

VIDBOX[®] Capture & Stream for PC User Manual



Ver. 3.0.6

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Table of Contents

End User License Agreement	2
Table of Contents	5
Introduction	6
Setup	7
Program Interface	8
Screen Presets and Display Sources	8
Viewscreen	15
Control Hub	17
Standard Mode and Studio Mode	20
Settings	22
VIDBOX Capture	22
Video and Audio Devices	24
Encode	25
Record	28
Live Stream	29
Hotkeys	30
General	31
Examples	33
Example: Setting up a custom preset	33
Example: Encoders and Bitrates	37
Example: Streaming Servers	38

Introduction

VIDBOX Capture & Stream Software (C&S Software*) is the downloadable companion to VIDBOX Capture & Stream devices (C&S Hardware).



C&S Software is a streaming and recording studio that allows you to share your video from a camera or home video game console simply and intuitively. Produce your own show to stream to popular sites like Twitch** or to upload to video sharing sites like YouTube**.

*C&S Software requires a C&S Hardware device for operation.

**User accounts required at respective streaming or video sharing sites.

Setup

Connect a C&S Hardware device using its included USB cable to an available USB 3.0 port on your computer.

Download and install the C&S Software: <https://vidbox.company/downloads>

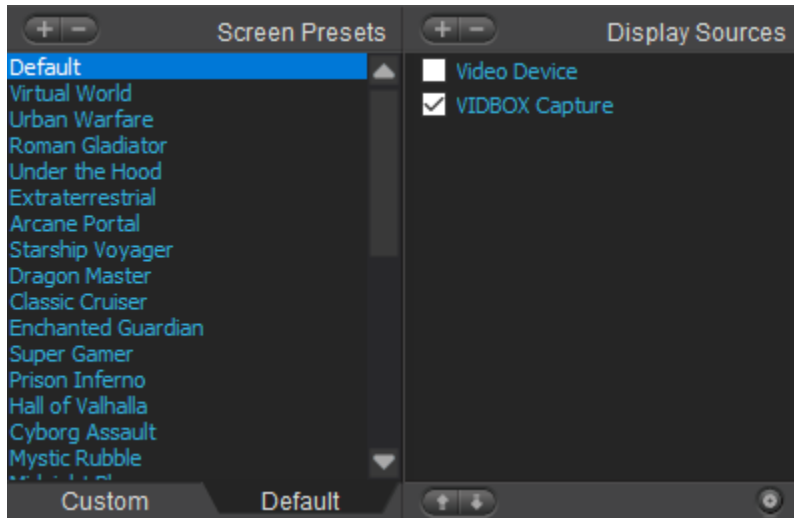
The installer will guide you through installation.

Note: Installation from an Administrator user account is recommended. This minimizes potential issues with installation permissions on the computer.

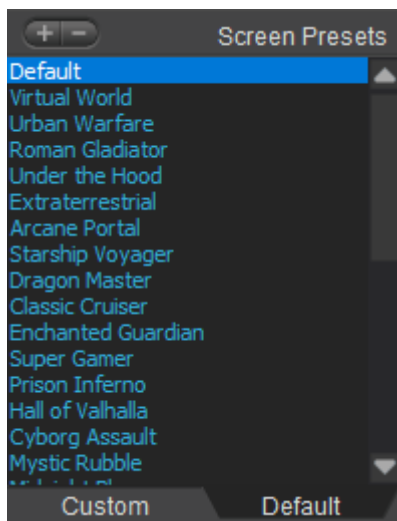
Program Interface

Screen Presets and Display Sources

This section manages the visual assets.



Screen Presets



Screen Presets are themes for how the on-screen elements appear. Presets can be created and customized to change how the stream looks. Here are some examples of how you can customize your stream!

- Set a different preset for each activity you stream.
- Switch the preset for when you are chatting with your viewers.
- Make an info preset about what you are doing.
- Add a handle or username.
- Use a like/subscribe/follow/share preset to end your streams and videos.
- Put up a BRB or AFK screen when you need to step away during your stream.

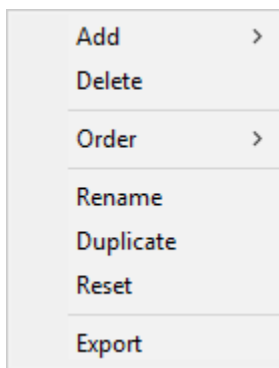
A set of basic presets with graphics is preloaded in the **Default** tab. The **Custom** tab allows the creation of new presets.

Clicking a preset in the Screen Presets panel designates the active preset. The last active preset will be selected when the program is reopened.

A preset can be added by clicking the **Add Preset (+)** button at the top of the Screen Presets panel.

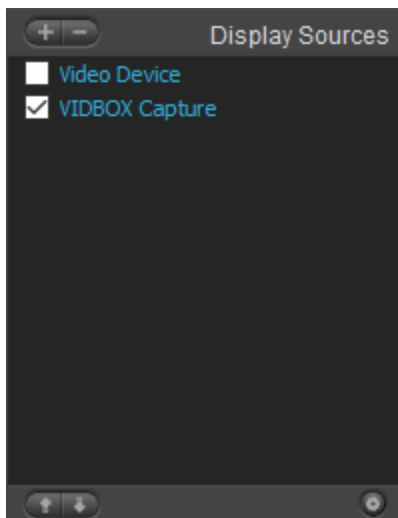
The **New** option creates a blank preset that automatically adds the C&S Hardware as an asset. The **Import** option allows you to select an existing **preset file (.gwm)** to add into the program. A preset file contains the assets and layout for a preset, allowing users to share presets easily. *Note: Some elements specific to a computer setup may not work well on another system.*

Presets can be removed from the Screen Presets panel by clicking the **Remove Preset (-)** button at the top of the Screen Presets panel.



Additional options can also be accessed using the right-click function in the Screen Presets box to **Order (Move)** a preset in the list, **Rename** a preset, **Duplicate** a preset, **Reset** one of the program Default presets to the original settings, or **Export** a preset to a preset file.

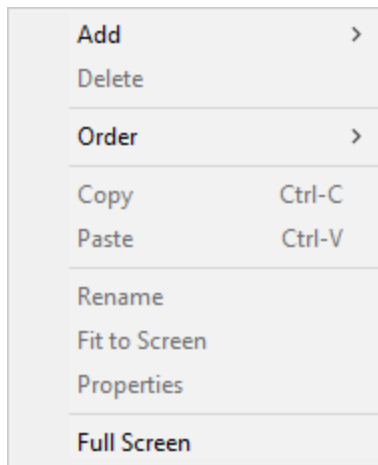
Display Sources



Display Sources are the assets used in the selected preset. Rearrange, add, and remove assets such as your webcam, custom text, and images. These can be deactivated/reactivated using the checkbox in the Display Sources panel.

Sources can be organized in the list by using the **Add Source (+)**/**Remove Source (-)** buttons at the top of the Display Sources section.

Additionally, sources can be organized using the **Move Source Up/Move Source Down** buttons found at the bottom of the Display Sources section.



Additional options can also be accessed using the right-click function in the Display Sources box or in the Viewscreen to **Order (Move)** a source or to **Rename** a source.

Copy and **Paste** allow you to duplicate your existing sources. Multiple sources can be copied and pasted at once. Video sources like C&S Hardware cannot be copied.

Fit to Screen scales up the source to fit the Active area of the Viewscreen (see Viewscreen section). The aspect ratio of the source is preserved, so it may not fill the entire Active area.

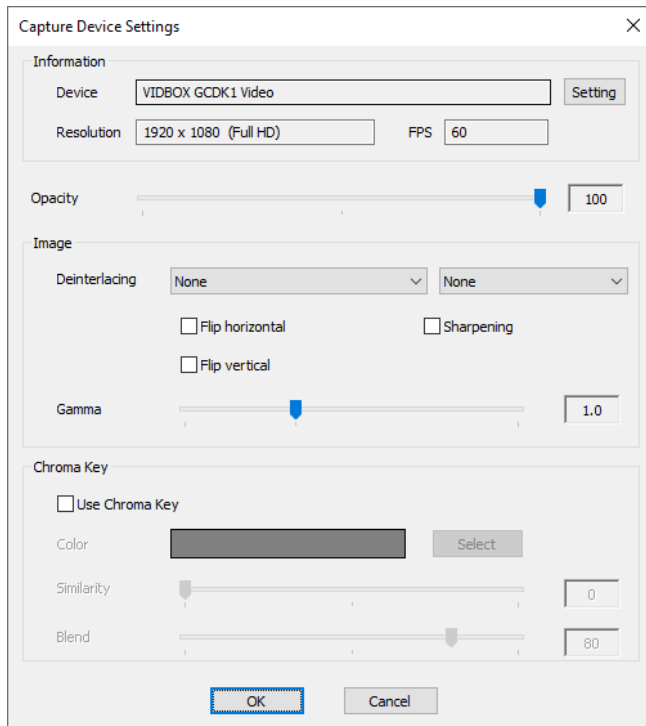
The order does affect what items are in front/visible and what items are behind/hidden in the Viewscreen when they overlap.

Each display source type has its own **Properties** which can be customized.

Source types

Sources that you can use include: **Video**, **Screen/Window Capture**, **Image**, **Text**, and **Color Box** creation.

Video includes the C&S Hardware and a secondary video device, typically a webcam. These would be sources that can actively push video into the software.



Screen Capture adds a full computer display by selecting an active monitor/display. This can include a laptop display or an external monitor.

Window Capture adds an active window from your computer. This can include a web browser or folders on the computer. This may not work correctly for minimized windows.

