Advanced Features for Zoom

Using OBS with Zoom

Advanced Features for Zoom: Using OBS with Zoom
Release 1

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INTRODUCTION

Zoom is a popular online service that lets you join or host meeting for people across the world over the internet. On a free account, you may host meetings with up to 100 people. With a paid account, you may host meetings with up to 1000 people.

As you become more experienced with Zoom, you may want to improve the visual elements of your meeting with features similar to those used in professionally broadcast television and conferences. While Zoom does provide a good toolbox, adding OBS Studio, a professionally used application for enhancing broadcasts, will enable such features. These features include:

- Adding lower-third graphics to identify speakers
- Showing multiple camera angles and effects

This guide is for Zoom users who wish to enhance their presence during web meetings. While you do not need any familiarity with OBS, you should be familiar with Zoom:

- Have a Zoom account (free or paid)
- Experience starting a Zoom meeting
- Shared your screen during a Zoom meeting

Hardware and Software Prerequisites

Before you begin the guide, you will need a desktop computer or laptop that can run Zoom and OBS simultaneously.

For Zoom and OBS, your device must have:

A supported operating system:

- Microsoft® Windows® 8/8.1/10/11
- Apple® macOS® 10.9 or later
- Linux®/Unix®

Sufficiently powerful CPU and RAM:

- Dual-core 2 GHz or higher (Intel® Core™ i3/i5/i7 or AMD™ equivalent)
- 4 GB RAM

In later chapters of this guide, DroidCam OBS, a mobile device app and OBS plugin, enables further functionality with OBS by using a mobile device. To use DroidCam OBS, you will need a supported mobile device with a camera:

Supported mobile devices:

- Android™ 5.0 or later
- iPhone®, iPad®, or iPod touch® with iOS™ 9.0 or later

What is Zoom?

In the current state of the world, Zoom, or more officially ZOOM by Zoom Video Communications, Inc, is a popular video conferencing service used in environments ranging from school, work, and online chats. To many Zoom conference hosts, Zoom has some strengths and weaknesses:

Zoom's strengths:

- Free, easily accessible software—low barrier to getting the software.
- Simple user interface—easy to learn and generally smooth handling.
- Widely adopted in commerce and in industries—can be frequently used in the real world.

Zoom's *weaknesses:*

- Limited features—you may want more power over what you show to your audience.

Zoom can be complemented with OBS to amplify its strengths.

What is OBS?

OBS, formally OBS Studio by Wizards of OBS, is an open source application for efficiently "capturing, compositing, encoding, recording, and streaming video content." In other words, it is an application for producing and transmiting video content across the web. Like Zoom, it has its own strengths and weaknesses.

OBS's strengths:

- Free, easily accessible software—low barrier to getting the software.
- Usable on computers that can run Zoom—if you have Zoom, then you can use OBS.
- Huge range of features—allows you a lot of power over what you show to your audience.
- Existing plugin development community—if you ever want a feature not already included in OBS, then a plugin developer may have already produced a solution.

OBS's weaknesses:

- Intimidating user interface—very difficult to learn at first glance.
- Some user assembly required—setup is required to get any functionality.
- Technical vocabulary—specific terms refer to specific elements in the software.

What is DroidCam OBS?

DroidCam OBS is an application and plugin to present an Android or iOS device as a webcam to OBS. Its primary function is to connect a compatible device as a webcam to computers.

Like Zoom and OBS, DroidCam OBS is free and easily accessible. You may additionally buy a license from within the mobile device application to increase the resolution of DroidCam OBS's video feed.

How does Zoom work with OBS?

Since Zoom, OBS, and Droidcam OBS are software developed by separate companies, you need to take special steps to connect them together. You will learn to connect Zoom with OBS's Virtual Camera in the chapter titled "Interfacing Zoom with OBS," and you will learn to connect OBS with Droidcam OBS in the chapter titled "Mobile device as a webcam."

Special notes

Zoom's official website is:

- https://zoom.us/

OBS's official website is:

- https://obsproject.com/

dev47apps' official website is:

- https://www.dev47apps.com/

DroidCam OBS is found at:

- https://www.dev47apps.com/obs

For installation instructions, locate help information on Zoom's, OBS's, or dev47apps' websites. You may also read a short tutorial in the appendix of this guide. However, since software can update frequently and without notice, the content of appendix tutorials may be outdated.

For further information about terms used by this guide, refer to the glossary.

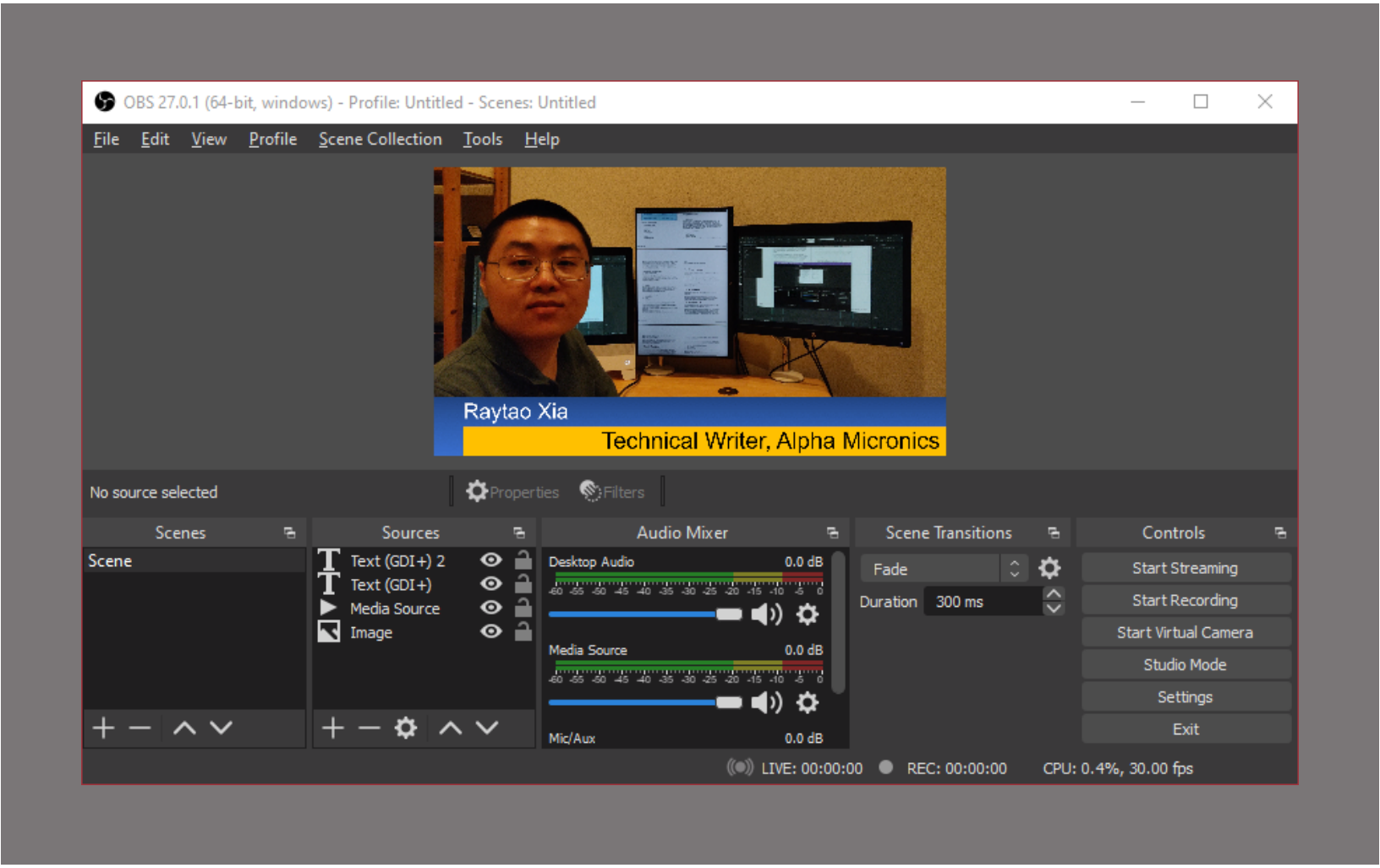
1 FUNDAMENTALS FOR USING OBS

This chapter will introduce you to OBS by showing you OBS's main window. It will also describe the *Scene,* which is akin to a whiteboard, and the *Source,* which is like the various ways you may add content to the whiteboard, e.g. markers or a projection.

This chapter will guide you to adding text to OBS's main window by putting a *Text Source* onto the *Scene.* Although the depth of OBS's features allows for adding much more complicated *Sources*, the *Text Source* is created the same way as any more complicated *Source*. By the end of the chapter, you should understand how to add *Sources* to a *Scene*, and be prepared for later chapters of this book.

In this chapter, you will learn about:

- OBS's main window
- OBS's *Sources* and *Scenes*
- Adding *Sources* to a *Scene*
- Moving *Sources* on a *Scene*
- Resizing *Sources* on a *Scene*
- Edit an existing *Source*'s details



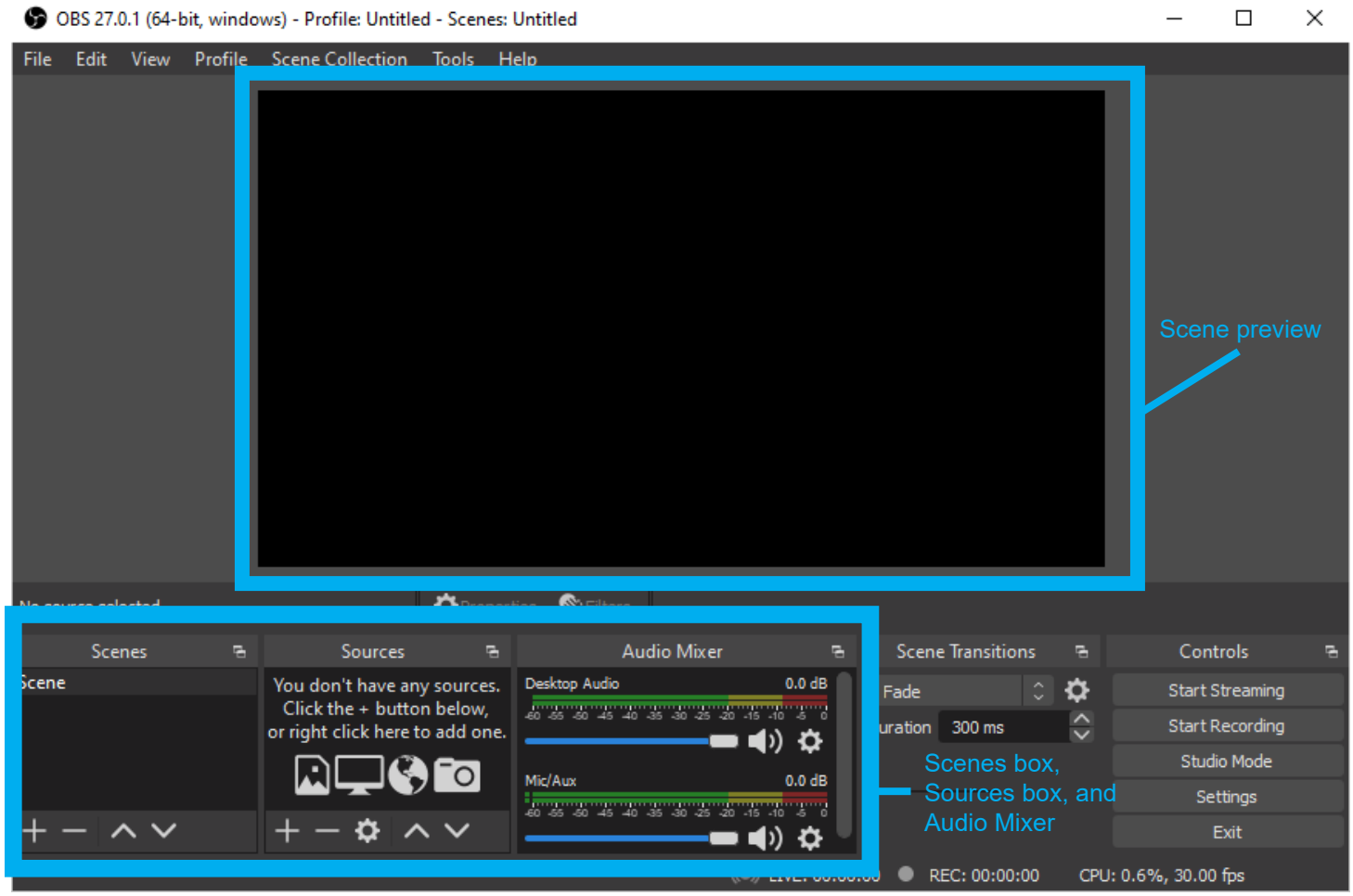
OBS allows for easily adding visual elements to videos. In this image, a lower-third graphic was added to a recorded video.

The OBS main window

If you are unfamiliar with OBS, then its main window—the window that appears when OBS is run—can be very unfamiliar. For using OBS with Zoom, only a few parts of the main window must be used. These are:

- *Scene* preview
- *Scenes* box
- *Sources* box
- *Audio Mixer*

The other parts of the main window are not vital for using OBS with Zoom.



OBS *Sources* and *Scenes*

Before you interact with any parts of the OBS main window, you should first know what *Sources* and *Scenes* are.

After installation, OBS is not immediately ready for you to send content to your audience—it will just show a black screen. This black screen is OBS's background and appears when video content is absent. You will need to setup OBS to pick up video or audio from other media. This is done by putting *Sources* onto the *Scene,* and is reflected by video appearing on the *Scene* preview and audio tracks in the *Audio Mixer.*

Anything that can be captured by OBS is a *Source*.

Common sources include:

- Webcam
- Your web browser
- Video clips
- Static images or text
- Microphone

All *Sources* can be named, have their video adjusted by filters provided by OBS, or layered on top of other *Sources*. *Sources* with visual components, like videos or images, can be moved, resized, or hidden, while *Sources* with audio components can have their volume changed or muted through the *Audo Mixer*.

To manage content, OBS attaches these *Sources* to a *Scene*. OBS's system of *Sources* on a *Scene* is similar to how a whiteboard, a *Scene*, can be covered in marker ink, a *Source*, or projected onto with a projector, another *Source*.

Since OBS *Sources* are digital, *Sources* can carry audio into their *Scene*. Furthermore, *Sources* and *Scenes* can have their properties edited from within OBS, such as image brightness or microphone volume. By default, OBS has one format for a *Scene* and thirteen non-deprecated *Sources.* Some *Sources* will add audio tracks to the *Audio Mixer.*

Overview of OBS's default *Sources*

OBS has thirteen *Sources* by default. In OBS's code, each of these *Sources* are captured very differently. However, for you as an OBS user, these can be grouped into what they capture.

What you want to capture	Choose this *Source*
Microphone, speakers	*Audio Input Capture, Audio Output Capture*
Images, photos on your computer	*Image, Image Slide Show, Media Source*
A window on your computer, a movie clip, a video game in fullscreen mode,	*Display Capture, Game Capture, Window Capture*
Webcam, external camera	*Video Capture Device*

Here is the full list of *Sources*:.

- *Audio Input Capture*
- *Audio Output Capture*
- *Browser*
- *Color source*
- *Display Capture*
- *Game Capture*
- *Image*
- *Image Slide Show*

- *Media Source*
- *Scene*
- *Text (GDI+)*
- *Video Capture Device*
- *Window Capture*

When to use OBS's default *Sources*

These are some common uses for each of OBS's default *Sources*.

Only audio:

- *Audio Input Capture*
- *Audio Output Capture*

Use these when you want to add a microphone or a desktop audio device that is not automatically captured by OBS.

Your files on your computer:

- *Image*
- *Image Slide Show*
- *Media Source*

Use these when you have prepared image files or video files that you want to share in your broadcast. If you choose *Image Slide Show*, you are given options to change the order of and the time between slides.If you choose *Media Source*, you can select a video file and manually adjust tracking, speed, and looping of the chosen video file. *Media Source* will add an audio track to the *Audio Mixer*.

A window on your computer:

- *Display Capture*
- *Game Capture*
- *Window Capture*

Use these when you have a window on your computer that you want to capture. These are very smilar to Zoom's *Share Screen* feature. If you

select *Display Capture*, then you may select a monitor to capture—this is particularly useful if you have multiple monitors attached to your computer. If you select *Game Capture* or *Window Capture,* you will need to select what game or window to capture. None of these add dedicated audio tracks.

