Orah 4i User Guide - v1.0.3

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Orah user guide

Using your Orah camera.

Getting started

For setting up and connecting your Orah 4i camera see the Quick Start Guide.

The stitching box should be connected to LAN. The Orah 4i camera is connected to the POE then connected to the stitching box. The WiFi antenna is connected to the stitching box. Power is connected to stitching box. The stitching box can be turned on.

Using the web control application

This application is hosted on the Orah Box
Follow the following steps to access the application:

1. Connect to the stitching box using WiFi :
    a. Network: ORAH4I_xxxxxxxxxxx
    b. WPAPSK password: 0123456789
2. Open a web browser.
3. Connect to the web control application by connecting to
    a. http://myorah4i.orah.co
    b. 10.224.224.224 if the name based URL is now managed by your system

The web control application features a live preview, options to view and change various settings for the stitching box and the Orah 4i camera, as well as controls to start/stop broadcasting live content on the Internet.

The web control application’s Home Screen displays several options.
Whenever the camera is disconnected and reconnected to the box the control application will show the status of the Camera :

- Discovery
- Technical hand checking
- Calibration synchronization
- and preparation of the preview display.

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The Orah web control application uses modern web standards and a responsive design to offer the best browsing experience from small to large screens.
Please note that Javascript must be enabled on your browser.

Recommended browser

We aim to be fully compatible on all possible browsers, although **we recommend Mozilla Firefox**.
We consider this browser to be the best way to experience our product.
Mozilla Firefox is recommended on:

- Windows 10
- Mac 10.11.5 and 10.11.6 (El capitan)
- Android 4,5 and 6

Please ensure you always have the latest version of the browser installed.
You can download Mozilla Firefox using the link below:
https://www.mozilla.org/en-US/firefox/new/

Updating the stitching box

To enjoy the best experience using our product, we recommend users keep the Orah camera and the stitching box up to date.

Updates will install new features and corrections.

If the stitching box is connected to the internet and a new firmware version is available, a notification will appear in the web control application.

Note : You need to be connected to the internet to be notified of updates.

- If you launch the update, you will be redirected to an instruction page to download and install the new firmware.
- If you select the "not now" option, no update will happen and you will be redirected to the web control application home screen

Update via the "Update Pop up"

Click on DOWNLOAD to open a new web page and discover the changes available and proceed with the download. If you do not want to download at this time select NOT NOW.

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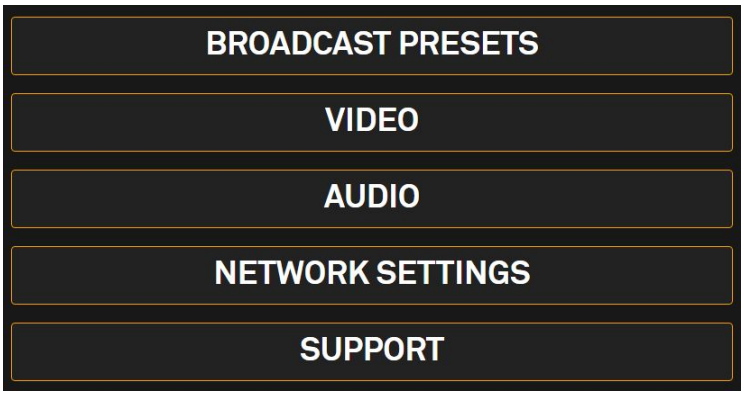
Update via the support page

If you select ‘not now’, an update notification icon will remain available in the web control application interface next to the settings button.

Click on the "Settings button" and click again on the "support button".



On this page, you can review the release notes for the new version.

Simply click on the "download update" button to access the download page and get the instructions to proceed.

Just follow the steps to download the new update for the stitching box.

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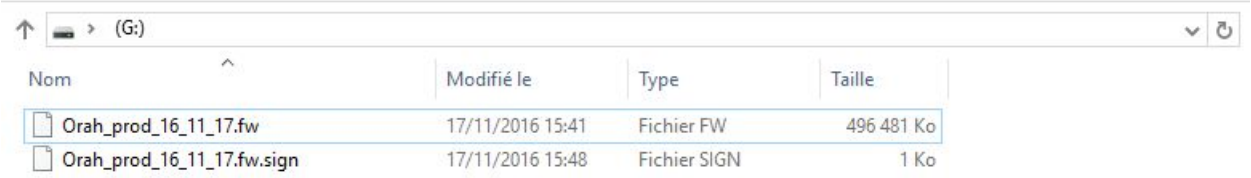
Updating the Orah 4i system