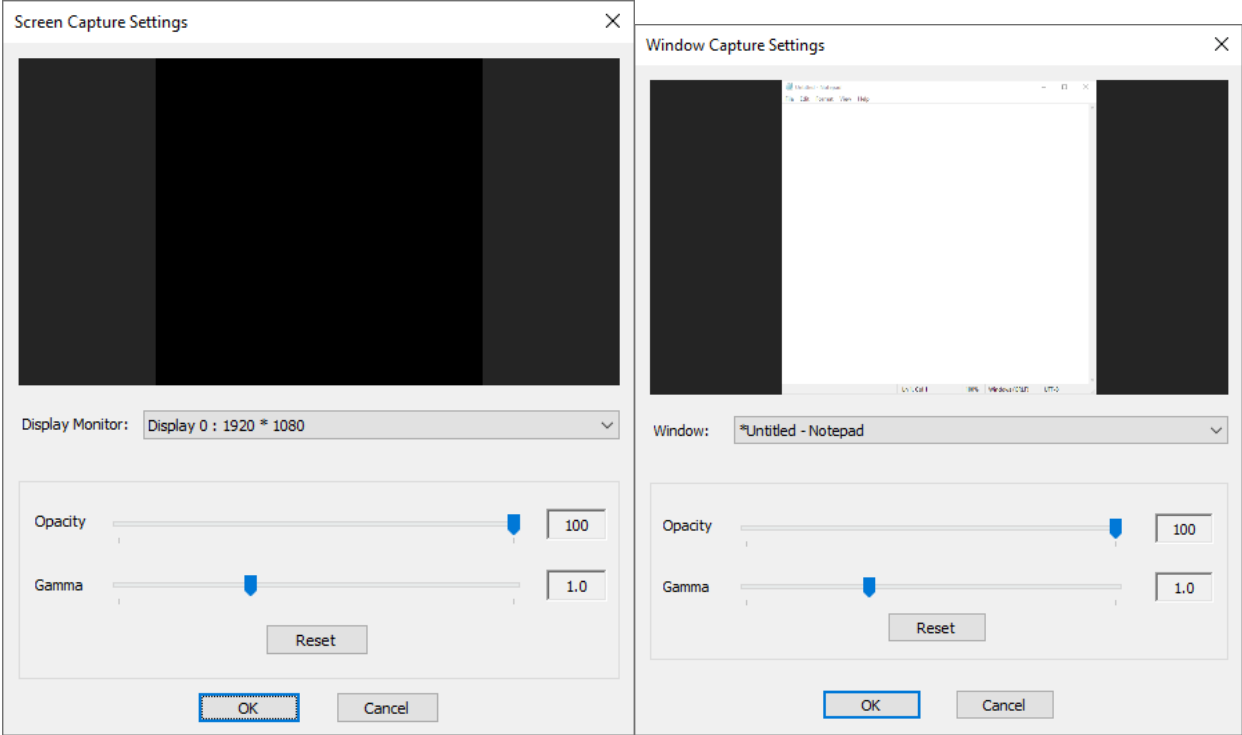
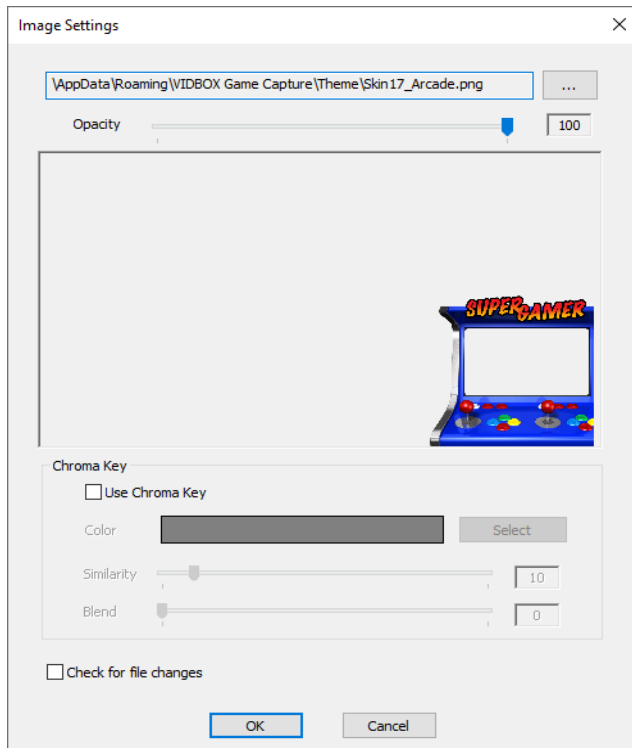


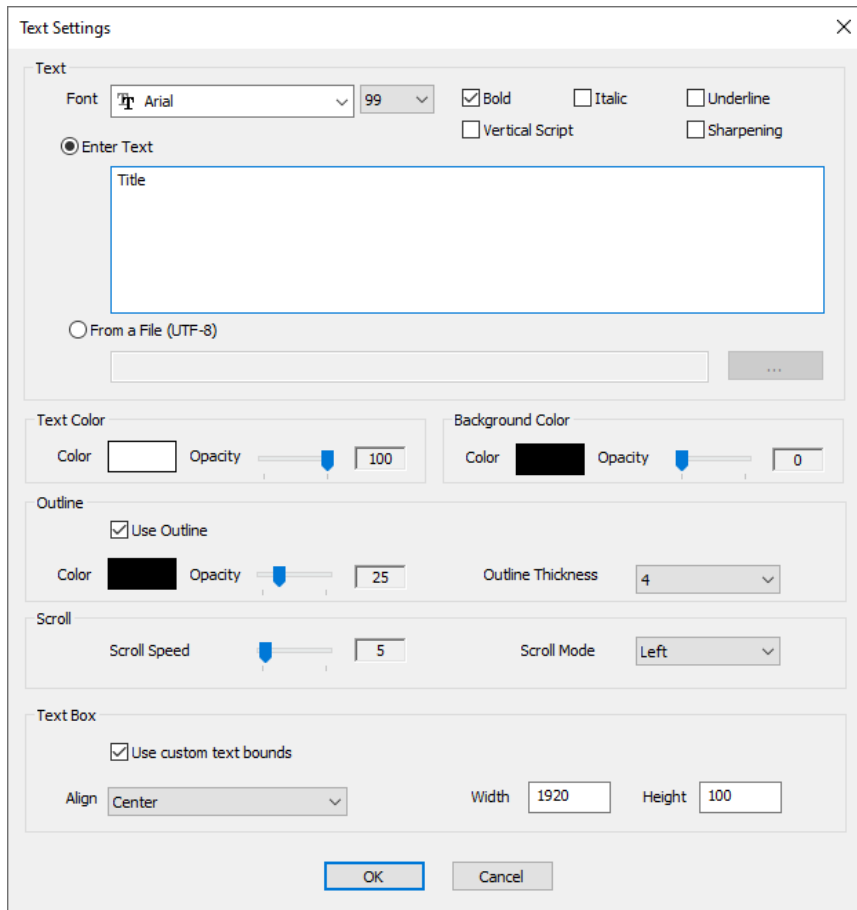
Image allows importing of supported image files, including animated GIFs.



Video and Image also have additional properties.

- **Opacity** - How opaque or solid your source looks. Lower the opacity to make it more transparent.
- **Chroma Key** - Allows you to make a certain color/color range transparent. It is best known for its use in television and film as "green screen." You can overlay yourself or an image into a stream by using chroma key to take out a solid-colored background. It works best when the background is a different color and clearly separate from the person or object in the foreground.

The **Text** properties have very different options. You can change the font, size, content, color, and even the movement (**Scroll**). These are great for displaying topics, handle (username), and status scrolls.



Color Box allows you to create a simple color box in the software. This can be used to block information the audience should not see or to add a background to another source to make it more visible.

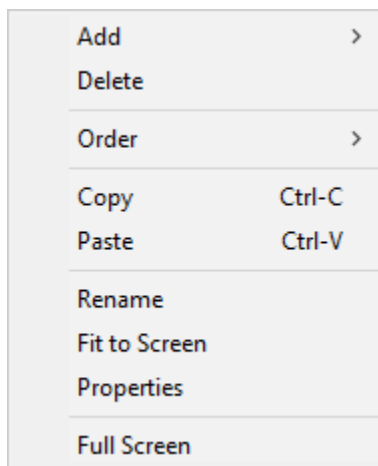
Viewscreen

The **Viewscreen** shows the content that will appear when you record or stream.

The Viewscreen shows all recording/streaming elements (display sources) for the active preset. Items can be selected, rearranged, and resized using click and drag functions with your mouse. Items can also be snapped to an edge or positioned using arrow keys. Stacking order matters, so an asset that is in front/on top can be clicked on, but one that is hidden behind others cannot be selected directly. Transparent pixels are considered clickable parts of an image.

Tip: If one of your sources are hidden behind something else in the Viewscreen, click on it from the Display Sources panel to select it.

Double-clicking an element allows you to view and modify its properties, while right-clicking an element will bring up a list of options.



Active area and Inactive area

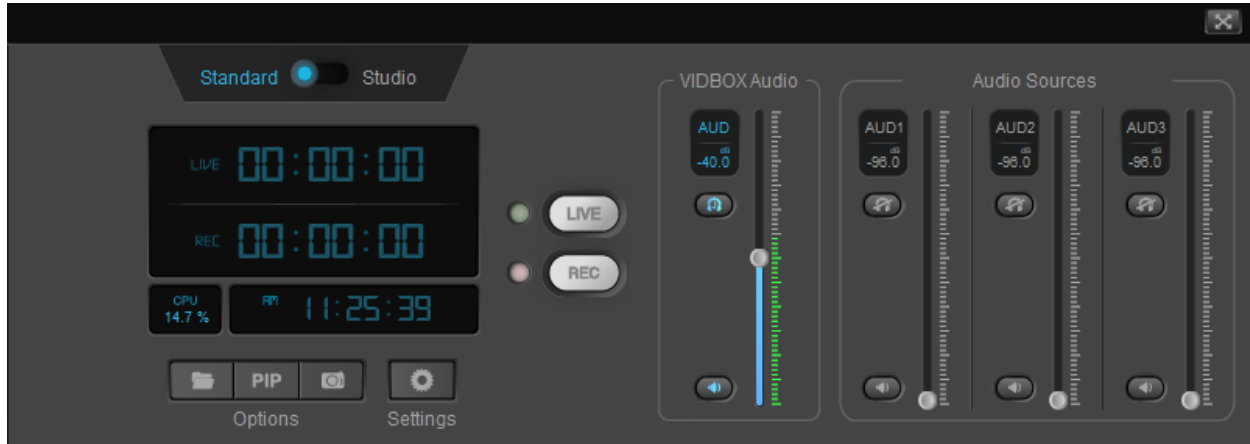


The portion of the video that is visible is the **Active area**. This area is defined by the resolution set in the *VIDBOX Capture* settings. Items that fall outside of this zone are not visible. This can result in a visual element that appears cut off.