A device you plug into your computer:

- *Video Capture Device*

Use this when you have a webcam or virtual camera attached to your computer. This will not work with most cloud-based cameras, such as security cameras, since *Video Capture Device* needs a link from the camera to the computer running OBS. This *Source* will add an audio track to the *Audio Mixer*.

A URL:

- *Browser*

Use this when you have a website you want to capture and do not want to capture your own browser with *Window Capture*. *Browser* allows for applying a custom CSS to captured webpages. *Browser* does not allow for clicking or typing into captured webpages. This *Source* does not add a dedicated audio track.

Generated by you within OBS:

- *Color Source*
- *Scene*
- *Text (GDI+)*

These three are used differently, but they are all generated by OBS based on parameters you set.

Color Source creates a rectangular shape whose dimensions and color you choose.

Scene takes an existing *Scene* and places it on the *Scene* that uses it as a *Source*. For example, if you had a *Scene* 1 and a *Scene* 2, you could insert *Scene* 1 into *Scene* 2 then broadcast *Scene* 2.

Text (GDI+) uses Windows GDI+ to add text whose font and color you choose This *Source* will be referred to as *Text Source* throughout this guide.

None of these add dedicated audio tracks.

The *Scene* preview

The *Scene* preview displays any video or image elements used by the broadcast.

When you add anything with a visual element to a broadcast, and it is not hidden or totally empty, then it will show up on the *Scene* preview, have its size adjusted according to the *Scene*'s canvas size, and can have its position changed.

By default, the canvas size will match your computer's aspect ratio. This means that if your monitor is in a 16:9 ratio, then the preview will also be in a 16:9 ratio.

The *Scenes* box

This box allows creating new *Scenes* and swapping the currently active *Scene.*

For OBS to function, it must have at least one *Scene*, so OBS automatically generates an empty *Scene* when first installed. More *Scenes* can be created if you plan to save and reuse *Scenes*.

The *Sources* box

The *Sources* box displays any *Sources* and allows for managing their properties and position relative to other *Sources.*

By clicking the plus symbol, better known as the *Add Source* button,

OBS will offer a menu of *Sources* for you to add. Each *Source* has different functionality, but upon selecting and setting up a *Source,* an additional listing is added to the *Sources* box, and if there is any audio associated with the Source, then the audio will show up as an audio track in the *Audio Mixer*.

When you have a *Source,* the *Sources* box also enables easy hidng and unhiding of *Sources* by clicking an eye shaped icon, better known as the *Hide Source* button.

The *Audio Mixer*

The *Audio Mixer* is OBS's tool for managing audio tracks within a *Scene*. Its main function is to adjust volume output so that you do not accidentally deafen your viewers. Do note that it will not automatically adjust volume—if you capture very loud or very quiet audio, OBS will receive that same loud or quiet audio.

When you first launch OBS, you may see audio tracks in the *Audio Mixer* like this:

In this image, *Desktop Audio* is the audio OBS captures directly from your computer's audio device. *Desktop Audio* will typically be the device you would normally hear computer audio from, such as speakers, a headphone jack, or a sound card. It may be helpful to imagine this audio as if your computer's speakers began recording itself.

If you have a microphone or any device that captures audio from

outside your computer, Mic/Aux will appear. It sends audio from your microphone to OBS.

If you are using multiple audio devices, such as using speakers and a headphone jack, or multiple microphones, then you may want to change the device captured by OBS.

1. Right click *Desktop Audio* or *Mic/Aux.*
2. Click *Properties.*
3. Change the audio device in the dropdown menu.

When any of your audio tracks are red, or reach the right side of the audio mixer, then your audio may be too loud.

To mute an audio track, click the speaker icon underneath the audio track. You may also decrease volume by sliding the bar underneath the audio track.

To more granularly change volume:

1. Right click a track.
2. Select *Advanced Audio Properties*.
3. On the left side of the *Advanced Audio Properties* Window add or subtract from *Volume* to change volume. Use small integers—only 10 dB separates a conversation from a car.
4. If necessary, move *Balance* left or right to fix issues audio balance issues like one side having more audio than the other.

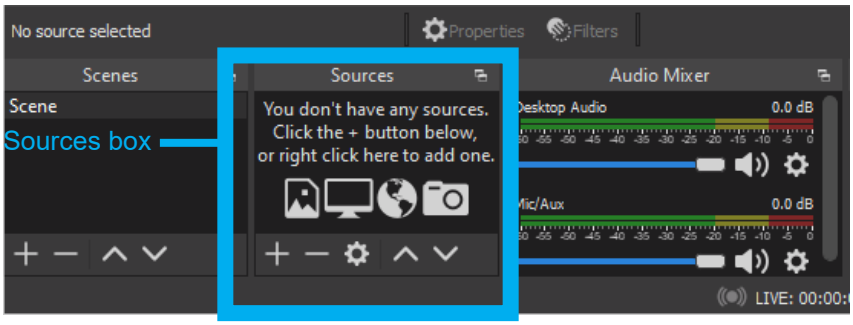
Your first source: the *Text Source*

Although a very basic *Source*. going through the motions in creating a *Text Source* will prepare you for adding all other *Sources*. The remainder of this chapter will instruct you in creating the *Text Source* as shown on this chapter's first page. Later chapters will instruct you in creating other *Sources* and adjusting them with filters.

Creating a *Source*

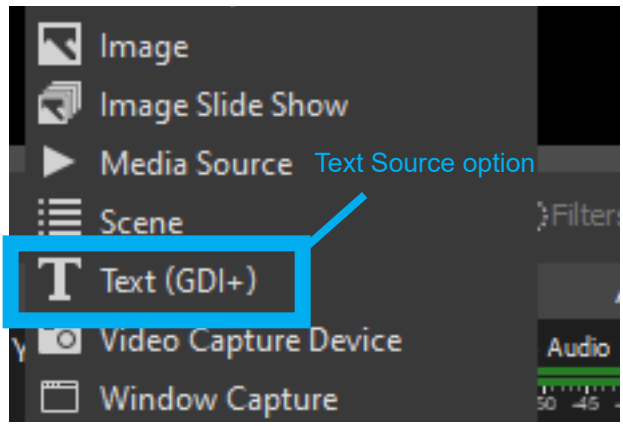
1 To create a *Source*, locate the *Sources* box on the center-left of the bottom of the **OBS** window.

Although OBS may have very many unfamiliar buttons and menus, *Sources* and *Scenes* have their own dedicated boxes. The bulk of your work with OBS will begin with these two boxes.



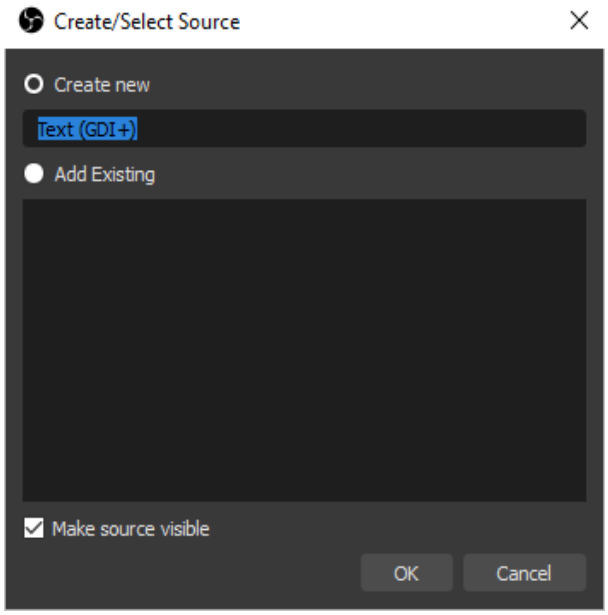
2. Click the *Add Source* button. A menu will show up with a *Text Source* option. Click the *Text Source* option.

All *Source* types are selected from this menu, regardless of how basic or complex they are.

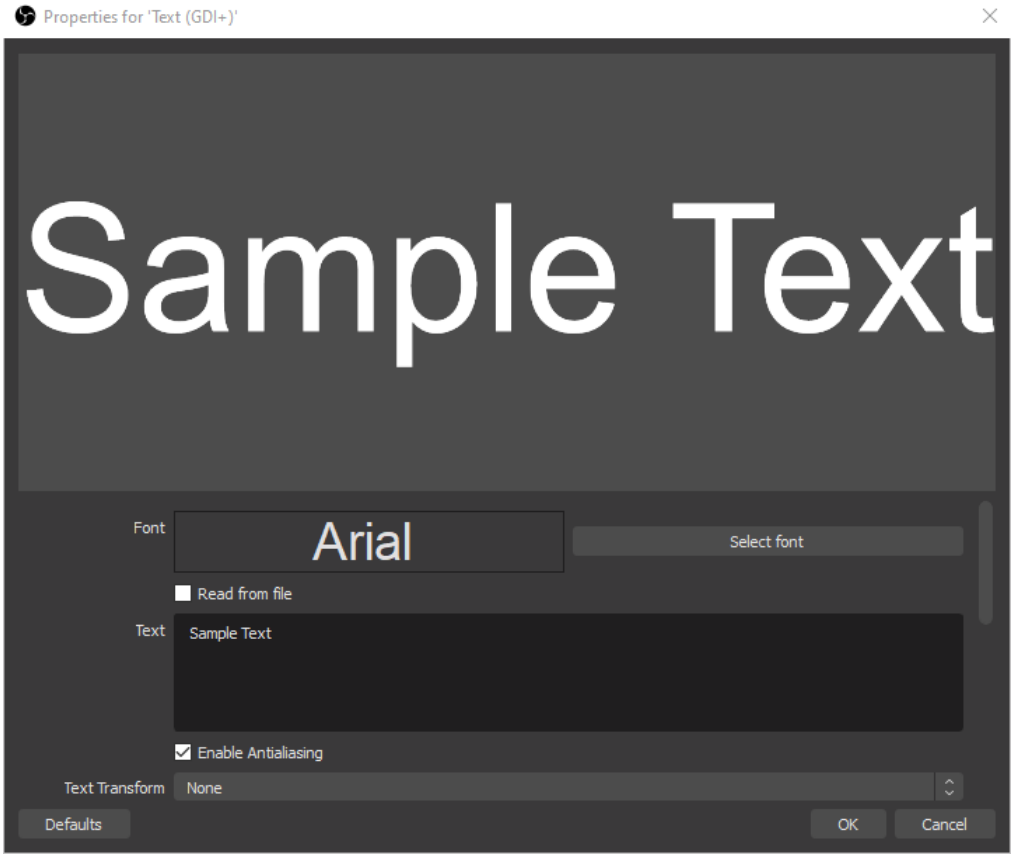


3. In the newly opened *Create/Select Source* window, click OK.

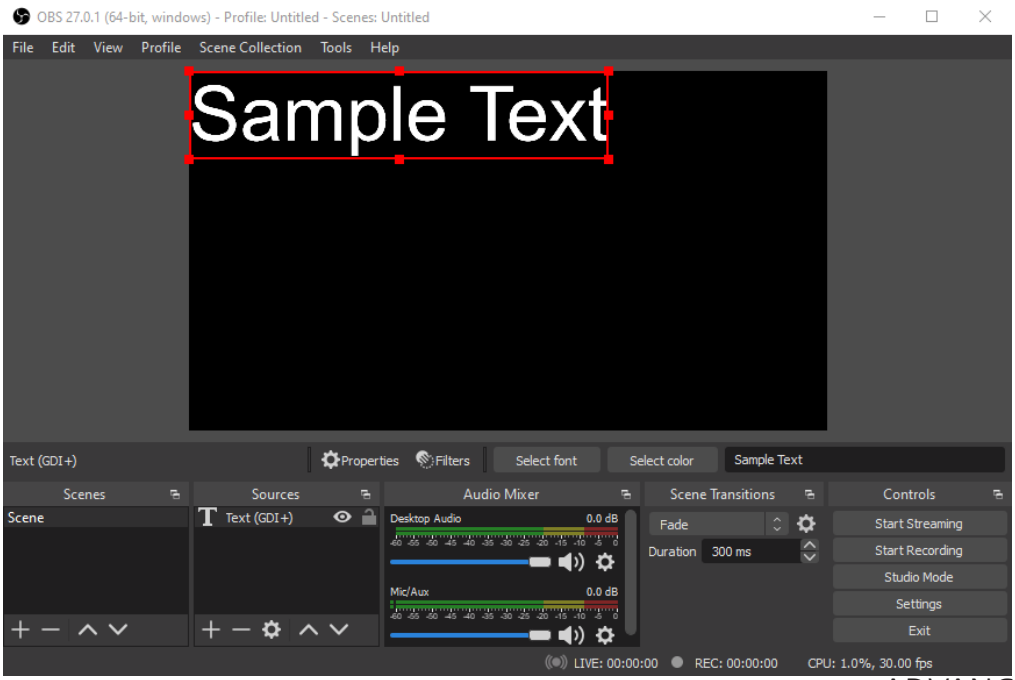
You can change the name of the *Source* in the text box. If you have any other *Sources* of the same type, then you can dupliocate them by selecting them in the *Add existing* box.For demonstration purposes, the default name will be used for for all added *Sources.*



4. In the newly opened *Properties* window, type into the text entry field. You may additionally change the font or scroll down for other properties. Click OK. The text will show up on the *Scene*.



All *Source* properties can atime.



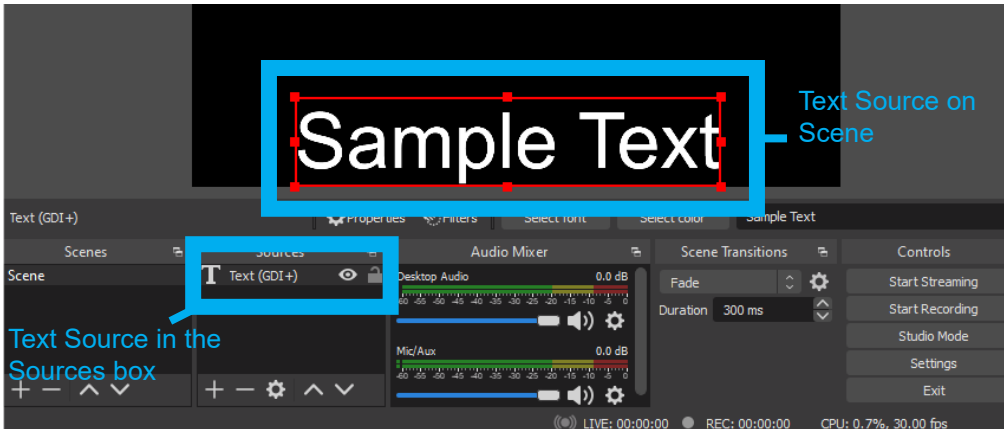
The *Text Source* is created, but it is probably not somewhere useful. All *Sources* will default to the top left corner.

Note that the *Text Source* is now in the *Sources* box. The red border around the *Text Source* on the Scene indicates that the *Text Source* is selected in the *Sources* box.

Moving a *Source*

To move a *Source*, select it by either left clicking it in the *Sources* box or on the *Scene*. Then, click and drag within the red border until the *Source* is where you want it to be.

The text entry field on the right of the **OBS** window allows for easy editing of the text.

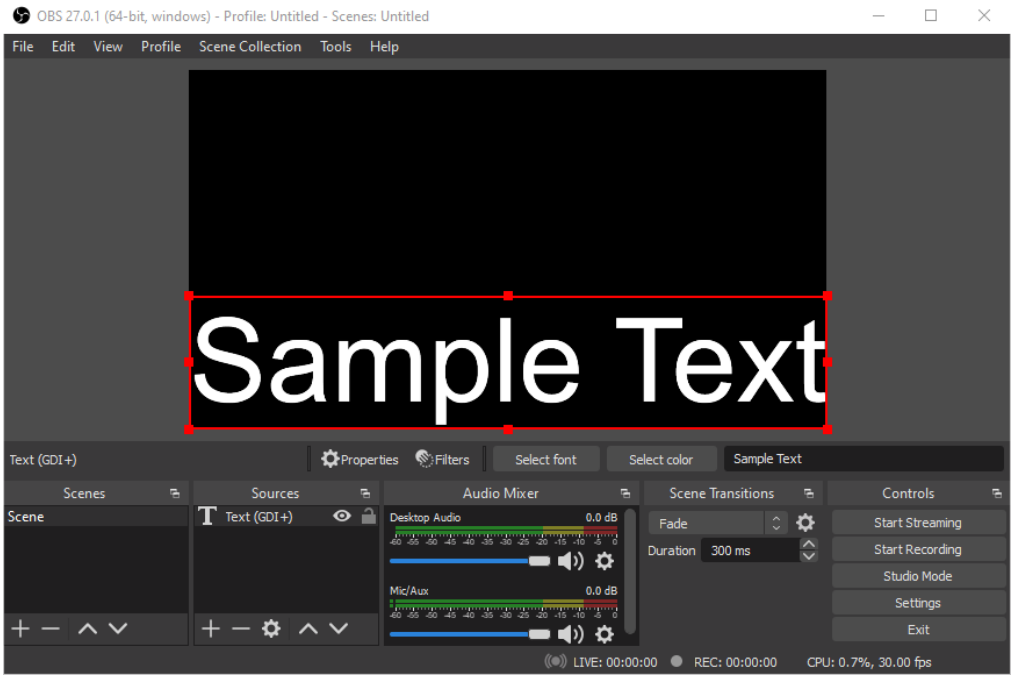


Resizing a *Source*

To resize a *Source*, select it by either left clicking it in the *Sources* box or on the *Scene*. Then, click and drag the nodes on the red border until the *Source* is sized how you want it to be.

