs64.exe --startvirtualcam obs64.exe --portable --startvirtualcam
<code>--studio-mode</code>	OBS Studio starts <a href="#">Studio Mode</a> immediately	obs64.exe --studio-mode obs64.exe --portable --studio-mode
<code>--unfiltered_log</code>	Repeated log file lines doesn't shortened to the first line.	obs64.exe --unfiltered_log
<code>--verbose</code>	Messages and LOG_INFO will be added to the log file.	obs64.exe --verbose
<code>--version</code> <code>-V {this is capital letter}</code>	Prints current version to standard output (terminal)	obs64.exe --version



If name of the scene contains space symbols, place full name in double quote like in this example,

```
obs64.exe --startrecording --collection SkypeCall1 --scene "Skype Fullscreen 1"
```

Instead of using `--portable` command line key, you can place any file named **“portable\_mode”** or **“portable\_mode.txt”** in OBS Studio home folder:



For convenience the `--disable-updater` command line key has similar switch file, named: **“disable\_updater”** or **“disable\_updater.txt”** that can be placed in the OBS Studio home folder too.



When running in portable mode on Windows platform, OBS Studio still copies important files to the `%ProgramData%\obs-studio-hook` folder of the host PC (since v25.0.0). Make sure that either application can write to this folder or delete its content manually before updating or starting newer/older version of the OBS Studio.

Full list of the command line keys available for the [Browser](#) source is huge and depends on third-party software used in the plugin. Please, look for the List of Chromium Command Line Switches online.

Depending on available configuration ([Enable Browser Source Hardware Acceleration](#) setting) OBS Studio overrides next Chromium keys of the [Browser](#) plugin:

```
--disable-gpu
--disable-gpu-compositing
```

By default, next additional keys applied for the [Browser](#) source:

```
--enable-system-flash
--autoplay-policy=no-user-gesture-required
```

# Shortcuts Linux

---

## Positioning sources

Result	Action
Center to canvas	<i>Ctrl + D</i>
Move by 1 px	<i>Arrow key</i>
Move by 10 px	<i>Shift + Arrow key</i>

## Transform sources

Result	Action
Open Transform dialog window	<i>Ctrl + E</i>
Fit to canvas (screen)	<i>Ctrl + F</i>
Stretch to canvas (screen)	<i>Ctrl + S</i>
Reset Transform	<i>Ctrl + R</i>

## Copying sources

Result	Action
Copy source to clipboard	<i>Ctrl + C</i>
Paste source as ref. from clipboard	<i>Ctrl + V</i>
Copy transform of the source to clipboard	<i>Ctrl + Shift + C</i>



Paste transform of the source from clipboard	<i>Ctrl + Shift + V</i>
--	-------------------------

### Layers shift

Result	Action
Move one level Up	<i>Ctrl + Up</i>
Move one level Down	<i>Ctrl + Down</i>
Raise to Top	<i>Ctrl + Home</i>
Lower to Bottom	<i>Ctrl + End</i>

### Navigate Preview\*

Result	Action
Drag Preview window	<i>Spacebar + Mouse</i>
Zoom Preview window	<i>Spacebar + Mouse Wheel</i>

\* See [Preview Scaling](#) on page [34](#)

### User interface

Result	Action
Switch windowed / borderless–fullscreen	<i>F11</i>
Undo last action	<i>Ctrl + Z</i>
Redo last reverted action	<i>Ctrl + Y</i> <i>Ctrl + Shift + Z</i>
Quit the application	<i>Ctrl + Q</i>

Use *Delete* key to completely remove, *F2* key to rename scene or source.

Default actions not global. Works only when OBS Studio main window in focus (active).

# Shortcuts Mac

---

## Positioning sources

Result	Action
Center to canvas	<i>Cmd + D</i>
Move by 1 px	<i>Arrow key</i>
Move by 10 px	<i>Shift + Arrow key</i>

## Transform sources

Result	Action
Open Transform dialog window	<i>Cmd + E</i>
Fit to canvas (screen)	<i>Cmd + F</i>
Stretch to canvas (screen)	<i>Cmd + S</i>
Reset Transform	<i>Cmd + R</i>

## Copying sources

Result	Action
Copy source to clipboard	<i>Cmd + C</i>
Paste source as ref. from clipboard	<i>Cmd + V</i>
Copy transform of the source to clipboard	<i>Cmd + Shift + C</i>