Prerequisite :

- You will need a USB key Fat32 formatted with at least 1GB of available space.
- You will need the latest firmware. It can be downloaded here
- Your Orah 4i stitching box is turned off, the camera is disconnected from the box, and Orah 4i web app is closed

1. Copy and unzip the downloaded firmware to the root of your USB key



Make sure that you do not have other Orah firmware files copied on the same USB key

2. Plug the USB key to one of the USB 2.0 ports of the stitching box

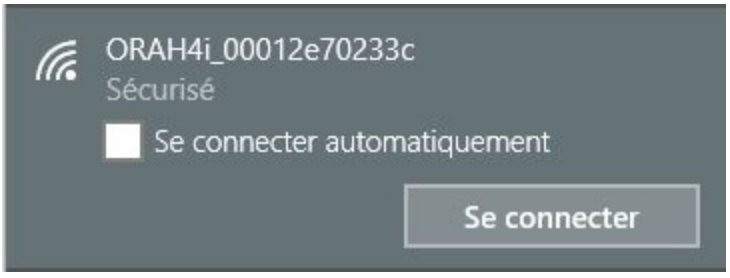
3. Turn the Orah 4i stitching box on

The system will automatically update itself from the USB key. Once the update is completed the system will reboot and you should hear a bip at the reboot.

The complete update should take 2-3 mins

4. Plug the camera to the stitching box

5. Connect to the wifi network of your Orah system



You can refer to the Orah Quick Start guide for more explanation

6. Connect to the Orah 4i web application

You can access the web application by connecting to 10.224.224.224 after connecting to your Orah 4i wifi network.

In the home screen, a pop-up will notify you of the successful update

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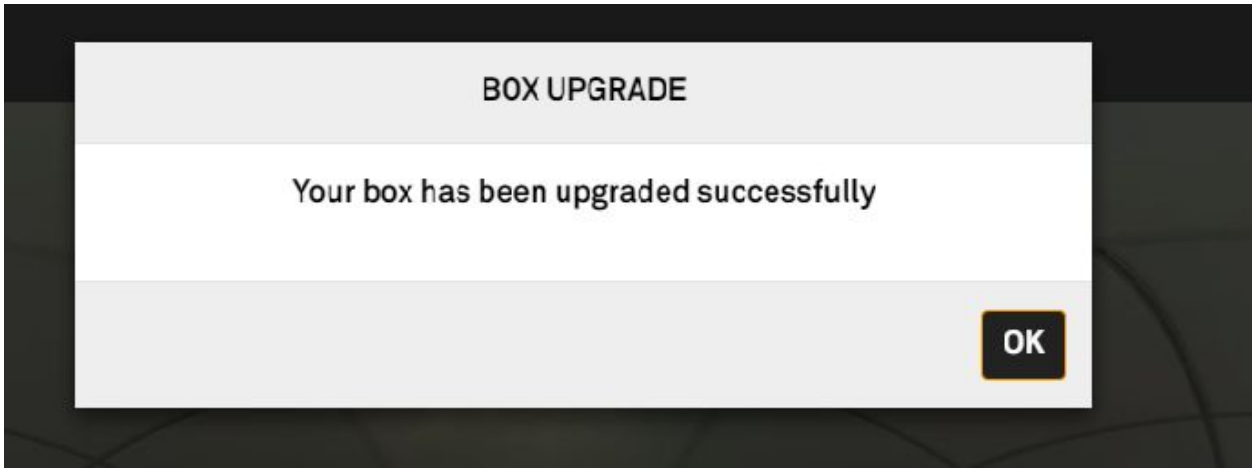
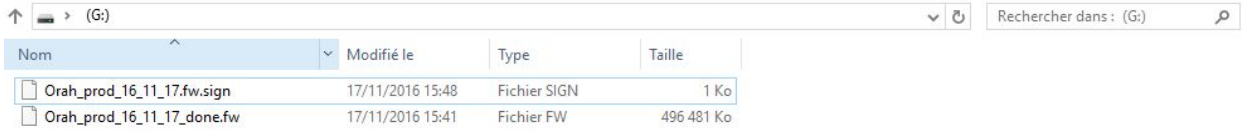


You can also open your USB key, the firmware file will now be suffixed "done" after a successful update



If the firmware of your camera is not the latest one, you will see a notification in the web application prompting you to update the camera firmware. This update is done automatically through the web application.

Updating the Orah 4i camera

Any given version of the Stitching Box embed an approved and validated Camera firmware.