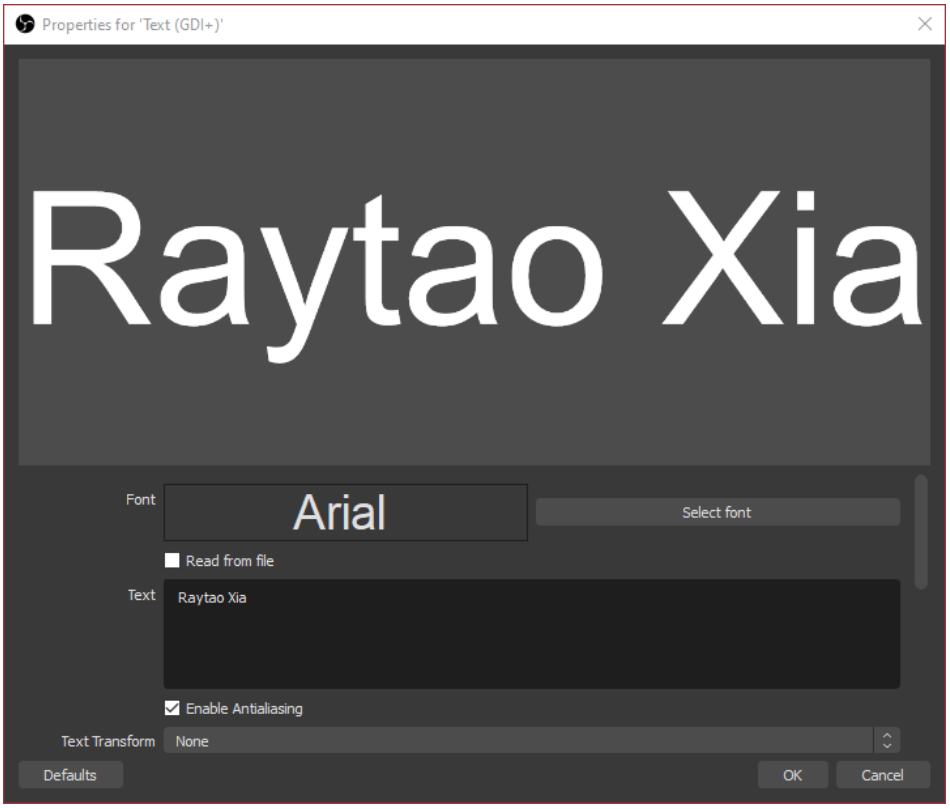
When resizing a *Source*, the *Source* will proportionally change its height and width. In other words, it retains its aspect ratio.

To override the aspect ratio, hold the Shift key while dragging a node on the red border. This will warp the *Source,* making it appear out of shape.



Editing an existing *Source*

To edit an existing *Source*, double click it in the *Sources* box, or right click and select the *Properties* option. For a *Text Source*, it will reopen the page where you may change font and edit text.



In this example, the text was changed from “Sample Text” to “Raytao Xia.”

After editing *Source* properties. The *Scene* preview will reflect changes you made.

2 LOWER-THIRD GRAPHIC IN OBS

In this chapter you will learn about:

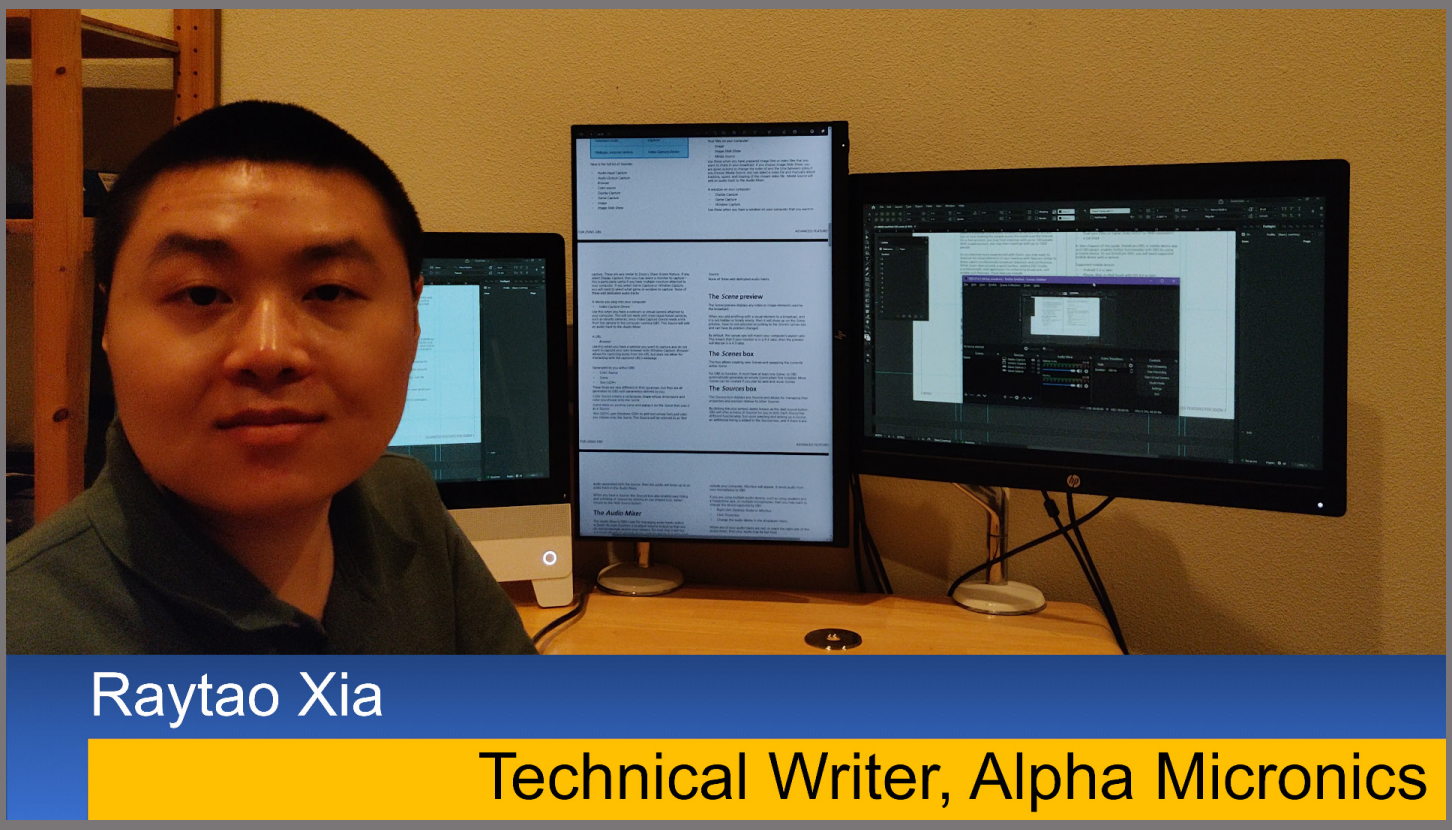
- Prerequisites to creating a lower-third graphic in OBS
- Creating a lower-third graphic by using an *Image Source* and a *Text Source*

This chapter will guide you to preparing a simple lower-third graphic through OBS. Since lower-third graphics are a composition of a background overlayed with text, this guide will demonstrate how to use two basic OBS sources, the *Image Source* and the *Text Source*, to create a static lower-third graphic on the *Scene*.

Before you begin, you need an image to use as the background within the lower-third graphic.

You may use your own file or use the sample graphic from this link:
https://raw.githubusercontent.com/raytaoxia/main/main/OBS/SAMPLE%20FILES/21-0910%20Video%20Clip.png

Save this as an image. You'll use it for an *Image Source*.



A lower-third graphic overlayed on a video. The text is a *Text Source* and the image behind the text is an *Image Source*. This chapter reproduces the graphic.

Defining a lower-third graphic

Lower-third graphics are abundant in broadcasts. While lower-third may bring to mind something covering literally the lower-third of the screen, lower-third graphics include closed-captioning, popups to remind viewers to like and subscribe, and chapter markers during long lecture videos. In almost all cases, lower-third graphics are not just a text, but also a background accompanying the text. The text also frequently has an outline to increase legibility on the graphic.

In some cases, the text and the background are animated. To achieve this, both the text and the background are in either an animated image format or in a video format, then added to OBS as *Media Sources.* For the purposes of this guide, neither willl be animated.

Static lower-third graphic in OBS

To deploy a static lower-third graphic on OBS, the steps you should take are:

1. Add the background as an *Image Source* to the *Scene.*
2. Add the text as a *Text Source* to the *Scene.*
3. Add an outline and color to the text.

These steps will be demonstrated during this chapter to create a chapter marker.

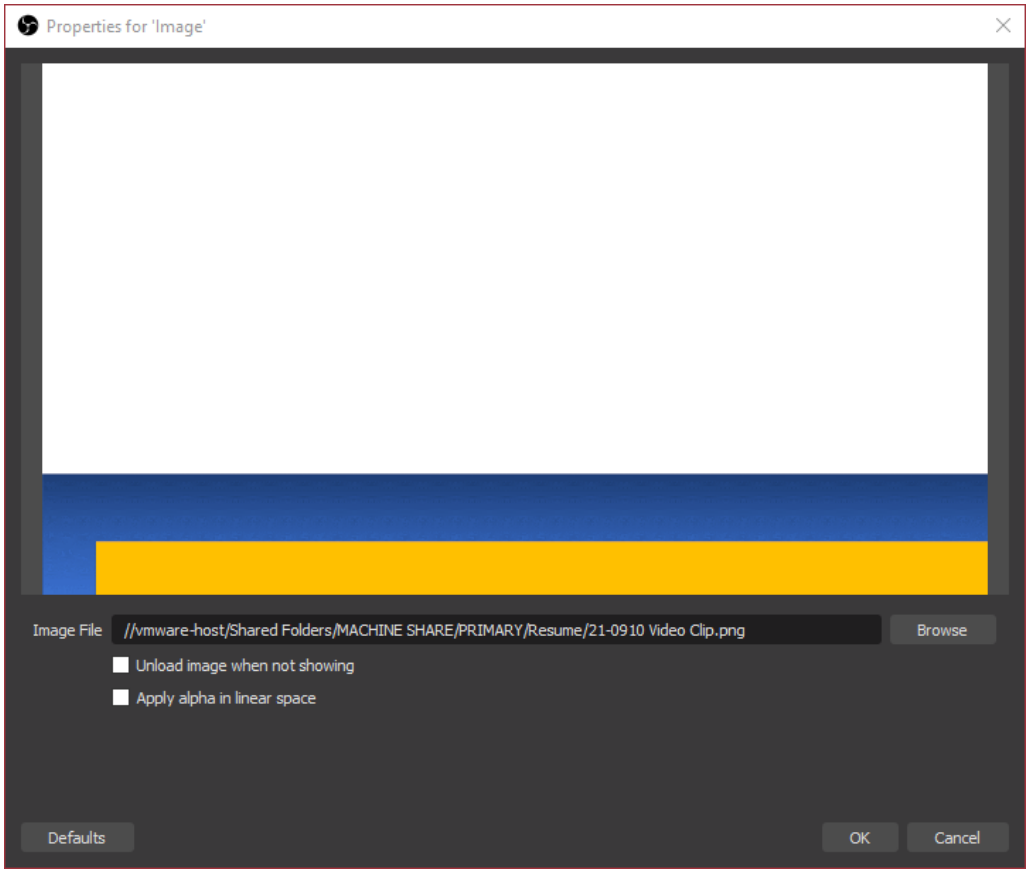
Lower-third graphic background

The background must be created outside of OBS. While sometimes forgoing the background may be sufficient for your broadcast, viewers generally prefer seeing a background.

You may use your own file or use the sample graphic from this link: https://raw.githubusercontent.com/raytaoxia/main/main/OBS/SAMPLE%20FILES/21-0910%20Video%20Clip.png

To add the background to **OBS:**

1. Begin adding an *Image Source*.
2. In the *Properties* window, click *Browse.*
3. Navigate to the image you will use as a background. If it does not show up, then you either have the wrong location or the image is not in a supported format.
4. Click *Open* when the target image is selected.
5. Click OK in the Properties window.

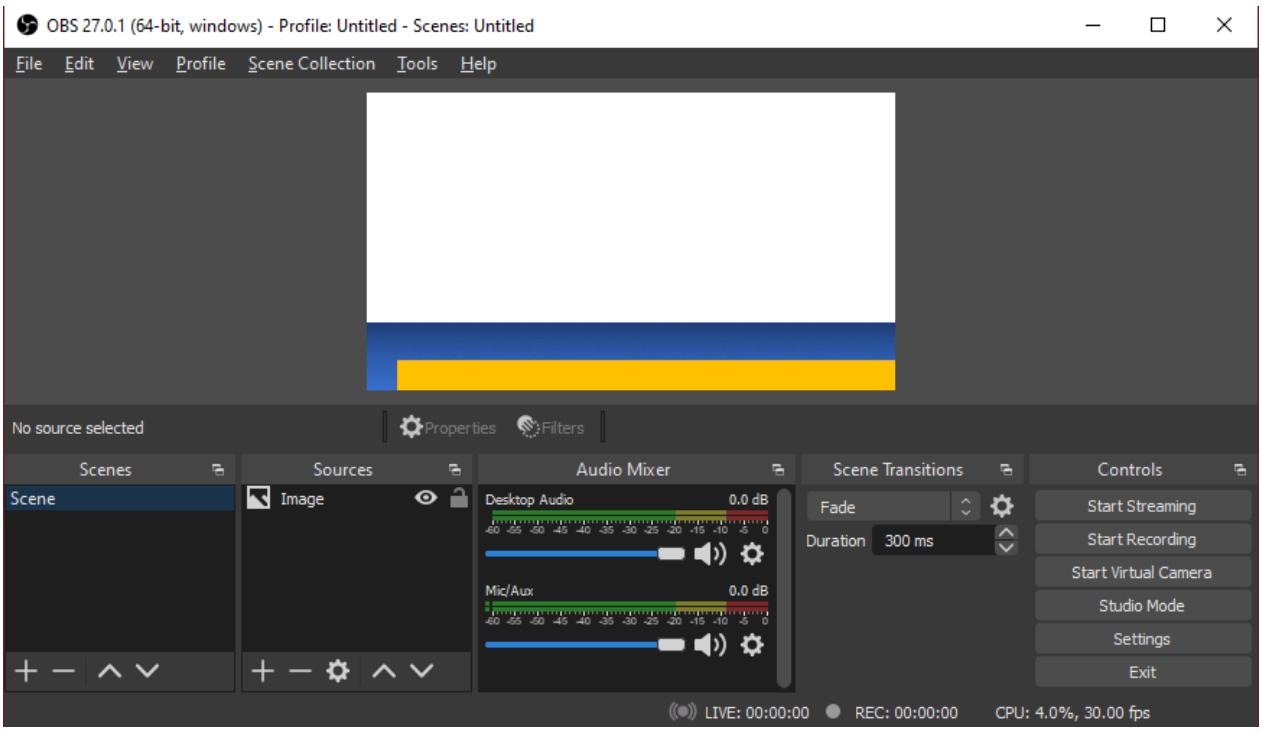


The two additional options are primarily for improving computer performance. If your computer has low video memory, or if you are using a graphic with a very large file size, then you may benefit from checking "Unload image when not showing." For specialized graphics that have a linear alpha channel, you may benefit from checking "Apply alpha in linear space."