The **Inactive area** is represented by a dark gray color matching the main colors of the software. Items in the inactive area are not visible in recordings or streams.

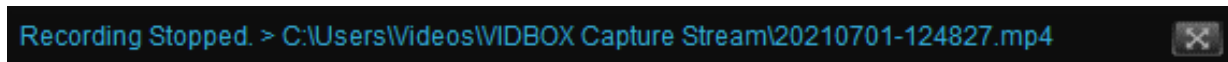
Control Hub

The **Control Hub** features most of the tools used during a recording or streaming session.



Status

The **Status** is a basic text indicator for when streaming or recording has started, stopped, or encountered an error. When a Text source is selected, it is also acts as a simple text editor.



There is also a **Full Screen** button to maximize the Viewscreen to your computer monitor. Exit full screen by double-clicking the screen or by pressing the Esc key on the keyboard.

Volume Sliders

The volume sliders control the recording levels of the audio devices. Audio from each source can also be muted using the speaker button.

These controls only affect audio devices currently enabled in your *Settings*.



Indicators

A set of indicators here show you the local time, the streaming time, the recording time, and the CPU usage.



The streaming and recording time indicators show how long the stream or recording has been running. When streaming or recording is stopped, the last time stays on screen until a new stream or recording has been started. This resets to 00:00:00 when the program is restarted.

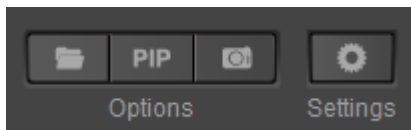
The CPU usage indicator shows how much processing power the program is using. Very high CPU numbers can cause the program to crash or to start performing poorly. This should be checked periodically to ensure a stable stream or recording.

Buttons



LIVE - Starts a live stream to the selected streaming service (in the *Live Stream* settings).

REC - Starts capturing video to a local hard drive as an MP4 file.



Save Location (folder) – Opens the Save Location for the recorded files.

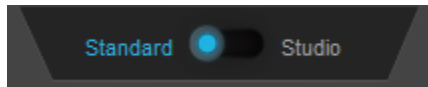
PIP (picture in picture) - Swaps the video from the C&S Hardware and the secondary video device with each other. This performs the same function as the PIP switch function on some televisions.

Snapshot (camera button) - Takes a snapshot of your Viewscreen and saves it as a BMP file.

Settings - Opens the Settings window.

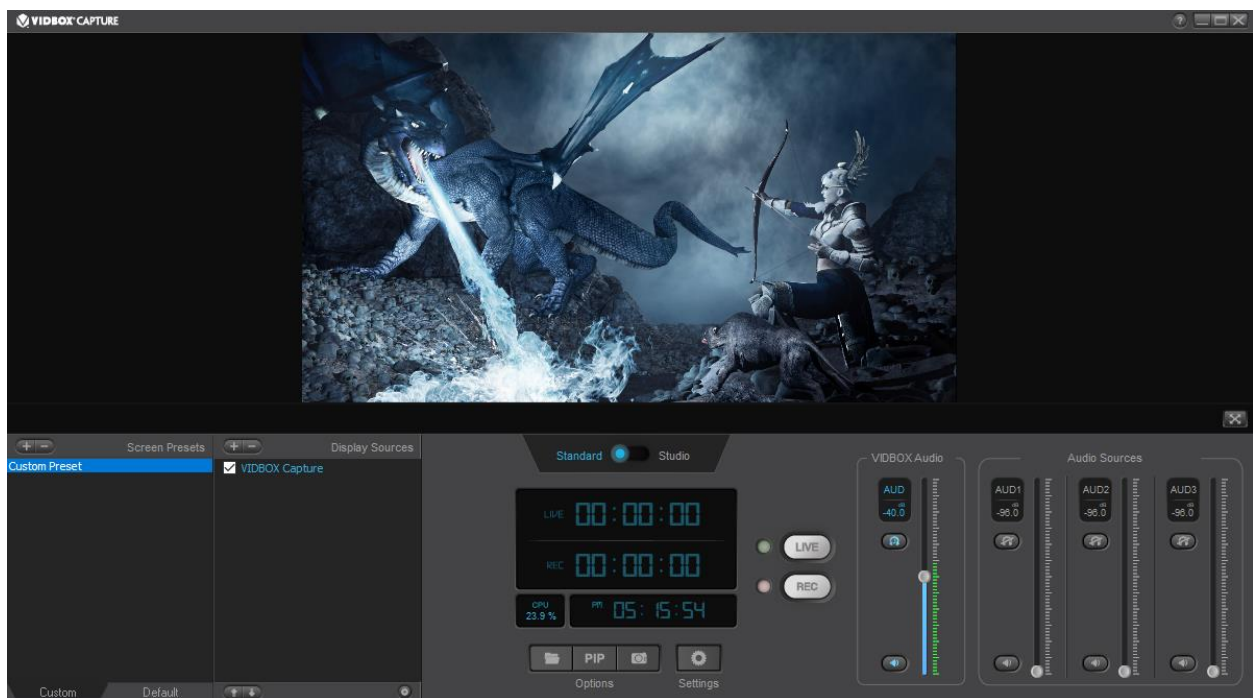
Standard Mode and Studio Mode

Switching between **Standard Mode** and **Studio Mode** provides more options to control streaming/recording content.



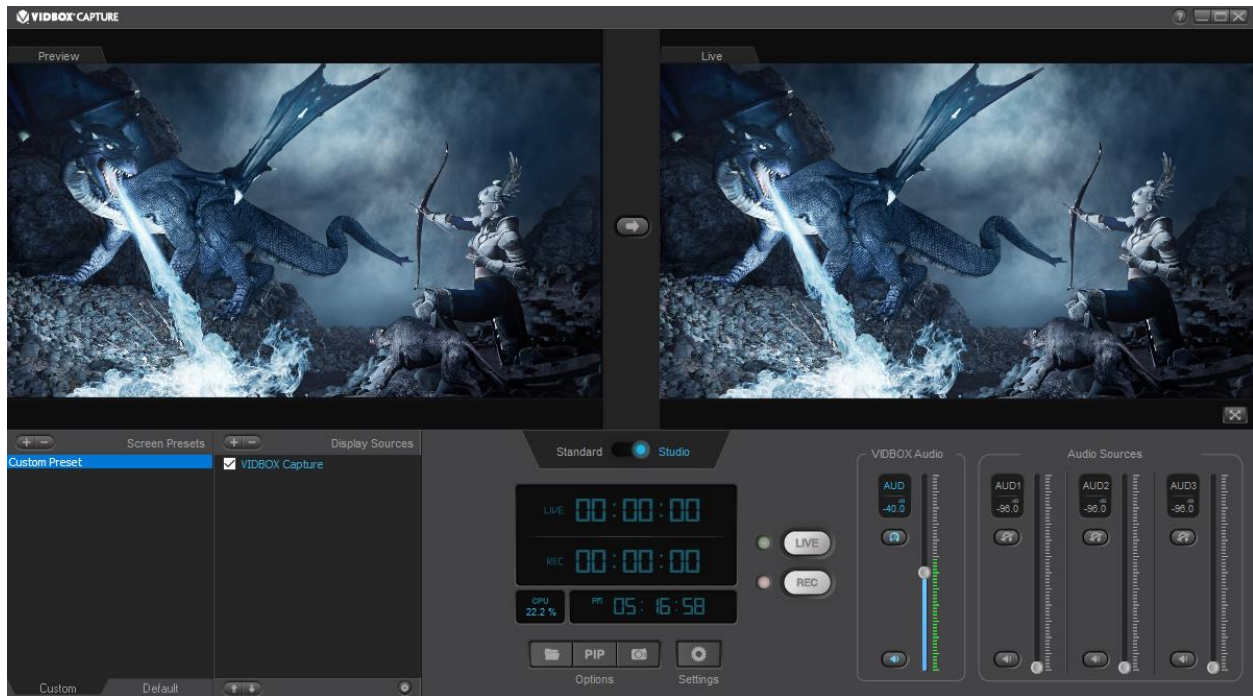
Use the **Presentation Mode** toggle to switch between the two modes.

Standard Mode



Standard Mode offers the easiest way to manage a stream. Viewers see the same content as the Viewscreen in the C&S Software. This works best when no changes need to be made inside a preset while streaming or when viewers should be able to see the changes as they are happening.

Studio Mode



Studio Mode provides a way to make changes to a preset while streaming without making them visible to viewers until ready. The Viewscreen becomes divided into the Preview screen and the Live screen.

The **Preview** screen allows display sources in a preset to be staged off screen. All standard functions can be used to position, scale, add, or remove display sources from the Preview screen without being visible to the audience.

The **Live** screen shows what is actively being streamed and recorded. Changes made in the Preview screen will not be visible to an audience until the Transition button is clicked.



