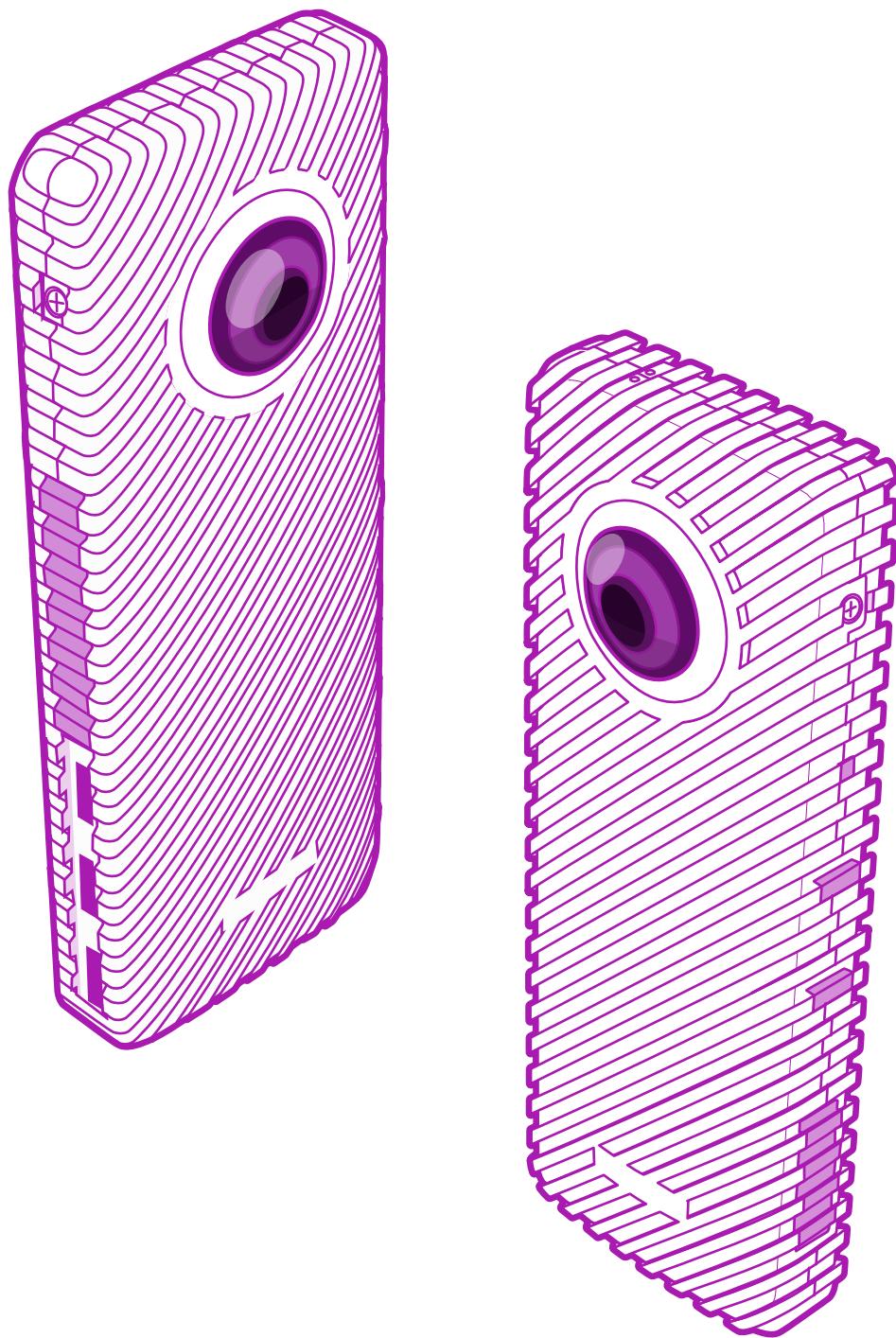


RICOH R Development Kit

The 24-Hour Spherical Live Streaming Camera

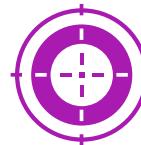
360° Live Streaming Guide Book



Live Streaming



Professional



Computer Vision



Surveillance



Telexistence

Preparing to Live Stream in 360°

YouTube Account

Preparing to Live Stream

Preparing an Encoder

Streaming with OBS Studio

About OBS Studio

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Setting Up Streaming

Streaming

Streaming Using Cerevo LiveShell X

Preparing LiveShell X

Streaming from LiveShell X

Using RICOH R Console

Preparing to Live Stream in 360°

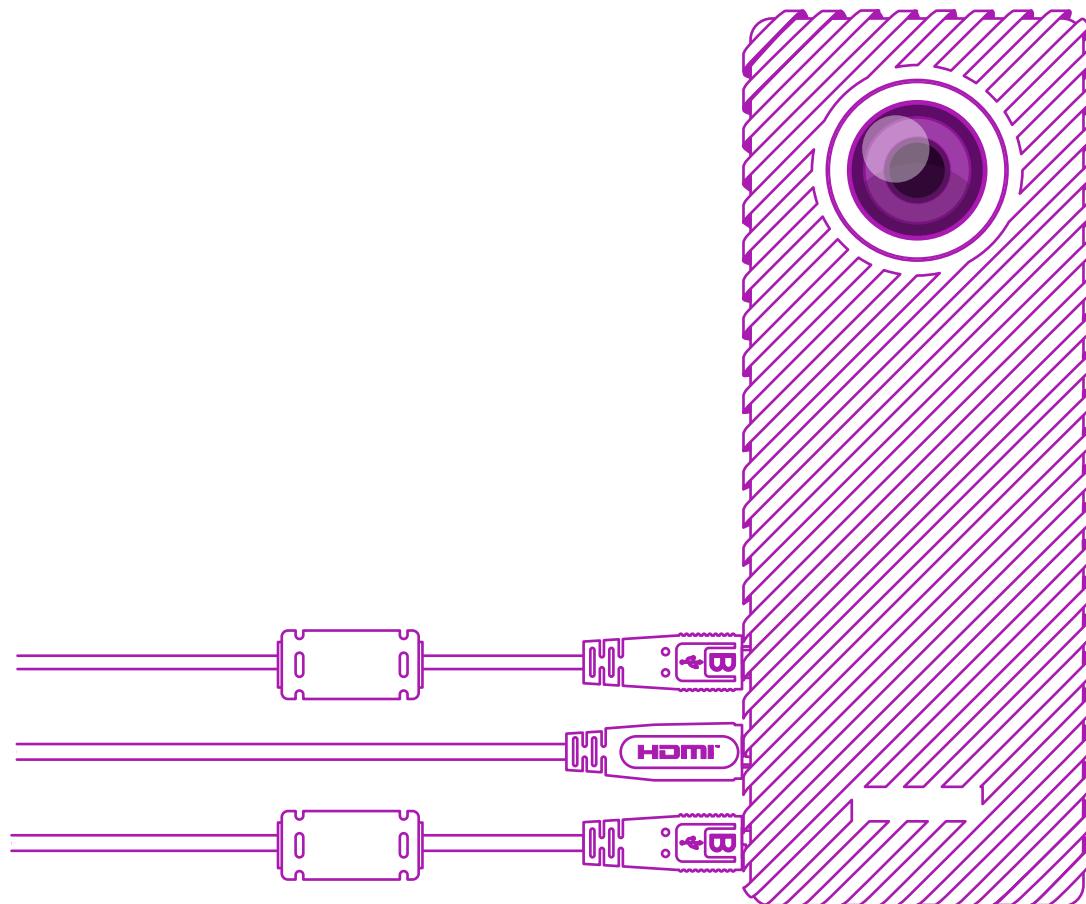
● Prepare a live streaming service

There are several services that support 360° live streaming.

While the number of methods is increasing, this manual describes live streaming using RTMP (primary server) on YouTube as an example method.

This method can also be used with other services. For example, the same information can be entered into Facebook Live as well.

For more information about how to use the RICOH R Development Kit, see the online manual.
<http://ricohr.ricoh/ja/manual/>



Preparing a YouTube Account

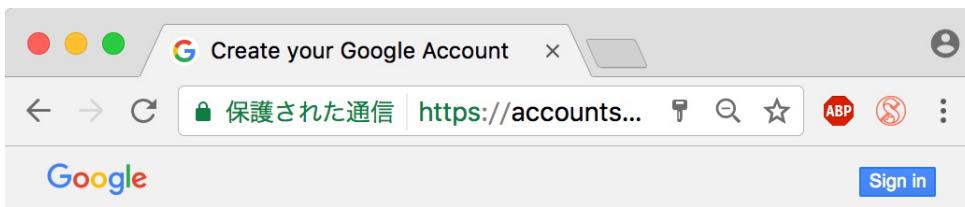
● Create a YouTube account

Go to the Youtube website and click [Sign In] or your account icon on the top right of the screen. YouTube and Google accounts are linked so create a Google account as well if necessary.

A screen similar to the one below will appear. Click [Next step].

Agree to the Privacy and Terms that appear.

If you already have an account, proceed to the next page. For more information, see YouTube Help: <https://support.google.com/youtube/answer/2474026?hl=en>



Create your Google Account

One account is all you need
One free account gets you into everything Google.



Take it all with you
Switch between devices, and pick up wherever you left off.



Name
 First Last

Choose your username
 @gmail.com
[I prefer to use my current email address](#)

Create a password

Confirm your password

Birthday
 Month Day
 Year

Gender
 I am...

Mobile phone
 +81

Your current email address

Location
 Japan (日本)

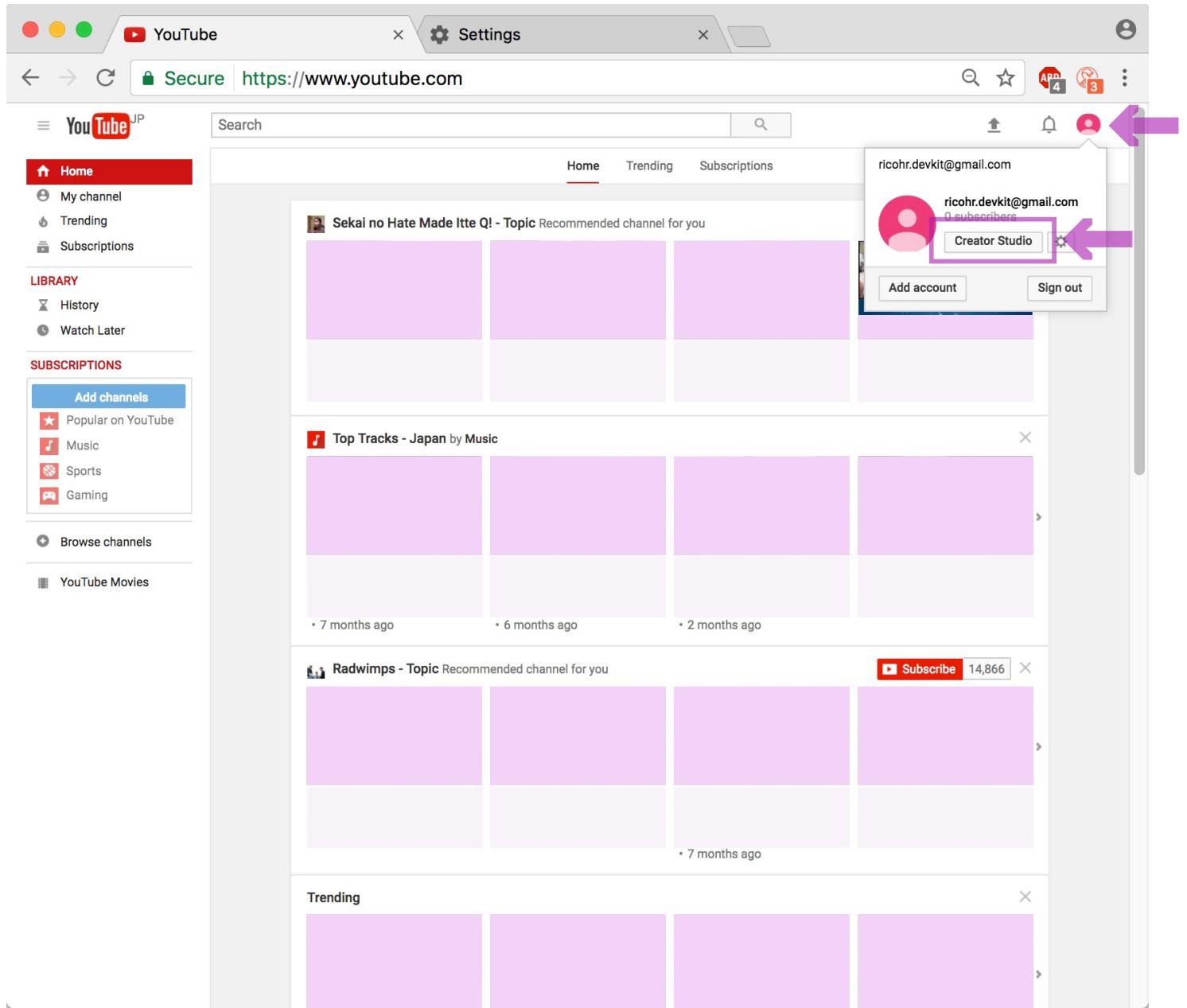
Next step ←

[Learn more](#) about why we ask for this information.

Preparing a YouTube Account

● Check your YouTube account

Once you successfully create an account and go to YouTube, your account will appear in a similar way to the screenshot below. To live stream, click the [Creator Studio] button.

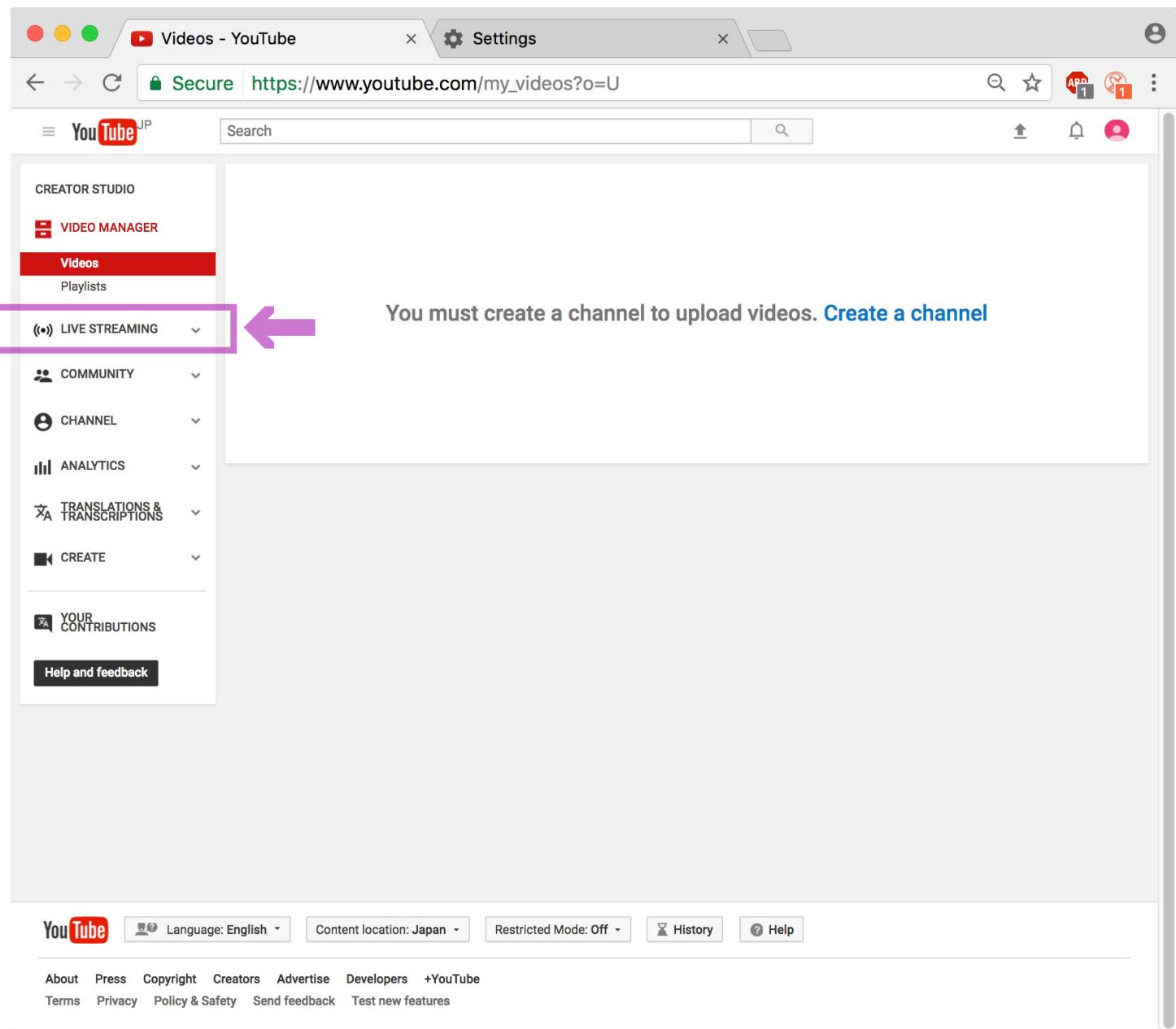


Preparing to Live Stream

● Start preparations to live stream

In [Creator Studio], a screen similar to the one below will appear.