The *Image Source* should now appear in the *Sources* box and on the *Scene.*

6. Move and resize the *Image Source* so that it covers the entire *Scene*.

After the move, the OBS main window should look similar to:

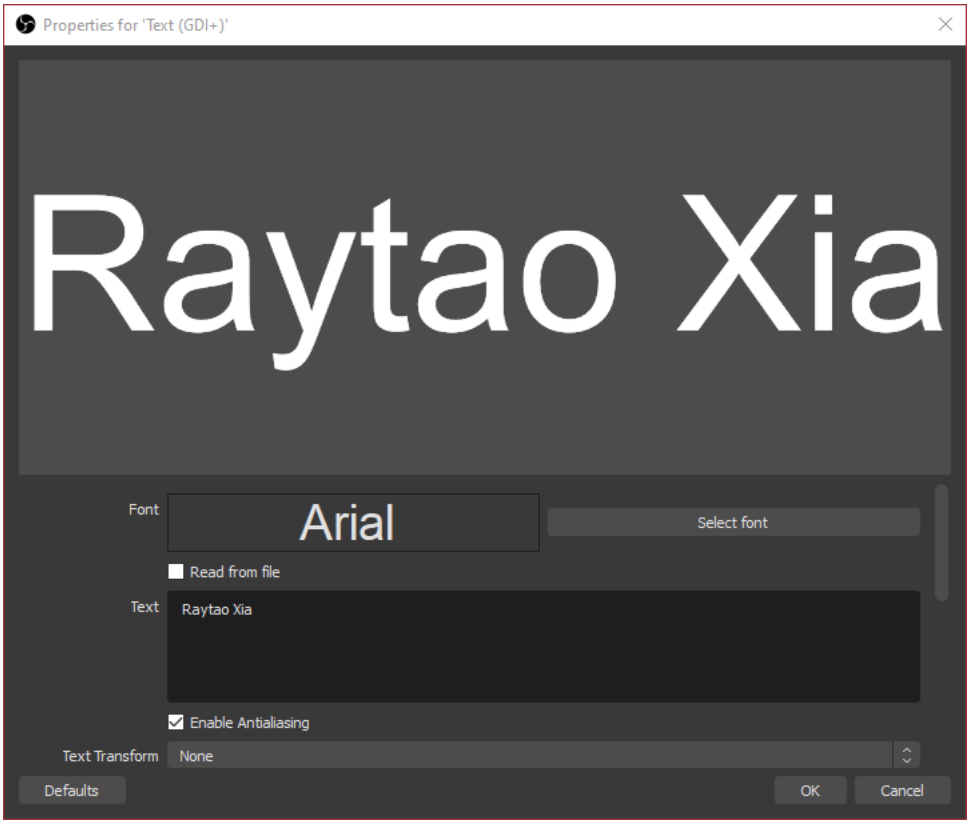


Lower-third graphic text

For this lower-third graphic, the text can be produced within OBS as a *Text Source*. No additional files are required. If you decide to use an image, then you will simply need to follow the previous steps and instead overlay the text as an *Image* or *Media Source* over the other *Image Source*.

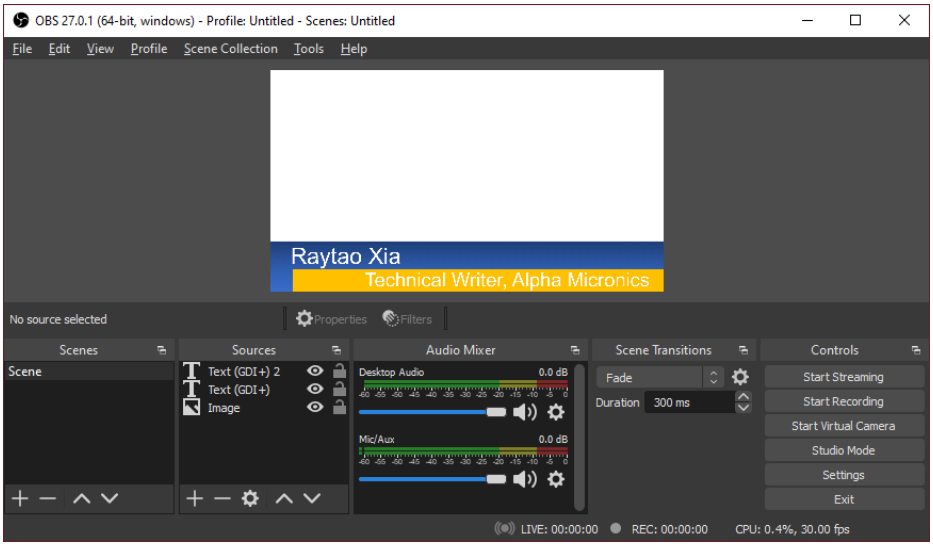
1. Begin adding a Text Source.
2. In the *Properties* window, type in your text.
3. Click *OK* when the text is finshed.

For this demonstration, the name of the guide's author will be used.



After clicking *OK*, the *Text Source* and the *Image Source* should appear on the *Scene* simultaneously.

4. Adjust size and position of your sources until you have what you want.
5. Add more Text Sources for your needs. This demonstration will use two.

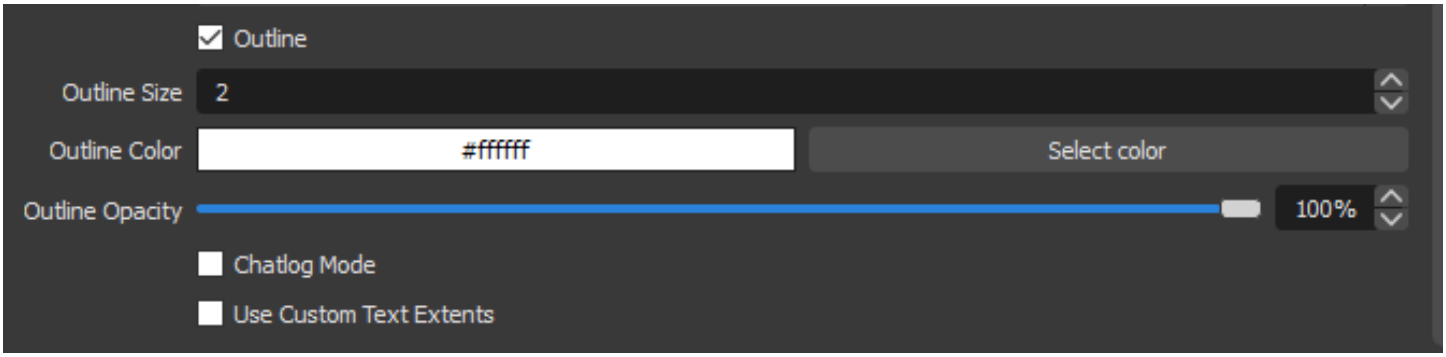


Text outline & color

To add an outline to the *Text Source,*

1. Right click the *Text Source*.
2. Select *Properties*.
3. Scroll down until you see a checkbox named *Outline*.
4. Click the checkbox.

You should now see options for setting up an outline on the text.

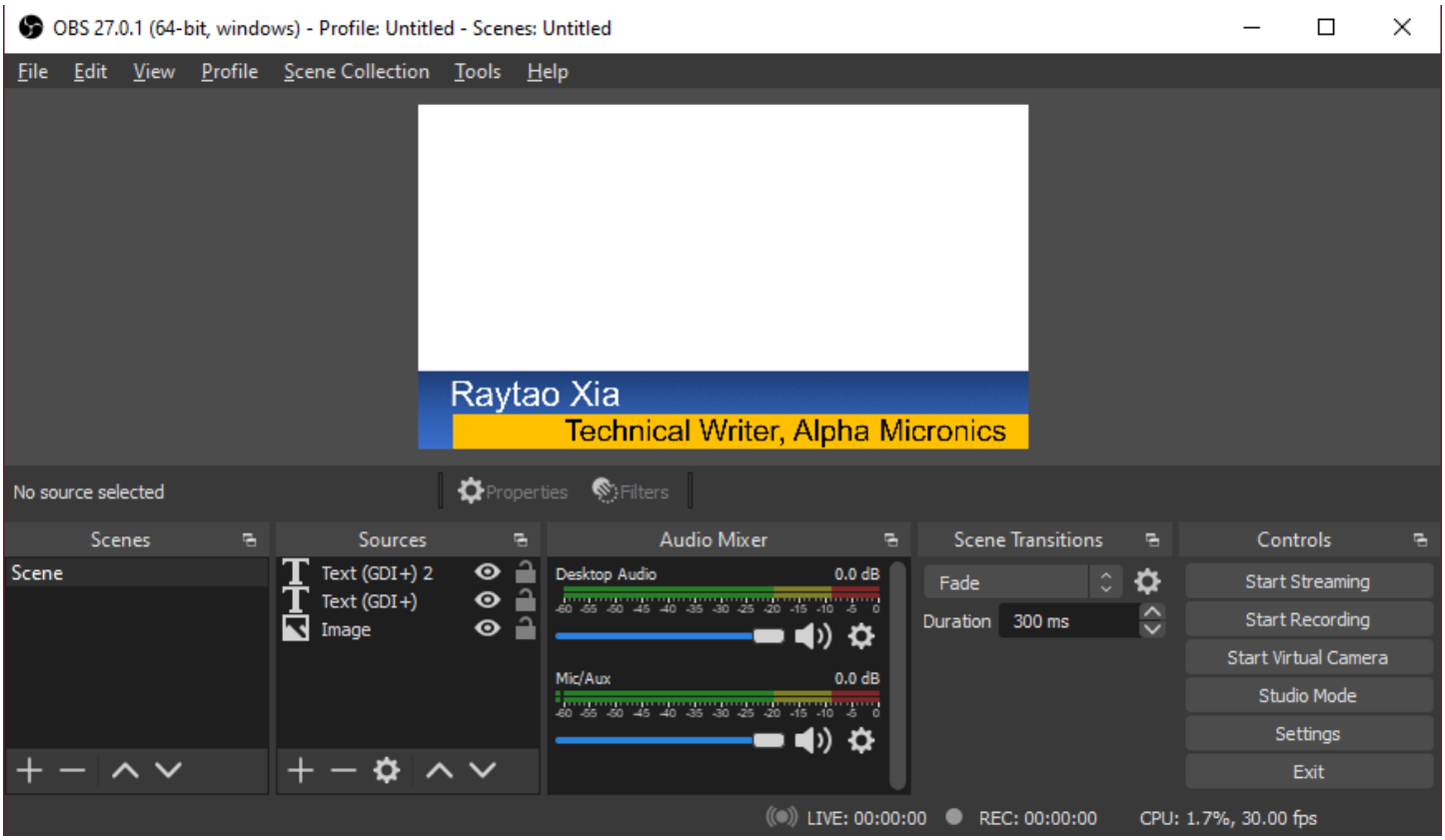


5. Click *Select color* on the *Outline Color* line.
6. Choose a color. In general, dark colors are best for outlines.
7. Scroll back up until you see the *Select color* button on the *Color* line.
8. Change color of the text.

Arranging *Sources*

If you had created the *Text Source* before the *Image Source*, then the *Image Source* would by default be layered above the *Text Source*. To move the *Image Source* into the background of the *Scene*, click and drag the *Image Source* to below other *Sources* in the *Sources* box.

If all the steps had been followed, the main window will look similar to:



To view the Scene in detail, right click any part of the preview and click *Windowed Projector (Preview)*.This will open a window that will show you how your *Scene* would look if broadcasted.

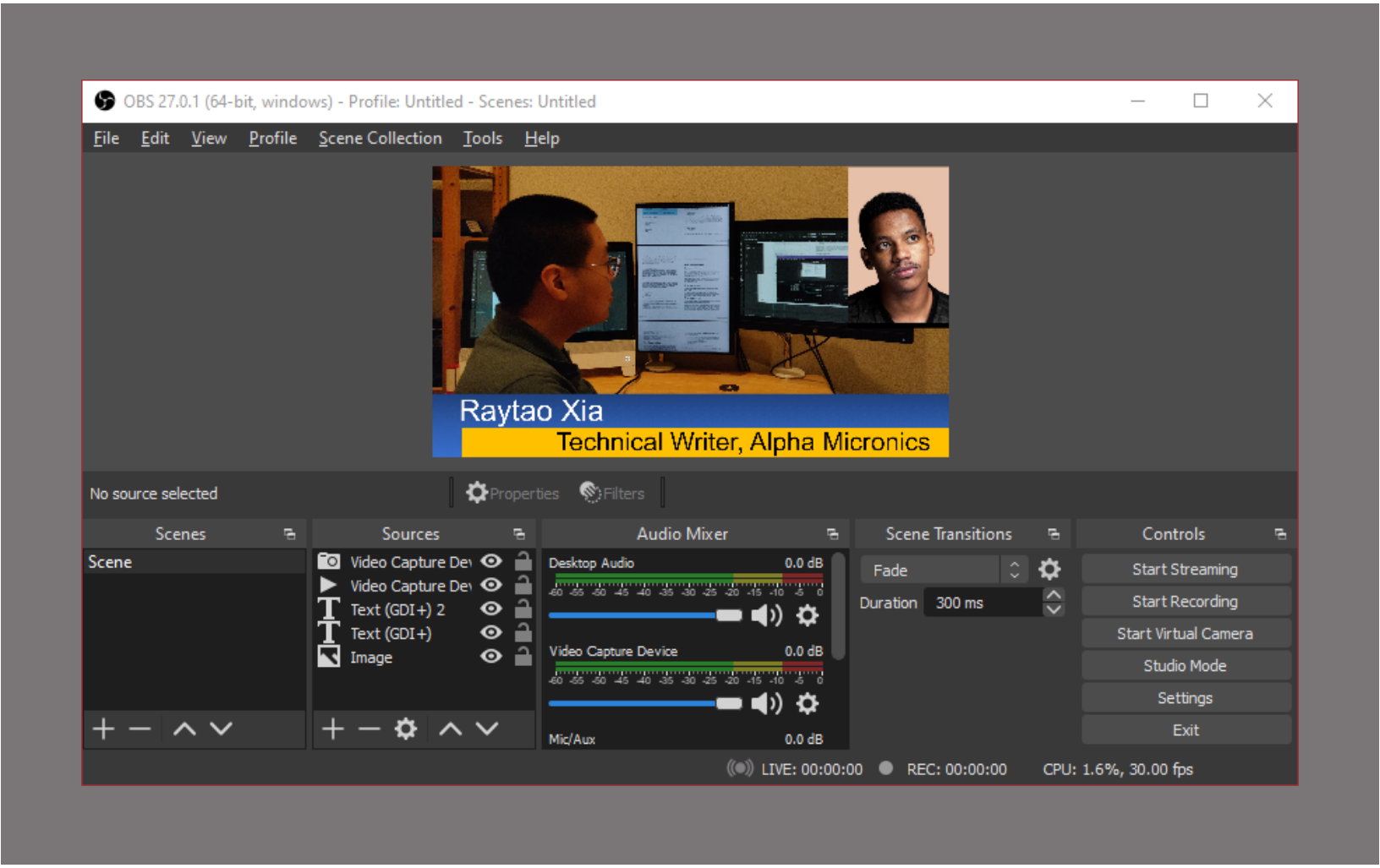
If you had used the sample file, don't worry about the large white area. You can cover it with any other *Sources* you want to use. For example, you may create a *Media Source* with a pre-recorded video and drag it over the white area.

3 USING A WEBCAM WITH OBS

In this chapter you will learn about:

- Adding a *Video Capture Device Source* to a *Scene*
- Cropping a *Video Capture Device Source*'s video
- Changing brightness in the *Video Capture Device Source*'s video

This chapter will guide you to preparing a *Scene* with a USB webcam. By following the steps in this chapter, you will create a Scene that has a webcam's video feed and make some adjustments to improve webcam quality.



A *Scene* with the webcam feed from this chapter. By using a webcam with OBS, your viewers will be able to see both the information you provide in your lower-third graphic and people who you would like to present.

Webcams with OBS

Many Zoom presenters and viewers enjoy seeing faces instead of the default black boxes, but to take advantage of OBS's features, you must add your webcam as a *Video Capture Device Source* to OBS. A majority of USB webcams will be detected by OBS without issue.

Unlike a simple *Text Source*, a *Video Capture Device Source* will capture both video and audio. Adjustments to video content requires some knowledge of OBS's toolbox for making adjustments: the *Filters*. Usually, audio will not need to be adjusted, but if it does, volume can be changed through the *Audo Mixer* to the right of the *Sources* box.