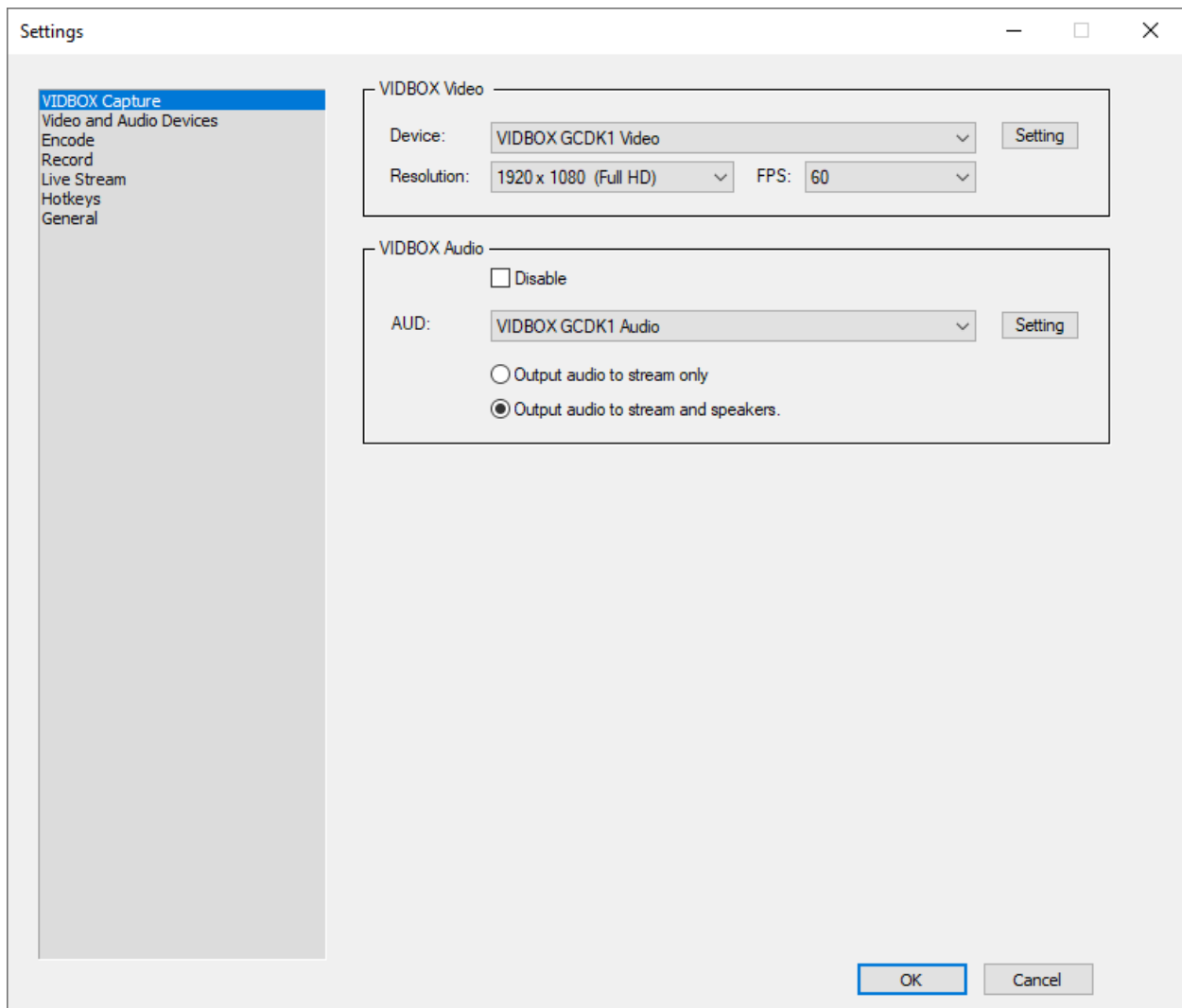
The **Transition** button pushes the content of the Preview screen to the Live screen.

Note: Screen Capture and Window Capture functions do not start instantaneously when activated. It may take a moment to load those display sources when switching a preset or clicking the Transition button.

Settings

The **Settings** control how the software operates. It includes the setup options for your C&S Hardware, webcam, recording options, streaming service, and more.

VIDBOX Capture



Make basic adjustments to how the video and audio from your C&S Hardware is used by the C&S Software.

VIDBOX Video

A connected C&S Hardware device must be selected as your primary video source. These settings dictate the resolution and framerate (**frames per second** or **FPS**) of your recordings/streams.

VIDBOX Audio

Control how the audio output from the C&S Hardware is handled by the software to either you or the stream.

The **Disable** checkbox completely turns off audio coming in through your C&S Hardware, so neither you nor a viewer receive the audio.

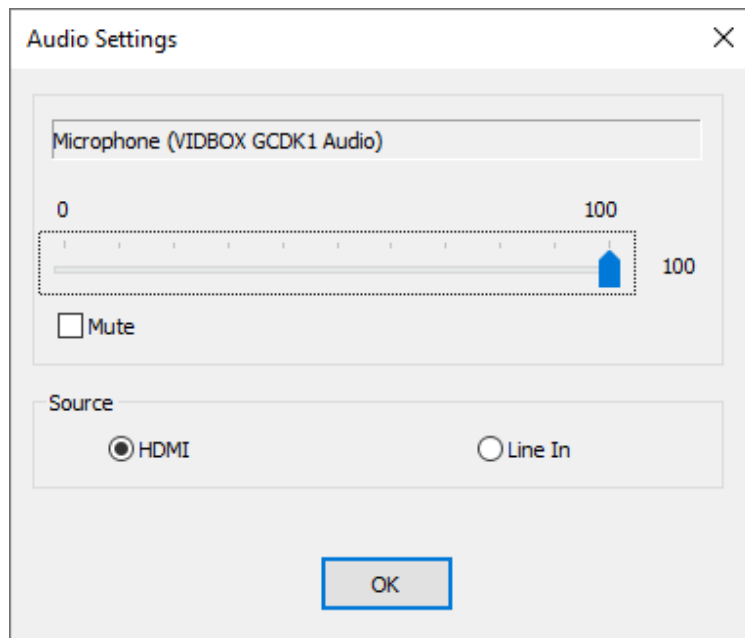
The **Output audio to stream only** option turns off the audio that you hear through the C&S Software, but it still sends audio to a stream or to a recording. You might use this option to prevent an audio echo between the computer and a TV when using the C&S Hardware passthrough.

The **Output audio to stream and speakers** option completely allows the audio to you and the stream. You should be able to monitor your audio directly from the speakers or headphones for your computer.

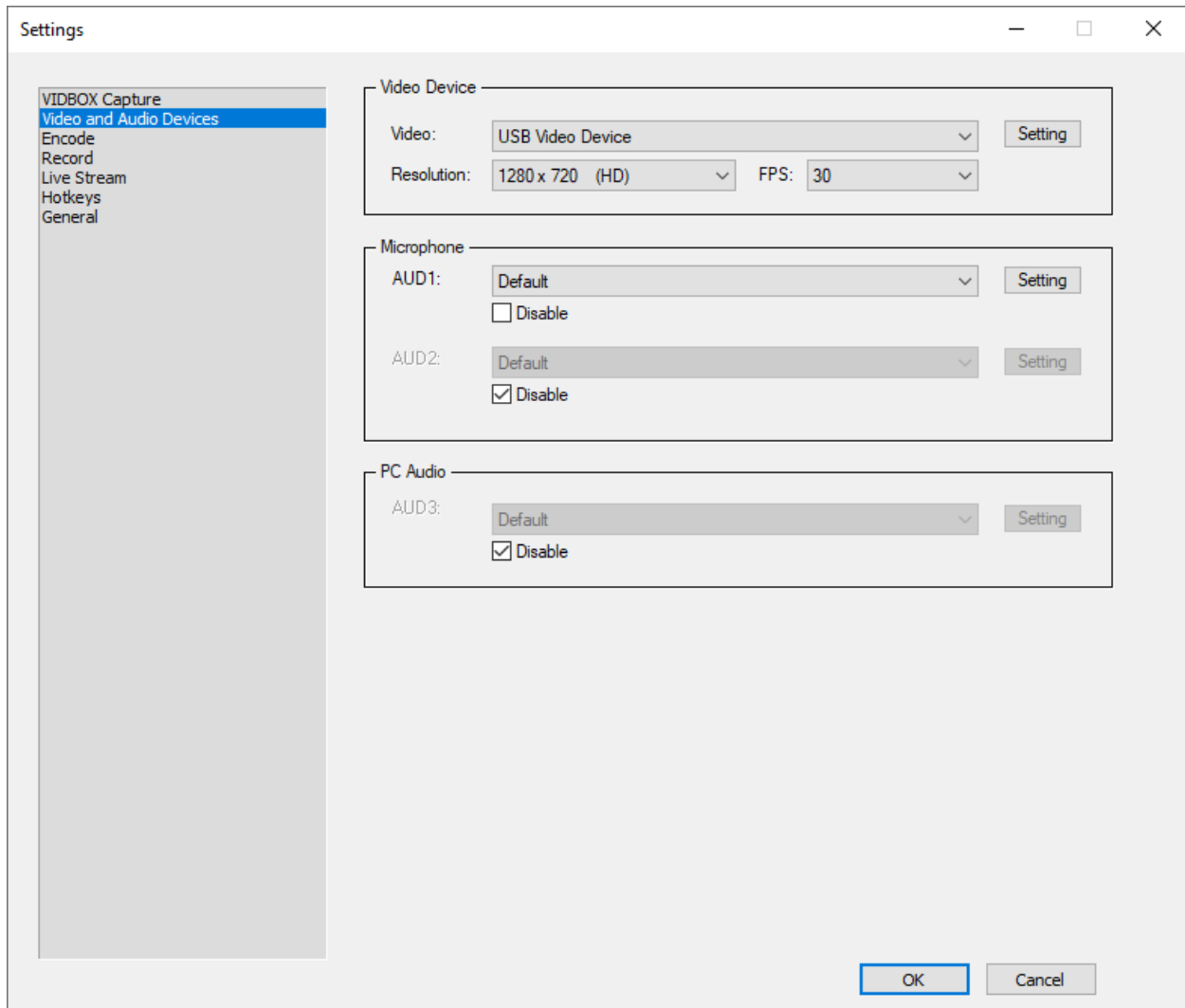
(Optional) Change Audio Source

C&S Hardware with analog audio inputs can switch between HDMI and Line In audio sources in the VIDBOX Audio Device Settings.

Only audio from the selected input type is used for recording/streaming.



Video and Audio Devices



Additional video and audio sources can be added to your stream, most commonly a webcam and a microphone. Additional devices use different settings from the C&S Hardware devices.

