

# ZoomISO v3 Documentation

v3.0.4 BETA

<b>Installation and Accounts</b>	<b>3</b>
Sign in with Zoom - Adding the App to your Account	3
Enterprise Provisioning	5
Removing ZoomISO from your Zoom Account	5
<b>Licensing for ZoomISO</b>	<b>5</b>
Activate ZoomISO with a Zoom Enhanced Media license	6
Activate ZoomISO with a Zoom Webinars and Events Hub	6
Trial Mode	6
<b>Using the Application</b>	<b>6</b>
Global Navigation, Controls, and App Menu	7
Window Management	7
Capture Engine	7
Global Navigation	7
Recording Controls	7
Settings Access	7
App Menu	8
Meeting Tab	8
Video Outputs Tab	9
Grid View	9
List View	10
Previews View	11
Output Effects	12
Audio Outputs Tab	13
Adding Audio Devices	13
Embedded Audio	13
Participants Tab	14
Settings Overview	15
General Settings	15
Capture Mode	15
Render Settings	16
Audio Settings	16
Auto assign settings	16
Interface settings	16
In-meeting Settings	17
Output Effects Settings	17
Video Loss Settings	18
NDI and SRT Settings	19

NDI Settings	19
SRT Settings	20
OSC Settings	20
Recording Settings	21
Logs	22
<b>Performance</b>	<b>23</b>
Minimum Requirements	23
Best Practices	23
Zoom Resolution and Bandwidth	24
Performance Details Feature	25
<b>ZoomISO OSC Control</b>	<b>26</b>
OSC Control Settings	26
OSC Command List	28
Target Commands	28
Global Commands	28
Outputs	29

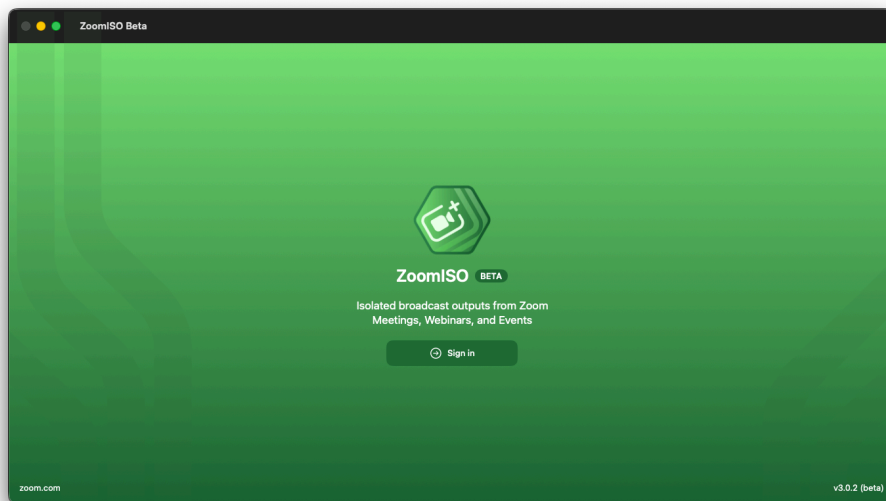
# Installation and Accounts

## Sign in with Zoom - Adding the App to your Account

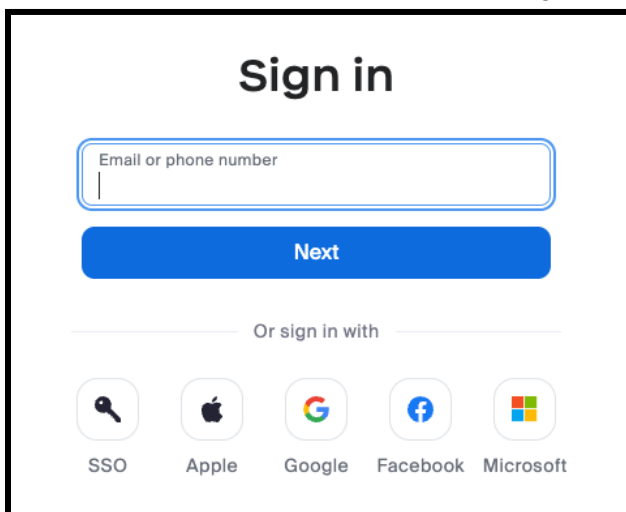
ZoomISO has an online sign-in button which allows you to use your Zoom account to log into the app. Signing in allows ZoomISO to start and join meetings on behalf of the signed in account, access the display name and other account details, and join Zoom Meetings, Zoom Webinars, and Zoom Events.

To sign into ZoomISO:

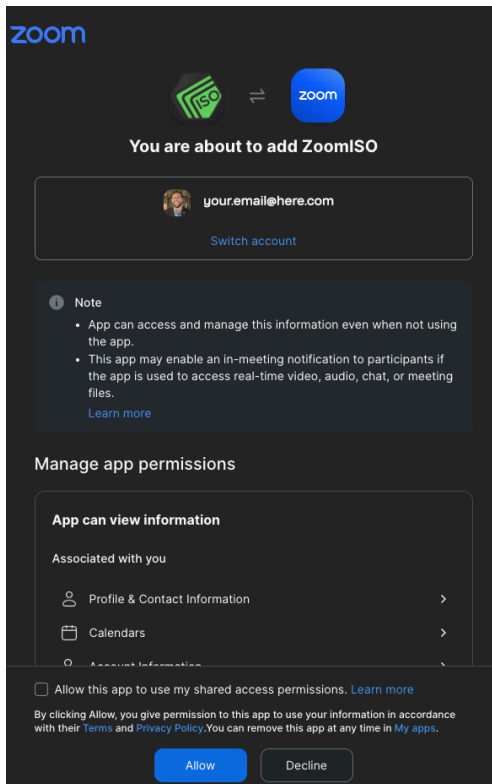
1. Launch ZoomISO
2. Click the "Sign In" button



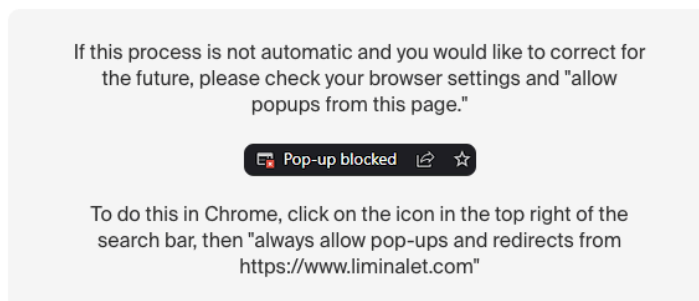
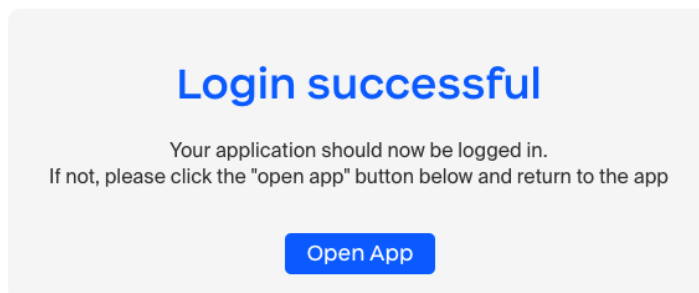
3. You will now be presented with a Zoom login webpage to sign into.



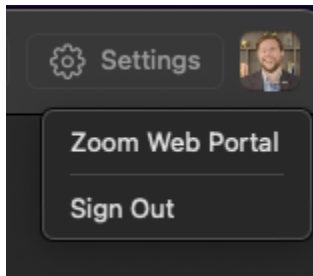
4. If this is the first time you have logged into ZoomISO, you will be prompted to add ZoomISO to your Zoom account after signing in. Click Allow.



5. This page should redirect you to the liminalet.com login success page where you should proceed to connect to ZoomISO by opening the app from the button on the page, or automatically via a deeplink if permitted



6. If the above steps are successful, you will be logged into ZoomISO. You will see your profile image in the top right corner of ZoomISO where you can view your account in the Zoom Web Portal or sign out.



7. ZoomISO uses your camera and microphone in meetings. It also uses network permissions for protocols like NDI and SRT. Give ZoomISO access in your System Settings to enable these features when prompted.



## Enterprise Provisioning

Are you a business/enterprise end-user? You may need to contact your IT department to allow ZoomISO to be added to your Zoom account, depending on how your organization is configured. IT can add ZoomISO to your organization at:

[https://marketplace.zoom.us/apps/UqVYnn3dR1KfBz2q\\_ju-Gw](https://marketplace.zoom.us/apps/UqVYnn3dR1KfBz2q_ju-Gw)

## Removing ZoomISO from your Zoom Account

Login to your Zoom Account and navigate to the Zoom App Marketplace.

- Click Manage > Added Apps or search for the "ZoomISO" app.
- Click the "ZoomISO" app.
- Click "Remove".

## Licensing for ZoomISO

**ZoomISO is activated when signed in with a Zoom account that has the Zoom Enhanced Media add-on license assigned. Additionally, you can also activate ZoomISO by signing in with a Zoom account that is an active Hub Host or Hub Owner on the Zoom Webinars and Events platform.**

If you don't sign in, or you sign in with a Zoom account that does not meet the requirements, ZoomISO will remain in Trial Mode.

## Activate ZoomISO with a Zoom Enhanced Media license

ZoomISO is included in the Zoom Enhanced Media add-on license along with the rest of the Liminal Apps at no additional cost. Once an Enhanced Media license is purchased, assign it to the user in your Zoom organization who will then be able to sign into ZoomISO for product activation. ZoomISO can join any Meeting, Webinar, or Event that the signed-in user is entitled to join, even if they take place on a different account.

For more information on the Enhanced Media license option for Liminal Apps, please see: [https://support.zoom.com/hc/en/article?id=zm\\_kb&sysparm\\_article=KB0085055](https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0085055)

## Activate ZoomISO with a Zoom Webinars and Events Hub

Zoom Events and Zoom Webinars Plus license holders can create Hubs on the events.zoom.us website to manage their organization's access to license features. Under the Team tab of the Hub page, the Hub Owner can add additional Hub Hosts from within their organization. The Hub Owner and all Hub Hosts are able to activate ZoomISO by signing into the app. ZoomISO can join any Meeting, Webinar, or Event that the signed-in user is entitled to join, even if they take place outside of the Zoom Events platform or account.

For more information on the Zoom Events Hub license option for Liminal Apps, please see: [https://support.zoom.com/hc/en/article?id=zm\\_kb&sysparm\\_article=KB0083982](https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0083982)

## Trial Mode

If ZoomISO is not activated, it will operate in Trial Mode. While in this mode, the app is fully configurable, but ZoomISO will be unable to join Zoom Meetings, Webinars, or Events.