The general flow for adding a webcam to the *Scene* is:

1. Plug in your webcam to your computer.
2. Launch OBS.
3. Add your webcam as a *Video Capture Device Source*.
4. Crop the webcam video output.
5. Change brightness of the video output if necessary.
6. Move and resize the *Video Capture Device Source* to fit the *Scene*.

These steps will be demonstrated during this chapter.

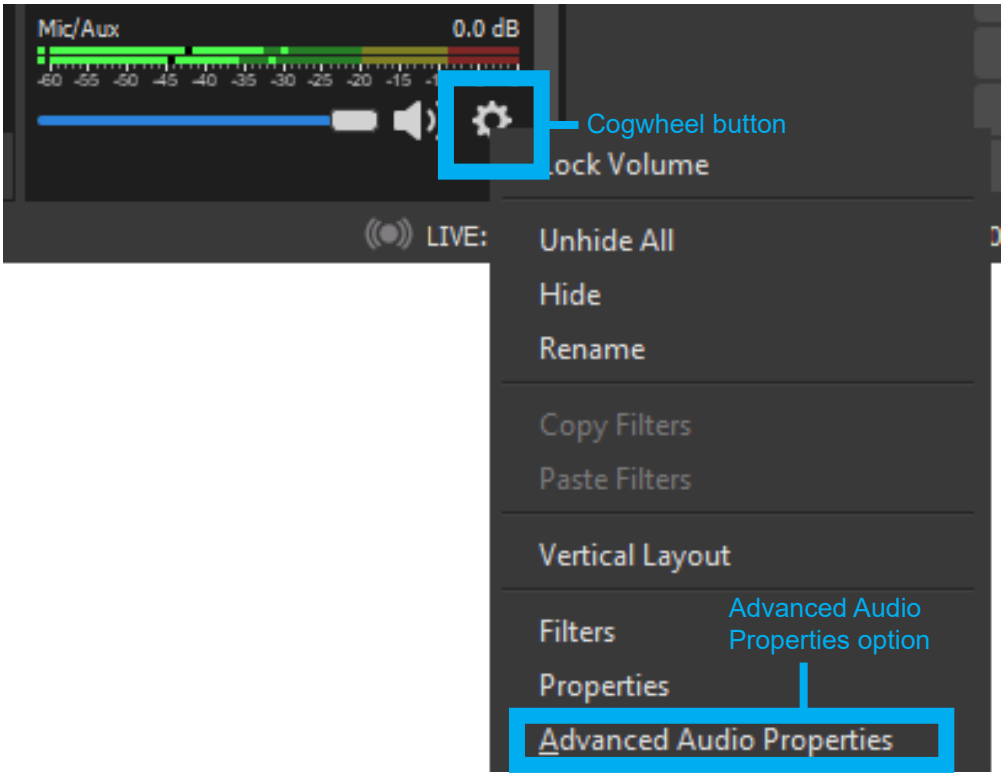
When to add a webcam

By default, Zoom will focus on your webcam when you speak. However, when OBS uses your webcam as a *Source*, your webcam will be accessible only by OBS—Zoom will be unable to use your webcam. For this reason, using *Video Capture Device Sources* is best when you have multiple cameras, or, if you have only one camera, when you intend to always have your content side-by-side with your webcam.

When & how to adjust audio

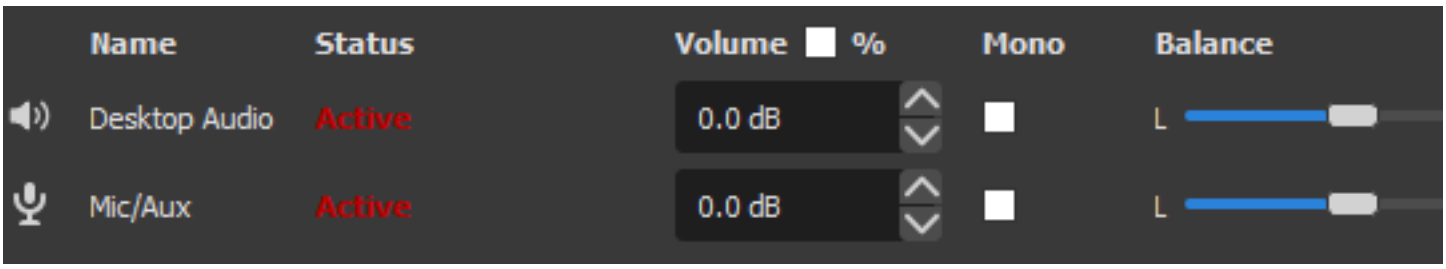
Since your environmnent, software settings, and hardware will differ from your audience's, the best way to adjust audio during a broadcast is to listen to your audience's feedback. Zoom will automatically adjust audio, but it may occasionally encounter content it cannot automatically adjust. OBS has no such safety net. To manually adjust audio:

1. Right click a track.
2. Select *Advanced Audio Properties*.



On the left side of the *Advanced Audio Properties* Window:

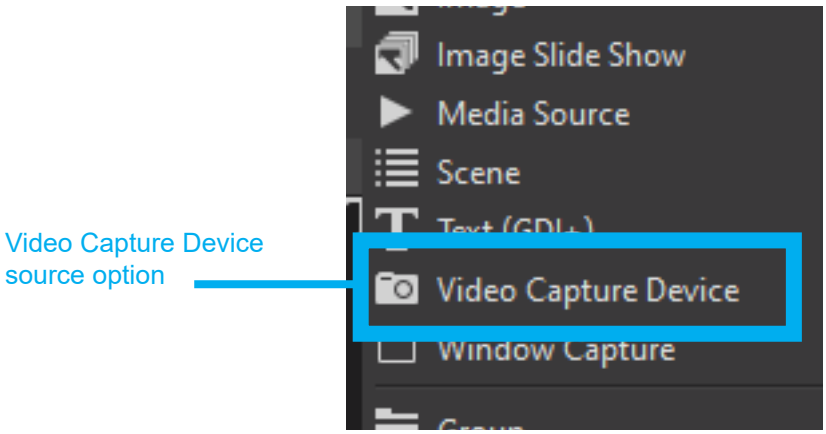
3. Add or subtract from *Volume* to change volume. Use small integers—only 10 dB separates a conversation from a car.
4. If necessary, move *Balance* left or right to fix issues with one ear having more audio than the other.



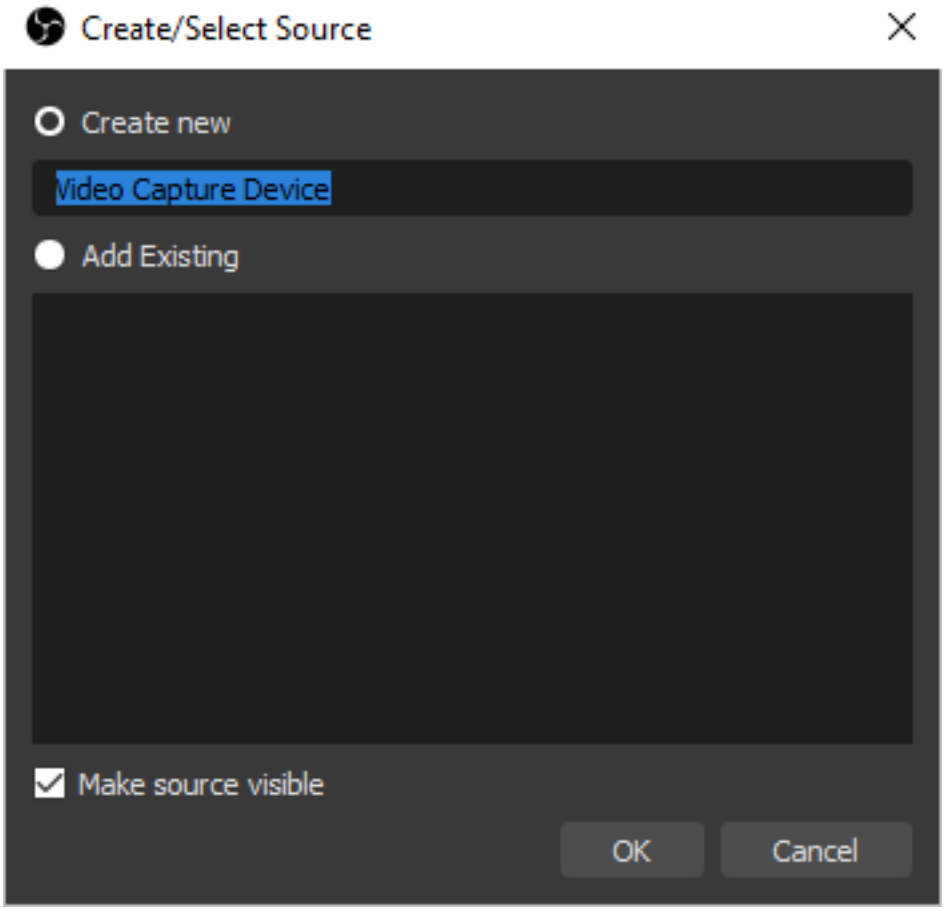
The *Video Capture Device Source*

After a webcam is plugged into your computer, you may begin creating a *Video Capture Device Source*.

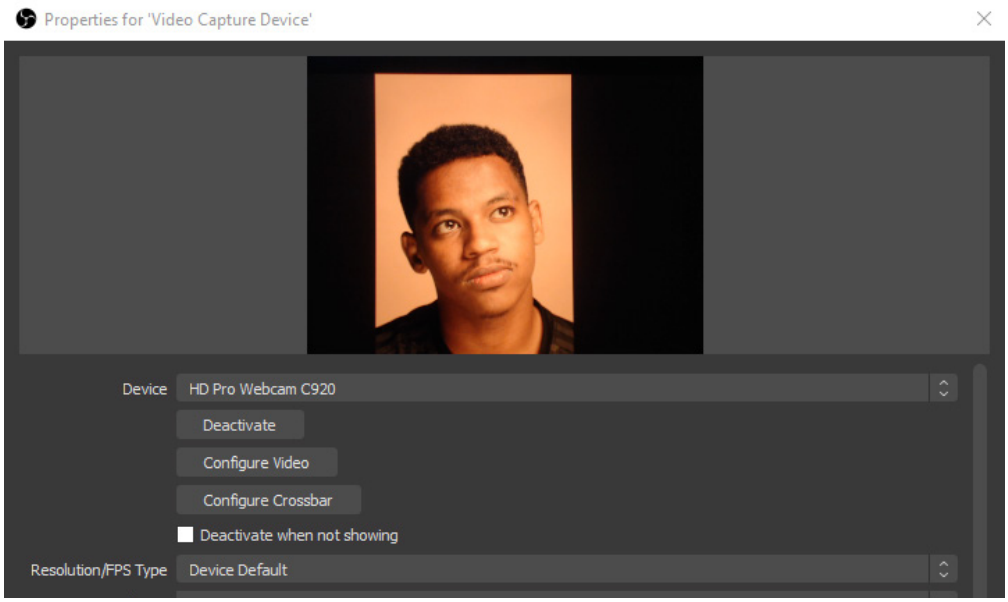
1. Open the *Sources* menu and click the *Video Capture Device Source* option. A *Create/Select Source window* will open.



2. Click OK. The *Properties* window will show up.

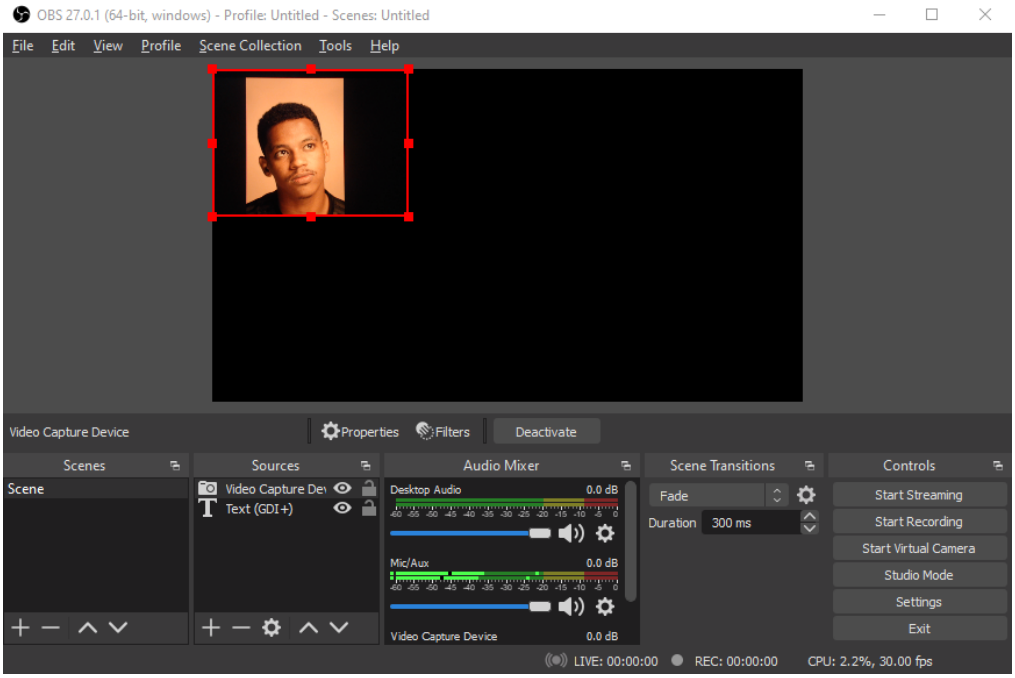


3. In the *Properties* window, check if your webcam shows up in the *Devices* dropdown menu. If the camera is deactivated, click the activate button.
4. Click OK when the webcam is activated and visible.



Like the *Text Source* and any other *Source*, these properties may be changed later. For now, even if the image quality is not good, proceed to the next steps. Filters will be used to improve the image quality

The webcam will show up on the *Scene* in the top left corner.



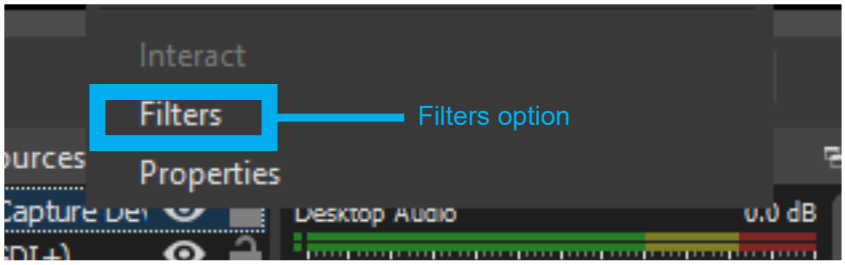
Note how there is a green bar in the *Audio Mixer* to the right of the Sources box. The *Video Capture Device Source* is sending audio alongside video to the *Scene*.

Cropping a *Source*

All *Sources* can access the *Filters* option, but the available filters will change depending on the *Source* type.