Video Device

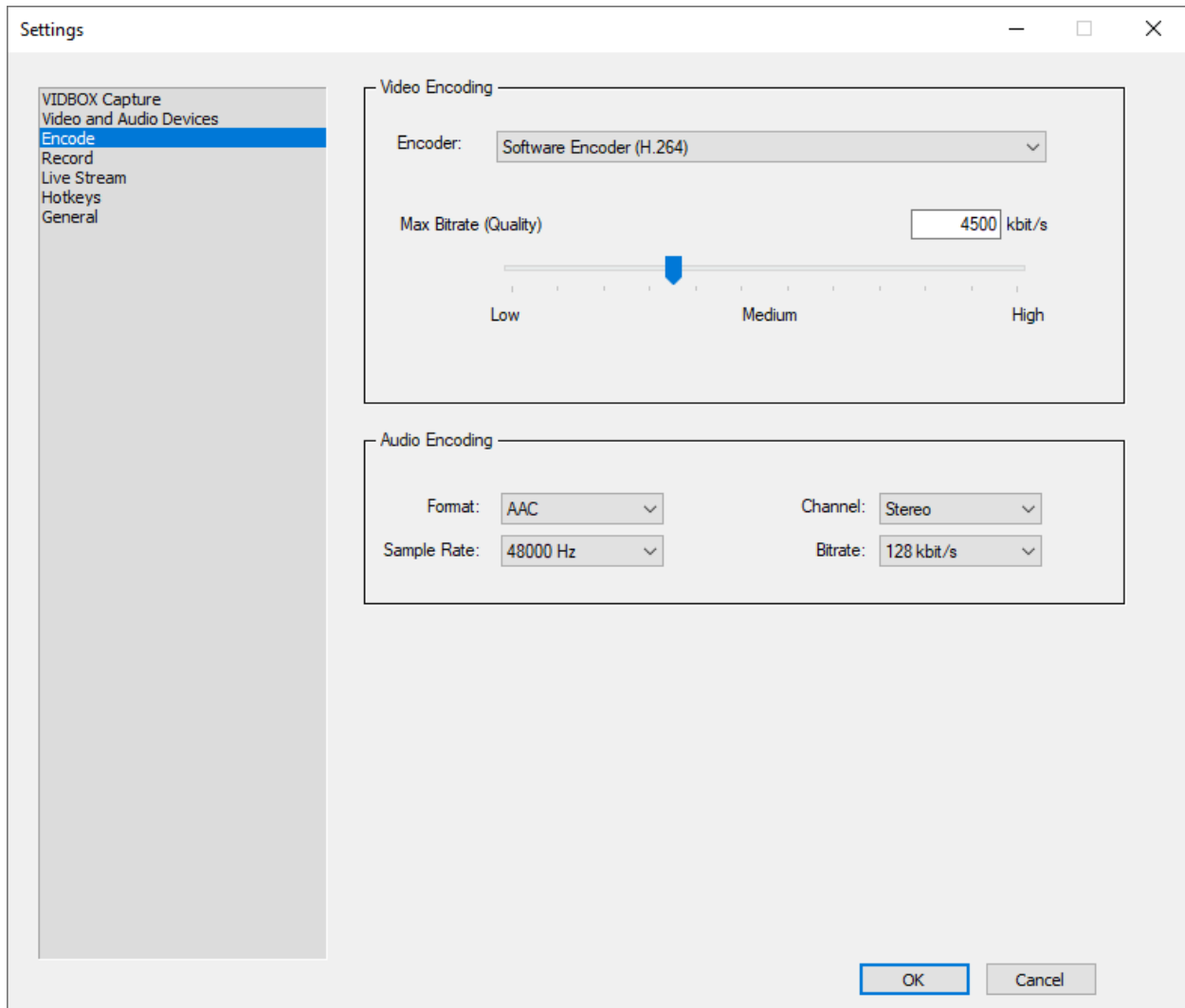
Select an additional video recording device to use. The available resolution and FPS settings will be specific to that device's capabilities.

Note: For best image, the resolution you select should have an aspect ratio (16:9, 4:3) that matches the aspect ratio for the VIDBOX Capture section.

Microphone/PC Audio

Select additional audio recording devices to use or disable the option completely.

Encode



These settings should be adjusted based on your task: streaming or recording. These settings also directly translate to quality and file sizes.

Video Encoding

These are the main settings you will normally change for streaming and recording.

Encoder

Encoders can make all the difference in quality of the video capture/stream and in performance on your system. If the **central processing unit (CPU or processor)** is running too high and you have a supported **graphics processing unit (GPU or graphics card)**, a GPU-based encoder can take on the task of encoding, but often at the cost of some visual quality.

- **Software Encoder (H.264)** - The default option. This uses only the CPU for encoding. This delivers good quality video, but it requires a lot of the available processing power on your computer.
- **Intel (QSV)** - Usable on computers running an Intel processor with QuickSync technology. This uses the **integrated graphics processing unit (iGPU)** for encoding.
- **NVIDIA (NVENC)** - Usable on computers with supported NVIDIA graphics cards. This uses the NVIDIA GPU for encoding.

Generally, using the H.264 option is the best for streaming if your CPU can handle it, but the NVENC option provides the smoothest framerate for most systems.

The software records and streams using **Constant Bitrate (CBR)**. This attempts to keep the bitrate at a consistent setting.

Max Bitrate (Quality)

Bitrate directly translates into quality for a given encoder. A higher bitrate means that more information is being saved per second. However, this will also mean heftier streams and bigger file sizes.

When streaming, you will typically need to use smaller bitrates than for recording. This accommodates for several factors:

1. The limits of your upload speeds on your internet service and home network. You should check your upload speeds using an internet speed test site. This will give you a rough idea on the bitrate you can use for streaming.

The time of day, the server used, and other usage on your home network can impact your upload speeds, so it is helpful to run the test a few different times to check for consistency with one bitrate or to change bitrates based on the current network performance.

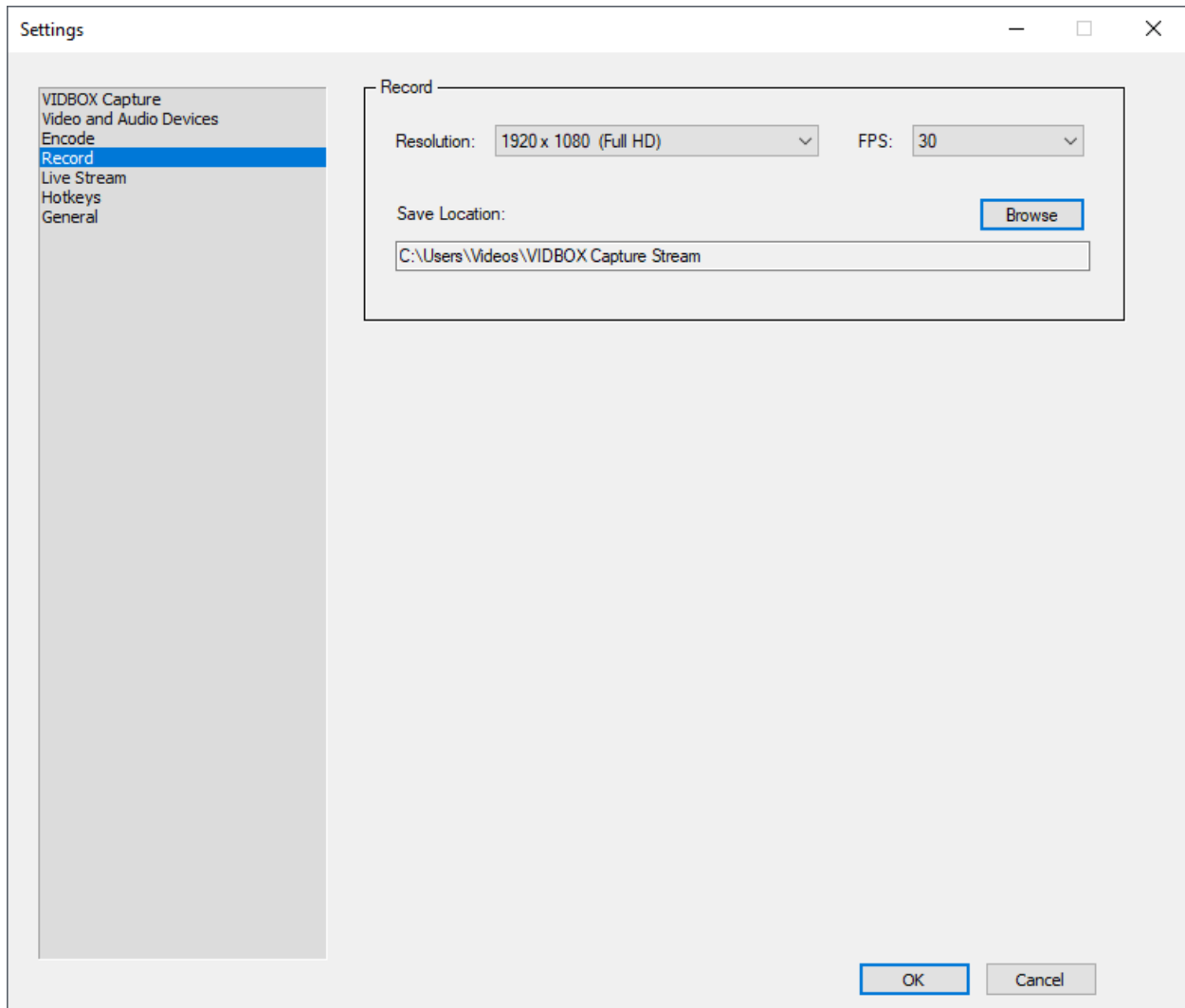
2. The limits by the streaming site/server. Websites like Twitch.tv will usually have rules and guidelines on the settings you can use when streaming.
3. The limits of your viewers. A very high upload speed may exceed the download speeds of your viewers. Viewers with a lower download speed may frequently be hit with video skips due to buffering.

When recording without streaming, you can turn up your bitrate to get a very high-quality video file suitable for archiving or for editing.

Audio Encoding

Like the *Video Encoding* section, you have many of the same concerns of managing your quality and bitrate for streaming and for recording. You can follow essentially all the same rules for bitrates to manage your upload capability.