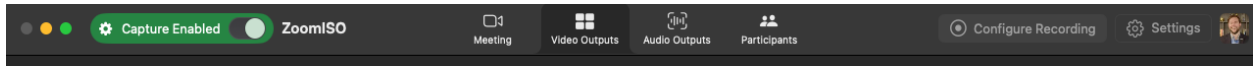
## Using the Application

At a high-level, the following process is a general approach to using ZoomISO:

1. Sign in
2. Join a meeting
3. Start the capture engine to begin working with live video
4. Create video and audio outputs
5. Assign meeting content to video (e.g., participants, screenshare, etc.)
6. [Optional] Adjust your outputs with the Output Effects feature
7. [Optional] Record your outputs using the built-in feature

**Caution: ZoomISO is a highly customizable application, so it is essential to test your exact configuration and workflow before using the app in a live production environment.**

## Global Navigation, Controls, and App Menu



The top of the app contains buttons for global app navigation and key controls. On macOS Tahoe, these options will have a different styling based on the Liquid Glass design system.

## Window Management

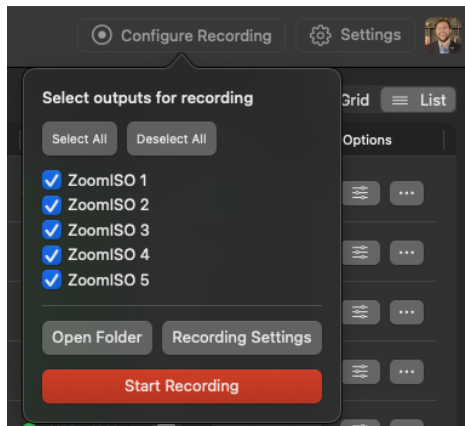
The 3 standard macOS window management buttons are present at the top left of the app, with the exit button disabled to reduce the risk of one-click exits. Additionally, while minimizing the ZoomISO window is possible, it is not recommended for best performance.

## Capture Engine

The Capture Engine toggle is a contextual button that allows you to start or stop receiving raw data from Zoom via either Recording or Live Streaming “Capture Mode” options, which are configured in the settings and accessible via the gear icon. If you don’t have the necessary permissions, you will be prompted to request them from the meeting host. See the “Understanding Capture Mode” section for more details.

## Global Navigation

You can access the Meeting, Video Outputs, Audio Outputs, and Participants outputs via buttons at the top of the app.



## Recording Controls

There is a contextual button for controlling the Recording feature in ZoomISO. When recording is not started, clicking this button will open a dropdown menu where you can select which outputs to record, as well as gain quick access to relevant folders and settings. When Start Recording is clicked, the button will transition to a Red indicator showing a timer with the length of the recording and any warnings. Clicking the Stop button will open a confirmation dialogue where you can stop the recording.

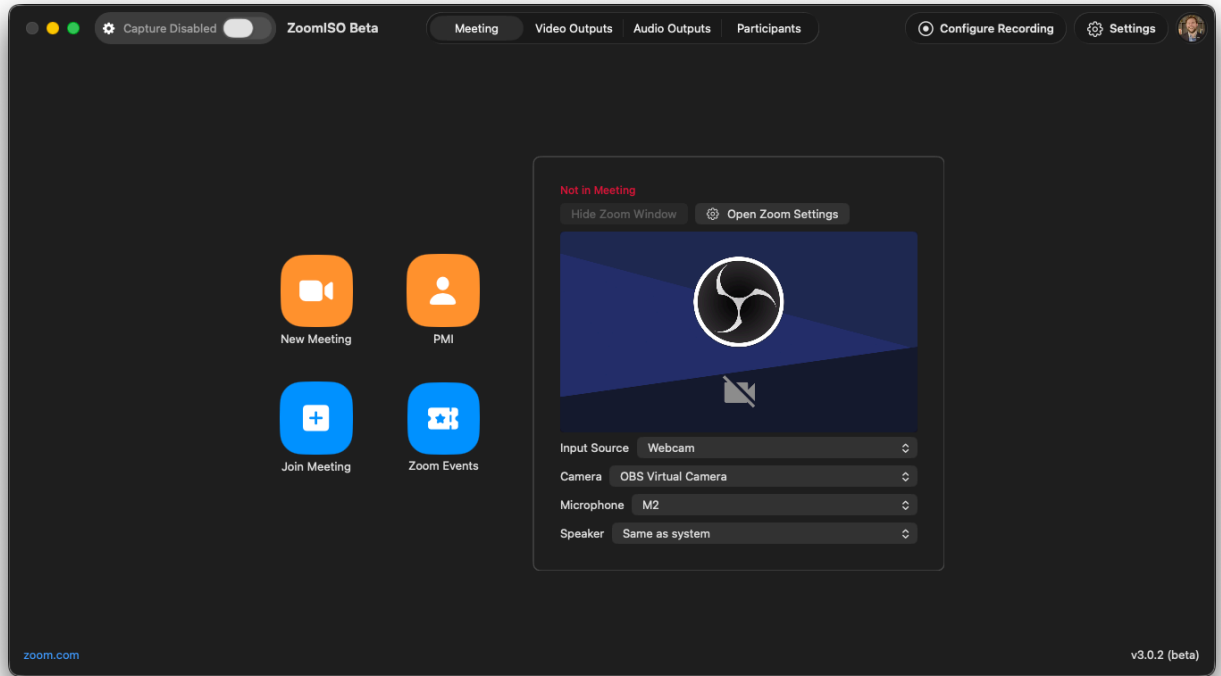
## Settings Access

The main settings window of ZoomISO is accessible via a button located next to the profile picture of the signed-in user on the top right corner of the app.

## App Menu

At the top of macOS, there is a menu bar that shows options for ZoomISO when the app is in-focus. There are several useful options in these menus, including the controls for exporting and loading app configurations, clearing the app cache, accessing the logs, and exiting the app.

## Meeting Tab

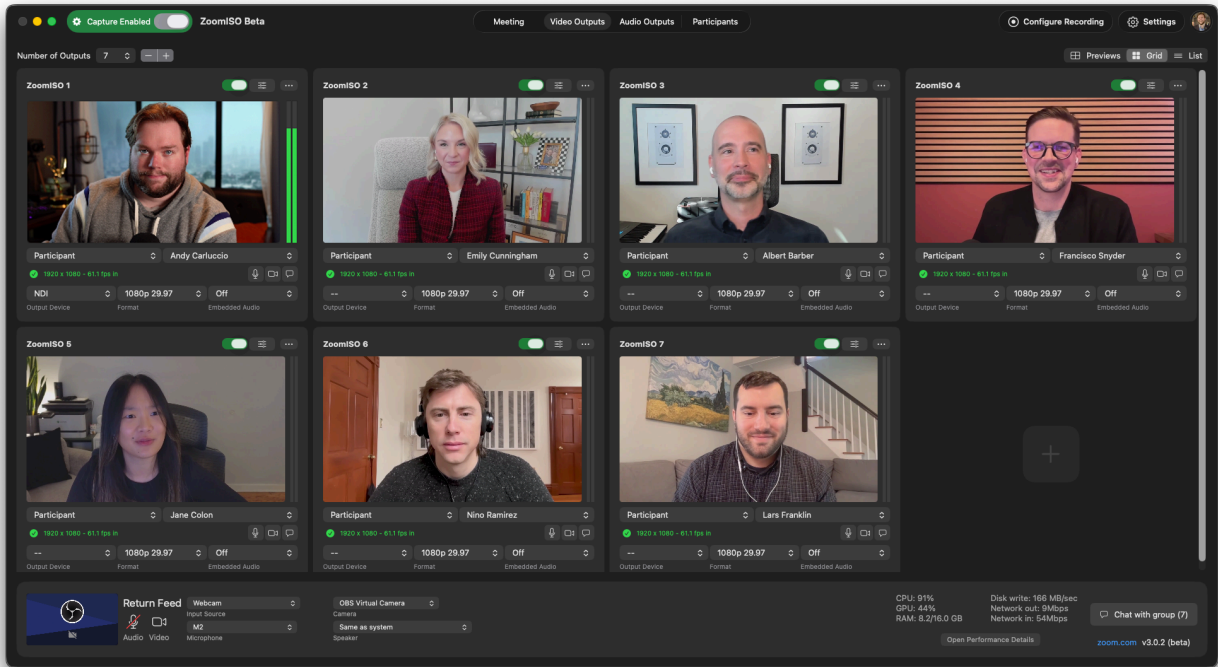


After signing into the app, you are free to join Meetings, Webinars, and Events from any account that the signed-in user is allowed to join. Start a new meeting, start your personal meeting, or join a meeting. Use the device dropdowns to quickly adjust device settings before joining the meeting. You can also open the Zoom Settings window from this tab.

Once you have joined a meeting, adjust your device settings, just as you would in a normal Zoom meeting. If breakout rooms have been enabled by the host, you can view and join breakout rooms. You can toggle the visibility of the Zoom meeting window from this tab.

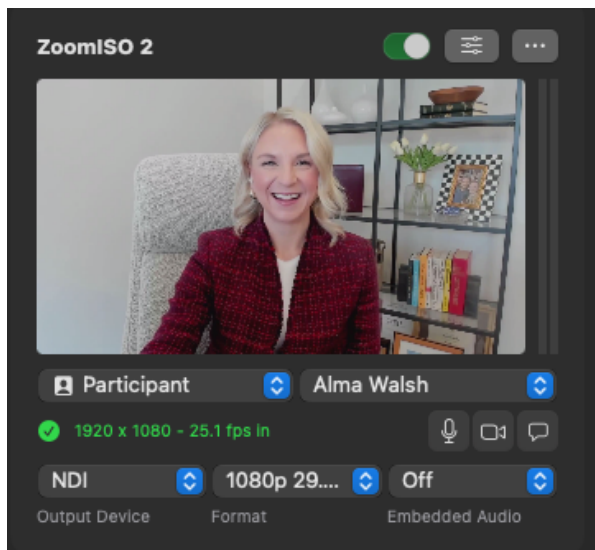
Input sources for camera and microphone can be toggled between system devices (webcams and mics), NDI, or Blackmagic Desktop Video. Direct NDI and Blackmagic Desktop Video input act as a raw camera and mic return feed to Zoom, without passing through a virtual camera or audio device. Video previews for the return feed to Zoom can be disabled in Settings.

# Video Outputs Tab



The Video Outputs tab is where you create outputs of Zoom video content to a variety of production protocols, monitor connection quality, and access participant controls. Outputs are added or removed via the Number of Outputs control at the top of the Video Outputs tab or via the contextual Add buttons. A view selection control is available on the Top Left of the video outputs tab.