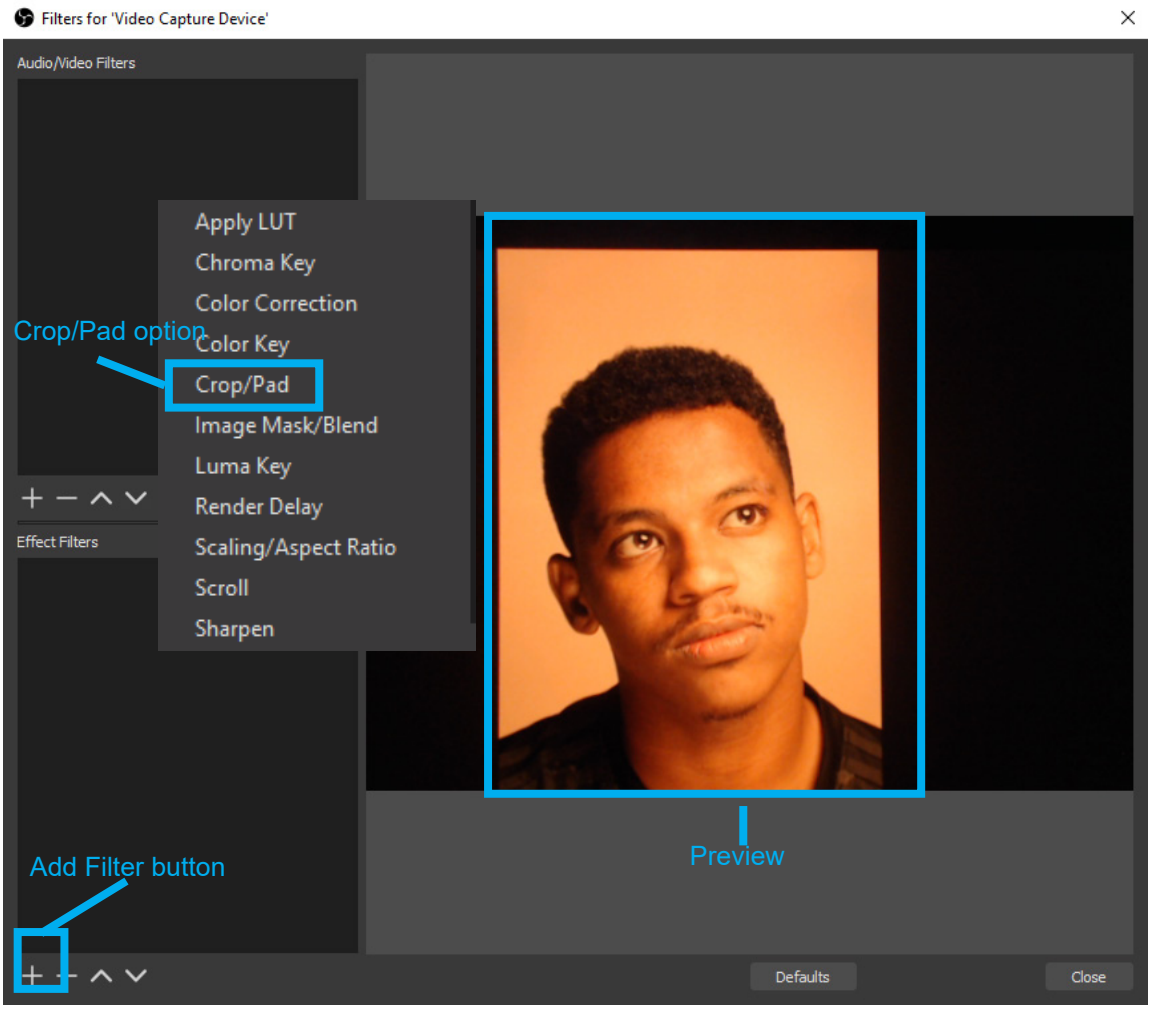
To crop the *Video Capture Device Source*:

1. Right click the *Source* and select the *Filters* option.

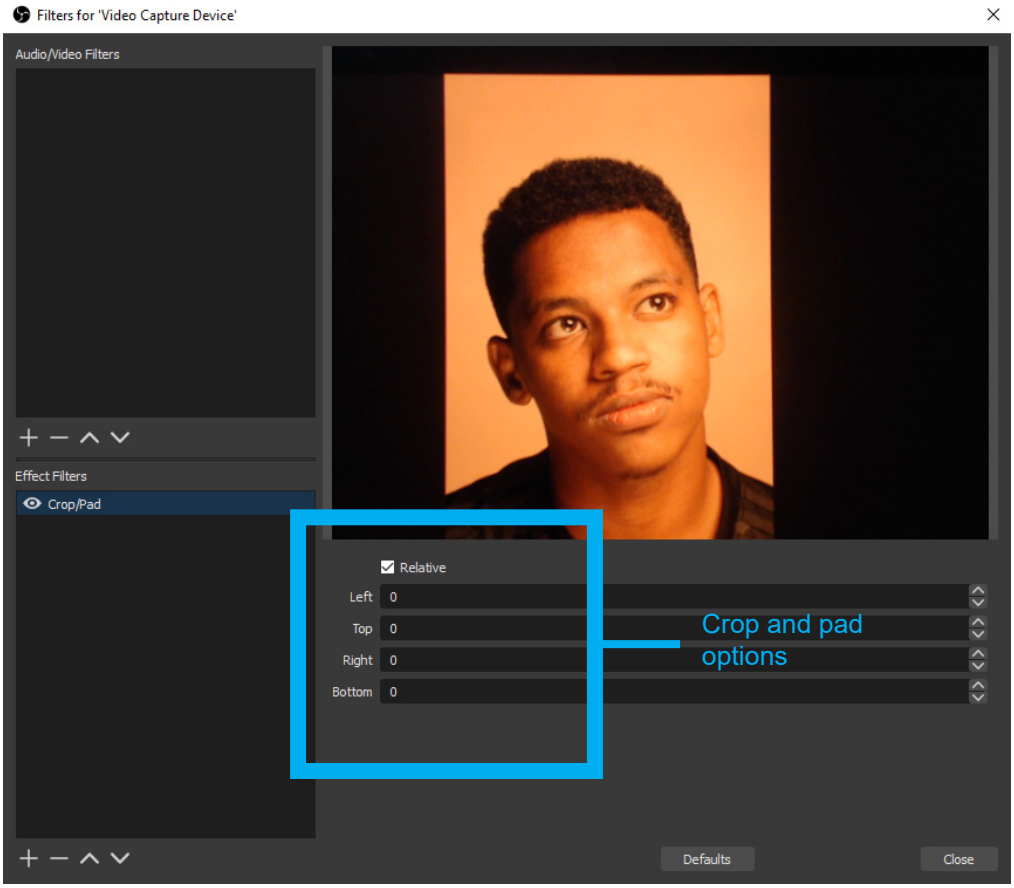


2. In the newly opened *Filters* window, click the *Add Filter* button in the *Effect Filters* box.
3. Click the *Crop/Pad* option.

The *Preview* includes the black area around the webcam's focus. The goal of cropping the webcam is to eliminate the black areas.



After clicking *OK* in the *Create/Select Filter* window, the options to crop and pad the webcam video will appear under the preview.



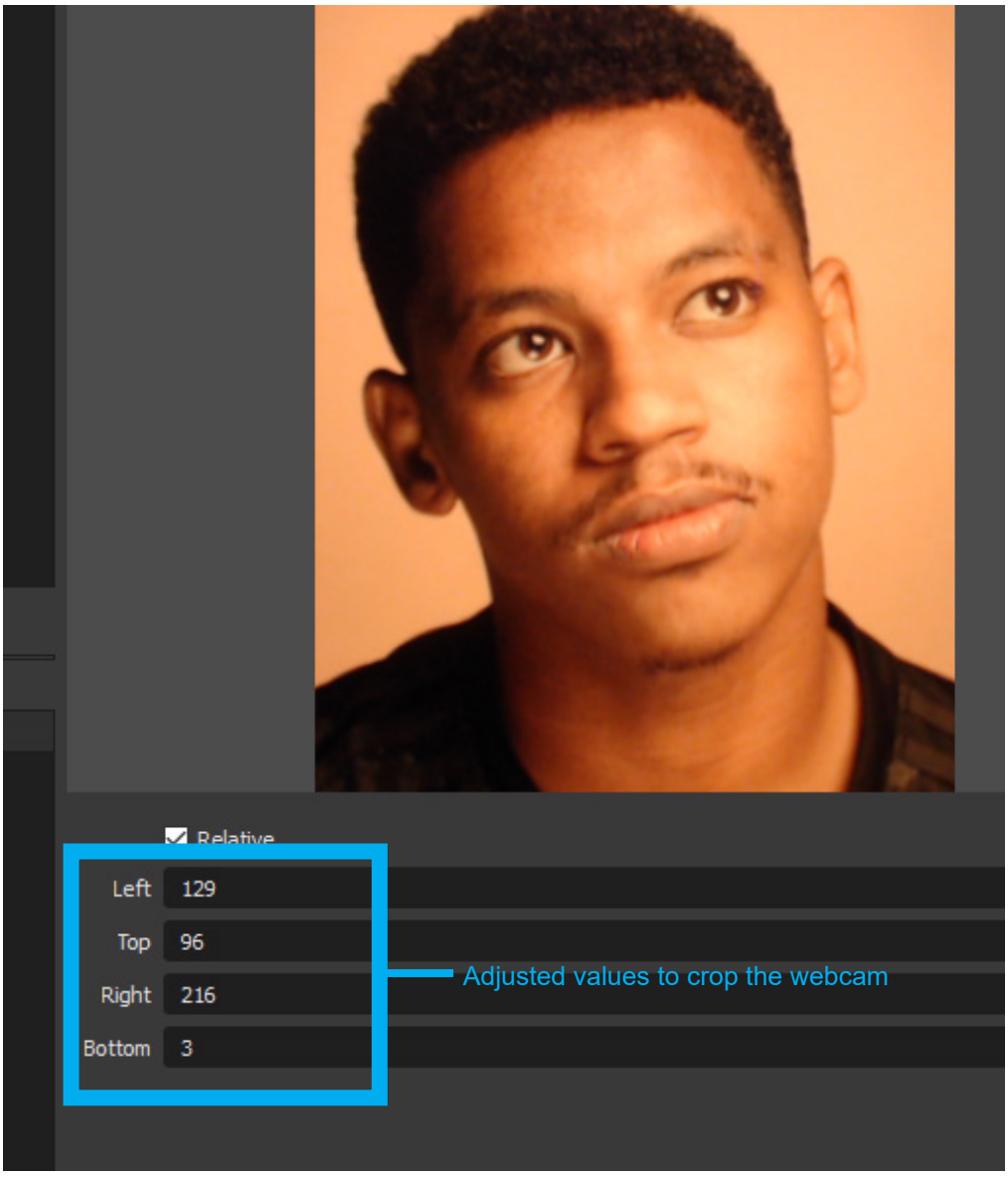
Relative is generally best left checked. It enables a more intuitive method to using the *Crop/Pad Filter*. When *Relative* is unchecked, the *Crop/Pad Filter* will use absolute cooridinates and values. This chapter will use the *Relative* option.

Using the *Crop/Pad Filter*

The *Crop/Pad Filter's* options adjust the borders on the webcam 'video output. A positive value in a slider will move a border towards the center of the webcam video output, and a negative value will move a border outwards from the center of the webcam. For nearly all webcams, cropping is more useful than padding.

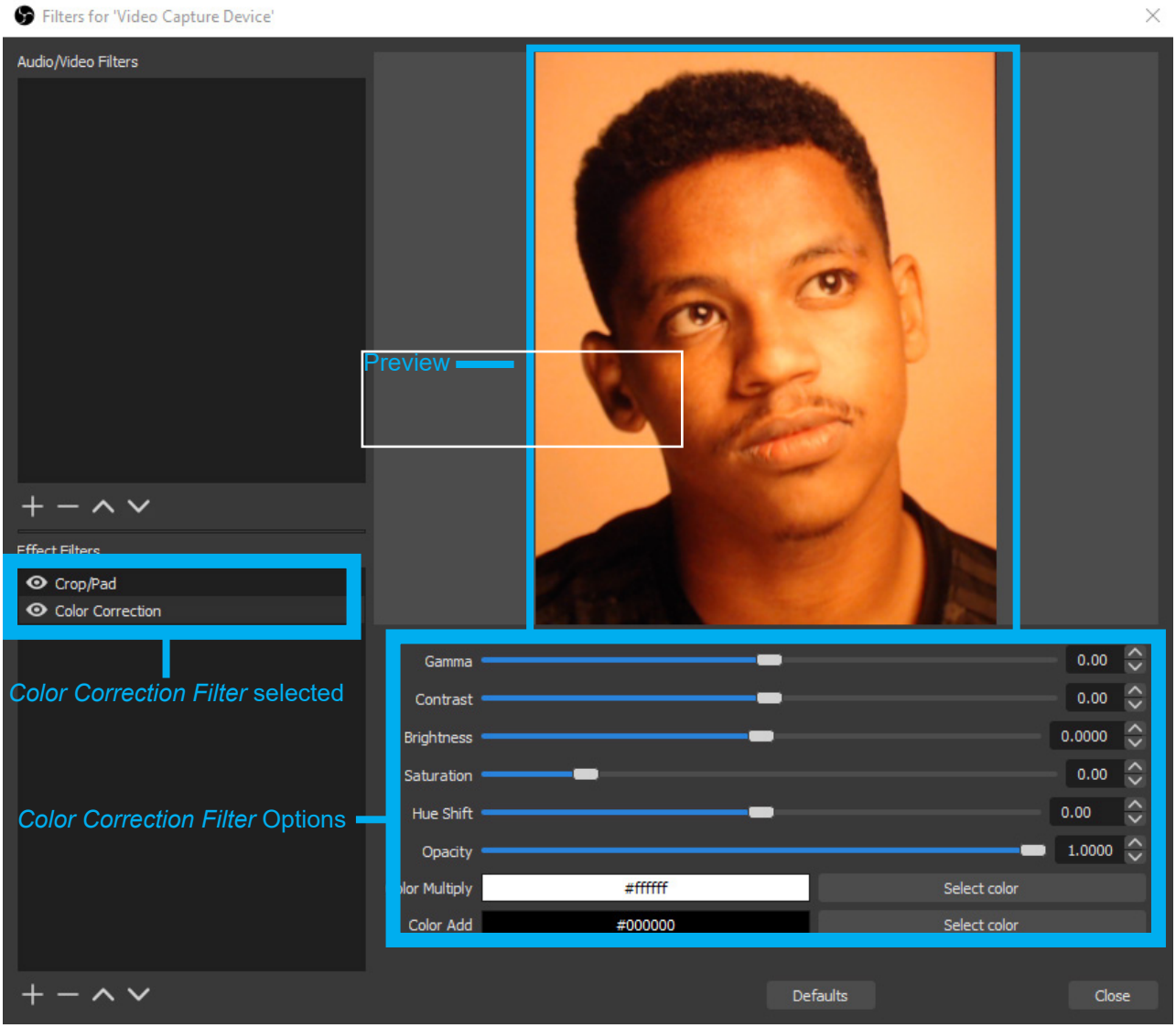
To change the value, click into the box. You can then type in a value, use arrow keys to increment or decrement the value, or use a mouse wheel to rapidly adjust the value.

Cropping is primarily used to focus the webcam video output. The values you use for cropping will change depending on your webcam.



Changing a *Source*'s brightness

Similarly to using the Crop/Pad filter to crop a source, a Source's brightness can be changed through a filter. Instead of selecting *Crop/Pad*, choose *Color Correction.* A set of sliders and values will appear under the preview. If *Crop/Pad* options still appear, then click *Color Correction* in the *Filters* box.



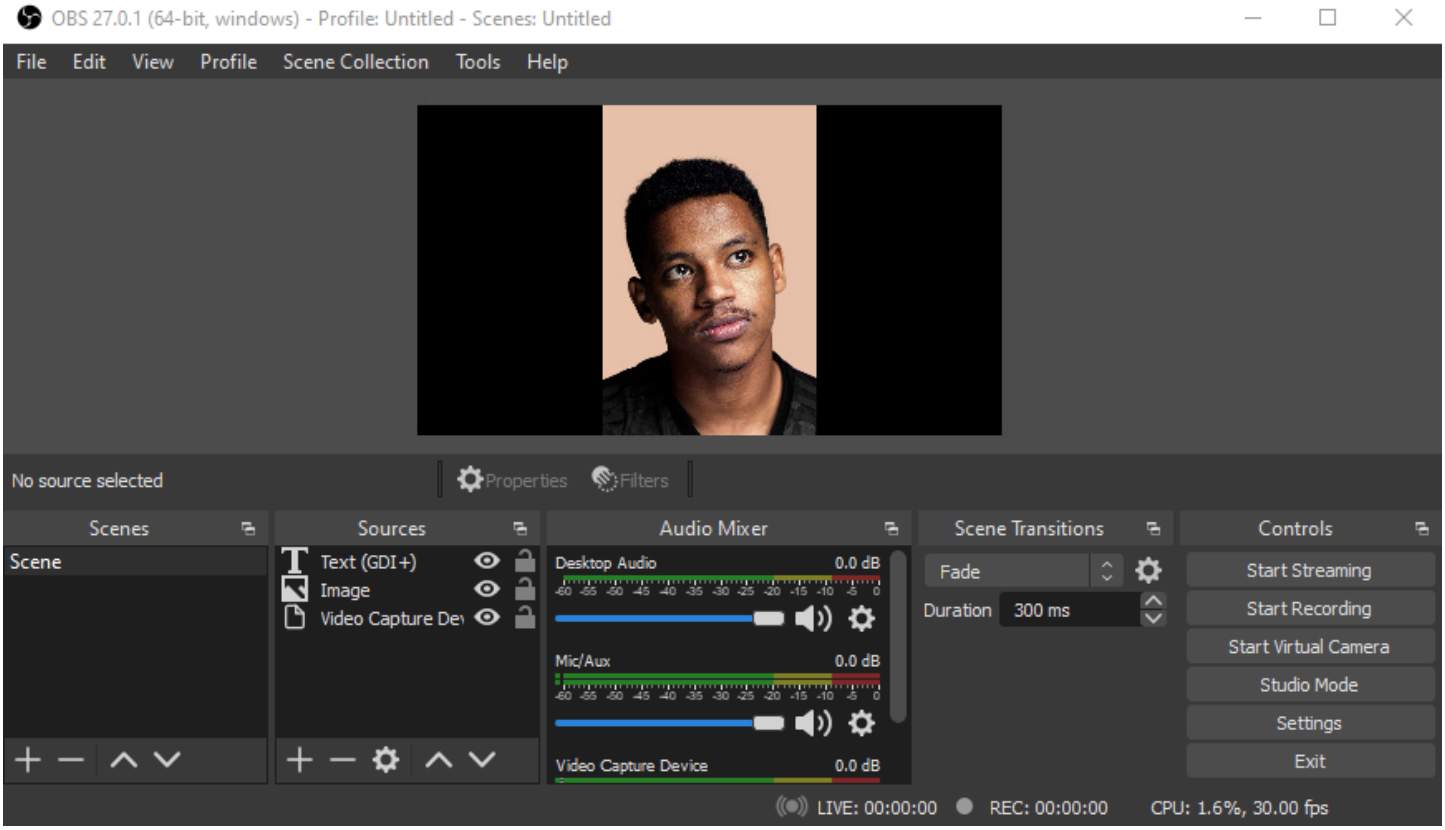
To change brightness, click and drag either the *Gamma* slider or the *Brightness* slider. Click *Close* when you are like your filter values, and adjust the position and size of the *Video Capture Device Source* on the *Scene*.