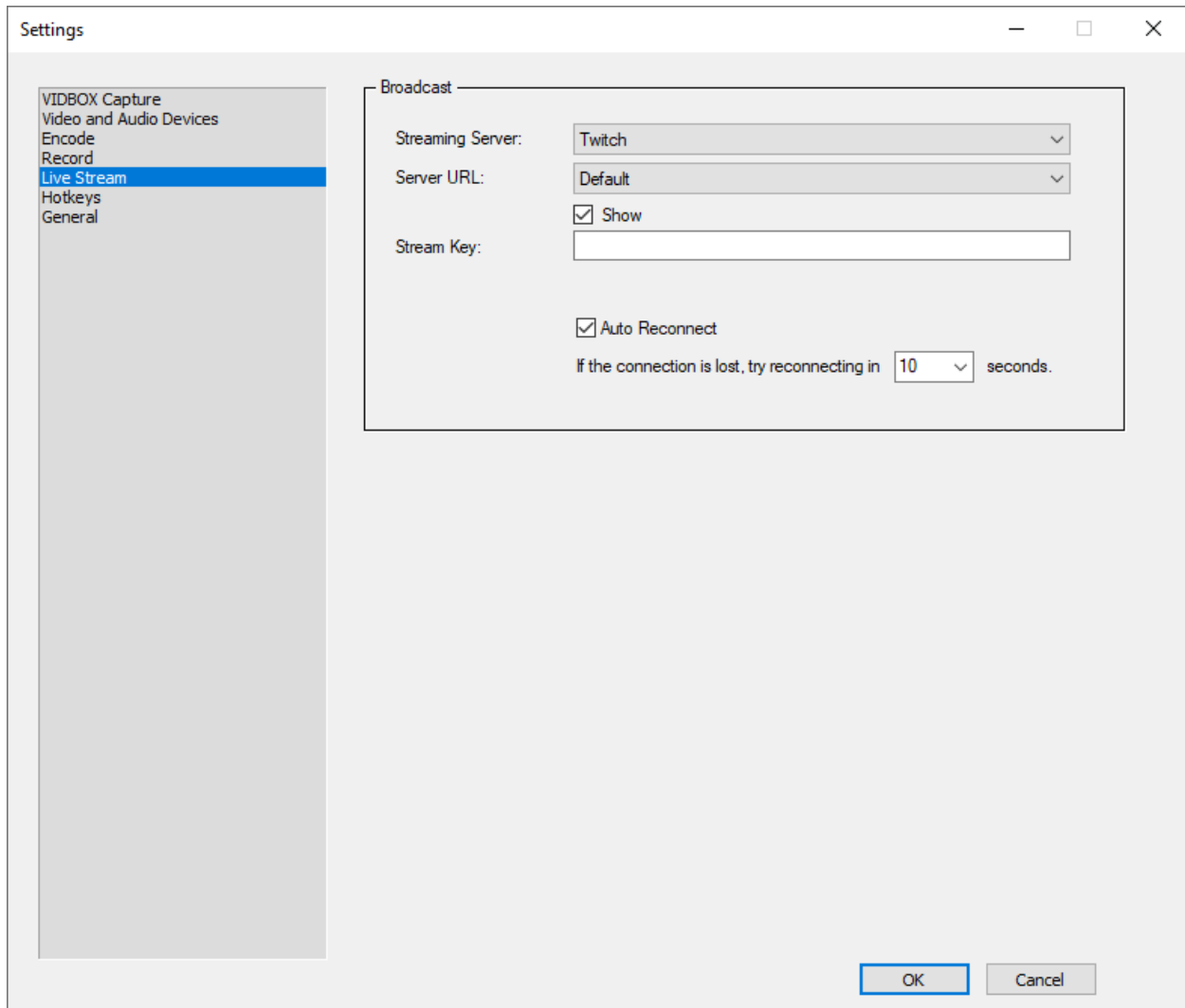
Record



Set your **Save Location** here. Videos recorded in the software will end up at this destination as MP4 files. Snapshots will save as BMP files.

Note: If the Save Location is changed, existing recordings will not move to the new folder automatically. You should note the location of any existing recordings before selecting a different Save Location.

Live Stream



Set your connection options for your streaming service from here. The software accommodates some popular streaming websites, like Twitch.tv.

Note: You will need to have an account at the corresponding streaming site.

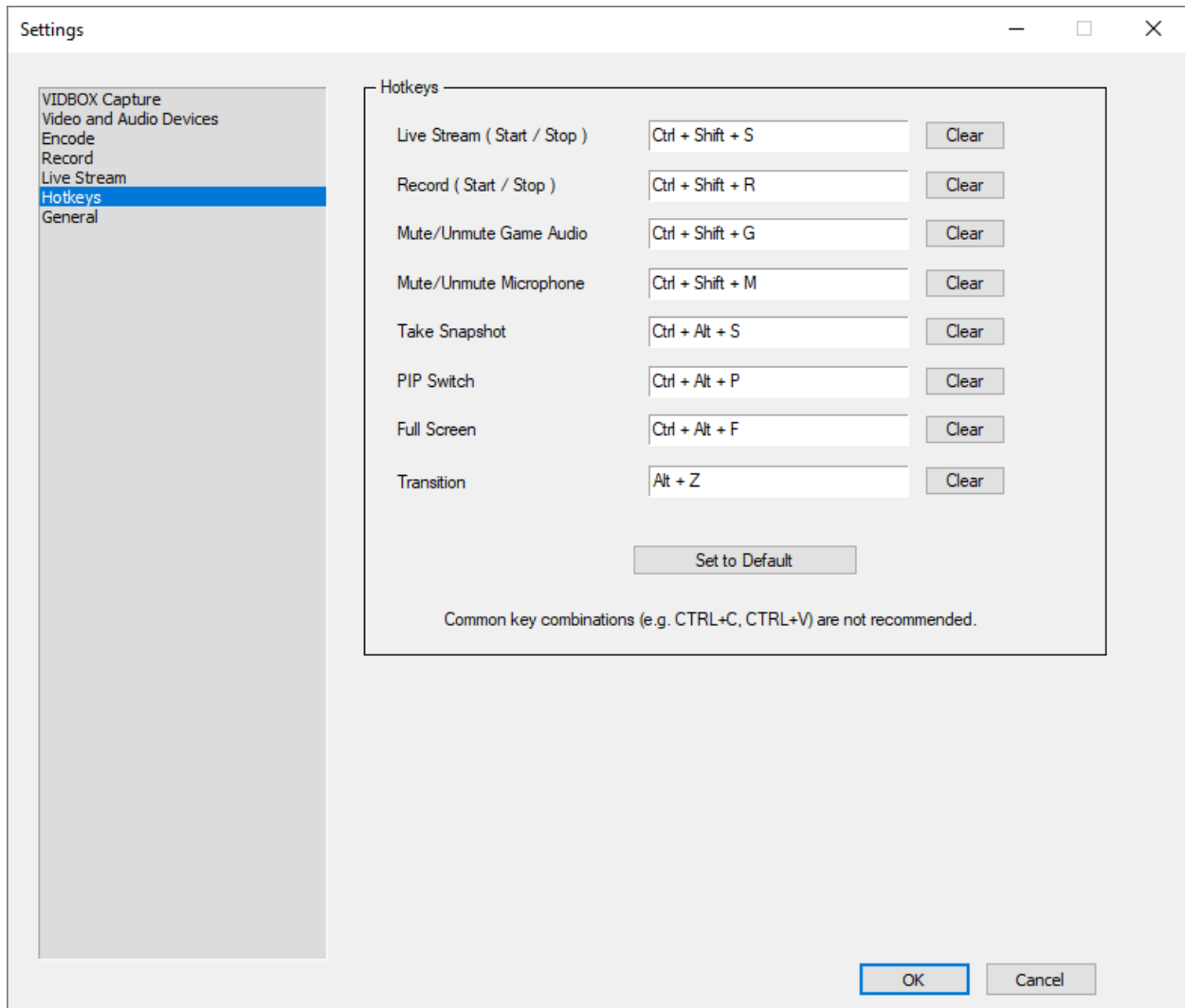
Streaming Server - Select the streaming service you wish to use.

Server URL - Pick the server location. You generally want to pick the server nearest to your physical location.

Stream Key - Enter your unique stream key. Stream keys are the identifiers used at the respective streaming server to receive your stream. You should never share your stream key since this would allow other users to stream to your channel.

Auto Reconnect - If your Internet service fails to maintain connection with your streaming service, this feature tries to reconnect you.