## Grid View



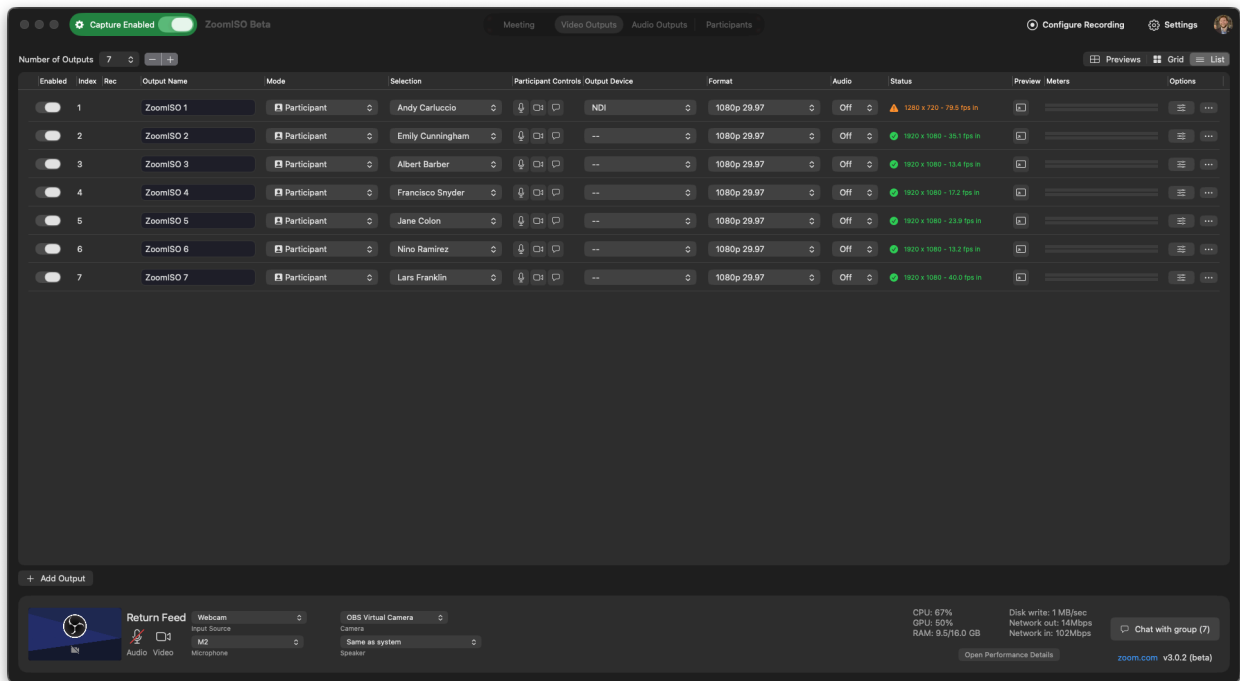
ZoomISO v3 introduces a grid layout with live video previews and embedded audio meters directly alongside the output controls. Grid View is accessed via a toggle on the top right of the Video Outputs tab.

At the top, you can view the name, toggle the output on or off, access Output Effects, and open a drop down to access additional buttons for duplicating, deleting, or renaming an output. Under the video preview, there are controls for selecting an Output Mode to specify what type of meeting content to access and, if applicable, a second drop down for selecting the specific

content source from that category (e.g., a specific participant). Under the content controls, there is a status readout that displays the **incoming** quality from the Zoom Cloud for the selected content. There are also quick actions for muting / unmuting, turning video on/off, and sending a chat message. These actions will only work if the meeting allows these features to be active, and the ZoomISO user has sufficient privileges.

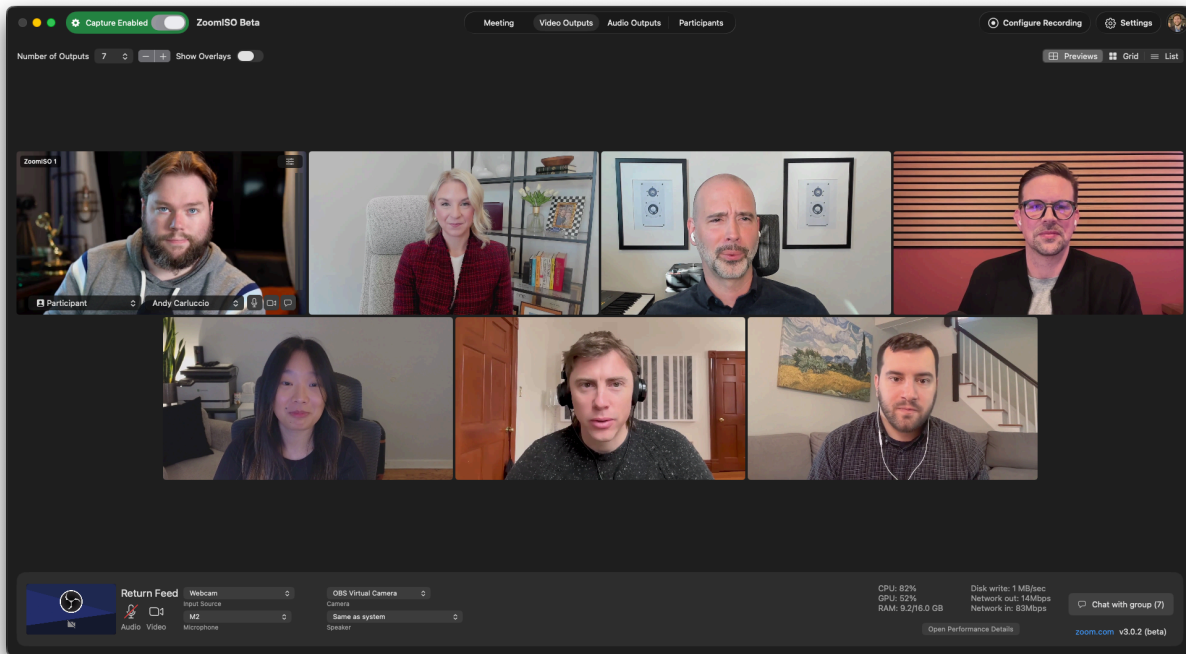
At the bottom of the output card are controls for **outgoing** content. Output Device allows you to select from a variety of production protocols including NDI, Syphon, System Displays, SRT (if channels are configured), and Blackmagic Desktop Video output products (if connected). The Format option allows you to select a frame rate and resolution for the output. **ZoomISO should always output at the exact resolution and frame rate specified here, even if the incoming content from Zoom is variable. ZoomISO will dynamically scale up or down and repeat or drop frames as necessary to ensure that the outputs are always the correct format.** Finally, there is a setting for enabling Embedded Audio if the Output Device supports it. This content can be Off, ISO (just the selected content), or Mix (all meeting content, minus ZoomISO's own mic return).

## List View



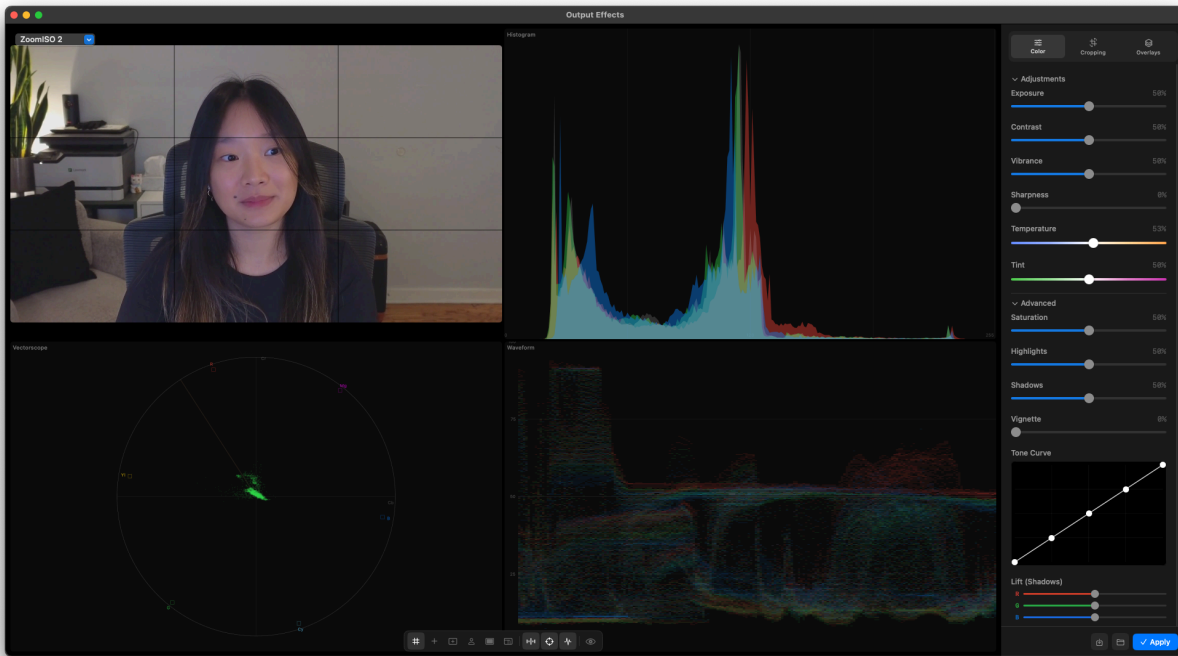
ZoomISO v3 has an alternative layout for Video Outputs called List View that presents the same information and controls in a compact table. This view mode is accessed via a toggle on the top right of the Video Outputs tab. The List View does not render previews persistently, so it is more computationally efficient than Grid View. To see a thumbnail preview for a specific output, click the Preview button in the row.

## Previews View



ZoomISO v3 has an additional layout for Video Outputs called Previews View that lays out a set of video previews in a scale-to-fit mode with overlays for controlling the output parameters. This view mode is accessed via a toggle on the top right of the Video Outputs tab.