Gamma and *Brightness* are not the same, In this image, the *Gamma* slider was changed. You should experiment with them until the video is as bright as you like without washing out colors.

Readers more familiar with photo enhancements may use the other sliders to adjust the webcam output, such as saturation and color multiplying to change the overall color of the webcam output.

This webcam only needs a slight positive change since the brightness was already fair, but your webcam may be different.

After adjustments, your preview may look similar to:



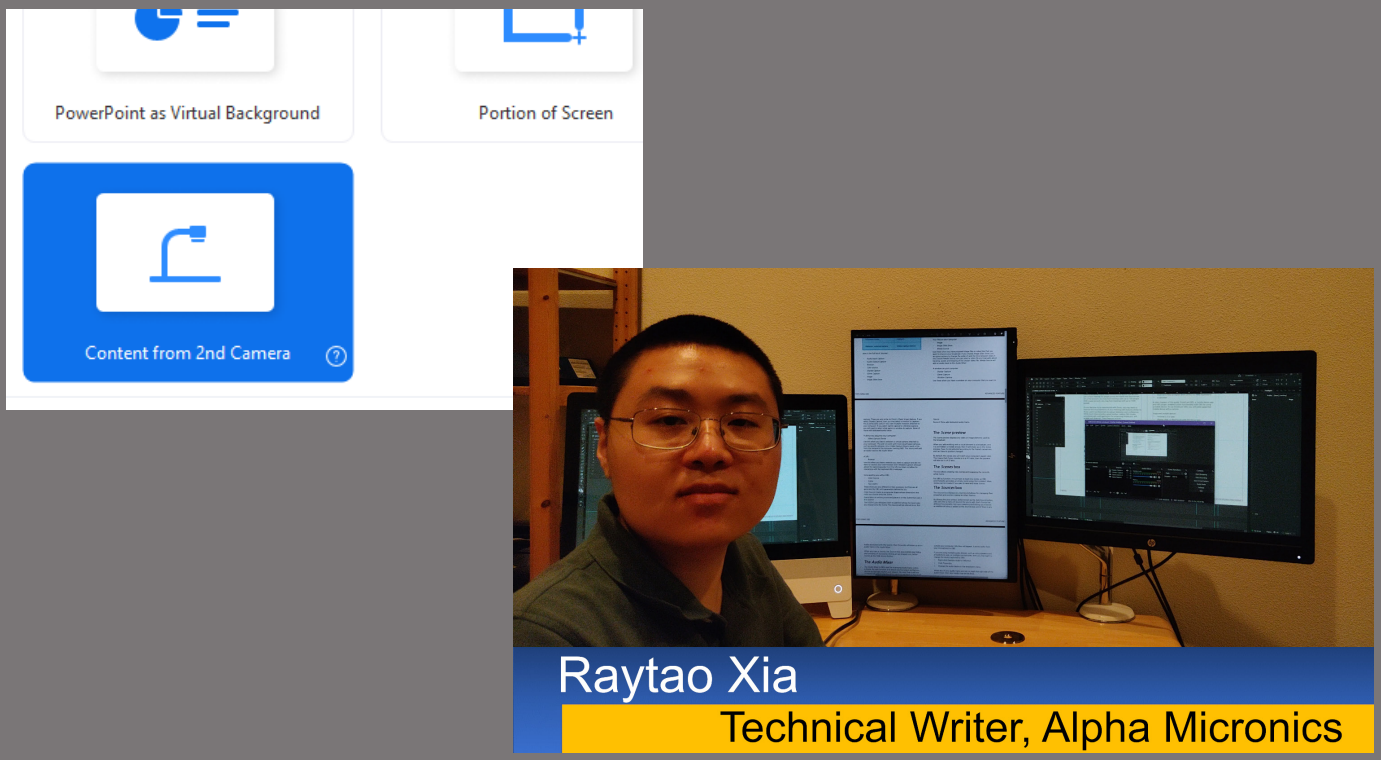
In this image, gamma was increased through the filter on the *Video Capture Device,* and the *Video Capture Device* was moved to be above the lower-third graphic on the Scene.

4 INTERFACING ZOOM WITH OBS

In this chapter you will learn about:

- Starting OBS's *Virtual Camera*
- Navigating Zoom's menus to share OBS's *Virtual Camera*

This chapter will guide you to broadcasting an OBS *Scene* through Zoom. By following the steps, you will transmit your *Scene* as a secondary webcam through Zoom's *Screen Share* feature.



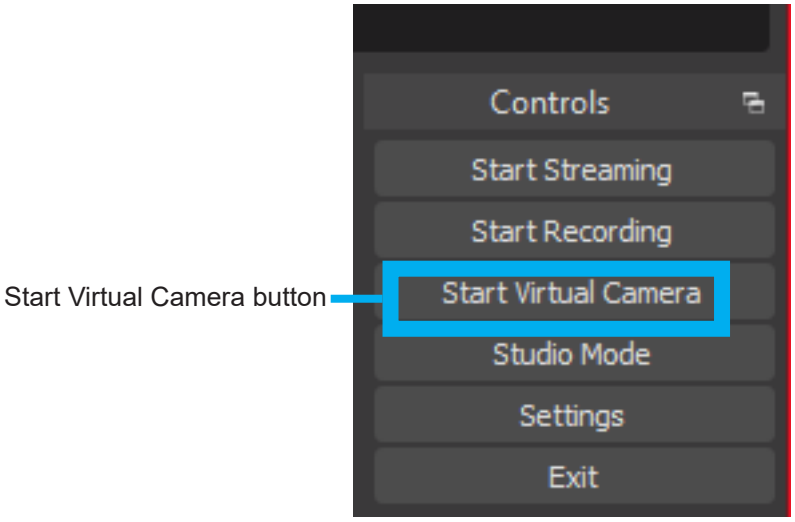
By masking itself as a webcam, OBS's *Scene* can be screen shared directly by Zoom.

Before you begin

There are four caveats to interfacing Zoom with OBS.

- Webcams can transmit to only a single application at a time—if you are using your webcam in OBS, then it will not be accessible by Zoom, and vice-versa.
- Zoom must not be running when the *Virtual Camera* is turned on—Zoom will not detect *Virtual Camera* when the camera is turned on with Zoom running.
- OBS must have been installed by its installer application—some readers may have a portable version of OBS installed through a file archive. The file archive lacks OBS's *Virtual Camera*.
- If OBS's *Virtual Camera* is turned off mid-Zoom, then Zoom must be restarted—Zoom cannot re-detect the camera.

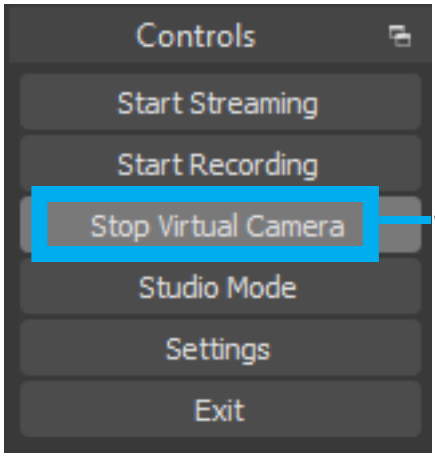
If you see the *Start Virtual Camera* button on the right side of the OBS window, then you have the correct version of OBS.



Preparing for the broadcast: Check if *Virtual Camera* works

OBS's Virtual Camera functions by configuring the scene as a virtual webcam visible only by other applications. To test its functionality:

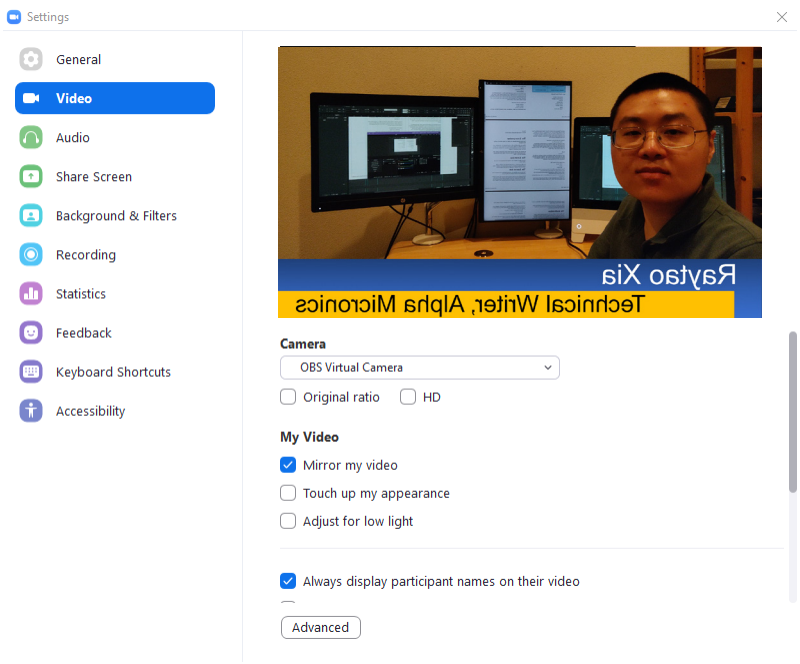
1. Click the *Virtual Camera* button in OBS.



Virtual Camera is now running

2. Launch Zoom.
3. Navigate to Zoom's *Video* settings menu.
4. Select *OBS Virtual Camera* in the dropdown menu.

If all is well, you should see your Scene.



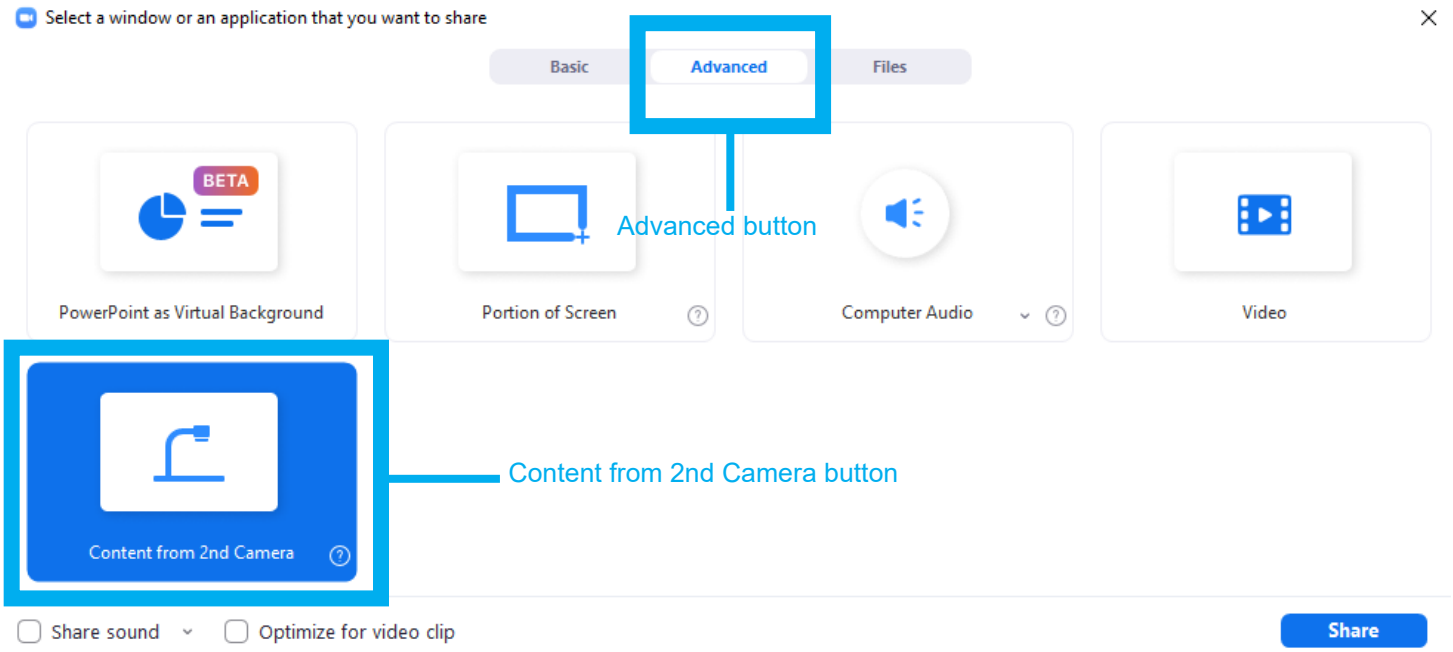
In Zoom's *Camera* preview, the scene appears mirrored. This is normal. When you broadcast your scene later, the video will not be mirrored.

Running the broadcast: Screen share *Virtual Camera*

After confirming that *Virtual Camera* is functioning, you can broadcast it live across Zoom.

1. In a Zoom meeting, click the *Share Screen* button
2. Click *Advanced* in the banner.
3. Select *Content From 2nd Camera.*
4. Click *Share*.

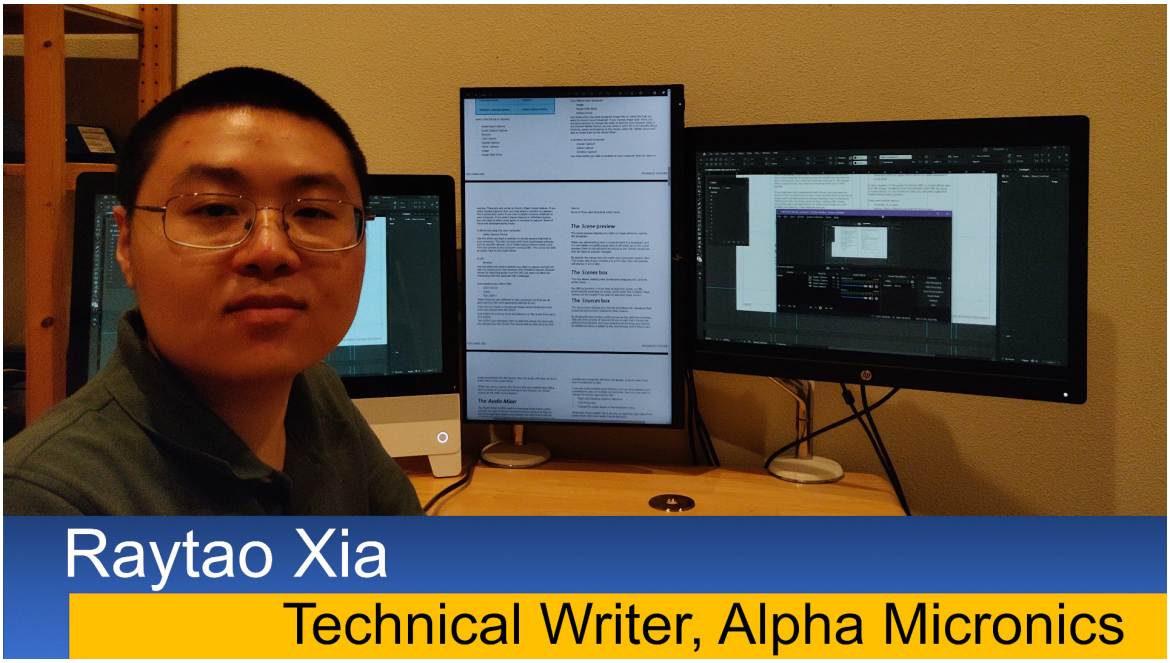
Zoom will attempt to screen share a webcam it can detect—if you have multiple webcams attached to your computer, it will choose a random webcam.