On the left side of the screen, click [LIVE STREAMING].



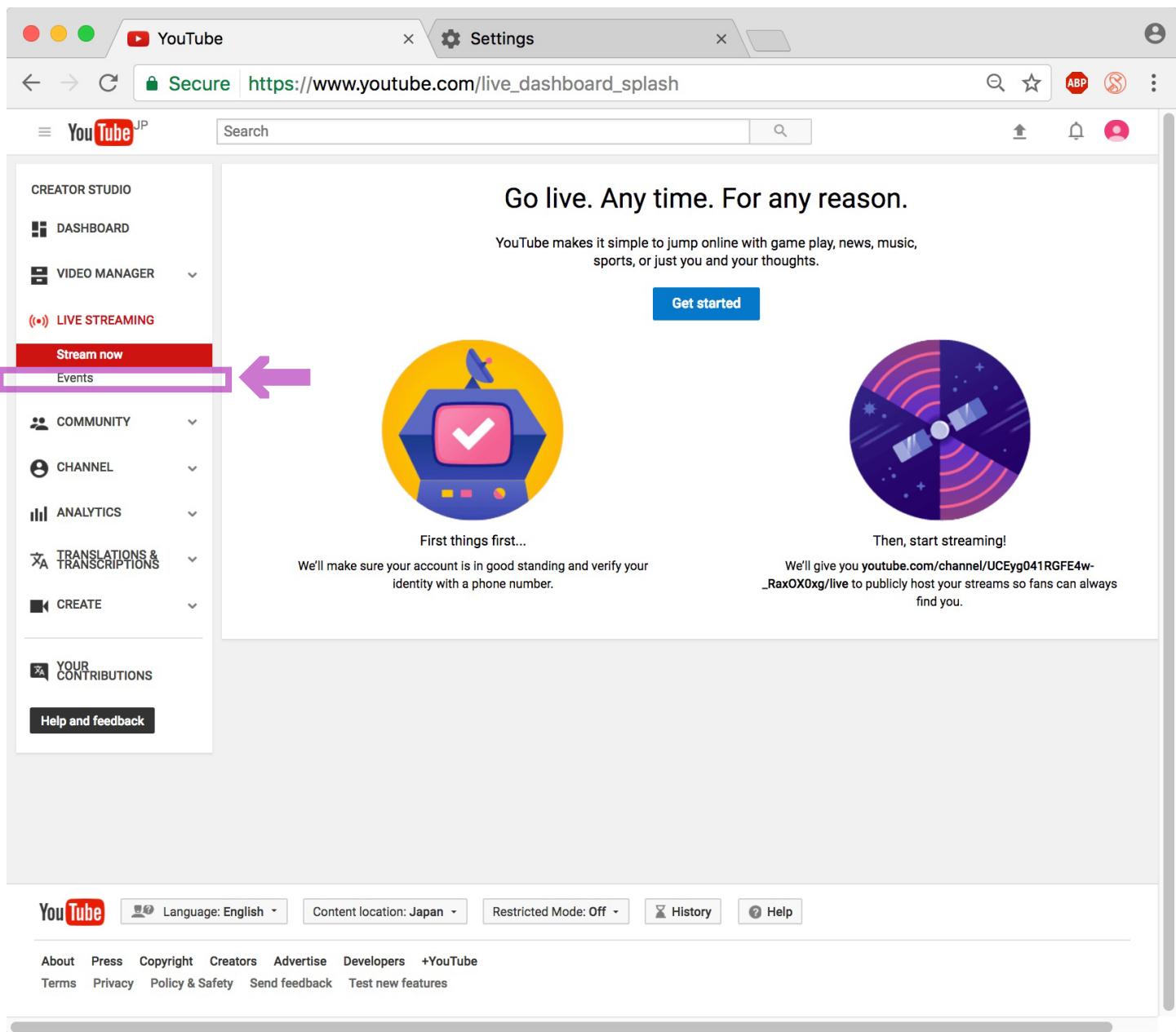
Preparing to Live Stream

● Start preparations to live stream

A screen similar to the one below will appear.

[Stream now] is for normal live streaming and not 360 degree streaming so it will not be used here.

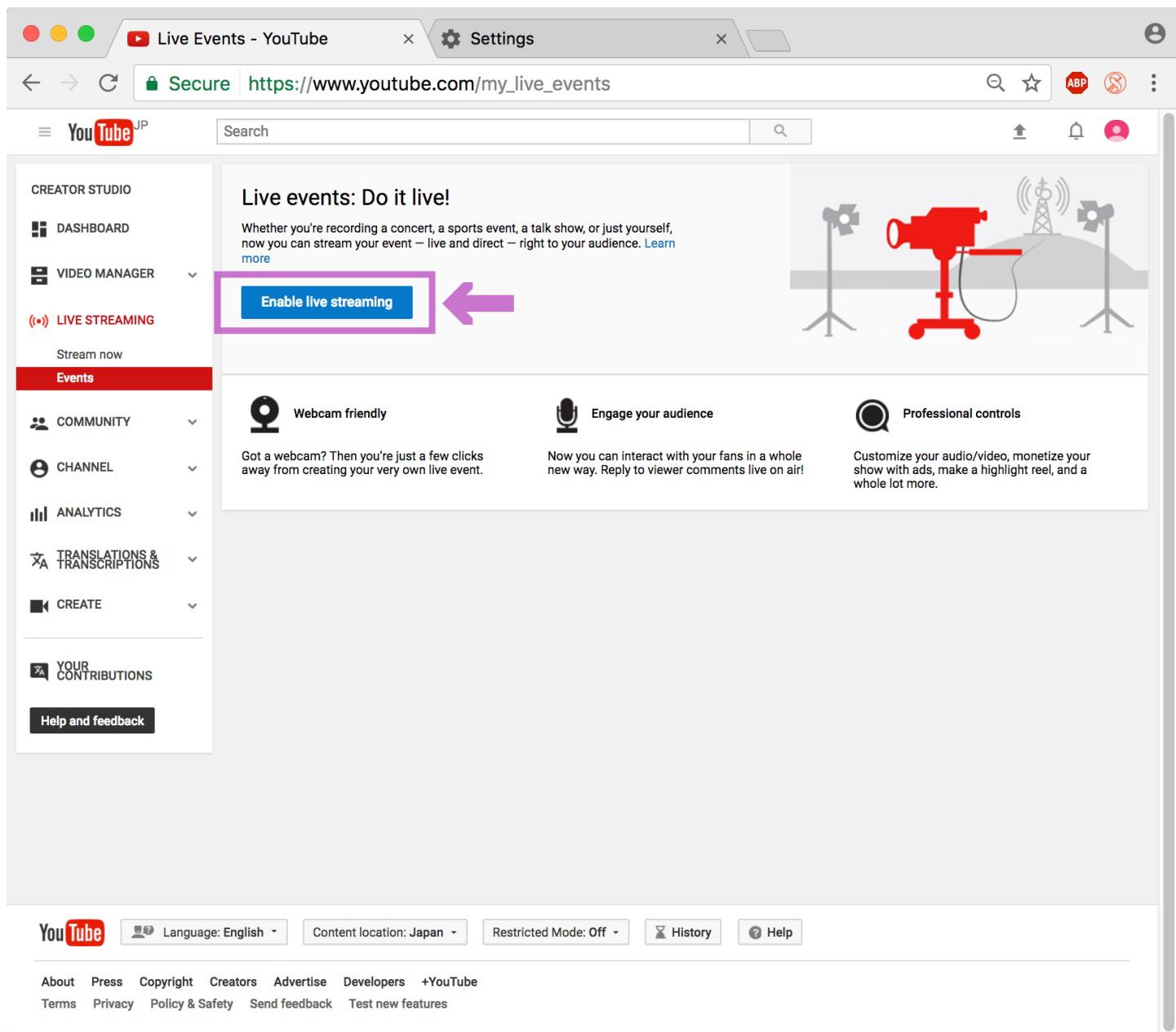
Click [Events].



Preparing to Live Stream

● Start preparations to live stream

Click [Enable live streaming].



The screenshot shows the YouTube Creator Studio interface. On the left, there's a sidebar with various tabs: CREATOR STUDIO, DASHBOARD, VIDEO MANAGER, LIVE STREAMING (which is currently selected), Stream now, Events (highlighted in red), COMMUNITY, CHANNEL, ANALYTICS, TRANSLATIONS & TRANSCRIPTIONS, CREATE, and YOUR CONTRIBUTIONS. Below these are links for Help and feedback. The main content area has a heading 'Live events: Do it live!' with a subtext about streaming events. It features a large blue button labeled 'Enable live streaming' with a pink border and a purple arrow pointing to it. To the right of the button is a graphic of a red video camera on a tripod. Below the button are three sections: 'Webcam friendly' (with a camera icon), 'Engage your audience' (with a microphone icon), and 'Professional controls' (with a magnifying glass icon). At the bottom of the page, there are standard YouTube navigation links for Language, Content location, Restricted Mode, History, and Help, along with links for About, Press, Copyright, Creators, Advertise, Developers, +YouTube, Terms, Privacy, Policy & Safety, Send feedback, and Test new features.

Preparing to Live Stream

● Start preparations to live stream

You will need to use your mobile phone for authentication, so fill out each item.

The screenshot shows a web browser window with the following details:

- Title Bar:** Account verification - YouTube
- Address Bar:** https://www.youtube.com/verify_phone_number?next_url=%2Flive_streaming_si... (Secure connection)
- Header:** YouTube JP, Search bar, Settings icon, User profile icon.
- Content Area:**
 - Section:** Account verification (step 1 of 2)
 - Text:** Verifying your account by phone lets you unlock additional features on YouTube, and helps us make sure you're a real YouTuber, not a robot. [Learn more](#)
 - Section:** Select your country
 - Input:** Japan (dropdown menu)
 - Section:** How should we deliver the verification code to you?
 - Radio Buttons:** Call me with an automated voice message (selected), Text me the verification code
 - Section:** Which language should we use to send you the verification code?
 - Text:** English (US) [change language](#)
 - Section:** What is your phone number?
 - Input:** (Redacted field)
 - Error Message:** Please input a valid phone number.
For example: 070-1234-5678
 - Text:** Important: Up to two accounts can be verified per phone number, per year.
 - Button:** Submit
- Bottom Navigation:** YouTube logo, Language: English, Content location: Japan, Restricted Mode: Off, History, Help.
- Page Footer:** About, Press, Copyright, Creators, Advertise, Developers, +YouTube, Terms, Privacy, Policy & Safety, Send feedback, Test new features.

Preparing to Live Stream

● Create a live streaming event

When the [Create live event] appears, click it.

We will now prepare to actually live stream. YouTube manages live streaming as "Events."

We create this event in advance.

The screenshot shows the YouTube Creator Studio interface. On the left, there's a sidebar with various sections: CREATOR STUDIO, DASHBOARD, VIDEO MANAGER, LIVE STREAMING (which is currently selected), COMMUNITY, CHANNEL, ANALYTICS, TRANSLATIONS & TRANSCRIPTIONS, CREATE, and YOUR CONTRIBUTIONS. Below these are links for Help and feedback. The main content area has a blue header bar that says 'Congratulations! You have been enabled for live streaming'. Below this, there's a section titled 'Live events: Do it live!' with a sub-section 'Webcam friendly'. A large blue button labeled 'Create live event' is highlighted with a pink box and a pink arrow pointing to it. To the right of the button is a graphic of a red camera on a tripod with two spotlights. Below the button, there are three smaller sections: 'Engage your audience' (with a microphone icon) and 'Professional controls' (with a camera icon). At the bottom of the page, there are standard YouTube navigation links for Language, Content location, Restricted Mode, History, and Help, along with links for About, Press, Copyright, Creators, Advertise, Developers, +YouTube, Terms, Privacy, Policy & Safety, Send feedback, and Test new features.

Preparing to Live Stream

● Create a live streaming event

The [Basic info] tab will appear. Write a title, stream date, description, tag, and so on.

Additionally, on the pull-down menu on the left, select [Public], [Limited public], or [Private].

If this is the first time you have streamed, Ricoh recommends that

you select [Limited public] or [Private] and run a test.

Below that, for Type, select [Custom].

The screenshot shows the YouTube Creator Studio interface for creating a new event. The left sidebar is visible with various sections like Dashboard, Video Manager, and Live Streaming. The 'Events' section is currently selected. The main area shows a form for creating a live streaming event titled 'RicohR Test'. The 'Basic info' tab is active, indicated by a purple arrow pointing down to it. The 'Type' section is also highlighted with a purple arrow pointing up to it, showing that 'Custom (more encoding options)' is selected. The 'Public' dropdown menu is also highlighted with a purple arrow pointing left to it, showing that 'Public' is selected. The URL in the browser bar is https://www.youtube.com/my_live_events?action_create_live_event=1.

Preparing to Live Stream

Create a live streaming event

Select the [Advanced settings] tab. For [360° video] on the bottom right, select the check box. Configure the other settings however you like. Click [Create event] to save the event.

* If you do not select the check box for [360° video], the video will be displayed in equirectangular format. Once streaming has begun, you cannot change the format.

The screenshot shows the YouTube Creator Studio interface for creating a new live event. The left sidebar is visible with options like 'LIVE STREAMING' (which is selected), 'Events' (highlighted in red), and '360° video' (checkbox highlighted with a pink box and arrow). The main 'Info and Settings' tab is selected. In the 'Advanced settings' tab, several sections are present:

- Chat:** Includes checkboxes for 'Enable live chat' (checked) and 'Enable slow mode' (unchecked), with a limit of 60 seconds per person.
- Category:** Set to 'People & Blogs'.
- Video location:** Searchable on public videos.
- Video language:** Set to 'Select language'.
- Community contributions:** Unchecked checkbox for allowing viewers to contribute translated titles, descriptions, and subtitles/CC.
- Recording date:** Set to 'Today'.
- Video statistics:** Checked checkbox for making video statistics on the watch page publicly visible.
- Content declaration:** Unchecked checkbox for indicating if the video contains paid promotion such as paid product placement, sponsorships or endorsement.
- Recording:** Unchecked checkbox for automatically making archive unlisted once the stream has ended. Checked checkbox for allowing comments.
- Show:** Set to 'All'.
- Sort by:** Set to 'Top comments'.
- DVR:** Checked checkbox for enabling DVR (Viewers will be able to seek back a maximum of 4 hours while you are streaming).
- 360° video:** Checked checkbox for enabling 360° video (Viewers will be able to seek back a maximum of 4 hours while you are streaming).
- Stream optimizations:** Radio button for 'Optimize for interaction (low latency)'.

At the top right, there are 'Cancel' and 'Create event' buttons, with the 'Create event' button highlighted with a pink box and an arrow pointing to it.

Preparing to Live Stream

Select a bitrate

A screen similar to the one shown below will appear. Set a [Thumbnail] if desired. Thumbnails are used as a title screen that is displayed before and during streaming. Under [Basic ingestion], select [3000 Kbps - 6000 Kbps (1080p)].

* It is our experience that this is the smoothest bitrate setting.

YouTube JP

Secure https://www.youtube.com/my_live_events?action_edit_live_event_stream=1&eve...

CREATOR STUDIO

DASHBOARD

VIDEO MANAGER

LIVE STREAMING

Main Camera Add a Camera

RicohR Test

Thumbnail

Please upload as large an image as possible (suggested: 1280x720) since the image will also be used as the preview image when your event is embedded on other sites. You can upload a JPG, GIF, BMP, or PNG file. Maximum file size is 2MB.

Browse

Choose maximum sustained bitrate of your encoder *

Select a range that corresponds to the maximum sustained output your encoder provides.