## Output Effects

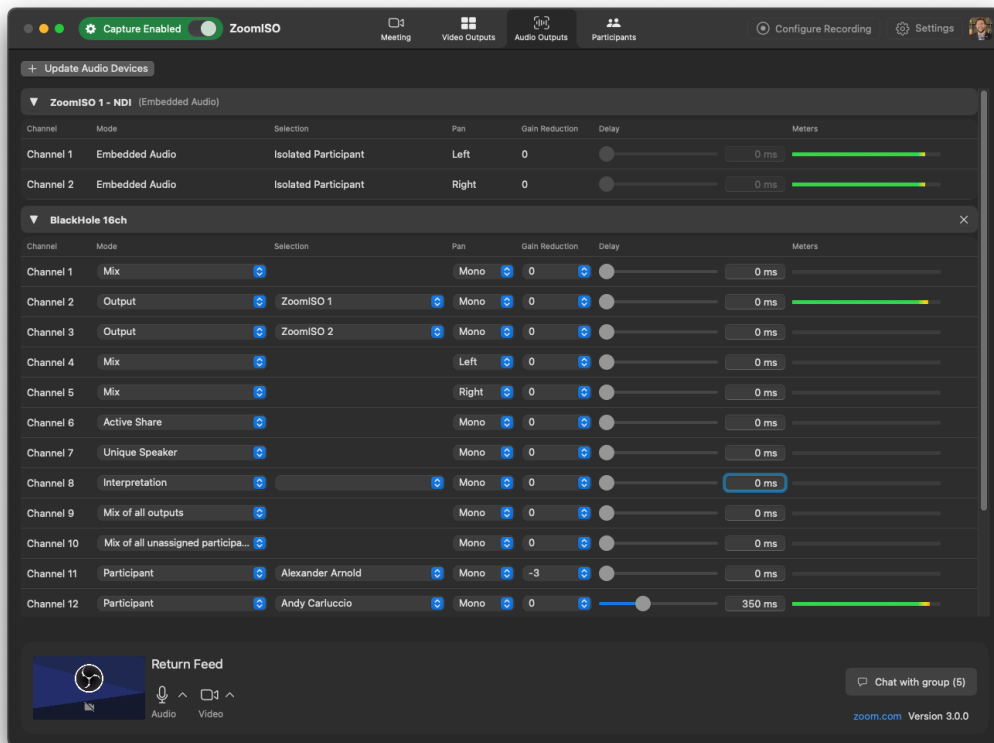


ZoomISO v3 can modify the video of any output with a helpful set of adjustment tools, overlays, and scopes in a window called Output Effects. The entry point to summon the Output Effects window is the 3 slider icon on each output card or at the end of the output row. You can also open Output Effects by double clicking on a video preview in Grid View. Inside the Outputs Effects window is a selection button that allows you to preview different outputs in the app and open their controls. At the bottom, there are buttons that control the layout of the preview area, including the visibility of frame guides and scopes.

On the right side of the Output Effects window, there are controls for modifying the video output. Using the options in the Color tab, you can adjust exposure, contrast, color, and more with a variety of tools. You can also apply pan and cropping to an output via the Cropping tab, which allows you to preview either the cropped content or the full image with a box highlighting the cropped region. If the transformation values exceed the bounds of the video stream, black pixels will be used to pad the content. The Overlays tab can be used to create layers of adjustable content positioned on top of the output video stream. Name tags can be rendered with customizable fonts, positions, sizes, and backgrounds with the ability to automatically populate based on the participant's display name or populate manually from a name and subtitle field. Images can be uploaded from disk and repositioned, layered, and scaled, including support for alpha channel transparency.

When you are ready to send your adjustments to the live output, click the Apply button at the bottom right of the app (or enable Auto-apply). You can also reset your changes, or save your configuration to a file, using the controls in the bottom right of the Output Effects window.

## Audio Outputs Tab



Audio transmission routing for ZoomISO is viewed and managed via the Audio Outputs tab, which displays tables of audio devices with controls for managing sources, panning, gain reduction, and delay. There are also preview meters in each row, which are helpful for confirming audio is present on a given channel.

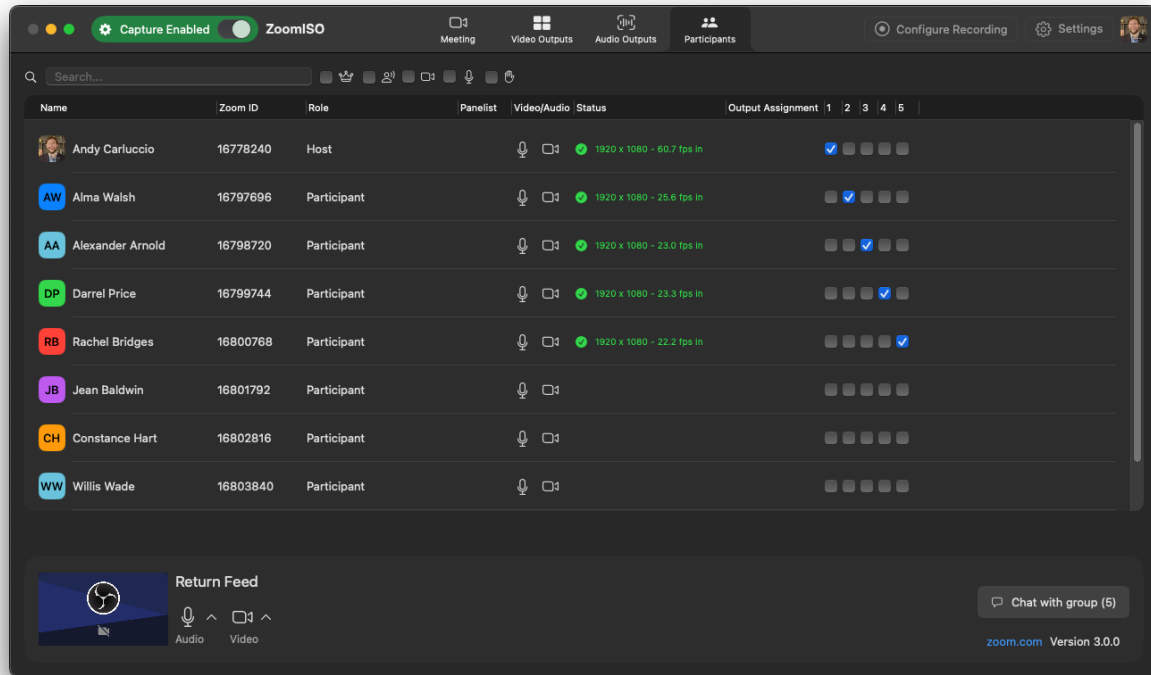
## Adding Audio Devices

ZoomISO can import any multi-channel audio output device that is installed on macOS, including Dante Virtual Soundcard, Loopback, and Black Hole. In ZoomISO v3, multiple devices can be added simultaneously for even greater routing possibilities. To manage which audio devices are enrolled, click the Plus button at the top of the page and select one or more devices to add or remove via the pop up. Devices can also be removed via the X symbol.

## Embedded Audio

If a video output has been configured to include audio, an embedded audio device entry will be automatically created on the Audio Outputs table. Embedded audio can also have gain reduction or delay applied from the configuration columns.

# Participants Tab



The Participants Tab displays a routing table where you can quickly search for and assign participants to specific outputs.

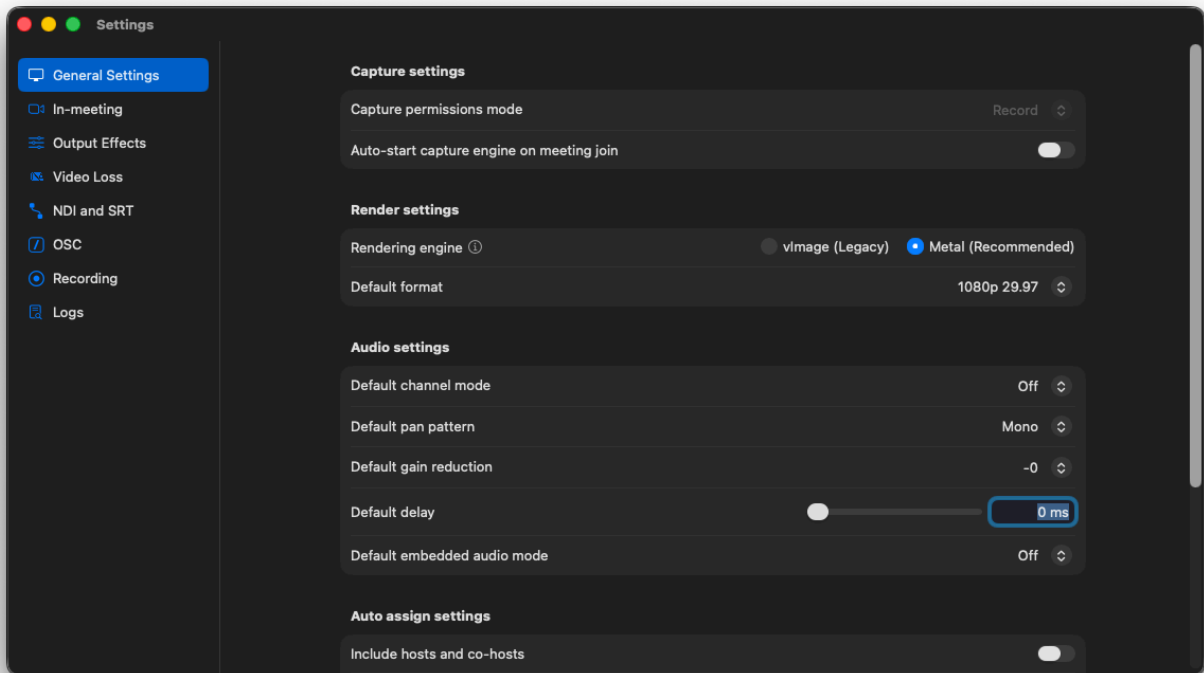
The search bar at the top of the page allows you to type in the name of a participant to find them. Next to the search bar, there are a set of icons representing different filters that can reduce the options in the list.

The routing table contains a row for each participant in the meeting, displaying their profile image (if available) as well as their display name. Clicking a box in Output Assignment will route that participant to the corresponding output. While one participant can be assigned to multiple outputs, an output can only be routed to one participant at a time. When a participant is routed to an output, their Status column will populate with their incoming resolution and frame rate.

## Settings Overview

The Settings window can be opened by clicking the Settings button at the top right of the main ZoomISO window. There are several categories for settings, accessed via navigation on the left-hand side of the Settings window.

### General Settings



The General Settings category contains controls for Capture, Rendering, Audio, and Warnings.

### Capture Mode

Capture Permissions Mode allows you to toggle between the Recording and Live Streaming modes to trigger consent for capturing participant video streams. You can also set the output pipeline to start automatically when joining a meeting.

Capture Mode is a choice that allows you to define how ZoomISO will get permission to obtain the raw video and audio streams of the Zoom participants. The choice of Capture Mode is an important part of accurately reflecting the purpose of the raw data access and gaining the permission to use it. At this time, two Captures Modes are supported:

1) Recording (default) - The meeting will use Computer Recording permissions and notifications. Participants will get a notice that the meeting is being recorded. Computer recording must be enabled for the call in order for this Capture Mode to work properly. Using Recording Capture

Mode will not actually record the call inside of ZoomISO. This Capture Mode is not available when Cloud Recording is active.