Hotkeys

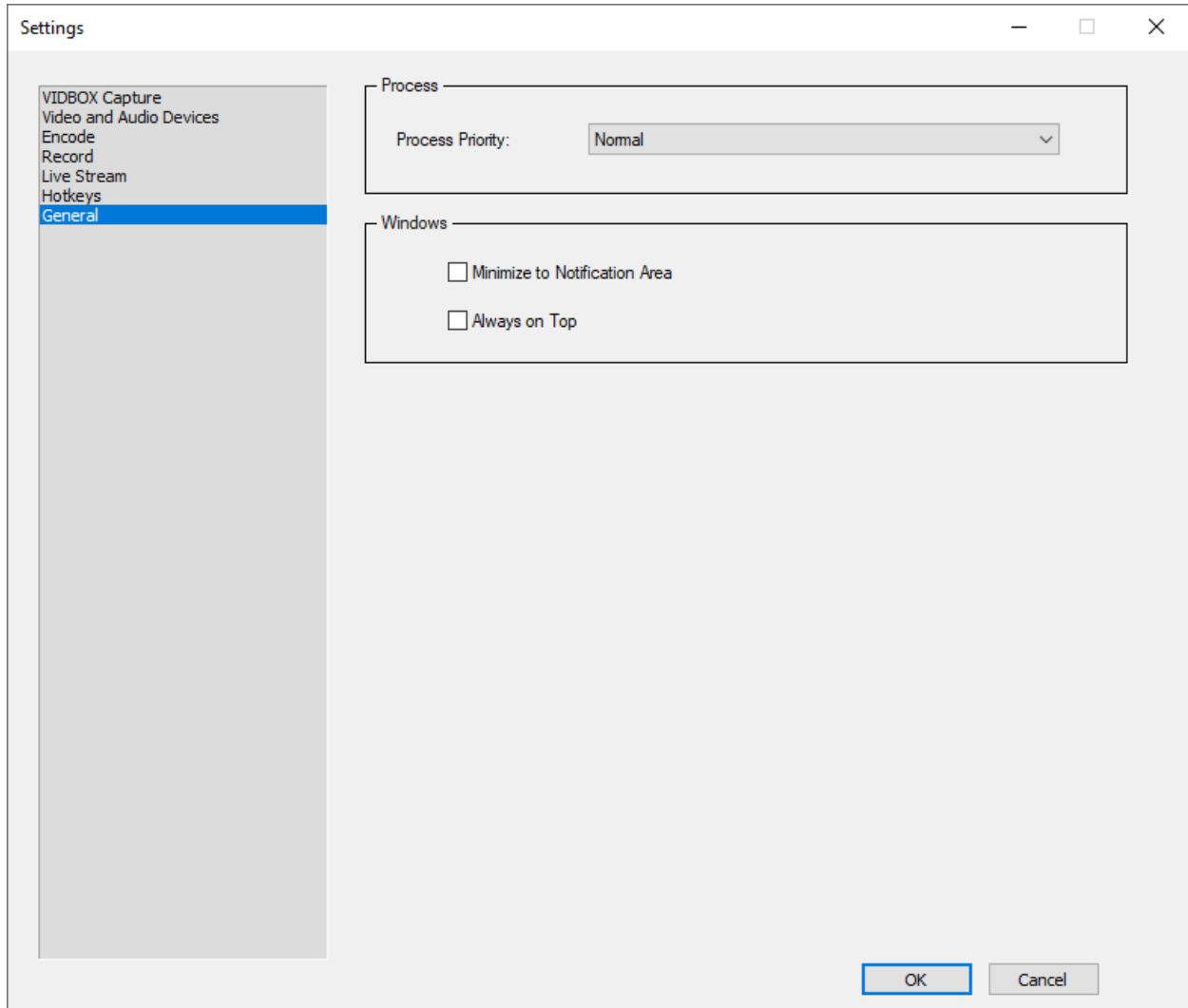


Assign **Hotkey combinations (hotkeys)** to minimize interruptions when streaming. Hotkeys will allow you to perform certain functions that normally require you to click a specific button. These can reduce interruptions to streaming, recording, and even general gameplay.

The software does require using multi-key combinations to reduce conflicts with the most common combinations (e.g. CTRL+C, CTRL+S). In this way, they are not true hotkeys.

If you have a gaming keyboard with programmable buttons, simplify your life by programming these combinations to your macro keys.

General



Control some basic ways the C&S Software interacts with your computer.

Process

Sets the basic Process Priority. This basically lets you allocate more resources or fewer resources to the software. (Recommended: *Normal*)

Remember, more resources in one place (C&S Software) means less resources elsewhere (the rest of your computer). Be careful that you don't slow your computer down to the point that it ends up affecting the software anyway!

Windows

The **Minimize to Notification Area** option allows the program to minimize to the Notification Area (previously called System Tray) in Windows instead of to the Taskbar.

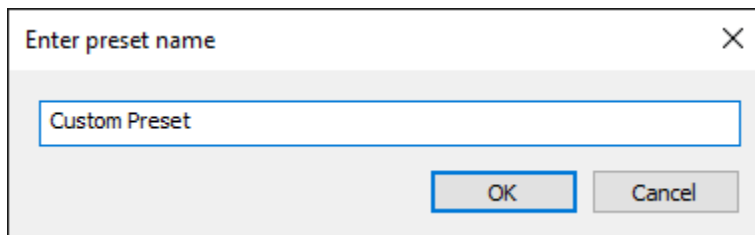
The **Always on Top** option ensures that the software will always be the top window when not minimized. This means other windows would open and appear behind the software window.

Examples

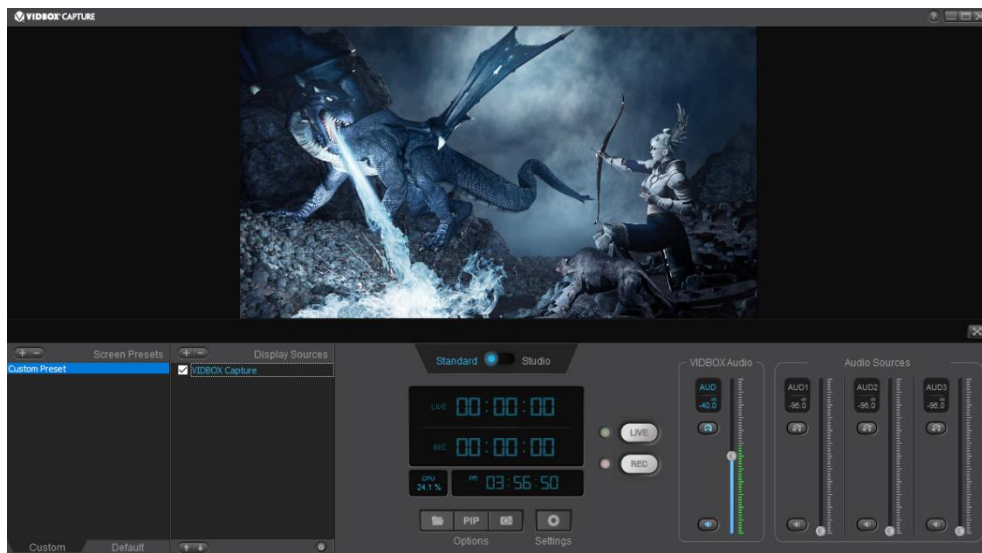
Example: Setting up a custom preset

This set of steps shows one way to set up a basic preset that contains a game feed, a webcam, and a frame for the webcam.

Click the **Add Preset** button at the top of the **Screen Presets** section, then select **New**.



After clicking *OK*, it will add the new preset to the Custom preset list. The software automatically adds the C&S Hardware, using its resolution from the *Settings* to determine the size of the active area.



For this preset, we have created an image at 1920x1080 resolution with an open, transparent center for the frame. Use the **Add Source** button to add an image for the frame.



Tip: If you are making or modifying an image frame, plan around the aspect ratio for your webcam to fit in the frame.

Click the frame to select it, then drag one of the corners toward the opposite corner of the image. This will scale down the image. Release the mouse button when the open window is at the size you want the webcam to be.



In this case, the frame is anchored in the bottom-left corner.



Use the Add Source button to add the webcam.



Tip: The software generates a default blue screen for the webcam when it is not detected. This can be used to position and resize the webcam even if it is not connected.

Move the webcam to the bottom-left corner to align it with the frame. Since the frame is anchored in the bottom-left, the webcam can be snapped to that corner as well.



Use the Move Source Down button to move the webcam below the frame. This allows the webcam to be seen through the open window.



At this point, the webcam can be scaled down to match the size of the frame.

Tip: Depending on the type of image used for the frame, the stacking order for the image and webcam will be different. In general, solid images that do not have a transparent section in the center should be beneath the webcam, while images that have a transparent area punched out should be positioned over the webcam.

Example: Encoders and Bitrates

The Encode section of the Settings can be pretty dense without a concrete example, but the most basic rules to follow are:

1. Check your upload speeds using a speed test.
2. Check the guidelines of the streaming service.
3. Set the maximum bitrate based on any limitations from the above steps and personal preference.

Using these steps, we can evaluate a series of scenarios using Twitch which currently has a recommendation of 3-6 Mbps (3000-6000 kbps) for HD streaming. These scenarios assume streaming preferences at 1920x1080 resolution.

Tip: Speed tests usually show the max upload speed, not the average upload speed. It is helpful to choose a speed lower than the max reported to reduce potential speed bumps.

Scenario 1:

1. Speed test results: 9 Mbps max upload speed
2. Recommended speeds: 3-6 Mbps
3. The max upload speed is much higher than the top recommended speed. It is safe to take full advantage of the top recommended speed and set the maximum bitrate to 6000 kbps in the C&S Software.

Scenario 2:

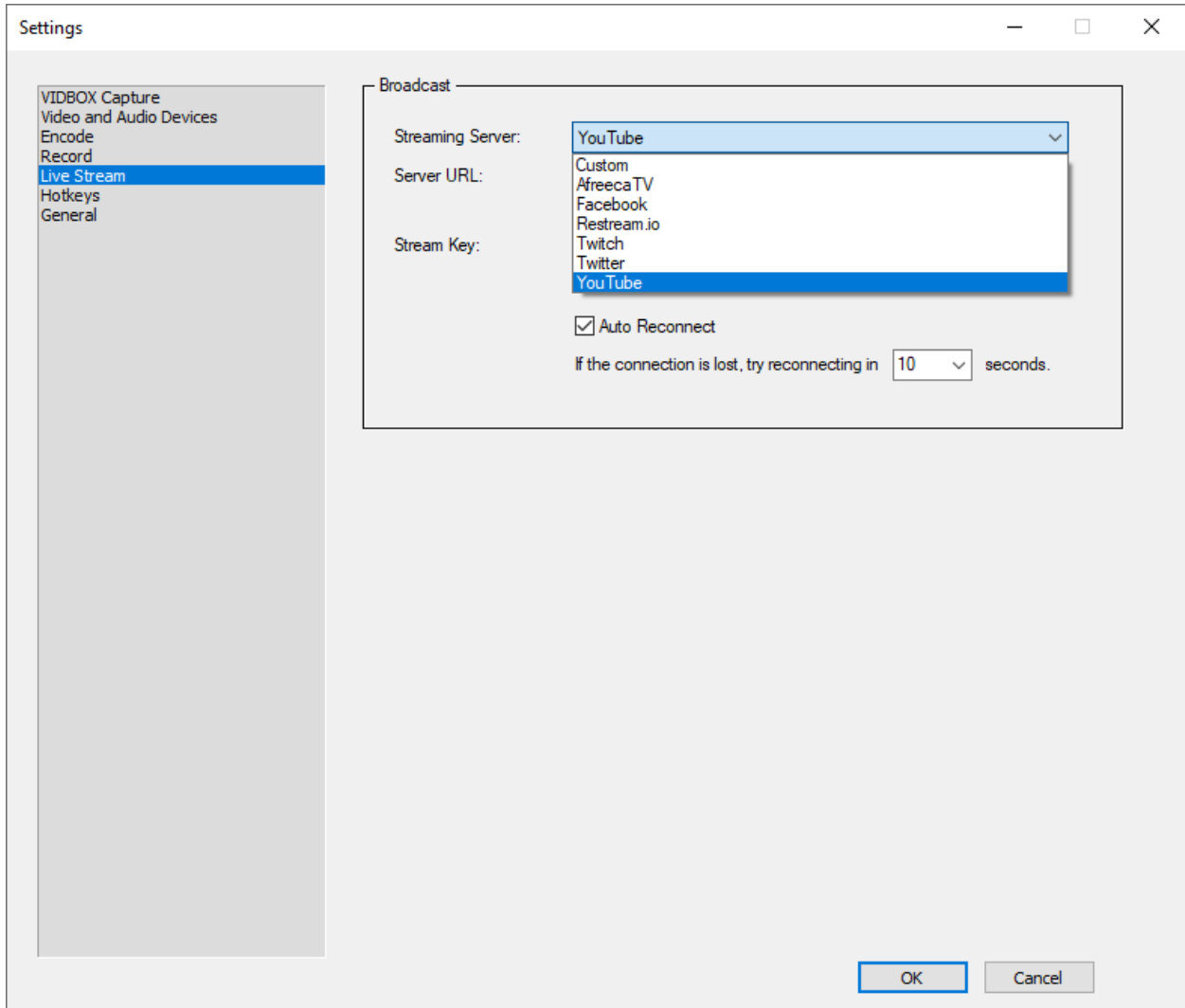
1. Speed test results: 5.5 Mbps max upload speed
2. Recommended speeds: 3-6 Mbps
3. The max upload speed is in the middle of the recommended speeds. It is possible to set the maximum bitrate to 5500 kbps in the software, but realistically, that number will not be stable. It would be safer to use a lower number with reasonable quality, like 4500 kbps.