Basic ingestion

Select a bitrate

- 13 Mbps - 30 Mbps (4K - BETA)
- 6 Mbps - 13 Mbps (1440p)
- 3000 Kbps - 6000 Kbps (1080p)**
- 1500 Kbps - 4000 Kbps (720p)
- 500 Kbps - 2000 Kbps (480p)
- 400 Kbps - 1000 Kbps (360p)
- 300 Kbps - 700 Kbps (240p)

Cancel Save changes

View on Watch Page

Events

Community

Channel

Analytics

Translations & Transcriptions

Create

Your Contributions

Help and feedback

Language: English

Content location: Japan

Restricted Mode: Off

History

Help

About Press Copyright Creators Advertise Developers +YouTube

Terms Privacy Policy & Safety Send feedback Test new features

Preparing to Live Stream

● Set an encoder

If you select [Basic ingestion], more settings appear.
Under [Select your encoder], select [Other encoders].

The screenshot shows the YouTube Creator Studio interface for managing live events. On the left sidebar, under 'LIVE STREAMING', the 'Events' tab is selected. In the main content area, a success message 'Event successfully saved.' is displayed above the event name 'RicohR Test'. Below the event name, there are sections for 'Main Camera' (set to 'Add a Camera') and 'Thumbnail' (with a placeholder image and a 'Browse' button). Under 'Choose maximum sustained bitrate of your encoder *', the 'Basic ingestion' radio button is selected, with options for '3000 Kbps - 6000 Kbps (1080p)' and 'Enable 60fps'. There is also a 'Custom ingestion' option. A section titled 'Select your encoder' contains a dropdown menu labeled 'Select an encoder', which is highlighted with a pink rectangle and has a pink arrow pointing to it from the bottom right. At the bottom of the page, there are standard YouTube footer links for About, Press, Copyright, Creators, Advertise, Developers, +YouTube, Terms, Privacy, Policy & Safety, Send feedback, and Test new features.

Preparing to Live Stream

● Get a RTMP (primary server) URL

Information required for streaming will appear. [Stream Name] and [Primary Server URL] will be used for the encoder settings used in streaming.

* This will be explained later in this manual.

The screenshot shows the YouTube Creator Studio interface. The left sidebar is titled 'CREATOR STUDIO' and includes sections for DASHBOARD, VIDEO MANAGER, LIVE STREAMING (selected), COMMUNITY, CHANNEL, ANALYTICS, TRANSLATIONS & TRANSCRIPTIONS, CREATE, and YOUR CONTRIBUTIONS. A 'Help and feedback' button is at the bottom. The main content area is titled 'Ingestion Settings' for an event named 'RicohR Test'. A success message 'Event successfully saved.' is displayed. The 'Main Camera' tab is selected. Under 'Thumbnail', there is a placeholder image and a 'Browse' button. Under 'Choose maximum sustained bitrate of your encoder *', the 'Basic ingestion' radio button is selected, showing options for '3000 Kbps - 6000 Kbps (1080p)' and 'Enable 60fps'. The 'Custom ingestion' option is also available. A section titled 'Select your encoder' provides instructions for using various encoders. A purple box highlights the 'Stream Name' and 'Primary Server URL' fields. An arrow points from the text 'Copy and paste into your encoder' to this highlighted area. Below these fields is a 'Backup Server URL' field containing 'rtmp://b.rtmp.youtube.com/live2'. The final numbered steps are: 3. Start your encoder (In your encoder, start sending us your video stream.) and 4. Go to the Live Control Room. You can preview and start your event from the Live Control Room. A 'Closed captions' section is at the bottom with a 'None' dropdown menu.

Preparing to Live Stream

● Check that your preparations for 360° live streaming are complete

Click the [Live Control Room] tab that controls streaming.

If a screen similar to the one below appears, you have completed preparations on YouTube to live stream.

The screenshot shows the YouTube Creator Studio interface with the 'Events' tab selected under the 'LIVE STREAMING' section. The main area displays a 'STREAM STATUS' box showing 'NO DATA' for a '1080P STREAM'. A red arrow points to the 'Live Control Room' tab at the top, which is highlighted with a pink border. Below the status box, there's a preview window showing a play button icon. To the right, there are sections for 'BROADCAST ALERT' (set to 'None'), 'SLATES INSERTION' (with 'Slate in' and 'Slate out' buttons), 'ADS INSERTION' (with an 'Insert' button and a note about in-stream ad insertion), and 'CREATE HIGHLIGHT' (with 'Set start', 'Set end', and 'Upload' buttons). A message at the top states: 'We are not receiving data from your encoder. Please make sure it is configured correctly in the [Ingestion Settings page](#).'

Preparing an Encoder

● Select an encoder

To use USB (UVC) output to live stream from a computer

→p16

To use HDMI output to live stream from an external device

→p29

Streaming with OBS Studio

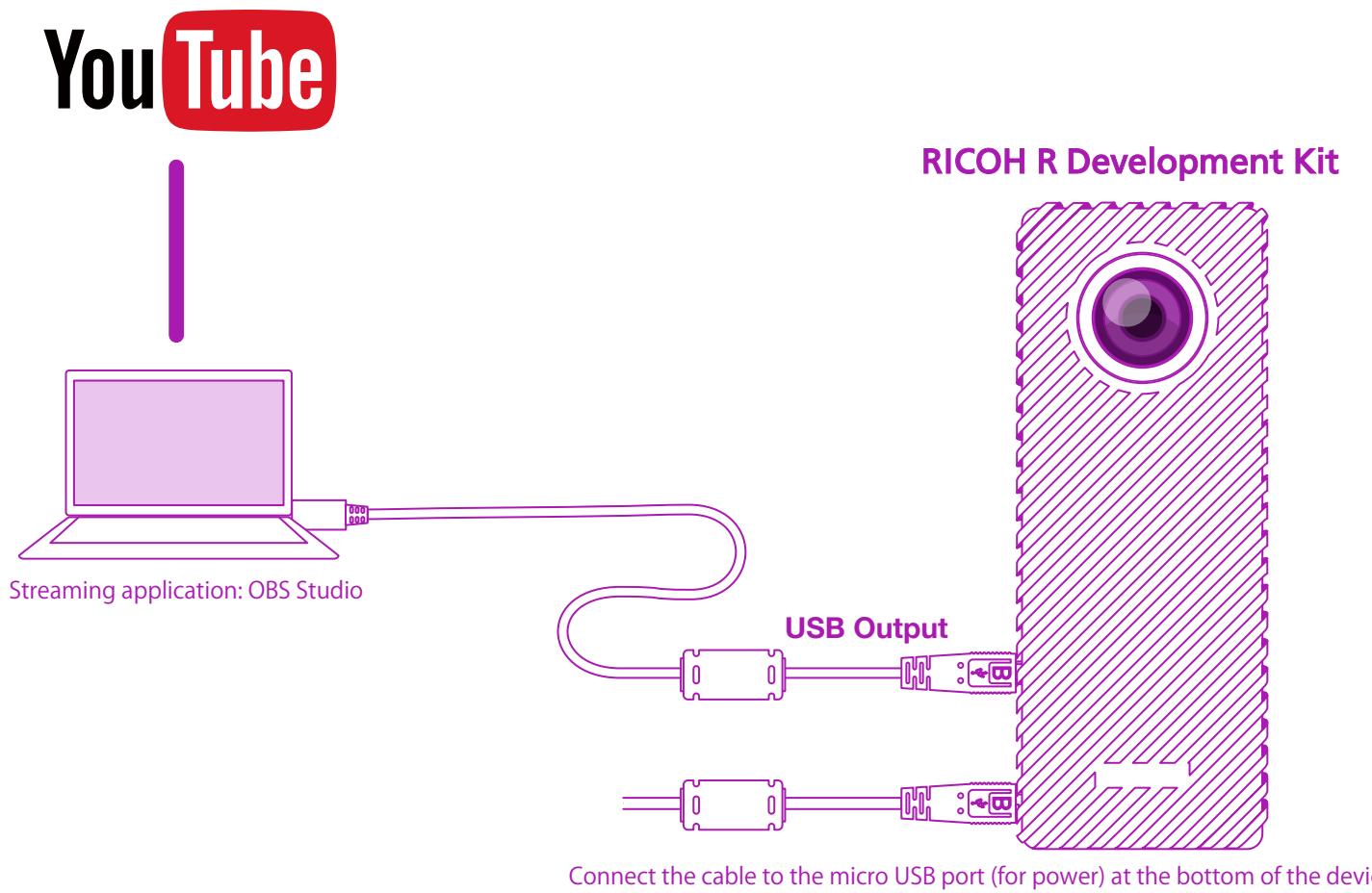
● Prepare a live streaming service

There are several services that support 360° live streaming.

While the number of methods is increasing, this manual describes live streaming on YouTube as an example method. This manual uses OBS Studio as the streaming application.

It is widely used because it is free.

* For more information, see the OBS Studio website (<https://obsproject.com/>).



About OBS Studio

● Install Open Broadcaster Software

<https://obsproject.com/>

This is software for free live streaming. Download and install the software.

This section describes live streaming using this software.

This software runs on both Windows and Mac.

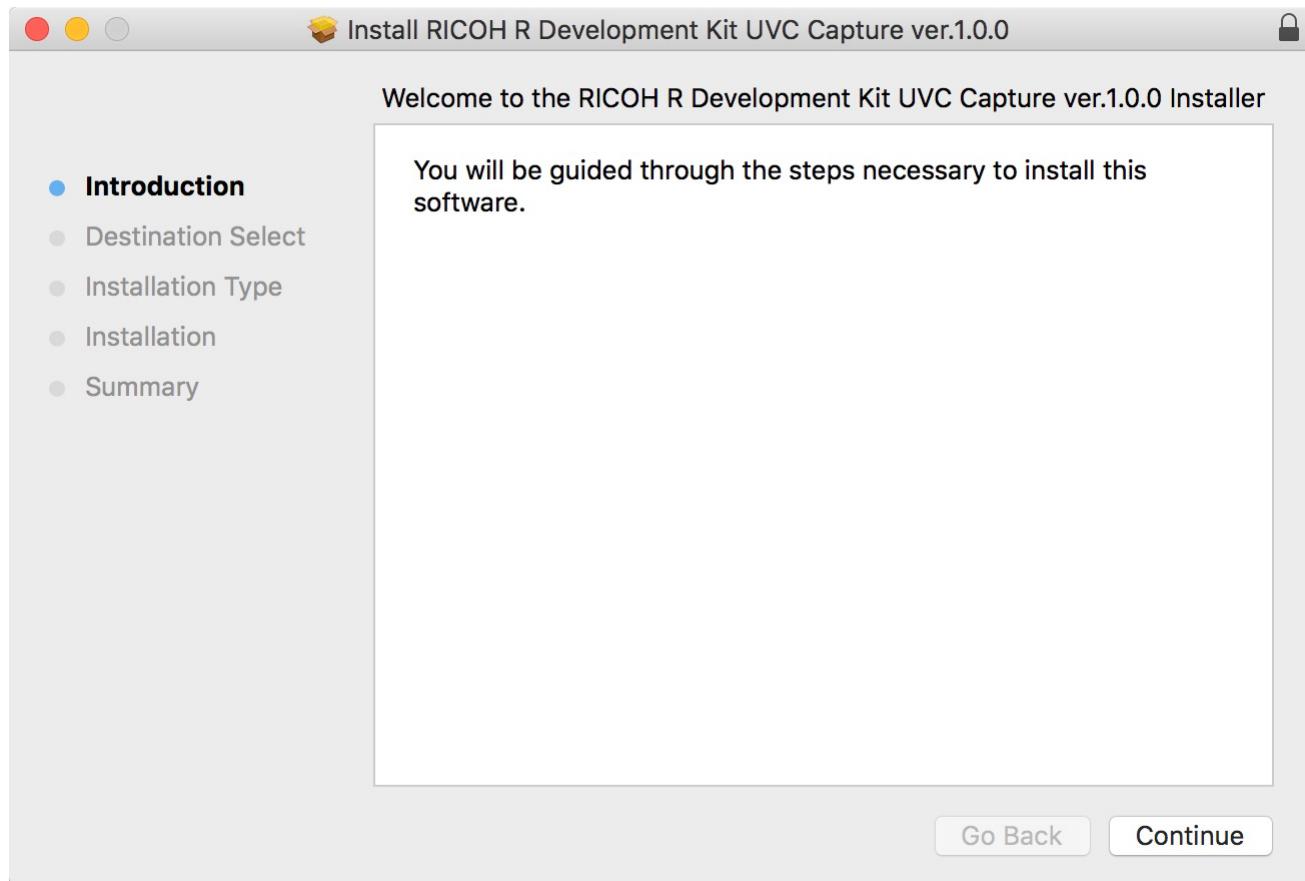


About RICOH R Development Kit UVC Capture

● Install RICOH R Development Kit UVC Capture.

This software is a plugin that is compatible with UVC 1.5 and runs on both Windows and Mac. By installing this software, you can stream HD images output with USB (UVC). After installing the software, restart your Windows computer or Mac. If the software installs correctly, your RICOH R will be automatically recognized as a UVC 1.5 camera.

Making OBS Studio Recognize Your RICOH R



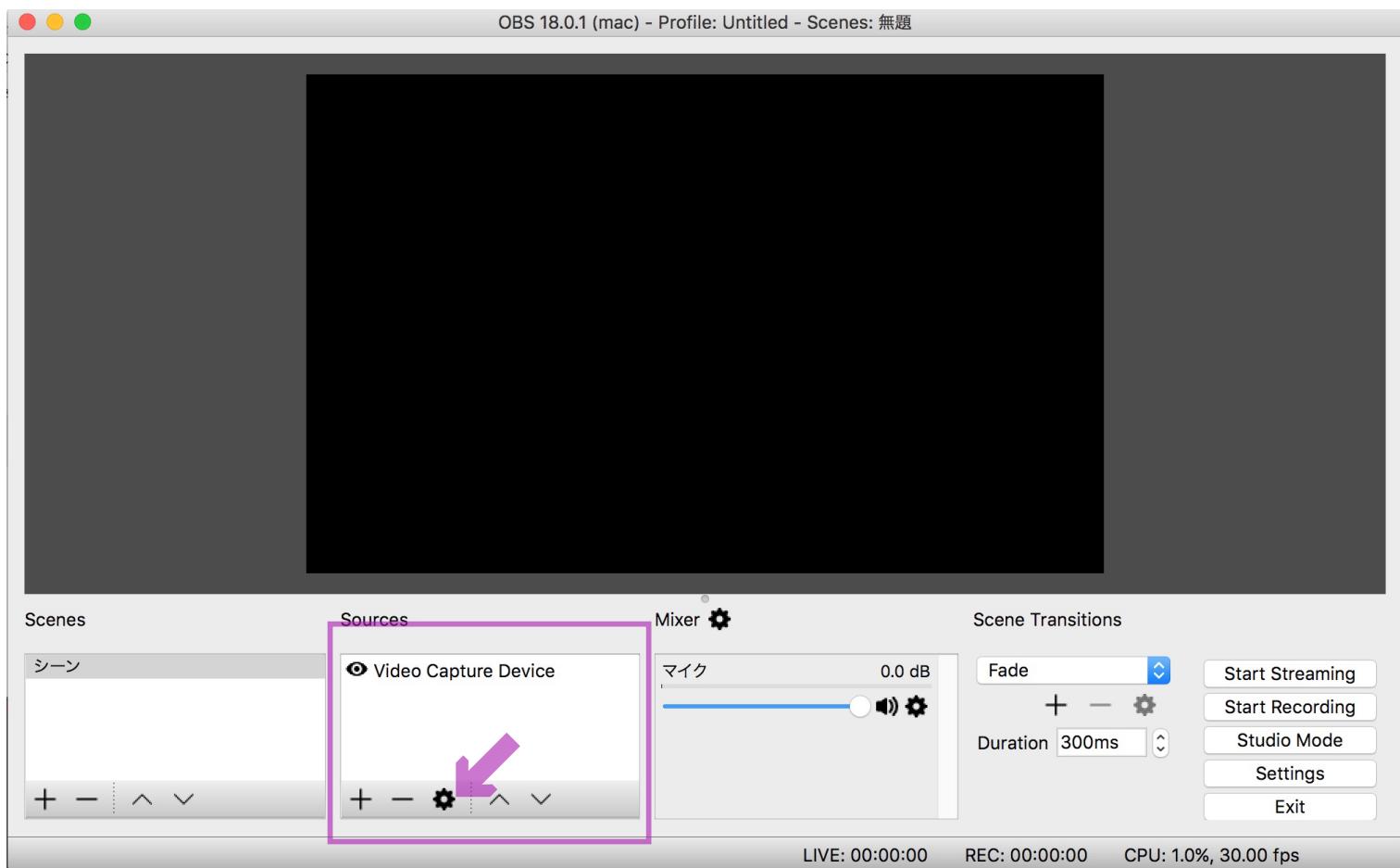
Making OBS Studio Recognize Your RICOH R

● Start Open Broadcaster Software

A screen similar to the one below will appear.