2) Live Stream - The meeting will use Live Streaming permissions and notifications. Participants will see a badge that will provide information on ZoomISO' ability to capture and export audio and video content from the call. This Capture Mode is not available in Breakout Rooms.

If you attempt to start the Capture Engine without the necessary permission for the selected Capture Mode, and you are not the host of the call, ZoomISO will invite you to request the required permission from the host. If you trigger this request, the host will receive a pop-up asking them to grant the requested permission. If the host accepts the request before it expires, ZoomISO will start the Capture Engine

## Render Settings

The render settings control the processing of video inside ZoomISO.

The engine selection allows you to select between Metal (default, recommended) and vImage (legacy). The Metal engine primarily utilizes the GPU with hardware accelerated processing whereas vImage mode primarily utilizes the CPU with software-based vector image processing. Some features may be restricted in vImage mode.

The Default format selection determines what frame rate and resolution to use when creating a new output. Unlike software-based outputs, please note that some outputs, like Blackmagic Desktop Video products, have a predetermined list of available formats, so ZoomISO will try to match this selection to an available hardware output profile if it can find one.

## Audio Settings

The audio settings have a list of default values that can be set to control how rows of a new audio output device will be automatically configured when imported into ZoomISO.

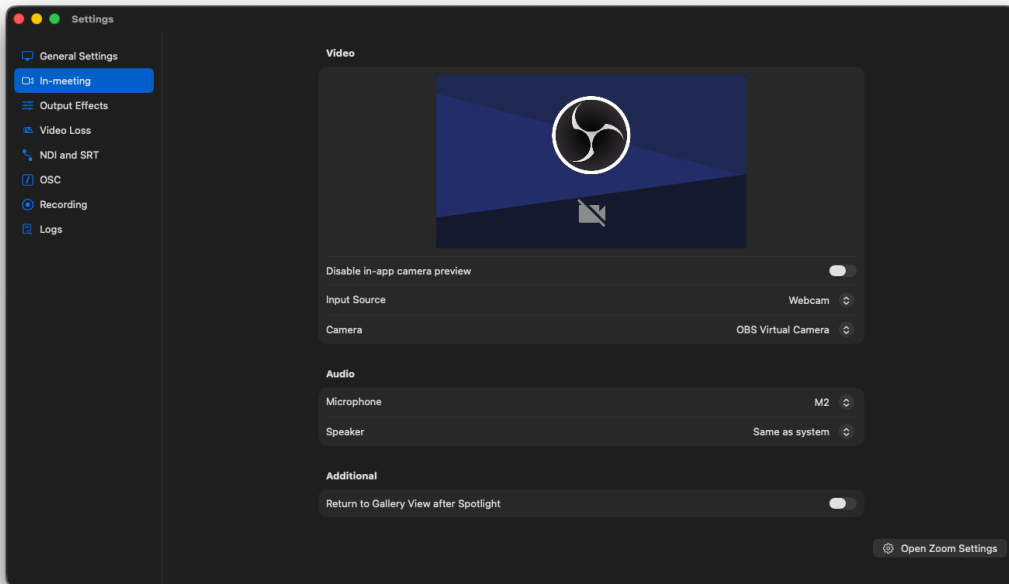
## Auto assign settings

These settings manage the behavior of the Auto Assign feature, which allows participants to be automatically routed to Outputs based on meeting certain criteria. Certain participants can be included or excluded from eligibility for automatic output routing based on criteria such as their in-meeting role or camera status. Participants can also be automatically evicted from outputs using Auto mode if they subsequently lose their eligibility via the continuous evaluation setting.

## Interface settings

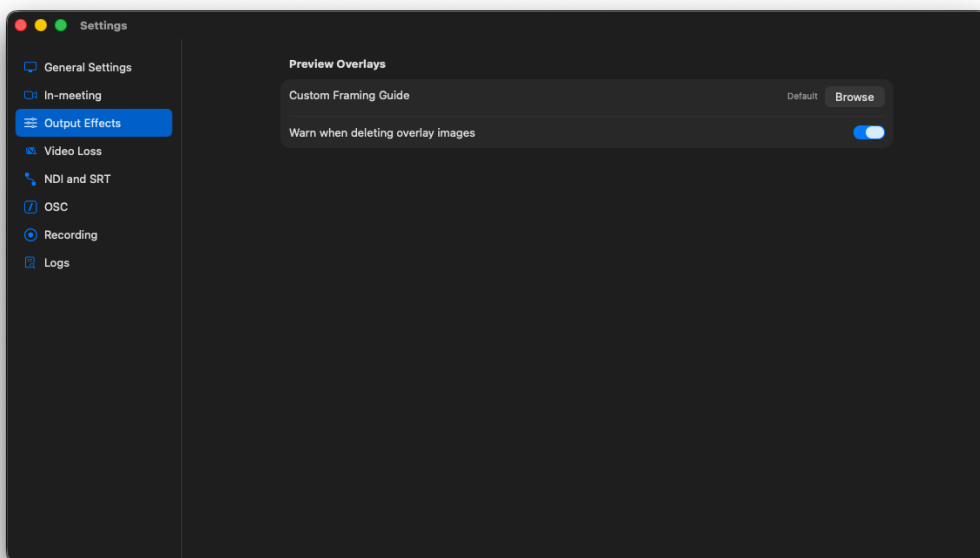
These settings control the availability of the system performance summary and a warning when reducing output count. If the system performance details are disabled, they will not be calculated in the background, and any in-progress capture of performance data will be stopped.

## In-meeting Settings



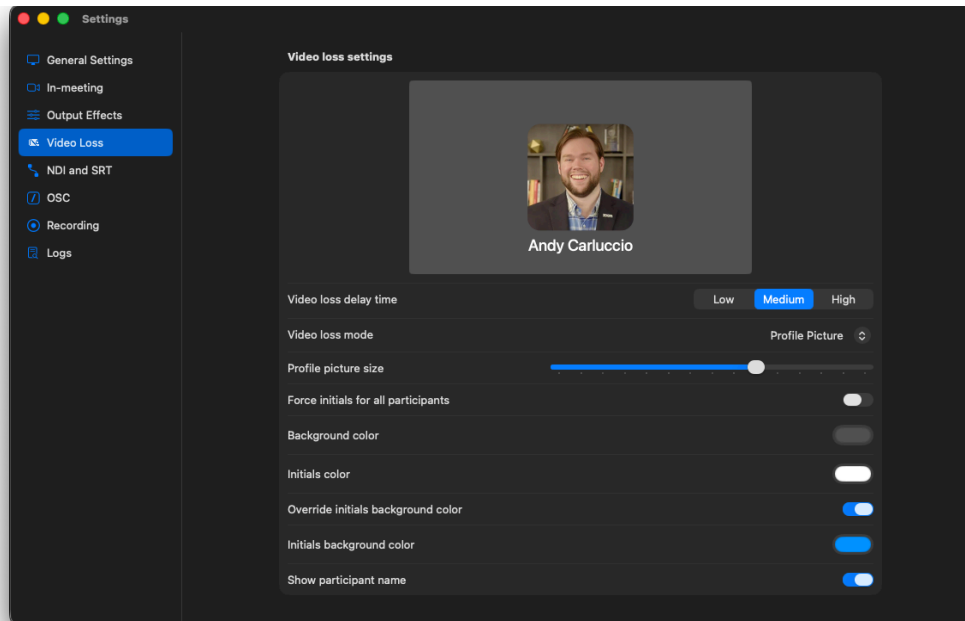
The In-meeting Settings section contains controls for adjusting the camera, microphone, and speaker to use with Zoom. This section also has a shortcut to reaching the Zoom settings menu and a toggle for disabling video return previews.

## Output Effects Settings



The Output Effects settings tab contains controls that can replace the app default frame guide image with a custom one and set a warning when deleting overlay images.

## Video Loss Settings

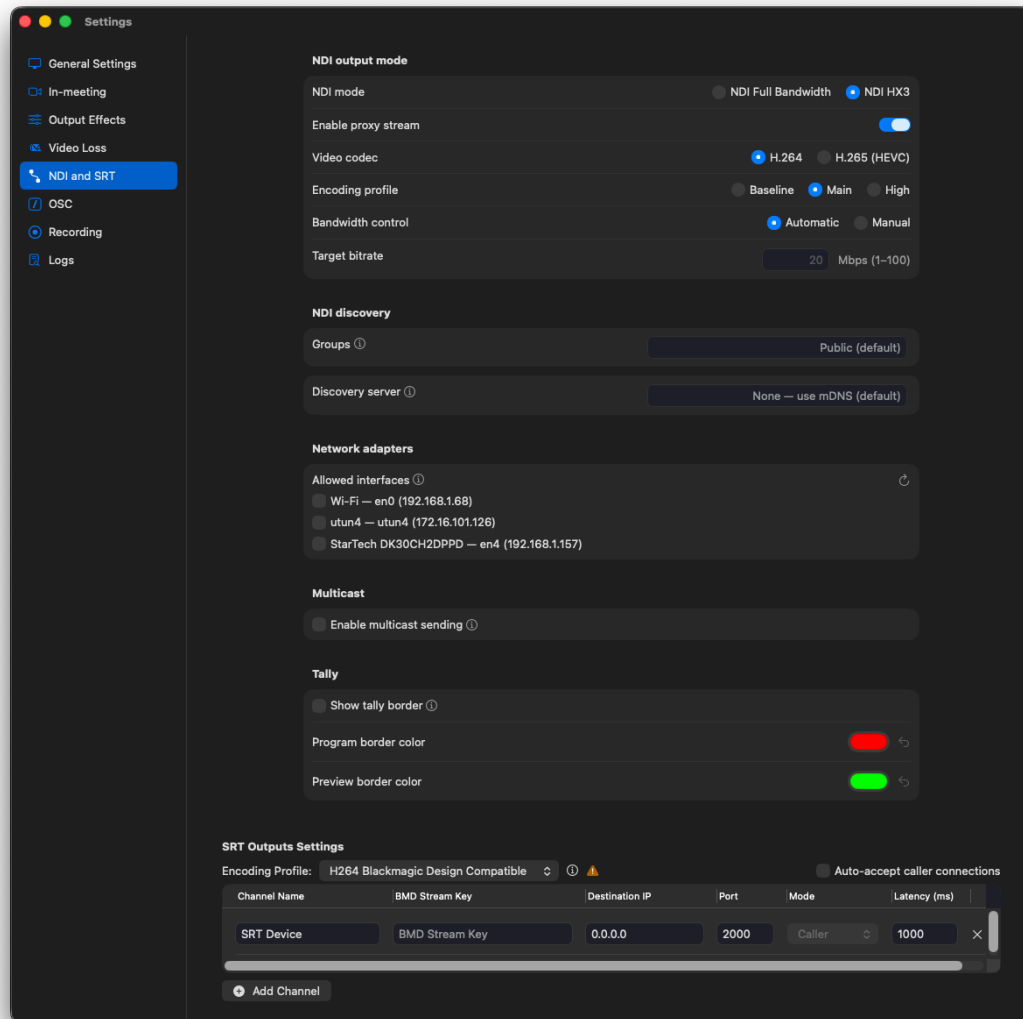


The Video Loss settings control what should happen when a signal from Zoom is unavailable. The top of this tab presents a realtime preview of the expected signal when the Video Loss mode is activated.