Paste transform of the source from clipboard	<i>Cmd + Shift + V</i>
--	------------------------

### Layers shift

Result	Action
Move one level Up	<i>Cmd + Up</i>
Move one level Down	<i>Cmd + Down</i>
Raise to Top	<i>Cmd + Home</i>
Lower to Bottom	<i>Cmd + End</i>

### Navigate Preview\*

Result	Action
Drag Preview window	<i>Spacebar + Mouse</i>
Zoom Preview window	<i>Spacebar + Mouse Wheel</i>

\* See [Preview Scaling](#) on page [34](#)

### User interface

Result	Action
Switch windowed / borderless–fullscreen	<i>F11</i>
Undo last action	<i>Cmd + Z</i>
Redo last reverted action	<i>Cmd + Y</i> <i>Cmd + Shift + Z</i>

Use *Backspace* key to completely remove, *Return* key to rename

scene or source.

Default actions not global. Works only when OBS Studio main window in focus (active).

# Shortcuts Windows

---

## Positioning sources

Result	Action
Center to canvas	<i>Ctrl + D</i>
Move by 1 px	<i>Arrow key</i>
Move by 10 px	<i>Shift + Arrow key</i>

## Transform sources

Result	Action
Open Transform dialog window	<i>Ctrl + E</i>
Fit to canvas (screen)	<i>Ctrl + F</i>
Stretch to canvas (screen)	<i>Ctrl + S</i>
Reset Transform	<i>Ctrl + R</i>

## Copying sources

Result	Action
Copy source to clipboard	<i>Ctrl + C</i>
Paste source as ref. from clipboard	<i>Ctrl + V</i>
Copy transform of the source to clipboard	<i>Ctrl + Shift + C</i>



Paste transform of the source from clipboard	<i>Ctrl + Shift + V</i>
--	-------------------------

### Layers shift

Result	Action
Move one level Up	<i>Ctrl + Up</i>
Move one level Down	<i>Ctrl + Down</i>
Raise to Top	<i>Ctrl + Home</i>
Lower to Bottom	<i>Ctrl + End</i>

### Navigate Preview\*

Result	Action
Drag Preview window	<i>Spacebar + Mouse</i>
Zoom Preview window	<i>Spacebar + Mouse Wheel</i>

\* See [Preview Scaling](#) on page [34](#)

### User interface

Result	Action
Switch windowed / borderless–fullscreen	<i>F11</i>
Undo last action	<i>Ctrl + Z</i>
Redo last reverted action	<i>Ctrl + Y</i> <i>Ctrl + Shift + Z</i>

Use *Delete* key to completely remove, *F2* key to rename scene

or source.

Default actions not global. Works only when OBS Studio main window in focus (active).

---

# Legal Notices

---

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As is. It is free.

---

## Credits

Original author of the document: Suslik V.



# Index

## ABR

- ABR 209
- Accessibility 230
- add existing 64
- Add new audio/video source to OBS Studio scene 64
- Additional Tools 159
- Advanced Audio Properties 237
- Advanced {Output Mode} 207
- Advanced 231
- AJA I/O Device Capture 79
- AJA I/O Device Output 160
- An Overview 8
- AOM AV1 214
- Application Audio Capture (BETA) 80
- Application Settings 196
- Apply LUT 136
- Audio 221
- Audio Capture Device (ALSA) 81
- audio ducking 151
- Audio Input Capture 81
- Audio Input Capture (OSS) 82
- Audio Meter Decay Rate 222
- Audio Mixer pane 240
- Audio Monitoring 239
- Audio Output Capture 82
- Audio sources 62
- Audio tab 219
- Auto-Configuration Wizard 159

[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](#)

Automatic File Splitting 216  
Automatic Scene Switcher 163  
Disable audio source 68  
Enable audio source 68  
Monitoring Device 223  
Sound Effect Filters (Audio/Video) 150  
    Compressor 150  
    Gain 152  
    Noise Gate 154  
    Noise Suppression 155  
    Video Delay (Async) 156  
    VST 2.x Plug-in 157  
Windows audio ducking 223

## Base

Base (Canvas) Resolution 225  
Blackmagic Device 83  
Blending Method 127  
Blending Mode 128  
Browser 84

## Canvas

canvas 225  
Captions (Experimental) 166  
CBR 209  
Chroma Key 137  
Color Correction 138  
Color Key 140  
Color Source 86  
Command Line Options 244  
Command Line Keys 244  
Compressor 150