To specify the camera from which video is used, under [Sources], set [Video Capture Device].

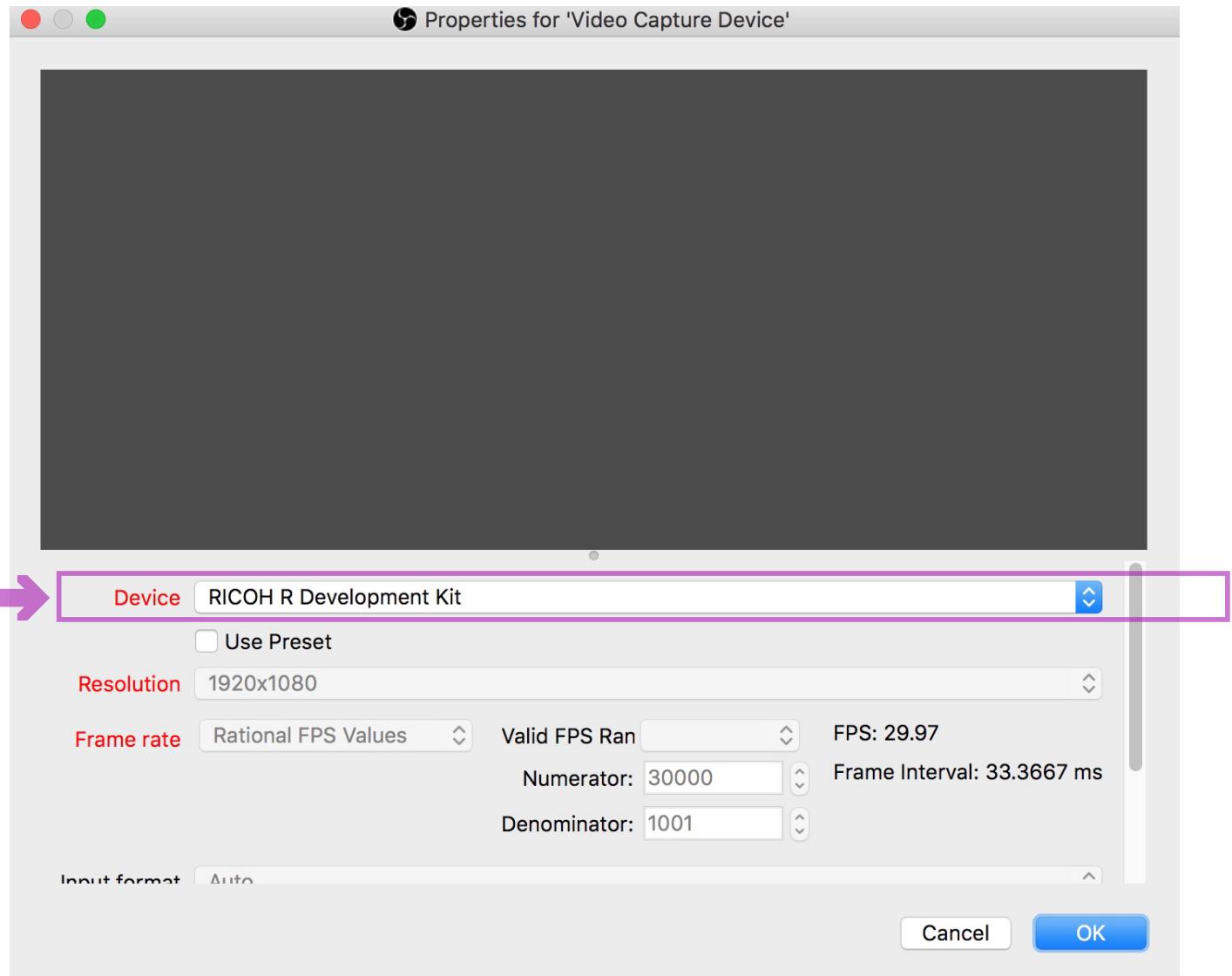
Click the [Gear] icon to display the settings screen.



Making OBS Studio Recognize Your RICOH R

● Set up the video capture device

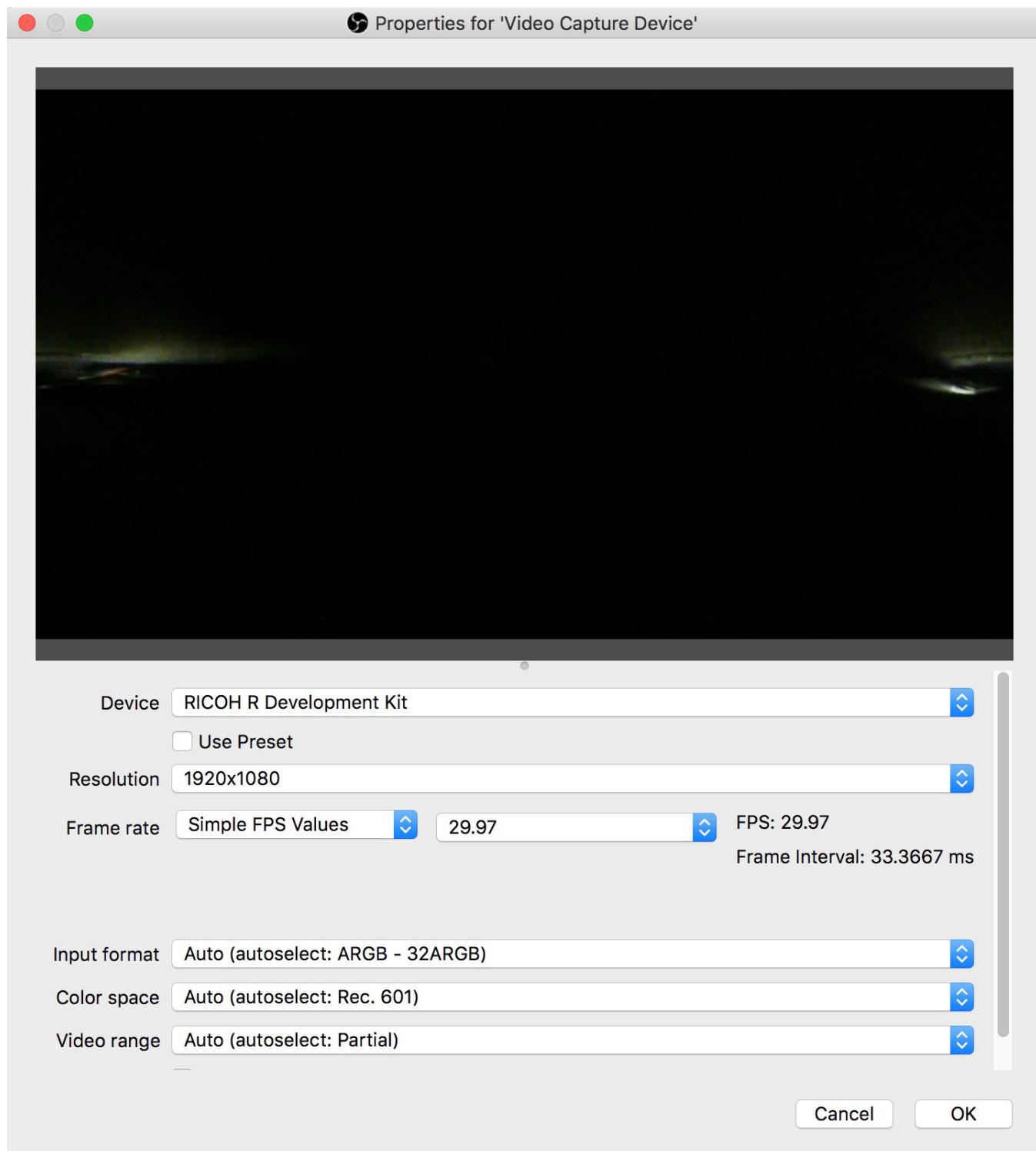
If RICOH R Development Kit UVC Capture is correctly installed, [RICOH R Development Kit] will appear on the [Device] pull-down menu. Select it and set [Resolution] to 1920 x 960 or 1920 x 1080.



Making OBS Studio Recognize Your RICOH R

● Set up the video capture device

If your RICOH R is recognized correctly, a preview is displayed in equirectangular format. Once you confirm that a preview is displayed, click [OK].

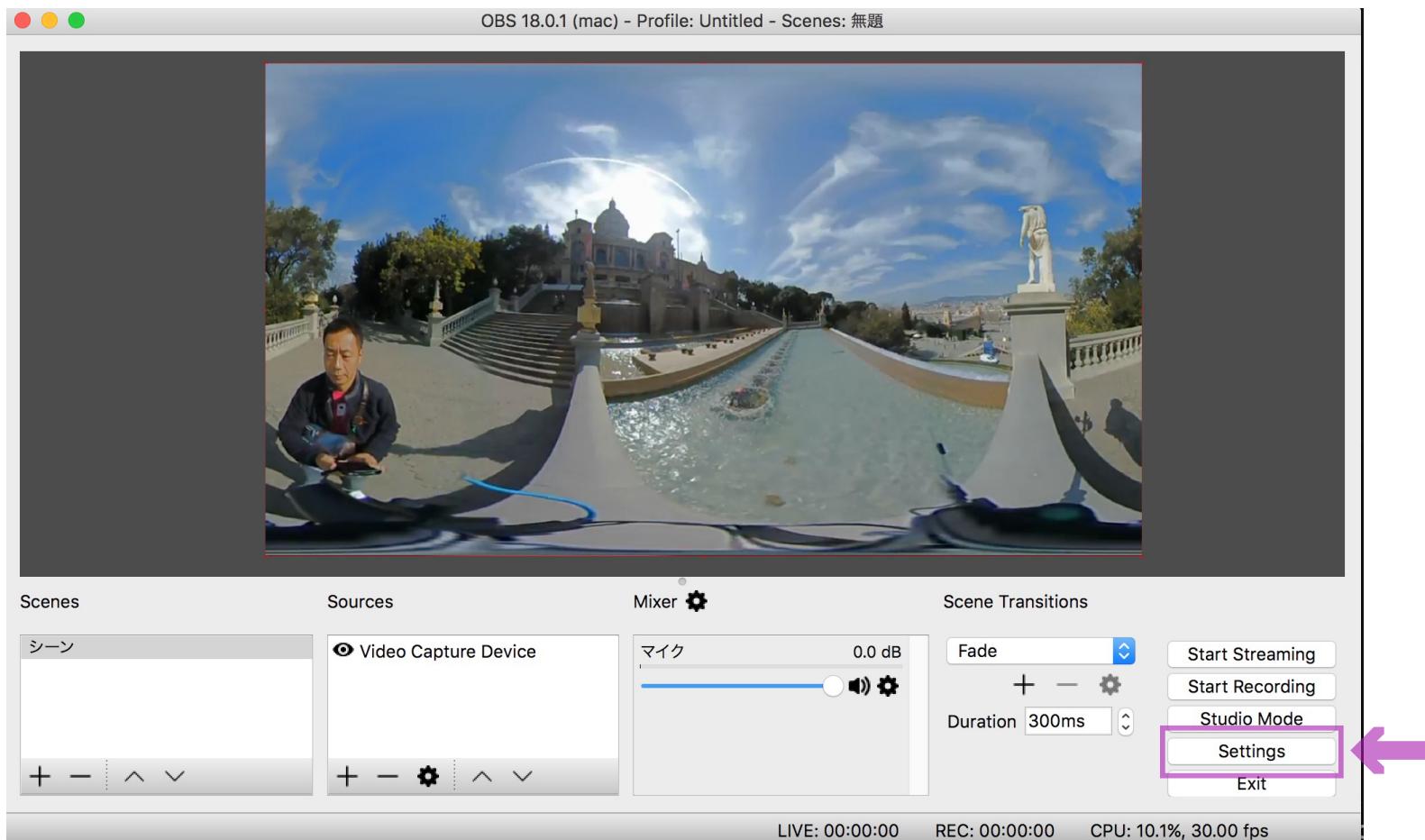


Making OBS Studio Recognize Your RICOH R

● Set up the video capture device

A preview is also displayed in OBS Studio.

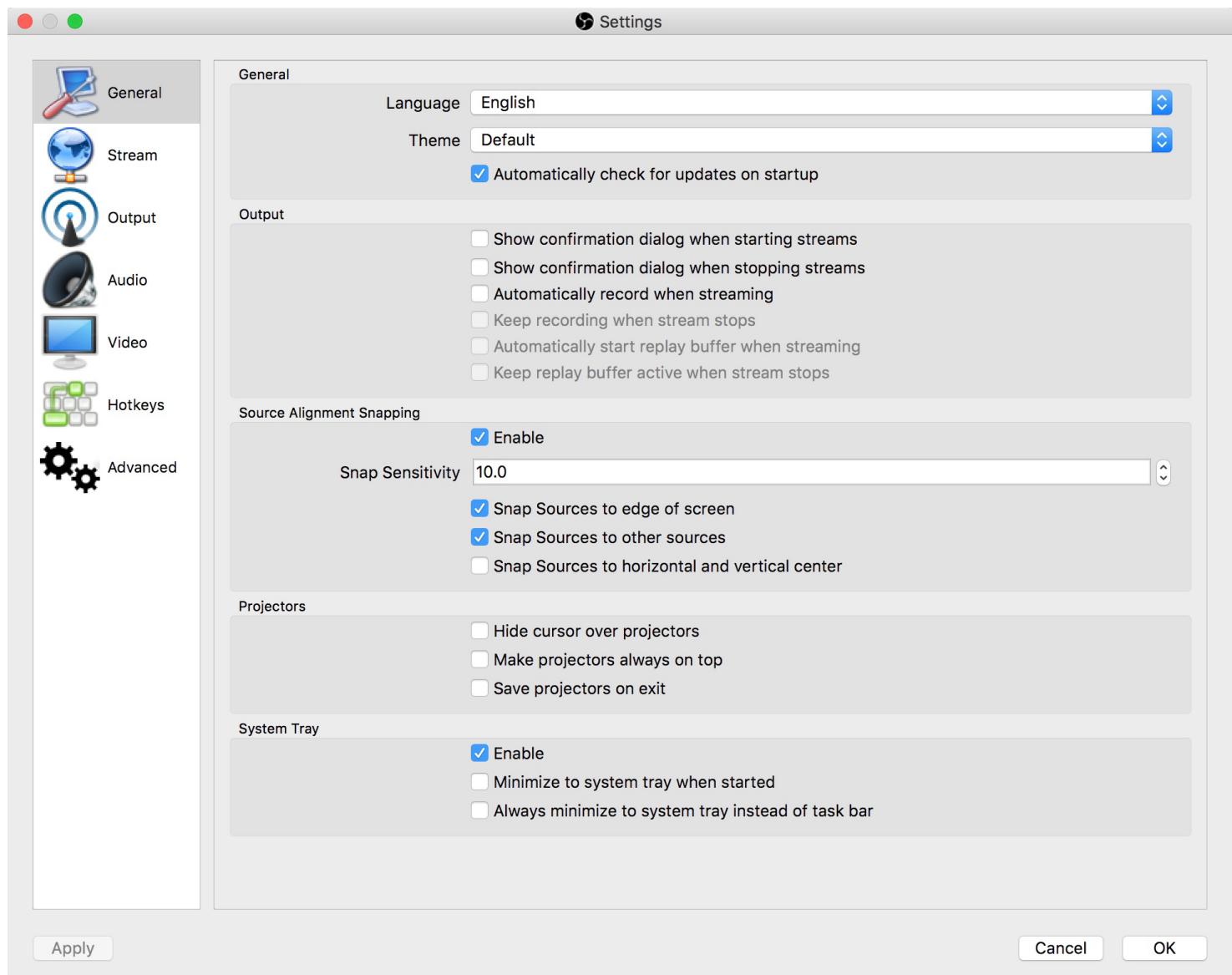
Next, set the streaming destination. To open the settings screen, click the [Settings] button.



Setting Up Streaming

● Enter the streaming service information

A screen similar to the one below will appear. Click the [Stream] tab to display the settings screen.