The delay time determines how long ZoomISO should wait for live video to return before switching to the Video Loss Mode content. This timer will be skipped if the video has been stopped for a known reason, such as the participant turning off their camera, leaving the meeting, etc.

The available Video Loss Mode choices determine the behavior of the output under these conditions, for example, displaying a user-defined image, freezing, going to black, going to color bars, or going to a custom profile picture layout. When using the profile picture mode, additional settings are revealed for configuring the design and layout of the output, which will be unique to each participant based on their name, initials, and image. There is also a toggle for rendering the name of the output on video loss content.

## NDI and SRT Settings



These settings control the AV-over-IP settings for the Network Device Interface (NDI) and Secure Reliable Transport (SRT) protocols.

### NDI Settings

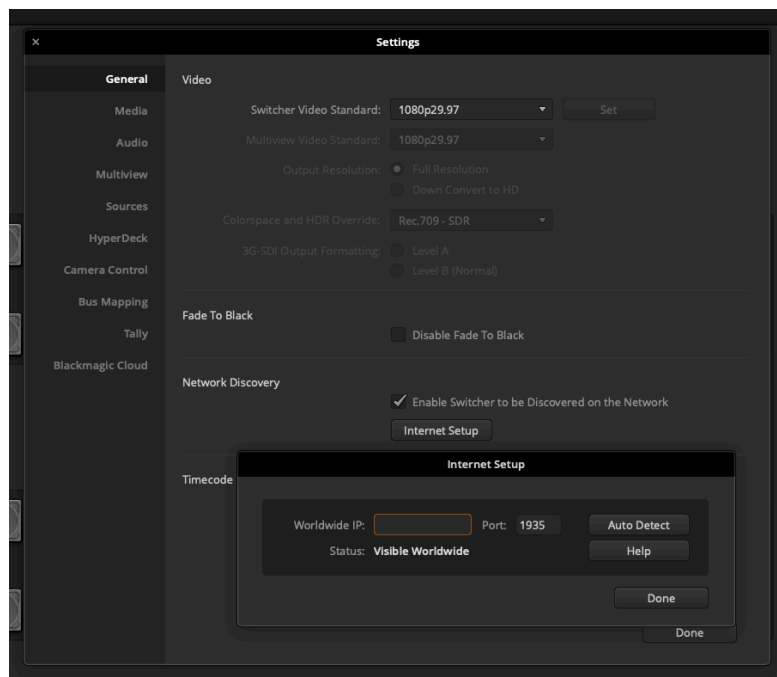
NDI can be rendered as NDI Full Bandwidth, which uses the SpeedHQ codec, or NDI HX3 which allows you to select H264 or HEVC as the codec. When operating in NDI HX3 mode, the video will be compressed via Apple Silicon's onboard video encoder, whereas SpeedHQ will be rendered on the CPU. Additional settings are exposed when NDI HX3 is selected for customizing the encoding and bandwidth usage. If automatic bandwidth control is selected, telemetry from Zoom and the NDI transmitter will back-propagate to the hardware encoder to optimize its settings. In manual mode, a specific target bitrate is provided by the user.

NDI also has advanced network traffic controls for groups, discovery servers, network adapters, and multicast. There is also a control for a Tally indicator that can set customizable border colors

on the Outputs tab for NDI outputs that are routed to a preview or program bus on a receiver application. Please refer to the NDI website and technical paper for more information on configuring an NDI network for optimal performance and reliability.

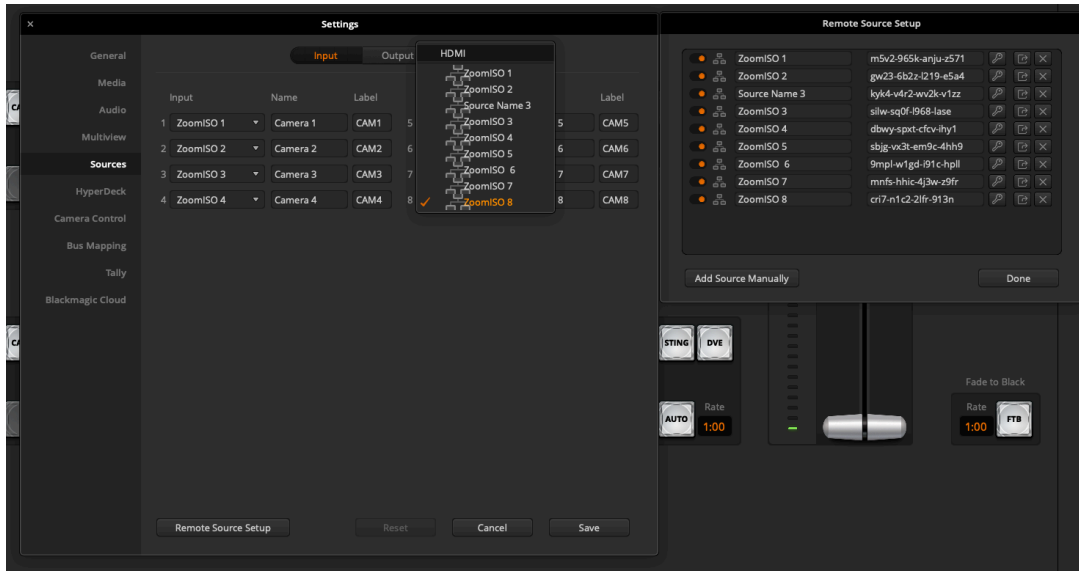
## SRT Settings

The SRT Settings allow you to create a table of channels with definable network parameters. You can select a preferred hardware-accelerated video codec to encode alongside AAC audio, which will be transmitted as a MPEG2-TS UDP stream via SRT. ZoomISO can operate in Caller, Listener, or Rendezvous handshake mode, and can be set to automatically accept incoming caller connections.



*ATEM Software Control - Network Discovery Setup*

ZoomISO also supports special profiles for Blackmagic Design products that support Streaming Bridge technology such as the ATEM Mini Extreme ISO G2 and the ATEM Television Studio HD8 ISO. When using a Blackmagic Design profile, SRT settings will be adjusted for compatibility and use the Stream Keys (accessible via ATEM Software Control) which allow certain channels of eligible Blackmagic Design devices to substitute hardware inputs for remote network streams via SRT.

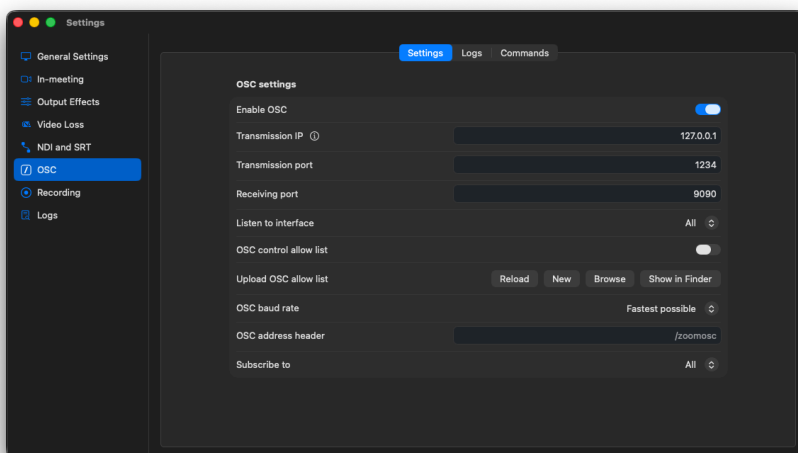


ATEM Software Control - Source input selection and Remote Sources setup for Stream Key list

Please note that using Blackmagic Design does not officially support 3rd party network stream encoders and requires an exact match between the resolution and frame rate selections of the sender (ZoomISO) and receiver. Please refer to Blackmagic Design's user manuals and website for more information on using SRT network streams with eligible products.

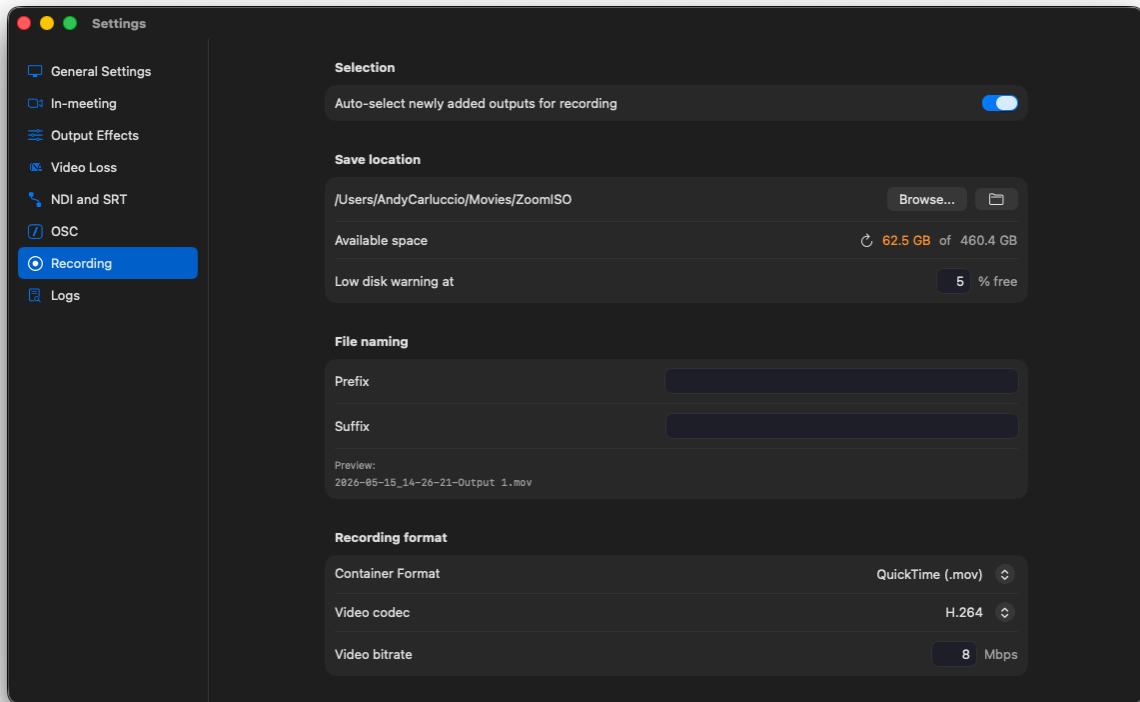
Channels created in the SRT table will appear in the Output Device dropdown when selecting a protocol on the Outputs Tab. These rows can be used to configure the network information and handshake mode. You can use the Stream ID setting to differentiate multiple SRT streams over a common port inside a supported receiver application. Please refer to Haivision's website and documentation for more information on setting up SRT.