5. Cycle through the devices by clicking the *Switch Camera* button in the top left corner.

When your *Scene* shows up in your Zoom window, it is being broadcasted to your audience.

A *Scene* built in OBS appears as such:



Any changes you make to the *Scene*, such as adding more *Sources* or editing the existing *Sources*, will be reflected live on Zoom.

To end the broadcast, click *Stop Virtual Camera* in OBS or end the screen sharing through Zoom.

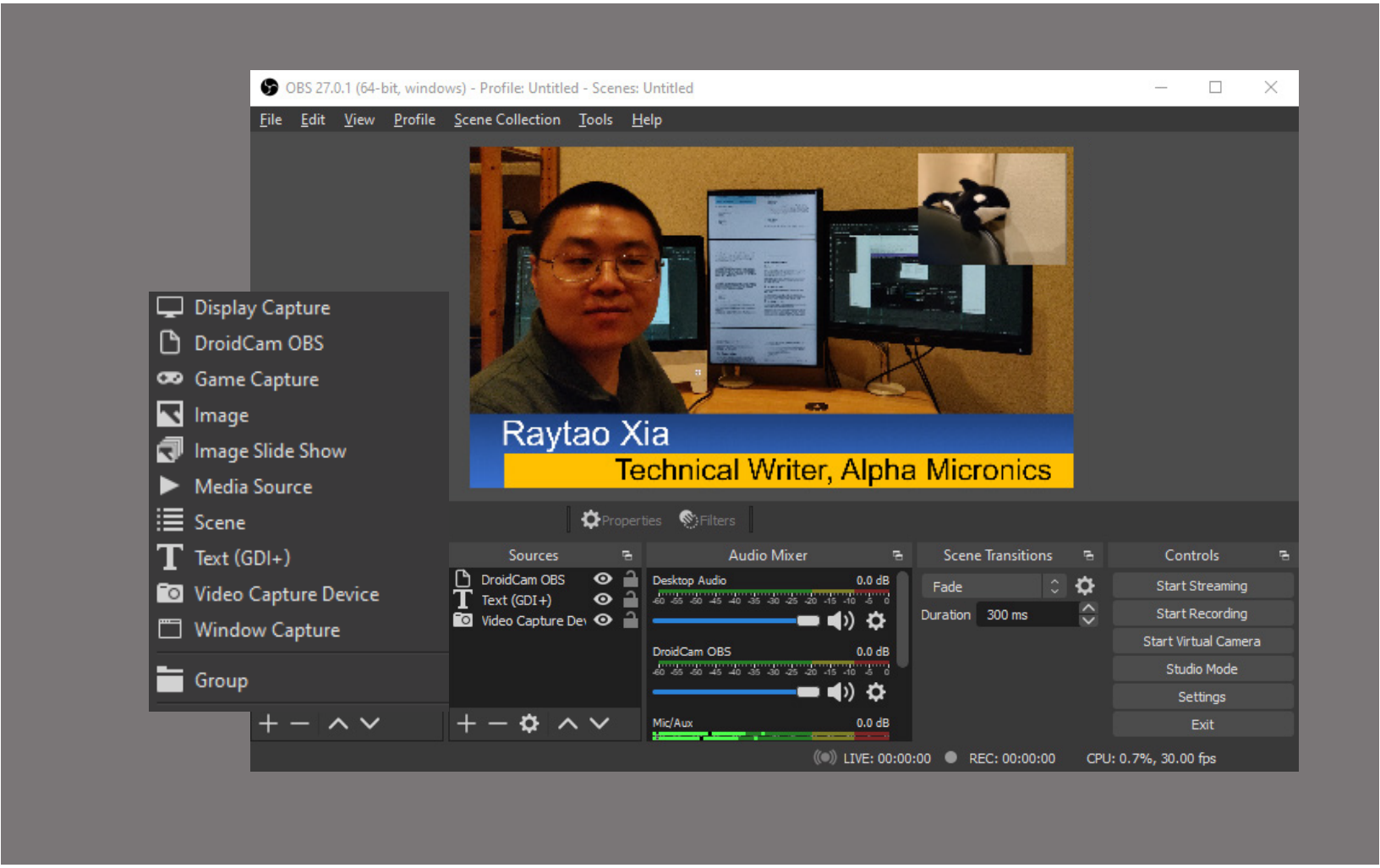
5 MOBILE DEVICE AS A WIRELESS WEBCAM

In this chapter you will learn about:

- Setting up DroidCam OBS
- Adding DroidCam OBS to a *Scene*

This chapter will guide you to using DroidCam OBS, which is a plugin for OBS by DroidCam, to add a mobile device as a *Source* on the *Scene.*

By following the steps in this chapter, you will have an mobile device as a webcam in OBS.



DroidCam OBS allows you to use your mobile device as a wireless webcam. Such allows you to, in effect, embed another live-feed into your broadcast.

About DroidCam OBS

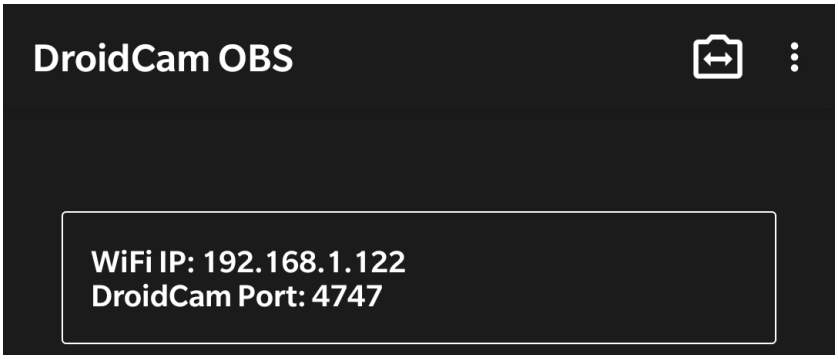
OBS's features can be extended past what is initially available through plugins. DroidCam OBS connects your mobile device to OBS over WiFi by using OBS's plugin functionality.

DroidCam's official website is at:
https://www.dev47apps.com/
DroidCam OBS can be found at:
https://www.dev47apps.com/obs/

To use DroidCam OBS, you must install DroidCam OBS onto your mobile device through an app store, and you must install the DroidCam OBS plugin from the DroidCam OBS website onto OBS.

Running DroidCam OBS: mobile device app

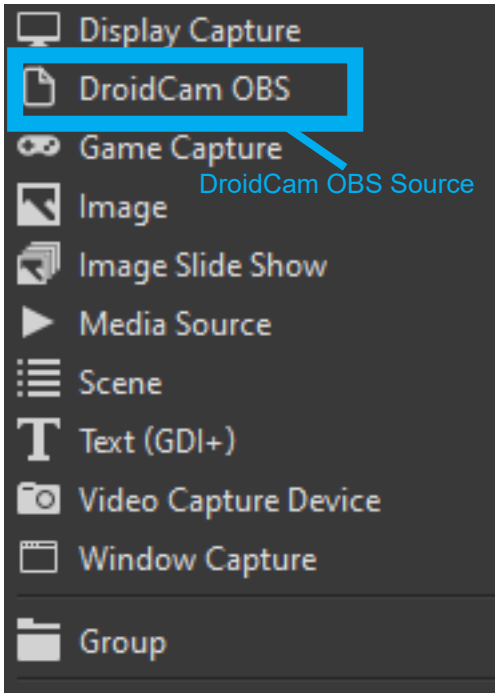
When DroidCam OBS's app is installed to your mobile device, tap the app icon to launch it. You will see a screen with your mobile device's WiFi IP. If there is no WiFi IP, DroidCam OBS will fallback to USB only mode. The OBS plugin will still function, but it will not be wireless.



Your mobile device should idle on this screen. If your device begins sleeping, the device will not receive any connection from **OBS**.

Running DroidCam OBS: OBS plugin

If DroidCam OBS's plugin is installed, a new option for creating a DroidCam OBS *Source* will appear in OBS's *Add Source* menu. If DroidCam OBS does not appear in the menu, then the plugin is probably not installed correctly. This may happen if either OBS or the plugin are not installed in their default directory.



To connect your mobile device to OBS:

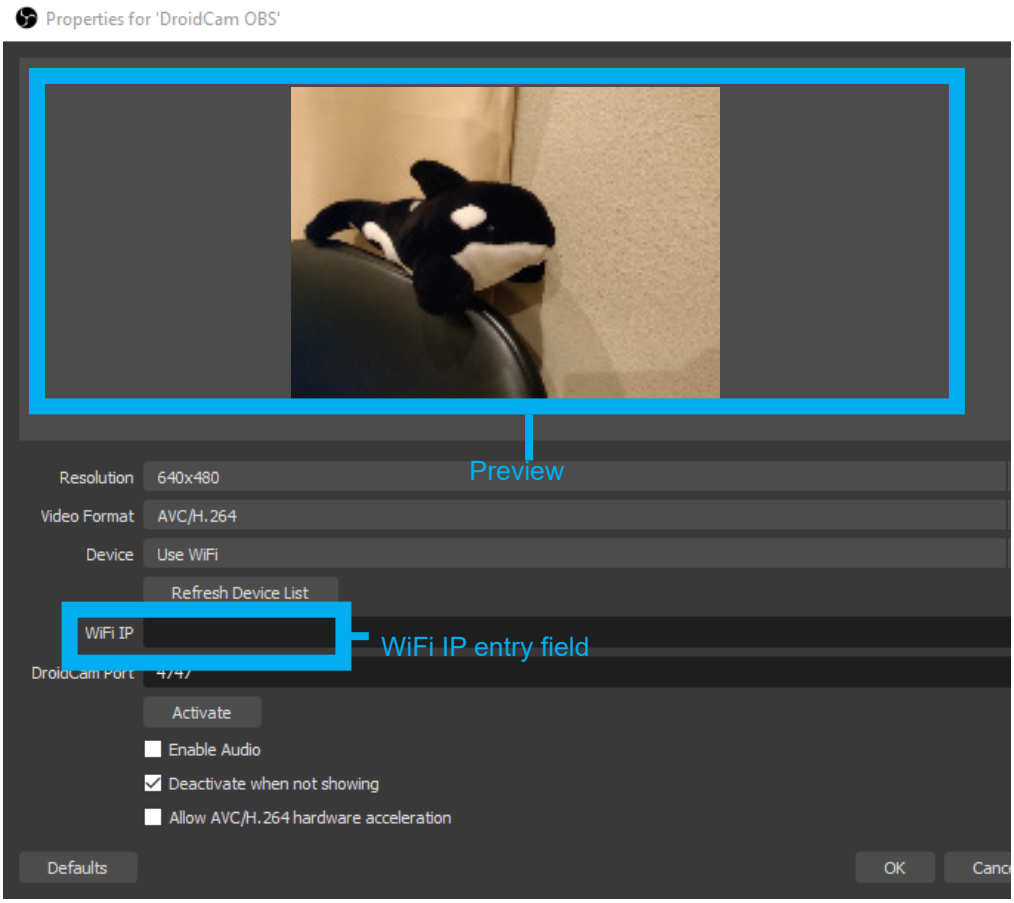
1. With the device still idling on the DroidCam OBS app, begin creating a DroidCam OBS *Source*.
2. Reach the *Properties* window.

3. In the *Properties* window, type your mobile device's WiFi IP into the *WiFi IP* entry field.
4. Click *Activate*.

If your mobile device and the computer running **OBS** are on the same Wi-Fi network, then the *Preview* will display output from your mobile device's primary camera.

Your mobile device can sometimes appear in the *Device* dropdown menu. If you click *Refresh Device List*, **DroidCam OBS** will scan for devices and attempt to automatically select a device.

You may optionally check *Enable Audio* to capture microphone audio from your mobile device.



5. Look back at your mobile device to ensure DroidCam OBS's plugin is communicating with DroidCam OBS's app.
6. In OBS, click *OK* when DroidCam OBS is functioning.

You should see the DroidCam OBS *Source* on the *Scene*.

Like any source native to OBS, a DroidCam OBS *Source* can be moved around, resized, or given filters.

Appendix: installation instructions

Zoom

To install Zoom, go to:
https://zoom.us/download
and download Zoom Client for Meetings.
When Zoom's installer is finished downloading, run it. Zoom will then attempt to install.

OBS Studio

To install OBS Studio, go to:
https://obsproject.com/
and click the button for your computer's operating system.
When the button's download is finished, run the downloaded file and use OBS Studio's default recommendations.
For users inclined to use the portable OBS archive, use the installer rather than the archive. The installer will add OBS's Virtual Camera that, as of the time of writing, has not been included in the archive.

DroidCam OBS Android and iOS App

To download DroidCam OBS for Android and iOS, go to:

https://www.dev47apps.com/obs/

and click on the button for your device's store. When the application is downloaded and installed by the store, no further setup is required on your device.

DroidCam OBS plugin

To install DroidCam OBS, go to:
https://www.dev47apps.com/obs/
and scroll down until you see a button for your computer's operating system.
When the download is complete, run the downloaded file. If asked, enable USB support for your device.

Glossary

Audio Mixer

The box where OBS's user can manage audio tracks that OBS detects. It manages up to 5 audio channels and allows changing volume, balance, and which channels each track plays on.

Brightness

Informally, how light an image is. More formally, brightness is the luminosity of an image. In OBS, by increasing brightness, all parts of the image are equally increased in luminosity—blacks and whites will change linearly as the brightness slider is moved. See also Gamma.

Broadcast

When used as a noun within this guide, it refers to the audiovisual content stream delivered to an audience via Zoom. When used as a verb, it refers to the act of delivering this stream. The aim of this guide is to improve the broadcasts allowed in Zoom by adding additional features through OBS and other software.

Crop/Pad

The act of drawing in or out the edges of an image or video to add or remove visible content.

DroidCam

Software solution to using mobile devices as webcams developed by Dev47apps. A license may be bought as an in-app purchase to unlock the resolution of the mobile device app's output. Its official website is: https://dev47apps.com/

DroidCam OBS

A plugin and application built on DroidCam to enable interfacing mobile devices with OBS. A license may be bought as an in-app purchase to unlock the resolution of the mobile device app's output. Its official website is: https://dev47apps.com/obs/

Gamma

Informally, part of OBS's filters for changing brightness. More formally, gamma is a non-linear formula that affects the contrast of the midtones in an image. In OBS's filters, by increasing gamma, darker areas of an image will appear lighter, and by decreasing gamma, lighter areas of an image will appear darker.

Scene

A canvas that OBS manages for manipulating *Sources*. More than one *Scene* can exist, but only one *Scene* can be displayed unless the *Scene* is being used as a *Source*.

Source

Inputs that OBS manages and splits into video and audio content that can be manipulated by OBS's user. Multiple *Sources* may exist at a time. At the time of writing, OBS has thirteen sources.

IP Address

A software address assigned by routers used in modern digital telecommunication to uniquely identify devices. If a device communicates with a router, then it has an IP address. DroidCam relies on IP addresses to communicate with mobile devices.

Mobile Device

Handheld, wireless devices such as smartphones or tablets. These usually run on Android or iOS.

OBS

An open-source broadcasting software developed by Wizards of OBS, LLC. Its official website is: https://obsproject.com/

OBS Filters

Tools included in OBS to customize *Sources* via modular, independent effects. Filters visible to OBS's end-user change depending on what *Source* is selected. An infinite amount of filters may be used for each Source.

OBS Virtual Camera

OBS's name for a feature that passes the preview as a webcam to the operating system. As capturing OBS directly with Zoom can often create unintended results, such as accidentally recursively capturing Zoom capturing OBS capturig Zoom, *Virtual Camera* is used to isolate OBS from Zoom.

Operating System

Windows, macOS, and Linux, along with Android and iOS. System software used to control and allocate resources to programs and applications. These are present on both typical computers and mobile devices.

Webcam

A camera that connects to a computer. Usually these connect

through USB, otherwise known as universal serial bus. The interface is commonly a rectangular connector and exist in USB-A, USB-C, and micro-USB forms.

WiFi IP

See IP Address.

Zoom

Popular web conferencing software developed by Zoom Video Communications, inc. Its official website is: https://zoom.us/

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