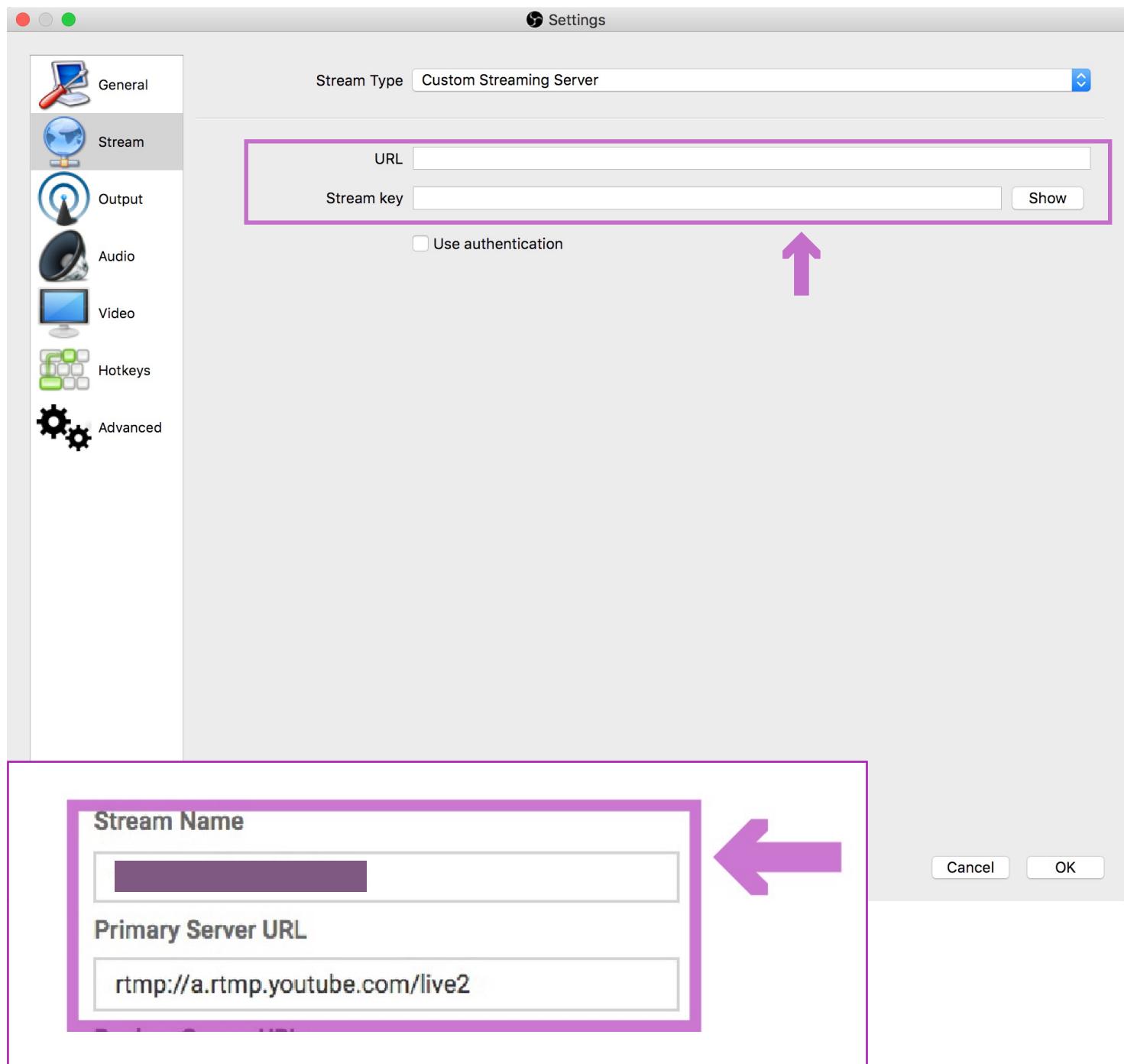


Setting Up Streaming

● Enter the streaming service information

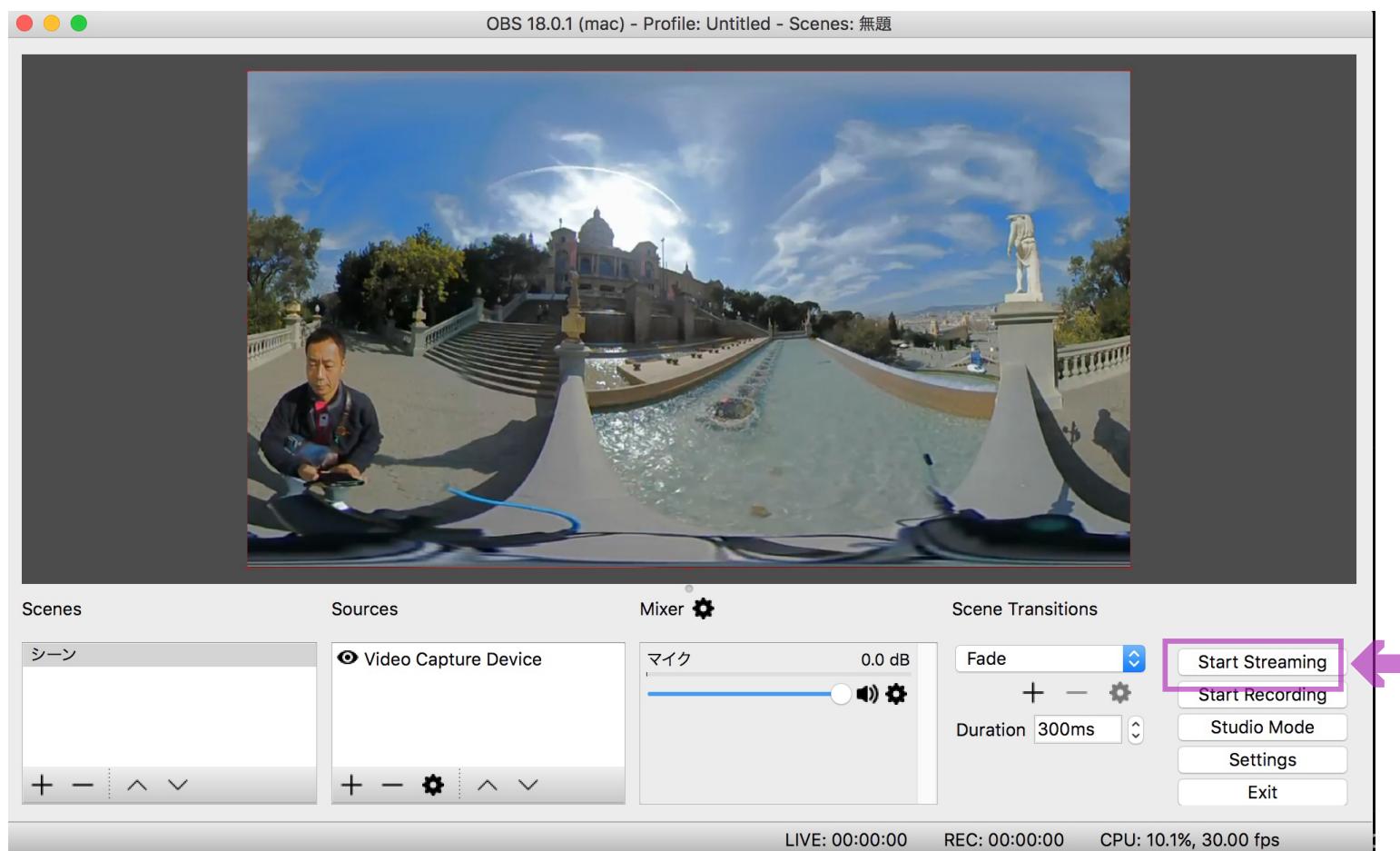
Enter the information for the RTMP server that you got from YouTube.

In the [Stream key] field, enter the stream name.



● Start streaming

Click the [Start Streaming] button. This completes the preparations to stream from OBS. If the indicator at the bottom right of the screen is green, your RICOH R is streaming properly.



Streaming

● Start streaming from the YouTube control room

Click the [Preview] button on the top half of the screen.

After a while, the button changes to [Start Streaming].

Click the button again.

The screenshot shows the YouTube Creator Studio interface for live streaming. On the left, there's a sidebar with various sections like Creator Studio, Dashboard, Video Manager, and Live Streaming. Under 'LIVE STREAMING', 'Events' is selected. The main area is titled 'RicohR Test'. It shows a progress bar with 'Start Encoder' and 'Preview Stream' steps, followed by 'You're Live!'. A large blue button labeled 'Start Streaming' is highlighted with a purple arrow pointing to it. Below this, there's a preview window showing a blurred video feed. To the right, there are sections for Stream Status (GOOD, 1080P STREAM), Broadcast Alert (set to None), Slates Insertion, Ads Insertion, and Create Highlight. At the bottom, it says 'Highlights can only be created when "Sync to preview player" option is enabled.'

Streaming

● 360° live streaming starts

When streaming starts, the button changes to red and [Stop Streaming].

The streaming time is also displayed. Note that if you click this button, streaming will stop. There may be a slight time lag for streaming to actually start and streaming may not start immediately.

If you click [View on Watch Page] on the top right of the screen, you can display the actual YouTube viewing page.

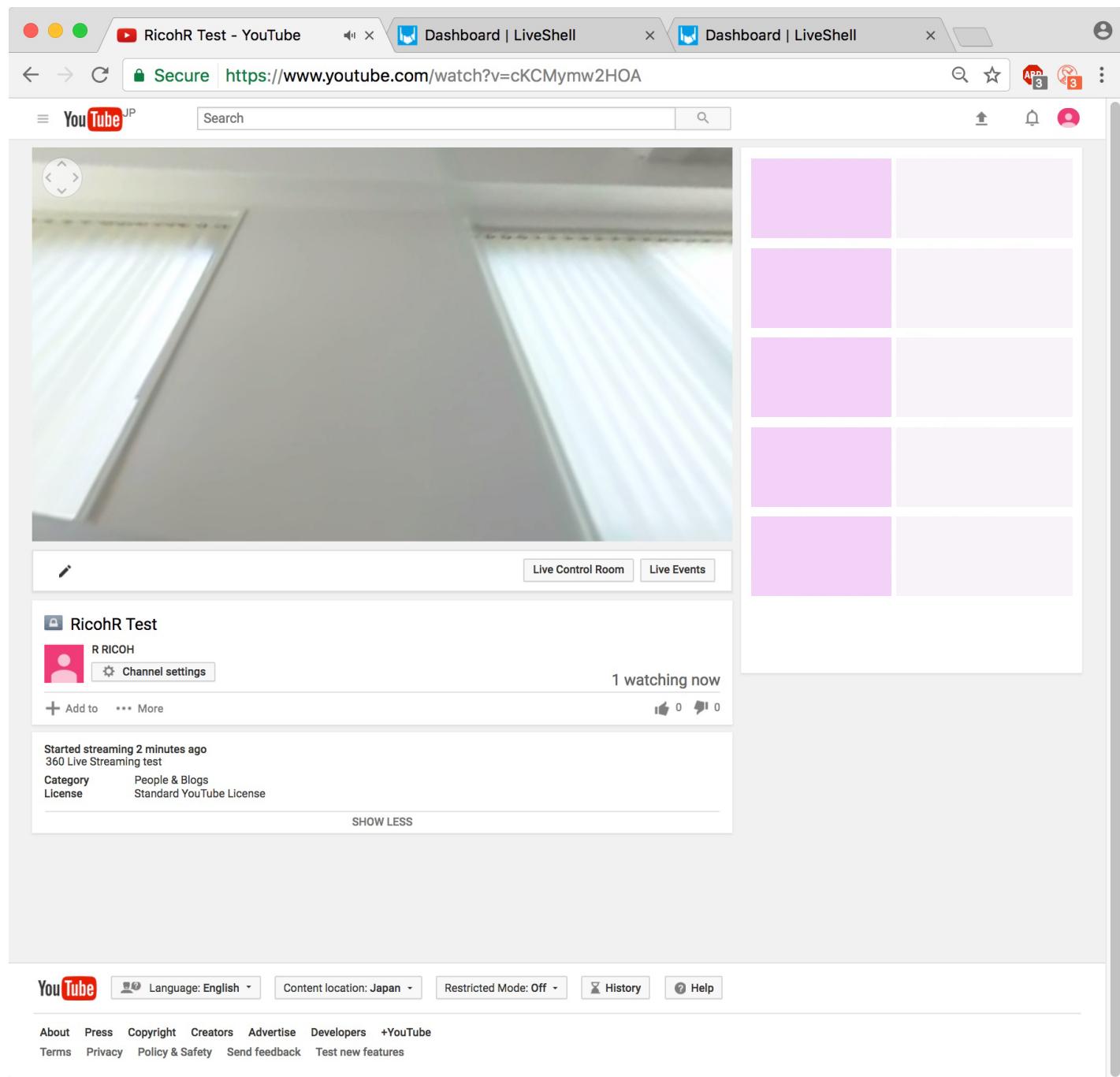
The screenshot shows the YouTube Creator Studio interface for live streaming. On the left, there's a sidebar with options like 'Events' (which is selected), 'Community', 'Channel', 'Analytics', 'Translations & Transcriptions', 'Create', and 'Your Contributions'. The main area has tabs for 'Info and Settings', 'Ingestion Settings', 'Cards', and 'Live Control Room'. A prominent message says 'Your event is starting...' with a blue checkmark icon. Below it, a yellow warning message says 'This event can't be featured because it's private.' The title 'RicohR Test' is displayed. In the center, there's a 'Start Encoder' button, followed by 'Preview Stream' and 'You're Live!' status indicators. A red 'Stop Streaming' button is visible. To its right, a status bar shows 'LIVE' and '00:00:03'. Below this, a 'Sync to preview player' checkbox is present. The 'STREAM STATUS' section shows 'GOOD' and '1080P STREAM'. To the right, 'AVERAGE LIVE VIEW DURATION' is listed as '00:00', 'TOTAL VIEW TIME (HOURS)' as '0', and 'PEAK CONCURRENT' as '0'. A 'Send feedback' link is located here. At the bottom, there are tabs for 'Manage' (which is selected) and 'Analytics'. On the right side, there are sections for 'PREVIEW' (showing a blurred video feed), 'BROADCAST ALERT' (set to 'None'), 'SLATES INSERTION' (with 'Slate in' and 'Slate out' buttons), 'ADS INSERTION' (with an 'Insert' button and a note about in-stream ad insertion), and 'CREATE HIGHLIGHT' (with 'Set start', 'Set end', and 'Upload' buttons). A purple arrow points from the text above to the 'View on Watch Page' button in the top right corner of the interface.

Streaming

● Check the live stream

On the YouTube viewing page, you can move the screen by dragging the cursor with your mouse. If you think that the video quality is poor, place the mouse cursor over the live broadcast area to display a gear icon. Try changing the resolution to 1080.

* This affects the data traffic.



Streaming Using Cerevo LiveShell X

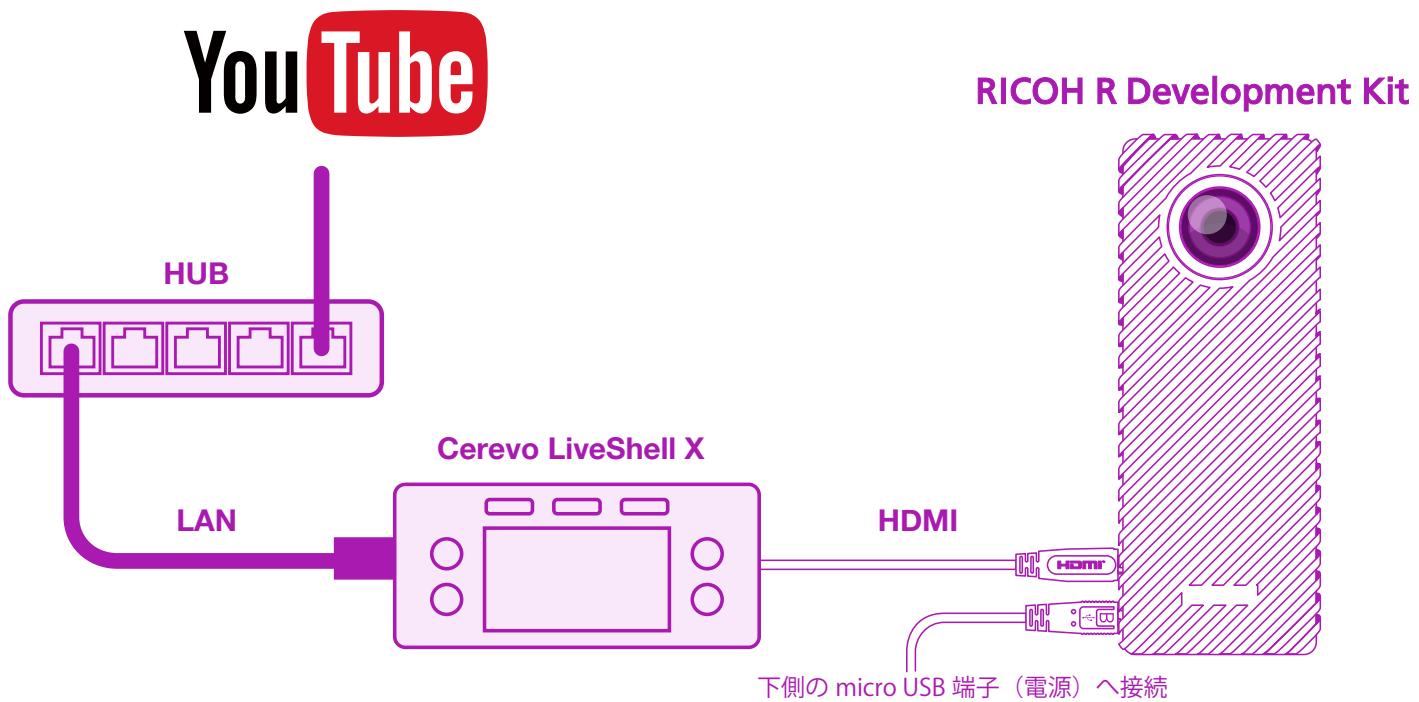
● Prepare a live streaming service

There are several services that support 360° live streaming.