[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](#)

Configure source 68

Copy 29

Copy Filters 30

Copy Transform 123

CQP 209

Creating Scenes in OBS Studio 42

CRF 209

Crop/Pad 141

Custom Muxer Settings 206

Custom Output (FFmpeg) 217

Cut 55

SLI/Crossfire Capture Mode (Slow) 89

## Deinterlacing

Deinterlacing 131

Decklink Captions 168

Decklink Output 168

Disable audio source 68

Display Capture 87

docking-pane 26

Docks menu 25

Downscale Filter 226

Paste (Duplicate) 30

## Edit

Edit menu 28

Enable audio source 68

Enable Browser Source Hardware Acceleration 237

Enable Preview 33

Enable Replay Buffer 206

Enable 201

[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](#)

- easy cropping 125
- exit Studio Mode 192
- external plugins 159
- Expander 151
- Visual Effect Filters 134
  - Apply LUT 136
  - Chroma Key 137
  - Color Correction 138
  - Color Key 140
  - Crop/Pad 141
  - Image Mask/Blend 144
  - Luma Key 145
  - Render Delay 146
  - Scaling/Aspect Ratio 147
  - Scroll 148
  - Sharpen 149

## Fade

- Fade 55
- Fade to Color 55
- FFMpeg Options {AV1} 215
- File menu 31
- filter 119
  - Sound Effect Filters (Audio/Video) 150
  - Visual Effect Filters 134
- Filters for Special Effects 119
- Filter {Hotkeys by source name} 230
- Filter by Hotkey 230
- Floating docking-panes 38
- Full screen preview (canvas) 35
- Full screen preview (program) 190
- Full screen preview (scene) 47

[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](#)

Full screen preview (source) 77

Scale Filtering 132

## Gain

Gain 152

Game Capture 88

General settings 196

Getting Sources into OBS Studio 62

Getting started 42

green screen 137

Grid Mode 47

Group Sources 73

## HDR

HDR 233

HDR Tone Mapping (Override) 142

Help menu 17

Hide in Mixer 241

Hotkeys 228

## Image

Image 91

Image Mask/Blend 144

Image Slide Show 91

interact 38

Interactive windows 38

Introduction 5

## JACK

JACK Input Client 94

## K

## Layer

Layer shift (order) 118

[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](#)

Legal Notices 258  
Level meter 242  
Limiter 153  
List Mode 47  
Local recording 179  
Lock Preview 33  
Lock source 67  
Lock Docks 26  
Lock Volume 241  
Looking at the Work Area 17  
Lossless 205  
LuaJIT 172  
Lua Clock 174  
Luma Key 145  
Luma Swipe 56  
LUT 136  
Shortcuts Linux 249

## Mac

Audio Mixer pane 240  
macOS Screen Capture 94  
Manage Profiles 195  
Mask only {Stinger} 59  
Maximum Replay Time 206  
Media playback 39  
Media Source 96  
Mixer 237  
Missing Files 40  
Monitor Only (mute output) 239  
Multi-view of scenes 49

[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](#)

Multiview (Fullscreen) 28

Multiview (Windowed) 28

Shortcuts Mac 252

## Network

Network 236

Network streaming 179

Noise Gate 154

Noise Suppression 155

NVIDIA Background Removal 146

## Obs

obs-websocket Settings 176

Open GL 244

Other controls 38

Output 203

Output Mode 203

    Advanced 207

    Simple 204

Output (Scaled) Resolution 225

Output Timer 170

Show overflow 199

Sync Offset 239

## Paste

Enable portrait/vertical layout for Studio Mode 200

Paste (Duplicate) 30

Paste (Reference) 30

Paste Filters 30

Paste Transform 123

pause/continue recording 180

Peak Meter Type 222

[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](#)

plugins 159  
portable mode 246  
Post OBS Studio log-file 18  
Preview Scaling 34  
Profile menu 23  
Push-to-talk 224  
Python 172

## Q

Quick Transitions 190

## Rate

Paste (Reference) 30  
Rate Control 209  
    ABR 209  
    CBR 209  
    CRF 209  
    VBR 209  
Recording 179  
Recording and Streaming 179  
Recording tab 212  
Remove source 69  
Remux Recordings 32  
Rename scene (source) 45  
Rename source 68  
Render Delay 146  
Replay Buffer 181  
Replay Buffer tab 220  
Rescale Output 208  
Reset UI 27  
Resize output (source size) 225  
Restart (media playback) 97