Scenario 3:

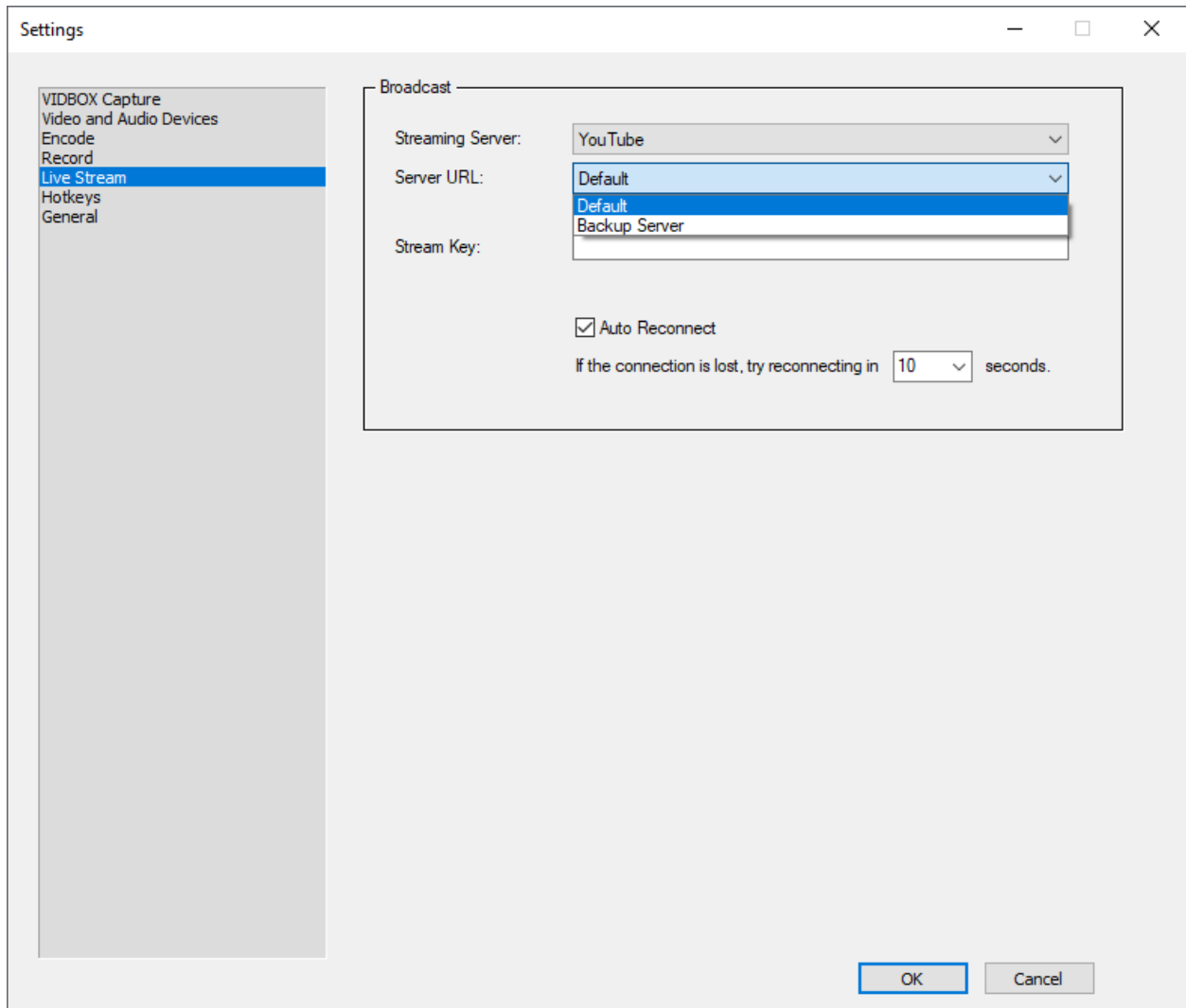
1. Speed test results: 2.5 Mbps max upload speed
2. Recommended speeds: 3-6 Mbps
3. The max upload speed is not suitable for the recommended speeds for HD recording. At this level, the safest option for smooth video is to stream in standard definition.

Example: Streaming Servers

The C&S Software allows streaming through services that issue stream keys. Some popular services are listed directly in the software.



These services have selectable Server URLs from a list.

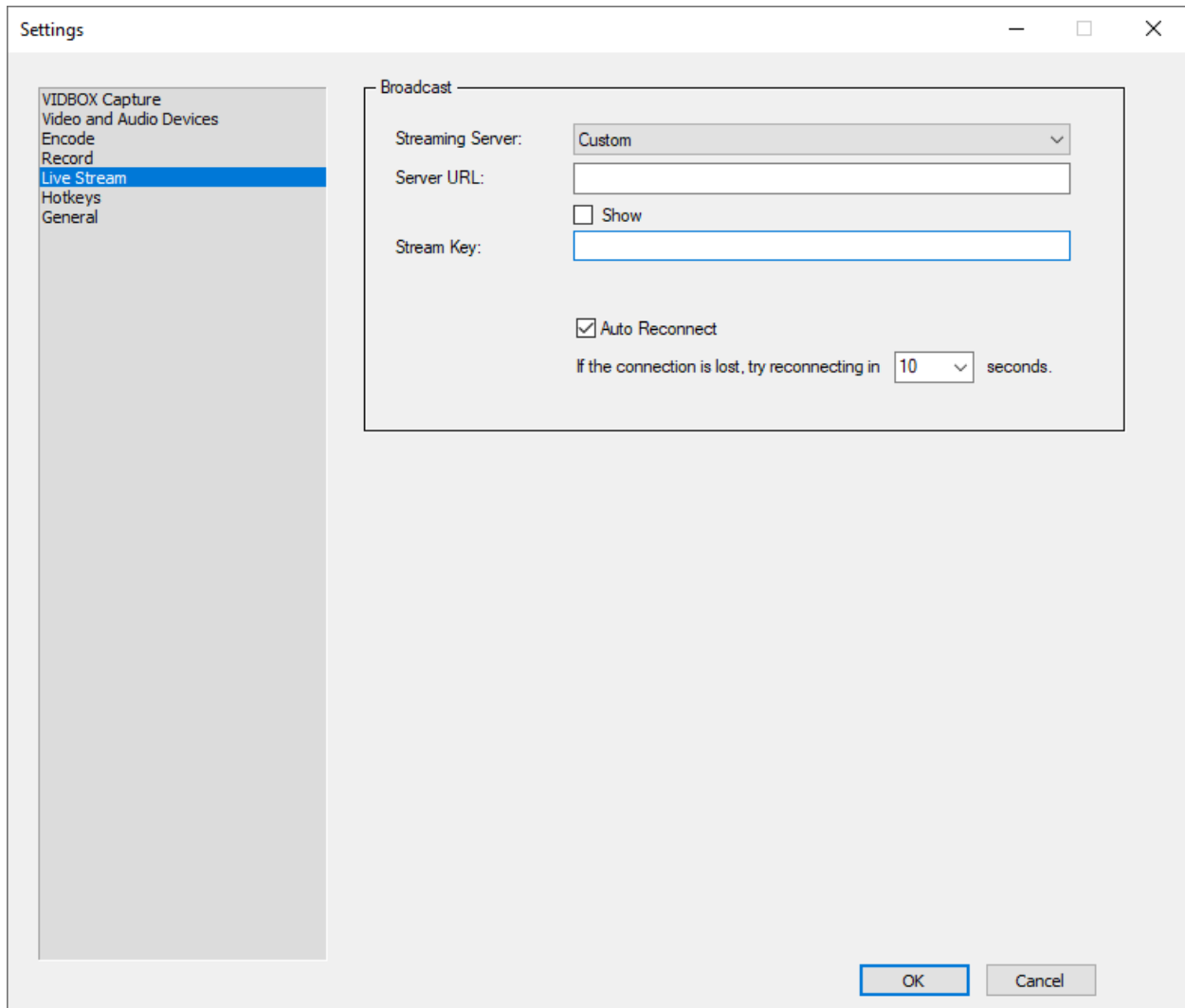


In most cases, you can just select the one with the closest physical location to you for the best results.

If the Server URL does not list a location, the service may have dedicated URLs for different functions. Check the streaming service's website for information on the best or correct selection.

The last step required for streaming is to copy and paste the stream key generated by the stream service. This is the unique identifier for your stream and should not be shared. Stream keys may expire depending on the service used, so you may have to enter a new stream key often.

If you are using a streaming service not found on this list, you can select Custom for the server.



This will require finding the correct Server URL from the streaming service's website to copy and paste in addition to the stream key.