While the number of methods is increasing, this manual describes live streaming on YouTube as an example method.

This manual uses Cerevo LiveShell X as the streaming device because not only does LiveShell X support streaming in full HD, it can also record and stream to other services as well as stream via HDMI output and hence being able to use RICOH R Console is also a benefit.

* For more information, see the Cerevo website (<http://static-shell.cerevo.com/x/en/product.html>).



Preparing LiveShell X

● Create a Cerevo LiveShell account

<http://static-shell.cerevo.com/en/index.html>

On the top right of the screen, click [to Dashboard].

The screenshot shows a web browser window with the URL static-shell.cerevo.com/en/index.html in the address bar. The page features a dark background with a red banner at the top containing the text "A Revolutionary Encoder, Debut.". Below the banner, there is a large image of a video camera lens. In the foreground, three different models of the Cerevo LiveShell device are displayed: LiveShell.X (black with a red "NEW" badge), LiveShell.PRO (silver), and LiveShell.2 (black). Each device has its name and a brief description below it. At the top right of the page, there is a navigation bar with links for "日本語ページ" and "to Dashboard". A purple arrow points to the "to Dashboard" button.

5 years, over 50 countries

5 years of live streaming devices refined by video professionals in over 50 countries.

LiveShell.X

PC-less live streaming and recording at up to 1080/60p

LiveShell.X is a premium innovative live broadcast streaming device with HDMI input encoding at up to 1080/60p in H.265 and microSD card recording support, all without a PC.

LiveShell.PRO

Live HD streaming for professionals

LiveShell PRO features HDMI and composite AV inputs for HD and SD live streaming. H.264 video at up to 10Mbps and 720/30p resolution is supported.

LiveShell.2

The world's most cost effective HD live streaming device

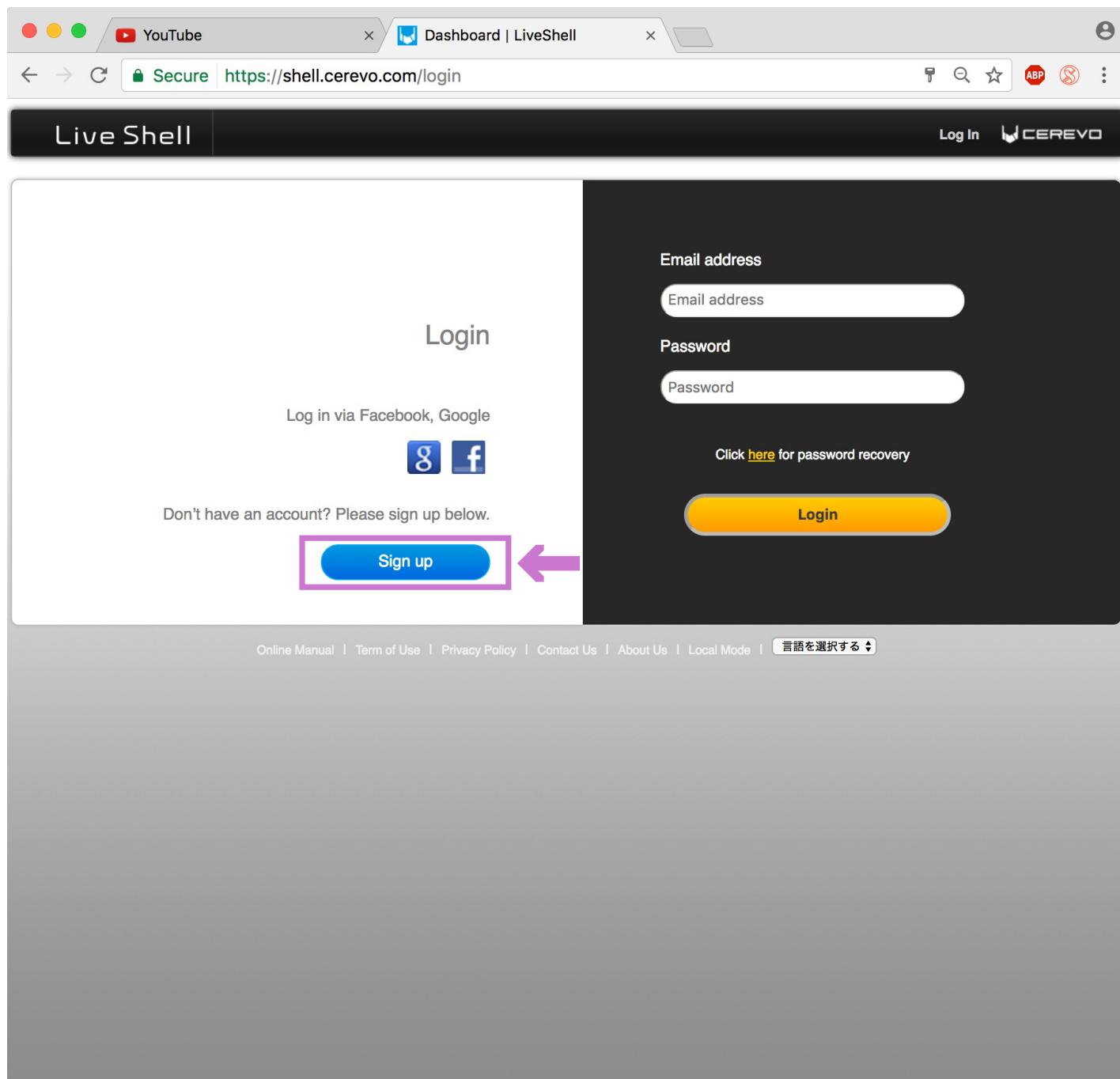
Compact and lightweight, LiveShell 2 is designed for budget-conscious users. Featuring a HDMI input and support for up to 720/30p HD live streaming.

Preparing LiveShell X

● Create a Cerevo LiveShell account

If you already have an account, log in.

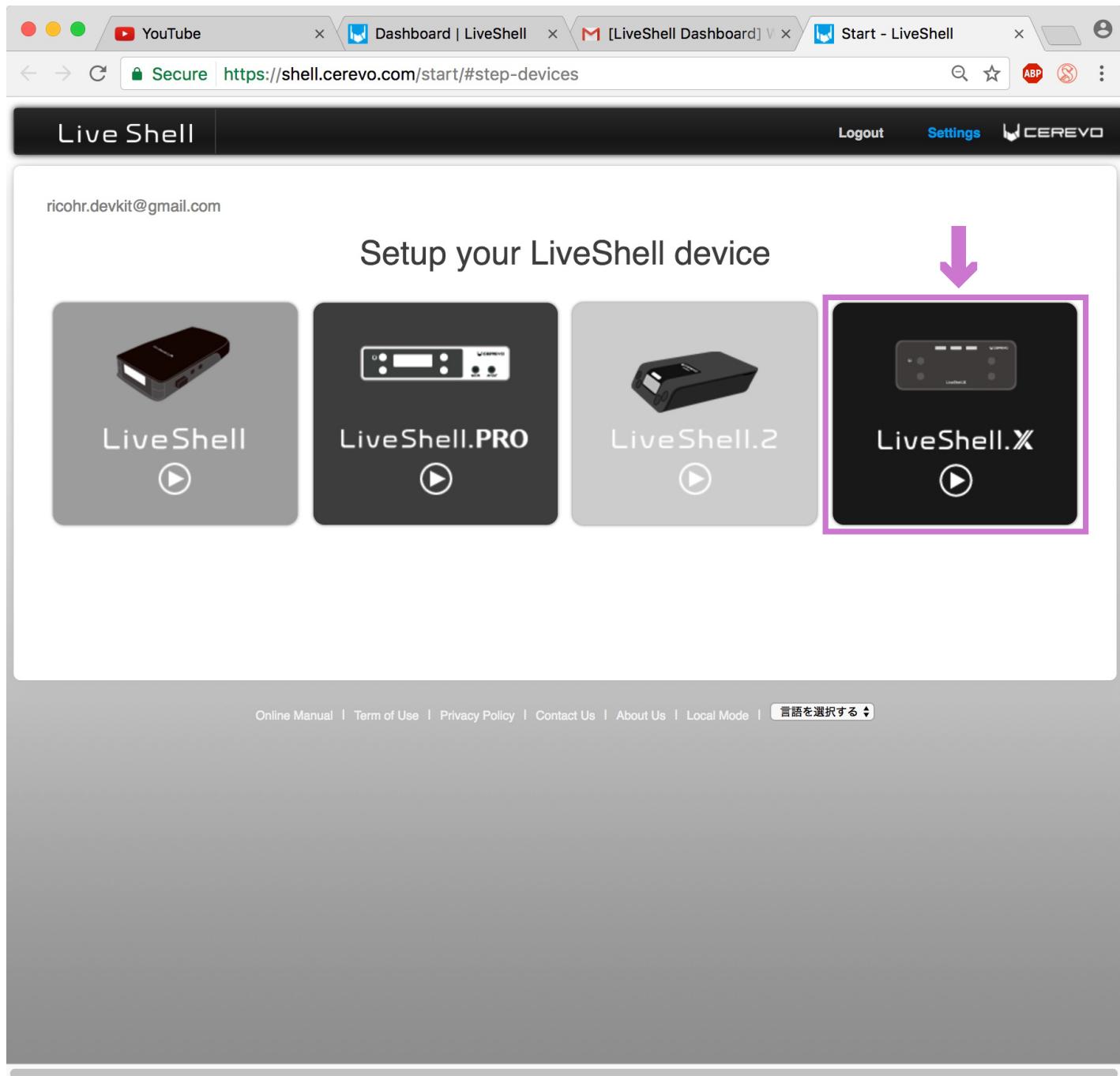
To create a new account, click [Sign up].



Preparing LiveShell X

● Set up LiveShell X

Once a screen similar to the one below appears, you have now finished creating an account.
Next, associate the LiveShell X device with the dashboard and set up the device.
Select [LiveShell X].



Preparing LiveShell X

● Select a live streaming service

A screen similar to the one below to select a service will appear. As services that support 360 degree live streaming are increasing, this manual describes the settings as [Other broadcasting services (specify RTMP URL)] so that you can use various services. If you use this setting, you should be able to stream with services other than YouTube with the same settings.

The screenshot shows a web browser window with the URL <https://shell.cerevo.com/start/#step-services>. The page title is "Select a broadcasting service". A dropdown menu is open, showing "Ustream" as the selected option. A pink arrow points from the text "If you do not have an Ustream account, please sign up and create channel at [ustream.tv](#)" to the "Sign Up Now" button on the Ustream website screenshot. Another pink arrow points from the "OK" button at the bottom right to the "OK" button on the Ustream website screenshot. The Ustream website screenshot shows the "Login | Sign Up" button and the "Sign Up Now" button highlighted with yellow boxes. The "OK" button at the bottom right is also highlighted with a yellow box.

Live Shell FEATURES SPEC MANUAL FAQ Logout Settings CEREVO

ricohr.devkit@gmail.com

Select a broadcasting service

Ustream

If you do not have an Ustream account, please [sign up and create channel at ustream.tv](#)

Login | Sign Up

or

Sign Up Now

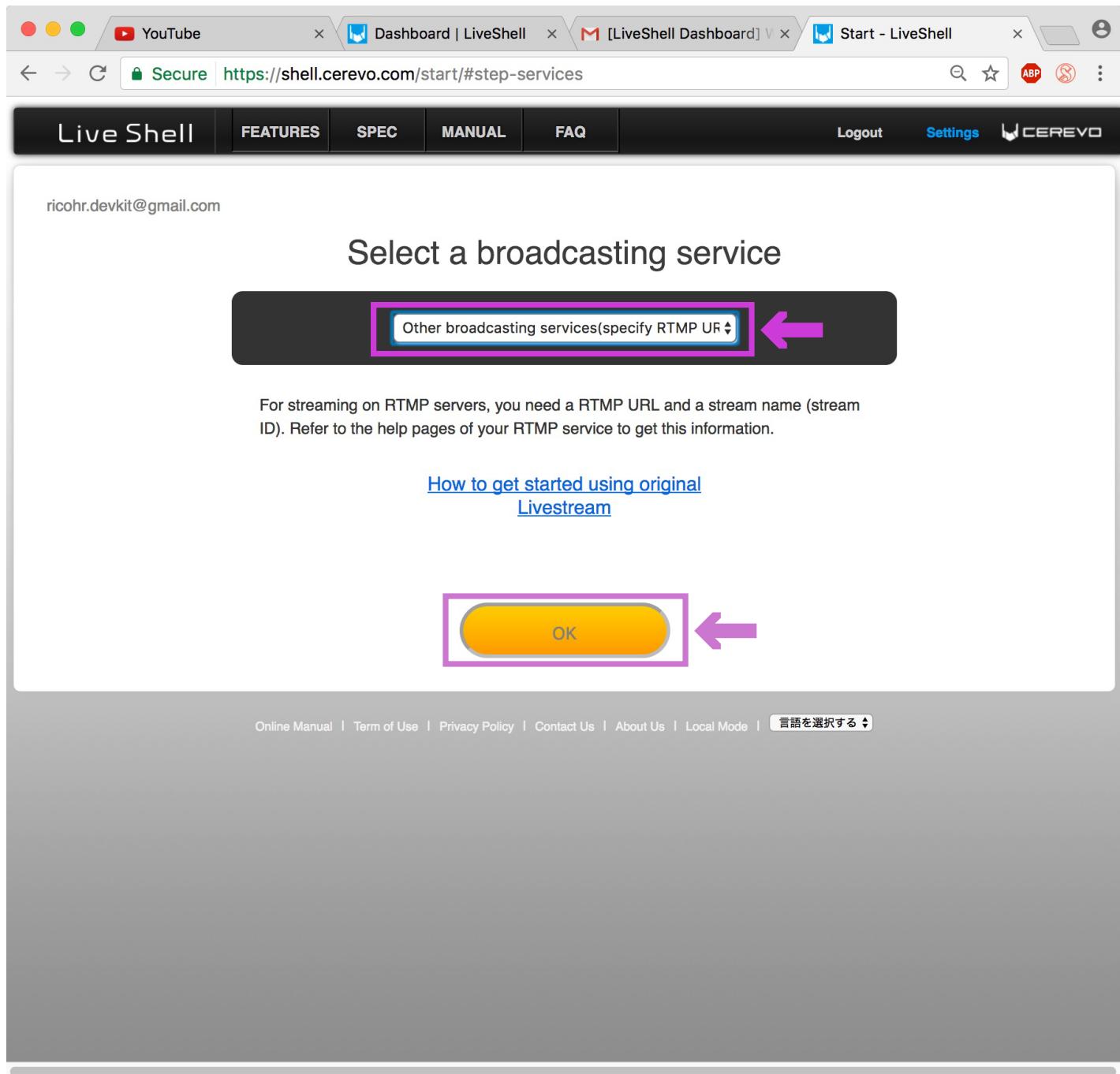
OK

Online Manual | Term of Use | Privacy Policy | Contact Us | About Us | Local Mode | 言語を選択する

Preparing LiveShell X

● Select a live streaming service

From the pull-down menu, select [Other broadcasting services (specify RTMP URL)] and click [OK].



Preparing LiveShell X

● Set up the RTMP server

Enter the [Stream Name] and [Primary Server URL] that was displayed for the YouTube settings.