## OSC Settings



See the [dedicated section on OSC](#).

## Recording Settings



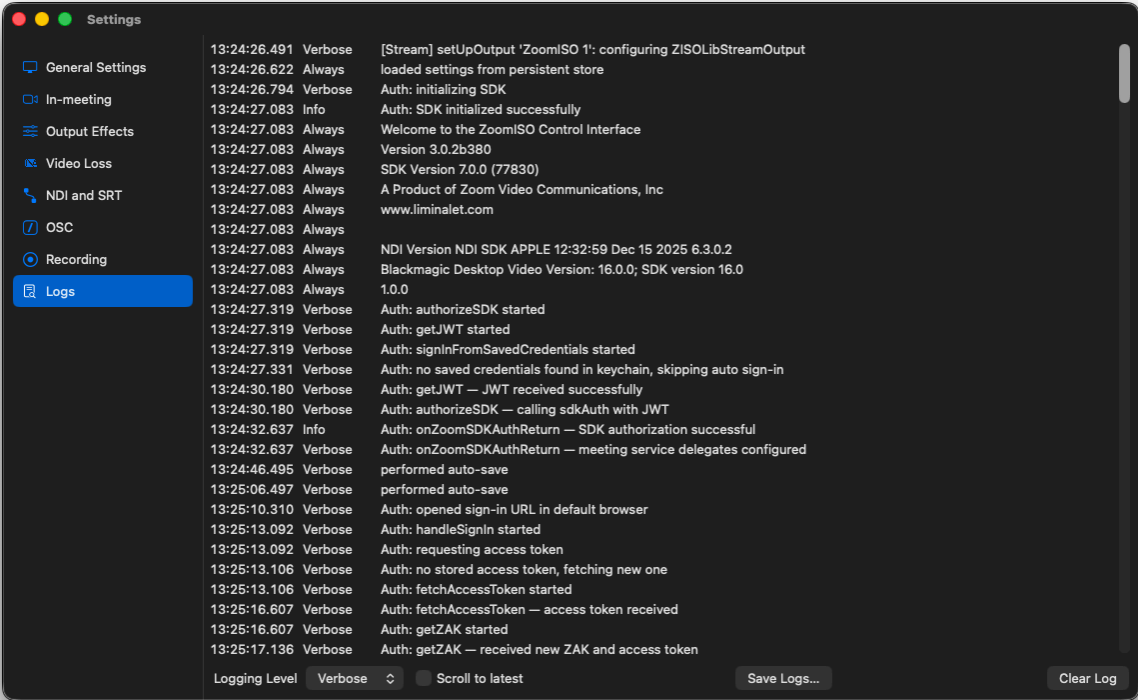
ZoomISO v3 can record its outputs directly without requiring additional software. On the Recording Settings page, you can adjust several parameters including the location, name, and format of the recordings.

ZoomISO can record in H264, HEVC, and ProRes 422 LT. Depending on the codec choice, the container can be MOV, MP4, or MXF. ZoomISO uses a 10 second segment size when recording, ensuring that even if the app or computer unexpectedly shuts down, the recording will be recoverable up to shortly before the final moment.

In addition, video editors like Adobe Premiere and Davinci Resolve can import these recordings as “growing files” that can be automatically extended on the editing timeline without re-importing them. Please note that Adobe Premiere requires using H264 in an MXF container to support this workflow. Please see documentation for these editing products for more details.

When the recording is active, telemetry from the encoder and storage system will attempt to warn you if the computer is not fast enough to ensure smooth recording or if the file system of the target disk or network drive is running out of space.

# Logs



The Logs tab shows internal information about the app in a scrollable view.

Logs are categorized and filterable in a number of severity levels: Verbose, Info, Warning, Error. Selecting a logging level will show all logs categorized with that severity level or above. Errors indicate a behavior that may create an adverse effect on the app. Warnings indicate that a behavior may or may not have a negative impact on the app functionality depending on the context. Info logs are passive notices about app functionality. Verbose logs show granular information about most app events.

Logs can be saved to a file, which is useful when working with support to diagnose an issue.

# Performance

## Minimum Requirements

ZoomISO is supported on macOS 14 (Sonoma), macOS 15 (Sequoia), and macOS 26 (Tahoe). ZoomISO is only available for Macs using Apple Silicon (M1 or later). The hardware performance requirements to operate ZoomISO is heavily dependent on the quantity of outputs created in the app as well as the protocols and formats used.

Preliminary testing has shown excellent performance even on the original M1 processor, though we suggest newer devices like the M4 Mac Mini if you will be using new features like Grid View, Output Effects, and Recording or will be doing many simultaneous outputs at high resolutions.

The Zoom Enhanced Media add-on license can significantly improve the quality and frame rate of participants and shared content, in addition to unlocking High Bandwidth Mode for more concurrent streams. Learn more about Zoom Enhanced Media here:

[https://support.zoom.com/hc/en/article?id=zm\\_kb&sysparm\\_article=KB0084387](https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0084387)

We recommend installing Blackmagic Desktop Video Setup version 15 or later for best performance and device compatibility with ZoomISO v3. The minimum requirement is 14.3.

## Best Practices

We recommend treating the computer running ZoomISO like an appliance. We advise against running other applications at the same time as ZoomISO to ensure that sufficient resources are available to the rendering process, and recommend industry-standard practices around using general purpose computers in live production environments (such as deeply testing exact use case configurations ahead of time, carefully evaluating OS updates in advance, etc.).

There are several optimization features on macOS that can interfere with live video processing in ZoomISO. We advise against minimizing the app while running live outputs. In addition, using multiple virtual desktops with ZoomISO is currently not supported, and may cause the return feed to Zoom or some of the outputs from ZoomISO to freeze.

Ensuring the Mac is adequately cooled is important when running sustained loads like ZoomISO. Passively cooled devices like the MacBook Neo or MacBook Air, or devices placed in locations without adequate airflow, are not recommended as their performance may degrade as the system heats up.

While not always required, it can be helpful to restart ZoomISO in-between sequential meetings or productions. In addition, the Clear Cache feature should be used when moving between versions of the application on the same system, or whenever there is a suspected issue.

## Zoom Resolution and Bandwidth

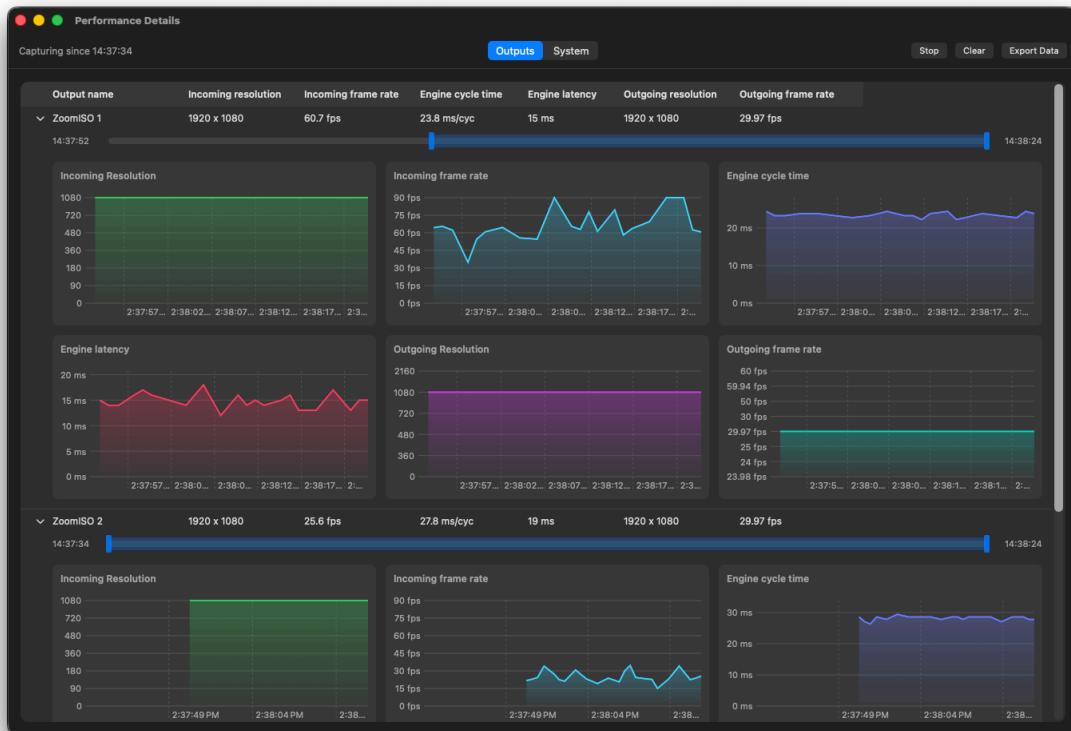
Zoom limits the bandwidth downlink from its servers to all client applications, including ZoomISO. This limit is set to 30Mbps by default. Bandwidth can be increased to 100Mbps by purchasing the Zoom Enhanced Media Add-On and activating the High Bandwidth Mode feature on the meeting owner's account.

Exceeding these limits will cause the framerate of the participants in ZoomISO to slow down significantly, or they may become transparent or black. Refer to the following guidelines for bandwidth, ensuring that the total bandwidth across all displays and UI elements of any individual ZoomISO client is below the downlink limit for your Zoom account:

1080p 60FPS: 8-12Mbps\*  
1080p 30FPS: 4-8Mbps\*  
720p 30FPS: 2-4Mbps  
360p 30FPS: 1Mbps  
180p 15FPS: 0.5 Mbps  
90p 5FPS: 0.1 Mbps

*\*If the High Bitrate feature of Zoom Enhanced Media is off, these numbers will be on the lower end of the range, and vice-versa.*

## Performance Details Feature



A new Performance Details window is an experimental new feature that has been added for reviewing the performance of individual Outputs with a suite of live statistics taken from the ZoomISO rendering engine. Incoming resolution & frame rate represent the quality of the video coming in from Zoom. Engine cycle time represents the frequency at which ZoomISO is sending new frames to the output destination service (e.g., the NDI or Blackmagic SDK). The engine latency is the amount of time between when a frame is received from Zoom and exported to an output destination service, which can be useful for synchronization adjustments. Target resolution and framerate match the selections on the Outputs page.