[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](#)

## Sample

- sample rate 63
- Save Replay 181
- Scale Filtering 132
- Scaling/Aspect Ratio 147
- Scene 42
- Scenes 42
- Scene Collections menu 21
- Scene transitioning {switch to scene} 52
- Screen Capture (PipeWire) 99
- Screen Capture (XSHM) 99
- Screenshot 37
- Scripts 172
- Scroll 148
- SDR 233
- Select multiply sources 71
- Set Color 75
- Settings 196
- Service 201
- Sharpen 149
- Show/Hide transition 69
- Show in Multiview 50
- Show overflow 199
- Simple {Output Mode} 204
- Slide 56
- SLI/Crossfire Capture Mode (Slow) 89
- Sndio input client 100
- Sound Effect Filters (Audio/Video) 150
  - Compressor 150
  - Gain 152

[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](#)

Noise Gate 154  
Noise Suppression 155  
Video Delay (Async) 156  
VST 2.x Plug-in 157

Source management 66

Source Toolbar 39

Sources types & properties 79

AJA I/O Device Capture 79  
Audio Capture Device (ALSA) 81  
Audio Input Capture 81  
Audio Input Capture (OSS) 82  
Audio Output Capture 82  
Blackmagic Device 83  
Browser 84  
Color Source 86  
Display Capture 87  
Game Capture 88  
Image 91  
Image Slide Show 91  
JACK Input Client 94  
Lua Clock 174  
macOS Screen Capture 94  
Media Source 96  
Scene 99  
Screen Capture (PipeWire) 99  
Screen Capture (XSHM) 99  
Sndio input client 100  
Syphon Client 101  
Text (Free Type 2) 102  
Text (GDI+) 103  
Video Capture Device 106  
VLC Video Source 110  
Window Capture 112  
Window Capture (PipeWire) 114



[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](#)

Window Capture (Xcomposite) 114

Sources 42

Speed (percent) 98

split 216

Start Recording 179

Start Streaming 185

Stats 36

Stinger 57

Stop Recording 180

Stop Streaming 186

Stream Key 202

Stream settings 201

Streaming 185

Streaming tab 207

Studio Mode 187

Swipe 61

Sync Offset 239

Syphon Client 101

System requirements 5

Application Settings 196

Temporary

Temporary disable source 67

Temporary enable source 67

Text (Free Type 2) 102

Text (GDI+) 103

Themes 193

Tools menu 20

Tools 159

AJA I/O Device Output 160

Auto-Configuration Wizard 159

[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](#)

Automatic Scene Switcher 163

Captions (Experimental) 166

Decklink Captions 168

Decklink Output 168

Output Timer 170

Scripts 172

obs-websocket Settings 176

Track Matte 58

Tracks 240

Transform 120

Transform options (dependencies) 122

Transition 52

Transition Override (per scene transitions) 54

Transition Point Type 58

Transitions types 55

Cut 55

Fade 55

Fade to Color 55

Luma Swipe 56

Slide 56

Stinger 57

Swipe 61

T-bar 190

Unlock

Unlock source 67

Using Layers 116

UWP (Metro/Store) applications 88

VBR

VBR 209

Vertical Layout {mixer} 242

Video 225

[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](#)

Video Capture Device 106

Video Delay (Async) 156

Video sources 62

Video resolution 62

View menu 26

Virtual Camera 182

Visual Effect Filters 134

    Apply LUT 136

    Chroma Key 137

    Color Correction 138

    Color Key 140

    Crop/Pad 141

    Image Mask/Blend 144

    Luma Key 145

    Render Delay 146

    Scaling/Aspect Ratio 147

    Scroll 148

    Sharpen 149

VLC Video Source 110

VST 2.x Plug-in 157

What

    What's New in OBS Studio 10

    Window Capture 112

    Window Capture (PipeWire) 114

    Window Capture (Xcomposite) 114

    Windowed Projector (canvas) 35

    Windowed Projector (program) 191

    Windowed Projector (scene) 48

    Windowed Projector (source) 78

    Windows audio ducking 223

    Shortcuts Windows 255

[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](#)

Working with sources (positioning) 44

X

x264 214

Y

Z