The screenshot shows the LiveShell X dashboard with the URL <https://shell.cerevo.com/start/#step-general>. The 'Settings' tab is selected. A modal dialog is open for 'Enter RTMP server details'. The 'Broadcasting RTMP URL' field contains 'rtmp://a.rtmp.youtube.com/live2' and has a red arrow pointing to it. The 'Stream' field is empty and has a red arrow pointing to it. Below the fields are two checkboxes: 'Use RTMP authentication' and 'Configure the settings for multiple broadcasting (optional)'. A large orange 'OK' button is at the bottom right of the dialog. At the bottom of the page, there is a footer with links: Online Manual, Term of Use, Privacy Policy, Contact Us, About Us, Local Mode, and 言語を選択する.

Preparing LiveShell X

● Select a method to connect to the Internet

Select how you want the LiveShell X device to connect to the Internet.

The screenshot shows a web browser window with the URL <https://shell.cerevo.com/start/#step-network-method>. The page title is "Start - LiveShell". The navigation bar includes "Live Shell", "FEATURES", "SPEC", "MANUAL", "FAQ", "Logout", "Settings", and the Cerevo logo. A user email "ricohr.devkit@gmail.com" is visible on the left. A modal dialog box is open, titled "Internet connection type". It contains three radio button options: "Wireless(Wi-Fi)" (selected), "Ethernet", and "3G/4G Network". An "OK" button is at the bottom right of the dialog. At the bottom of the page, there are links for "Online Manual", "Term of Use", "Privacy Policy", "Contact Us", "About Us", "Local Mode", and a language selection dropdown.

Preparing LiveShell X

● Set up a wireless network

To use a wireless network, enter an SSID and password.

The screenshot shows a web browser window for 'Dashboard | LiveShell'. The URL is <https://shell.cerevo.com/start/#step-wireless>. The top navigation bar includes 'Live Shell', 'FEATURES', 'SPEC', 'MANUAL', 'FAQ', 'Logout', 'Settings', and the Cerevo logo. The main content area has the email 'ricohr.devkit@gmail.com' at the top. A large text box on the left says 'Enter wireless network details'. To the right is a configuration form with fields for 'Wireless network name (ESSID)' and 'Password (Wi-Fi passphrase)'. Below these are two checkboxes: 'Use stealth-mode access point' and 'Use fixed IP address'. At the bottom right of the form is a yellow 'OK' button. The footer contains links for 'Online Manual', 'Term of Use', 'Privacy Policy', 'Contact Us', 'About Us', 'Local Mode', and '言語を選択する' (Select Language).

Preparing LiveShell X

● Load the wireless network settings onto LiveShell X

Connect your computer and the LiveShell X device with the setup cable included with LiveShell X. Turn up your computer's volume to maximum and press the play button the screen below to load the settings.

* If the settings are not loaded correctly, reset the LiveShell X device and try again.
Resetting the device will not delete the settings that have been saved until now.

The screenshot shows a web browser window with the URL <https://shell.cerevo.com/start/#step-complete-multi>. The page title is "Dashboard | LiveShell". The navigation menu includes "Live Shell", "FEATURES", "SPEC", "MANUAL", "FAQ", "Logout", "Settings", and the Cerevo logo. A user email "ricohr.devkit@gmail.com" is visible. The main content area has a heading "Save Wi-Fi settings via audio". It features a "Connection Chart" diagram showing a smartphone, laptop, and a "Provided set up cable" connecting them. Below the chart, a numbered list of steps is provided:

1. Connect the 'MIC IN' port on the main device to the headphone jack on your PC/smartphone using the provided blue cable.
2. Maximize PC/Phone's volume.
3. Click or tap the play button below.

A large play button icon is centered below the steps. A note at the bottom states: "If the Wi-fi settings are saved to the device correctly this page will automatically forward to the Dashboard." A link at the bottom right provides troubleshooting information: "If you cannot connect to the network, check your are not using stealth mode/fixed IP address and the network name and password have been entered correctly."

Preparing LiveShell X

● To use Ethernet

Connect the LiveShell X device to an Ethernet cable and follow the on-screen instructions.

* If the procedure does not work correctly even when you hold down the power button for five seconds, try the following solution.

On the LiveShell X device, select [Offline] and then reset the device. A four-digit number may be displayed. Resetting the device will not delete the settings that have been saved until now.

YouTube Dashboard | LiveShell Start - LiveShell

Secure https://shell.cerevo.com/start/#step-wired-multi

Logout Settings CERREVO

ricohr.devkit@gmail.com

Saving Ethernet connection settings

Connection Chart

- ① LANケーブルを接続 Connect Ethernet Cable.
- ② 5秒長押し(電源ボタン) Press and hold for 5 seconds (Power Button).
電源ボタン (Power Button)
- ③ 表示されている数桁の数字を下記に入力 Enter the PIN code in below

1. Connect an ethernet cable.
2. Press and hold power button (upper left) for 5 seconds.
3. Enter the PIN code displayed on the LiveShell in the box below.

4 digits

▶ [Use fixed IP address](#)

If the LiveShell's display shows 'DHCP error' use the link above to enter fixed IP address settings.

OK

Preparing LiveShell X

● To use a 3G/4G network

Enter the information below.

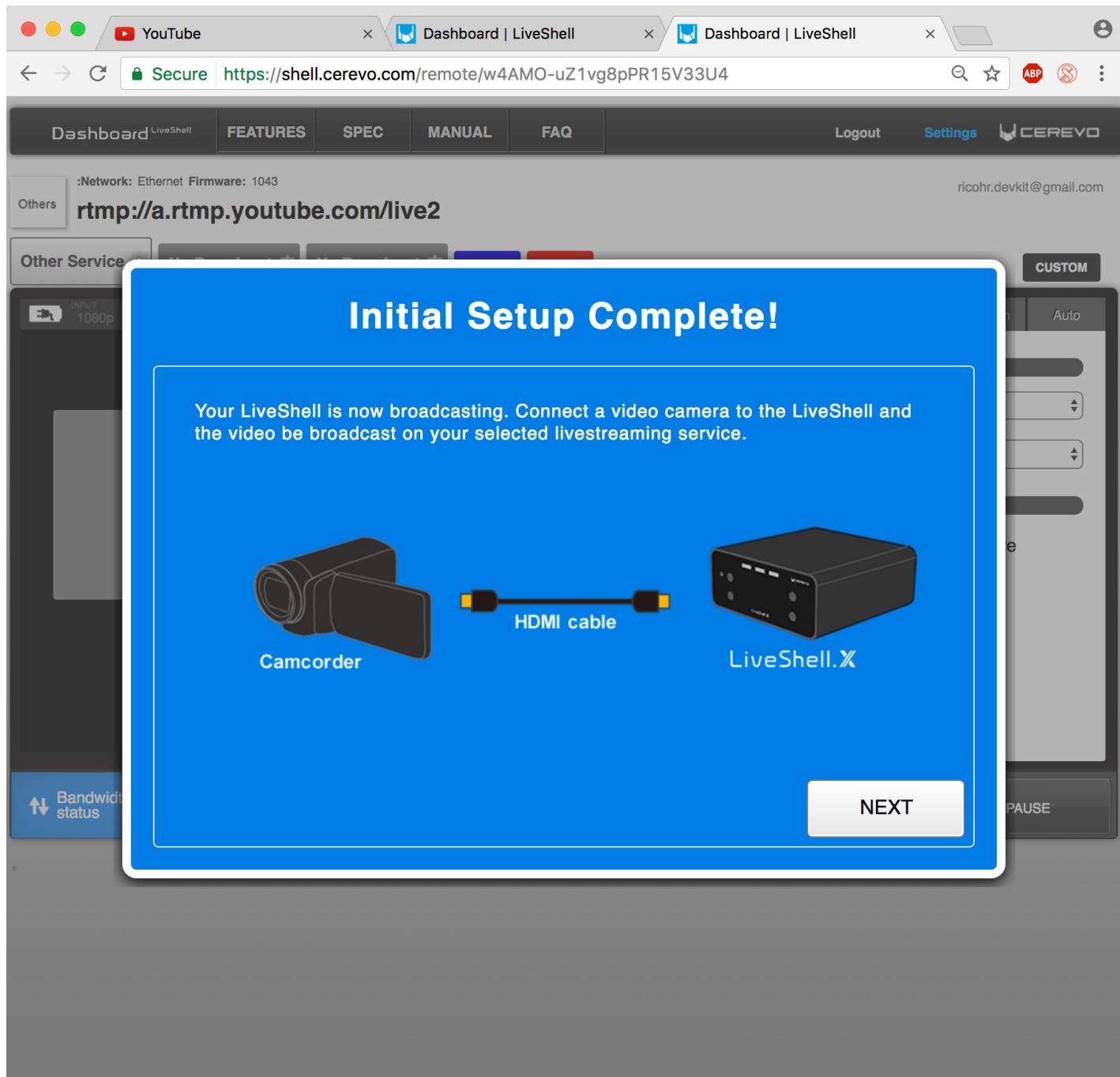
The details to be entered differ depending on your telecommunications service.

The screenshot shows a web browser window for 'Dashboard | LiveShell'. The URL is <https://shell.cerevo.com/start/#step-carrier>. The page has a header with 'Live Shell' and navigation links for 'FEATURES', 'SPEC', 'MANUAL', and 'FAQ'. On the right, there are 'Logout', 'Settings', and a CEREVO logo. The main content area displays the email address 'ricohr.devkit@gmail.com'. Below it, a form titled 'Enter 3G/4G network details' contains fields for 'User', 'Password', and 'APN', each with a placeholder text ('User', 'Password', 'APN'). A large yellow 'OK' button is at the bottom of the form. At the very bottom of the page, there are links for 'Online Manual', 'Term of Use', 'Privacy Policy', 'Contact Us', 'About Us', 'Local Mode', and a language selection dropdown.

Preparing LiveShell X

● Setup complete

If a screen similar to the one below displaying the tutorial appears, this means that setup is now complete.



Preparing LiveShell X

● Connect to the LiveShell X dashboard

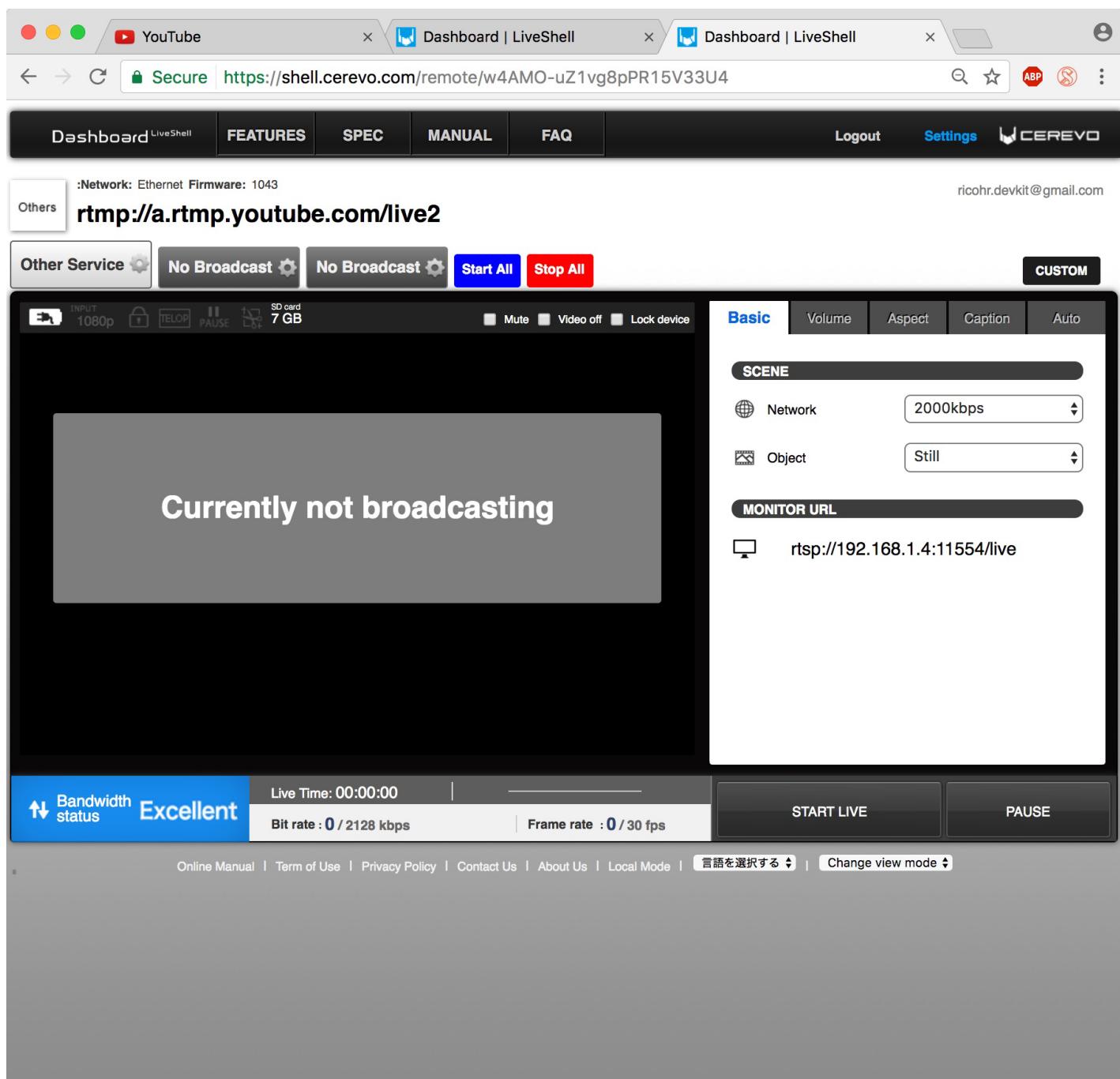
A screen similar to the one below will appear.

If [Bandwidth status] on the bottom left of the screen is blue or green, your device is online.

If your LiveShell X device is not online, it will be gray.

For more information on how to use LiveShell X, see the Cerevo website.

<http://static-shell.cerevo.com/x/ja/product.html>



Preparing LiveShell X

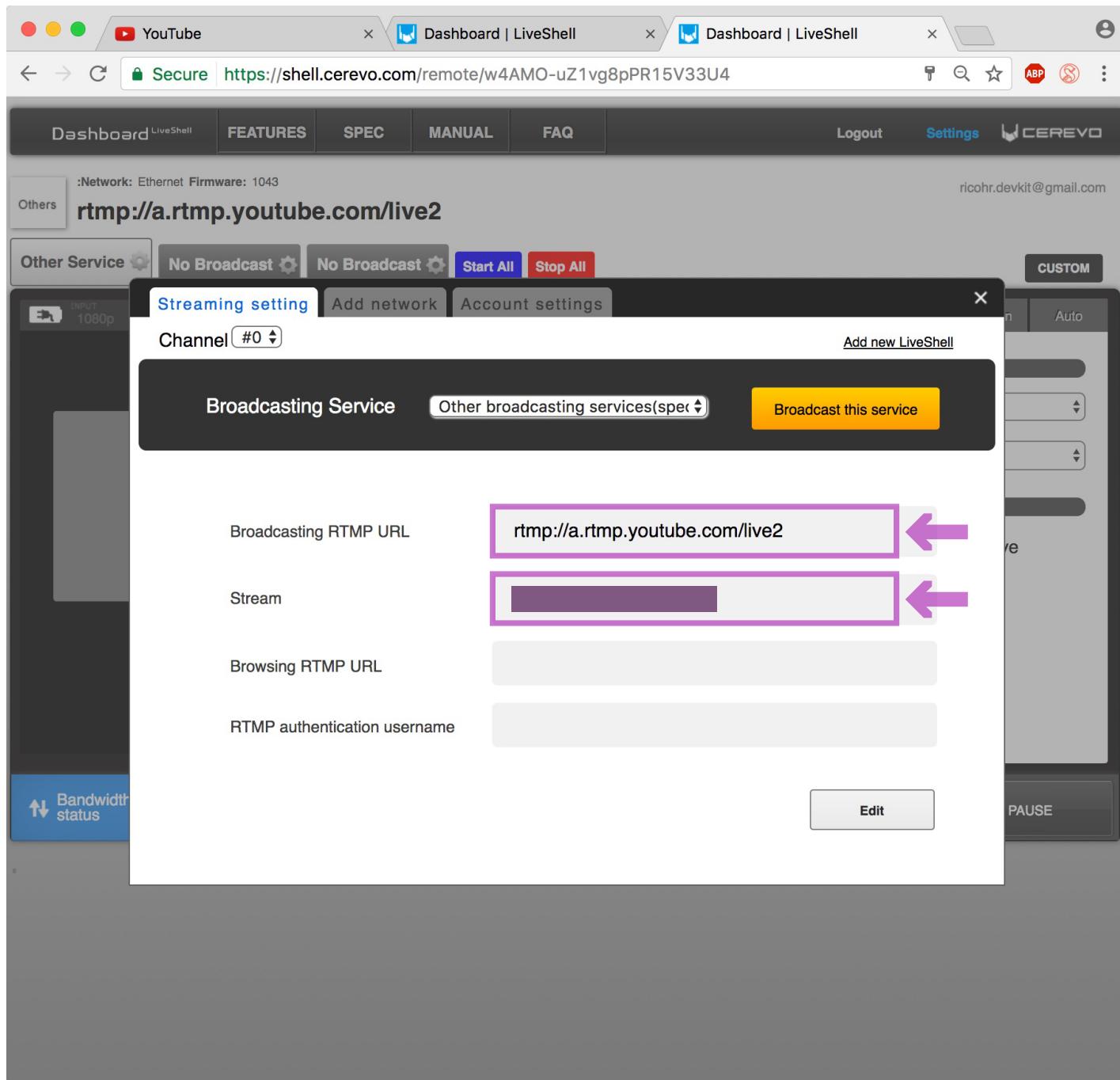
● Check the RTMP server (primary server) settings

To check Channel #0 settings, click the [Other Service] tab on the left of the screen.