The Performance Details window also supports an expanded view of system resource utilization. This view allows measurement of CPU, GPU, RAM, Disk, and Network utilization, including rolling average, maximum, and minimum readings for benchmarking.

Users can start a data capture that will begin graphing all incoming metrics over time across a variety of charts, which can be inspected via a timeline scrubbing navigation control. Data from a capture session can be exported to a CSV for future review in spreadsheet software.

The Performance Details system can be enabled and disabled via the toggle in the General section of the Settings window. Using Performance Details may impact performance, especially during a data capture.

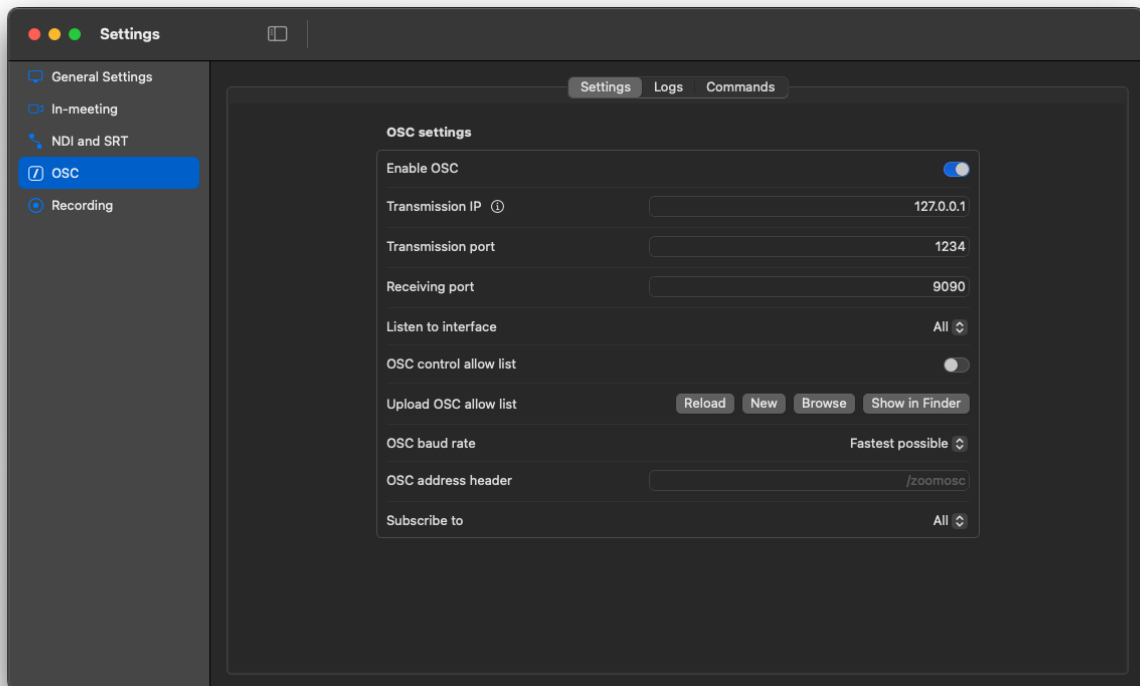
## ZoomISO OSC Control

ZoomISO has an Open Sound Control (OSC) API for integration with show control and automation systems. ZoomISO contains the full API Command List of [ZoomOSC](#), which offers both input and output commands. In addition, ZoomISO has its own commands specifically for managing its media features.

**For the full list of OSC commands, please see the documentation for ZoomOSC. This documentation will focus on the features related specifically to ZoomISO. In ZoomISO v3, targetID has been replaced with pID, and all outputs that provided an int for targetID now provide a string for pID.**

## OSC Control Settings

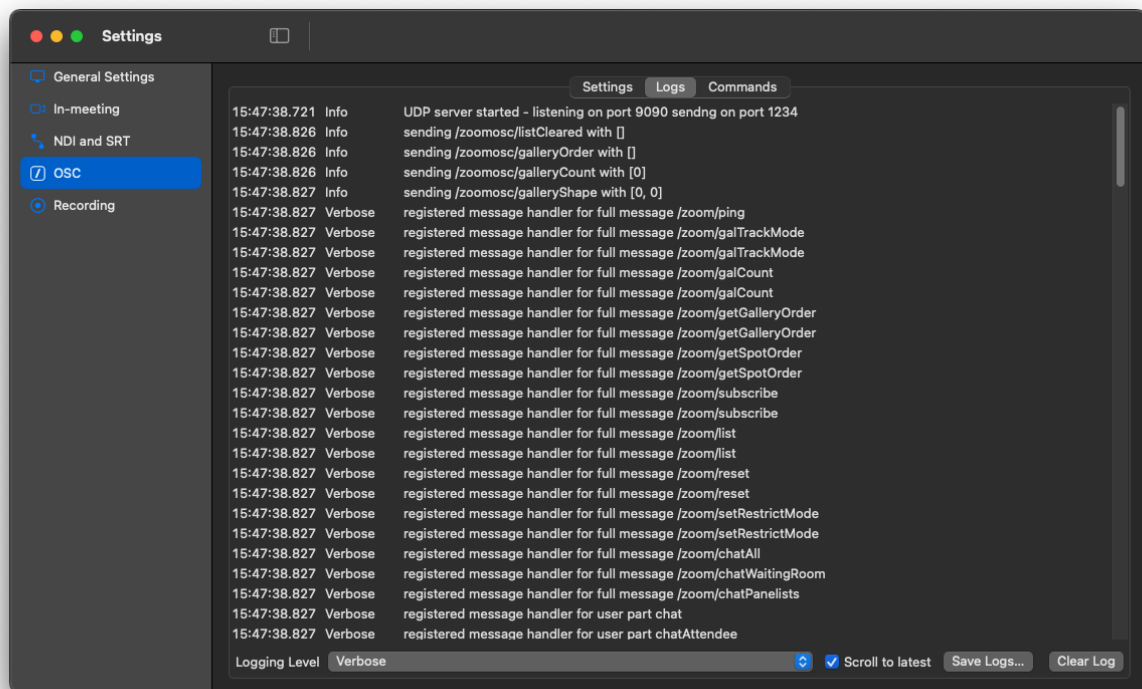
Within the Settings page of ZoomISO, you may adjust the settings for OSC control by clicking on the OSC Controls tab in the left-hand panel navigation. Below is the main Settings area for OSC:



<b>Enable OSC</b>	When enabled, the application will listen for incoming commands and transmit outgoing commands
<b>Transmission IP</b>	The IP address where ZoomISO will send outgoing commands
<b>Transmission Port</b>	The network port where the ZoomISO will send outgoing commands

<b>Receiving Port</b>	The network port where the ZoomISO will listen for incoming messages
<b>Listen to interface</b>	Select the network interface to use for incoming commands, or "All" for all interfaces.
<b>OSC Control Allow List</b>	Restrict which devices are allowed to send OSC commands to ZoomISO via a list of IP addresses. ZoomISO will only allow control from these IPs on the selected interface(s).
<b>Upload OSC Allow List</b>	Configure a .txt file containing the IP addresses to use for the Allow List, one per-line.
<b>OSC Baud rate</b>	The maximum speed ZoomISO will transmit OSC messages
<b>OSC Address Header</b>	Customize the prefix string on ZoomISO's OSC outputs to differentiate between devices sending to the same receiver
<b>Subscribe To</b>	Determine which group of participants to monitor for sending out OSC events

The Logs tab of the OSC Settings will display helpful information about the incoming and outgoing OSC traffic. There are different Log Levels available to help filter the messages as well as the ability to save and clear the logs.



The Commands tab of the OSC Controls Settings will display an interactive browser for commands available to use with ZoomISO, along with information about the syntax and functionality of each command. It will be unlocked in a future release.

## OSC Command List

For the full list of OSC commands and syntax guidance, please see the documentation for ZoomOSC. In ZoomISO v3, targetID has been replaced with pID, and all outputs that provided an int for targetID now provide a string for pID.

### Target Commands

#### Commands (User Specific)

Address	Command Payload Arguments	Category	Description
../outputISO	int outputID	Routing Command	Routes participant video to specified output, if it exists. OutputIDs begin with 1
../audioISO	int channelID	Routing Command	Routes a participant to the specified audio channel of the audio device

### Global Commands

#### Commands (User Specific)

Address	Command Payload Arguments	Category	Description
/zoom/startISOEngine		Engine Controls	Start Capture Engine
/zoom/stopISOEngine		Engine Controls	Stop Capture Engine
/zoom/requestCapturePermission		Engine Controls	Petitions the host for the permission needed for the selected Capture Mode via a pop up on

			their device
/zoom/setOutputCount	Int count	Output Controls	Set the number of video outputs
/zoom/enableOutput	int output_index OR string output_name	Output Controls	Enable an output for live video receive and export
/zoom/disableOutput	int output_index OR string output_name	Output Controls	Unsubscribe output from live video and set to Video Loss Mode
/zoom/setOutputMode	int output_index OR string output_name, string exact_name_of_output_mode	Output Controls	Set the Mode parameter for an output
/zoom/setOutputName	int output_index OR string output_name, string new_output_name	Output Controls	Change the name of an output
/zoom/setVideoLossMode	string loss_mode_name (names are Black, Freeze, Transparent, Image, Testcard)	Output Controls	Select the video loss mode by name
/zoom/addOutput		Output Controls	Add an output
/zoom/deleteOutput	int output_index OR string output_name	Output Controls	Delete an output
/zoom/setAudioMode	int output_index OR string output_name	Output Controls	Set the Mode parameter of an audio output
/zoom/getEngineState		Data Accessors	Send a request for the state of the engine
/zoom/getAudioLevels		Data Accessors	Request a series of packets describing the level of each audio channel
/zoom/getOutputRouting		Data Accessors	Request a series of packets describing the configuration of each video output
/zoom/getAudioRouting		Data Accessors	Request a series of packets describing the configuration of each audio output

## Outputs

### Output Commands.

Address	Output Arguments	Description
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/zoomosc/engineState	int 0 (disabled) OR 1 (standing by) OR 2 (enabled)	Engine State Code
/zoomosc/audioLevels	int channel_index, int level (0 to 255)	A series of packets displaying the audio level for each output
/zoomosc/outputRouting	int num_outputs, int this_output_num, int enabled, string output_name, string mode, string selection, string resolution, string embedded_audio_info, string status	A series of packets describing the configuration of each video output
/zoomosc/audioRouting	string audio_device_name, int num_channels, int this_channel, string mode, int gain_reduction, string selection, int audio_level	A series of packets describing the configuration of each audio output
/zoomosc/capturePermissionGranted		Returns when permission is granted by host for Capture Mode