A screen similar to the one below will appear.

Confirm that the settings are the same as those displayed on YouTube.

If the settings are different, click the [Edit] button and enter the settings again.



Streaming from LiveShell X

● Start streaming on the dashboard

Check the settings and once you are ready, click [START LIVE] on the bottom right of the screen.
The button changes to [STOP LIVE].

This now completes the LiveShell X streaming preparations.

You also need to operate the YouTube console.

* If you want to pause streaming after you start, click [PAUSE].

If you click [STOP LIVE], the YouTube event will finish and you will not be able to stream with the same URL.

The screenshot shows the LiveShell X Dashboard interface. At the top, there are tabs for 'FEATURES', 'SPEC', 'MANUAL', and 'FAQ'. On the right, there are 'Logout' and 'Settings' buttons, along with a Cerevo logo. In the center, there's a text input field containing 'rtmp://a.rtmp.youtube.com/live2'. Below this, there are several control buttons: 'Start All' (blue) and 'Stop All' (red). To the left, there are status indicators for 'INPUT 1080i', 'SD card 7 GB', and device controls like 'Mute', 'Video off', and 'Lock device'. On the right, there are sections for 'Basic' settings (Network: 2000 kbps, Object: Still), 'SCENE' (Network: 2000 kbps, Object: Still), and 'MONITOR URL' (rtsp://192.168.1.4:11554/live). A large pink arrow points down to the 'STOP LIVE' button at the bottom right. The bottom navigation bar includes links for 'Bandwidth status' (Excellent), 'Live Time: 00:00:09', 'Bit rate: 1229 / 2128 kbps', 'Frame rate: 29 / 30 fps', 'STOP LIVE' (highlighted with a pink box and arrow), 'PAUSE', and language/privacy links.

Streaming from LiveShell X

● Start streaming from the YouTube control room

Click the [Preview] button on the top half of the screen.

After a while, the button changes to [Start Streaming].

Click the button again.

The screenshot shows the YouTube Creator Studio interface. On the left, there's a sidebar with various sections like 'LIVE STREAMING' (which is currently selected and highlighted in red), 'Events' (also highlighted in red), 'CHANNEL', 'ANALYTICS', 'TRANSLATIONS & TRANSCRIPTIONS', 'CREATE', and 'YOUR CONTRIBUTIONS'. Below these is a 'Help and feedback' link. The main area is titled 'Dashboard | LiveShell' and shows a 'Preview Stream' status with a large play button icon. Above the preview, there's a yellow warning message: 'This event can't be featured because it's private.' Below the preview, there's a 'Start Streaming' button, which is highlighted with a purple rectangular box and a purple arrow pointing to it. To the right of the preview, there are sections for 'STREAM STATUS' (GOOD, 1080P STREAM), 'AVERAGE LIVE VIEW DURATION' (00:00), 'TOTAL VIEW TIME (HOURS)' (0), and 'PEAK CONCURRENT' (0). There are also tabs for 'Manage' and 'Analytics'. On the right side, there are sections for 'BROADCAST ALERT' (set to 'None'), 'SLATES INSERTION' (with 'Slate in' and 'Slate out' buttons), 'ADS INSERTION' (with an 'Insert' button and a note about enabling in-stream ad insertion), and 'CREATE HIGHLIGHT' (with 'Set start', 'Set end', and 'Upload' buttons). At the bottom right, there's a note: 'Highlights can only be created when "Sync to preview player" option is enabled.'

Streaming from LiveShell X

● 360° live streaming starts

When streaming starts, the button changes to red and [Stop Streaming].

The streaming time is also displayed. Note that if you click this button, streaming will stop. There may be a slight time lag for streaming to actually start and streaming may not start immediately. If you click [View on Watch Page] on the top right of the screen, you can display the actual YouTube viewing page.

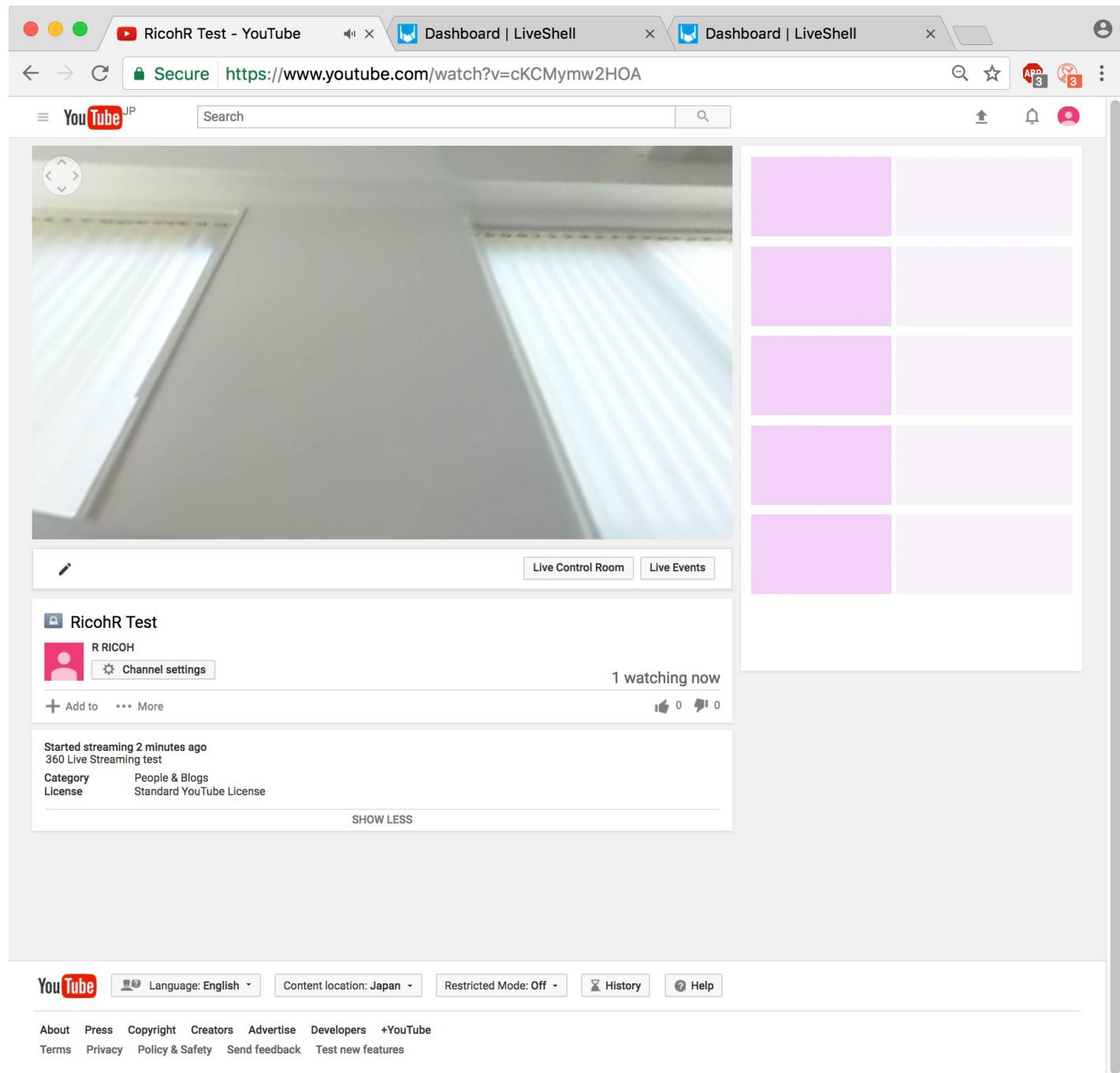
The screenshot shows the YouTube Creator Studio interface for a live streaming event titled "RicohR Test". The left sidebar is visible with sections like CREATOR STUDIO, DASHBOARD, VIDEO MANAGER, LIVE STREAMING (selected), COMMUNITY, ANALYTICS, TRANSLATIONS & TRANSCRIPTIONS, CREATE, and YOUR CONTRIBUTIONS. The main area shows a blue banner stating "Your event is starting..." and a yellow banner stating "This event can't be featured because it's private.". Below these are buttons for "Start Encoder", "Preview Stream", and "You're Live!". A red "Stop Streaming" button is present, and a timer shows "LIVE 00:00:03". To the right of the stream status, there are metrics: AVERAGE LIVE VIEW DURATION 00:00, TOTAL VIEW TIME (HOURS) 0, and PEAK CONCURRENT 0. A "Send feedback" link is at the bottom of this section. On the far right, there are sections for "BROADCAST ALERT" (set to "None"), "SLATES INSERTION" (with "Slate in" and "Slate out" buttons), and "ADS INSERTION" (with an "Insert" button). At the bottom, there's a "CREATE HIGHLIGHT" section with "Set start", "Set end", and "Upload" buttons. A purple arrow points to the "View on Watch Page" button in the top right corner of the main content area.

Streaming from LiveShell X

● Check the live stream

On the YouTube viewing page, you can move the screen by dragging the cursor with your mouse. If you think that the video quality is poor, place the mouse cursor over the live broadcast area to display a gear icon. Try changing the resolution to 1080.

* This affects the data traffic.



Using RICOH R Console

● Connect your RICOH R to a computer

RICOH R Console is an application that enables you to adjust the video and other settings. However, you can configure settings while checking the monitor only during HDMI out mode. You cannot use the console in USB (UVC) out mode.

When you open RICOH R Console, a connection procedure screen similar to the one below will appear.

Follow the on-screen instructions.

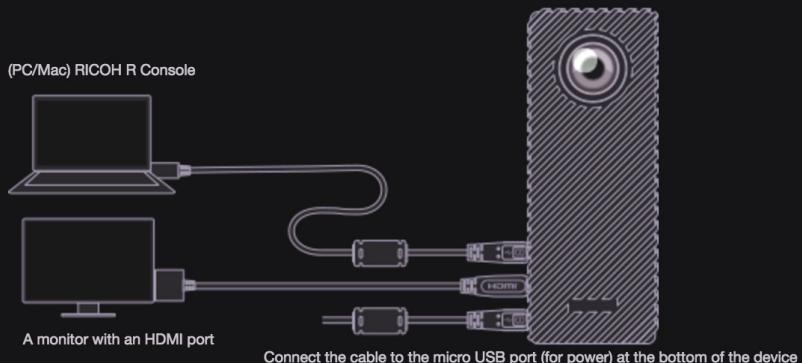
If you connect your RICOH R to a computer via USB, you will be able to select it on the [Device] pull-down menu.



Connection Procedure

① Connect your RICOH R to a HDMI monitor and a PC/Mac.

You cannot use the RICOH R Console when outputting with USB Video Class.



② Check that the LED on the side of your RICOH R is solid blue or red.

If the LED is solid green, press the Shooting Mode button on the side of your RICOH R to change the mode.

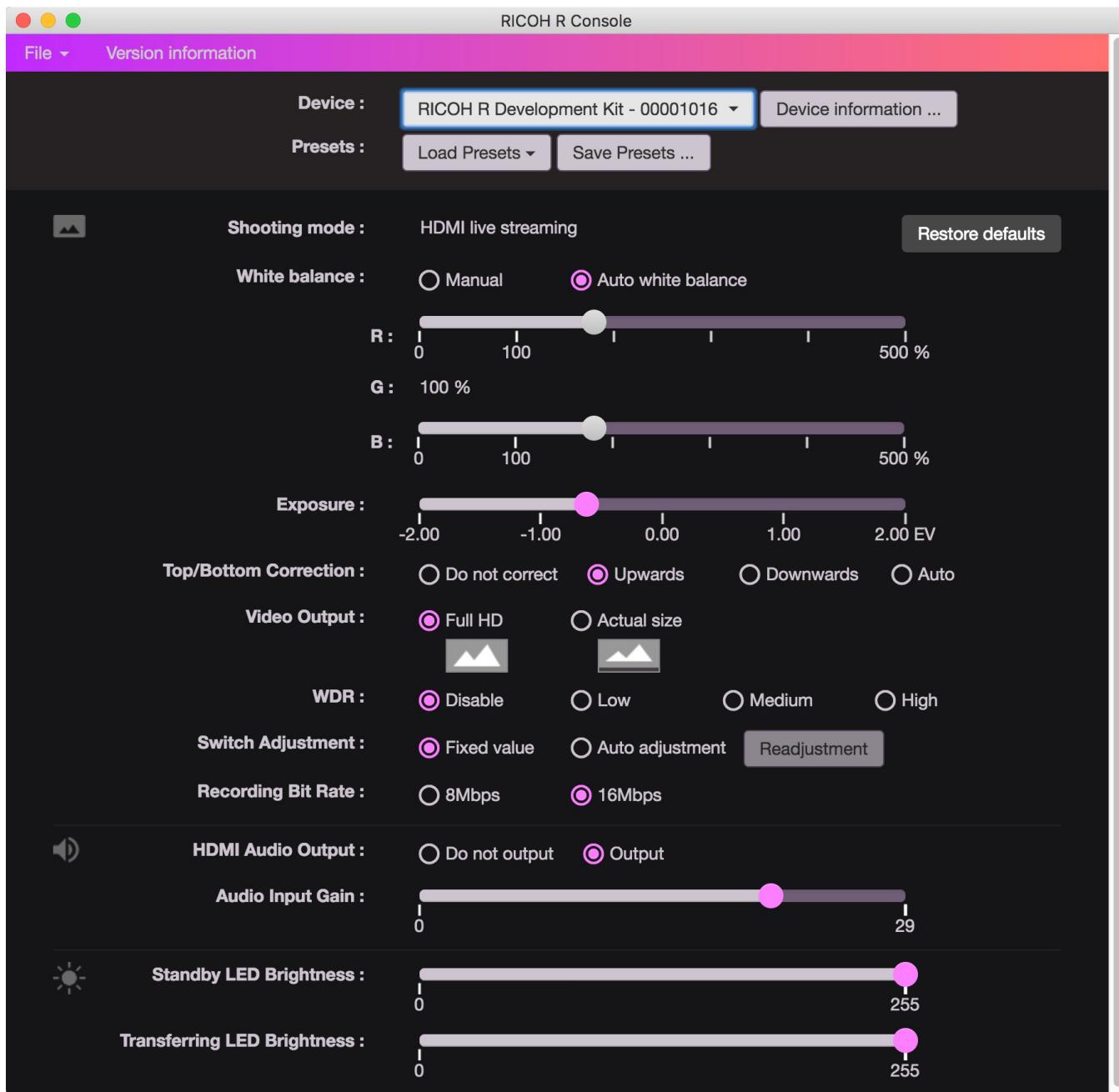


③ On the drop-down list at the top of this screen, select the RICOH R that you connected.

Setting Up RICOH R Console

● Adjust video

Adjust the white balance, exposure, and other settings while displaying video on the monitor via HDMI output. As you can hang your RICOH R from the ceiling, you can also select top/bottom correction. If the quality of the video displayed is poor as the location is dark, light is being reflected, or some other reason, using WDR may improve the quality of the video.



Viewing the Live Stream

● Check the live stream

On the YouTube viewing page, you can move the screen by dragging the cursor with your mouse. If you think that the video quality is poor, place the mouse cursor over the live broadcast area to display a gear icon. Try changing the resolution to 1080.

* This affects the data traffic.