Each time the Orah 4i camera is connected to a stitching box, the stitching box will check the camera’s firmware (FW) version.

- If the Camera Firmware version is older than the Stitching Box, the system will detect it and suggest you to update the Camera firmware

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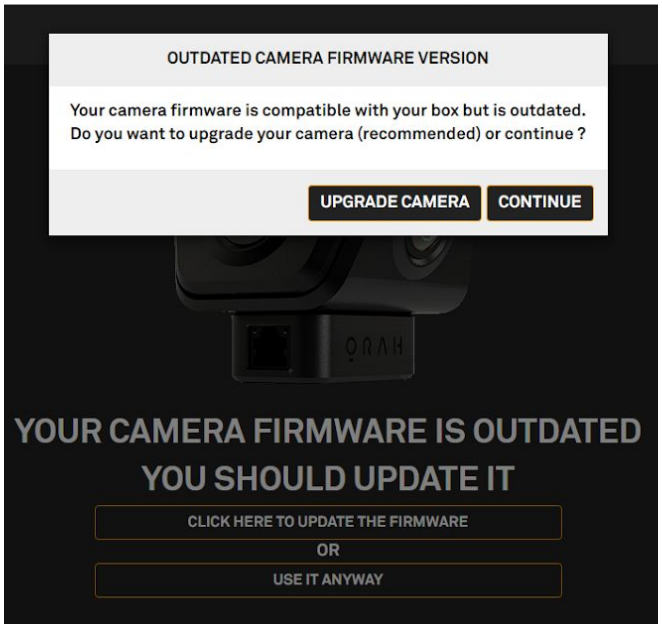

If you own multiple Orah cameras, we recommend you keep them all updated to the latest available version by following the Camera Firmware update process.

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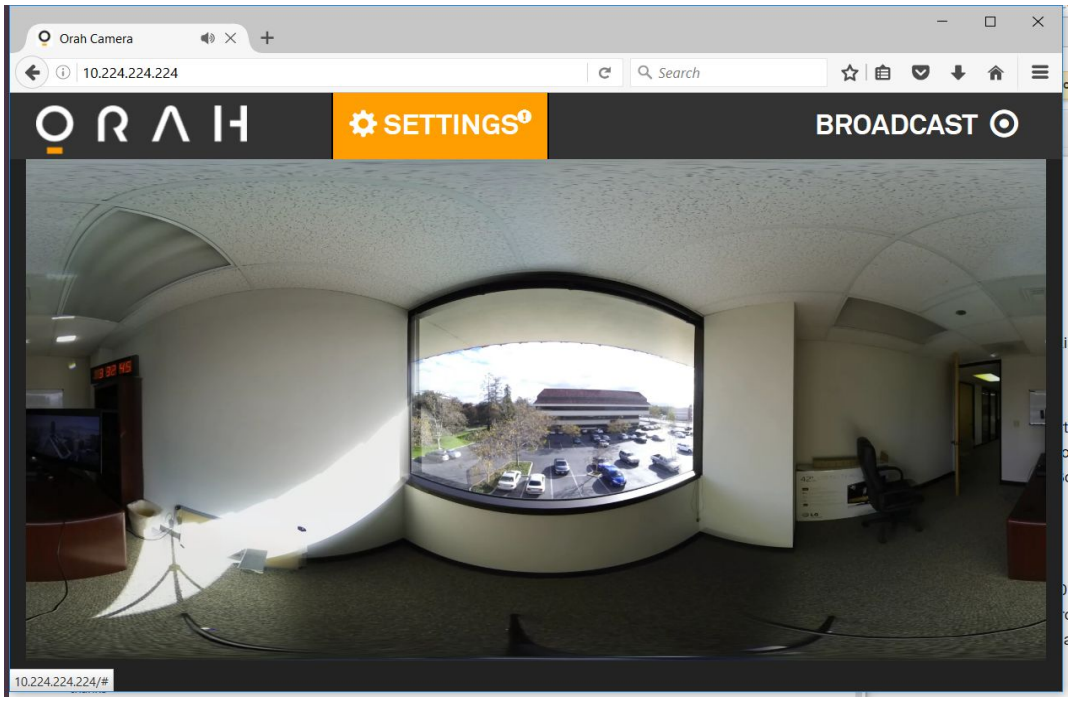
Home screen

The home screen gives you access to a live preview.

- Preview
- Settings
- Broadcast



The preview does buffer the stream to improve preview reliability inducing several seconds of delay.

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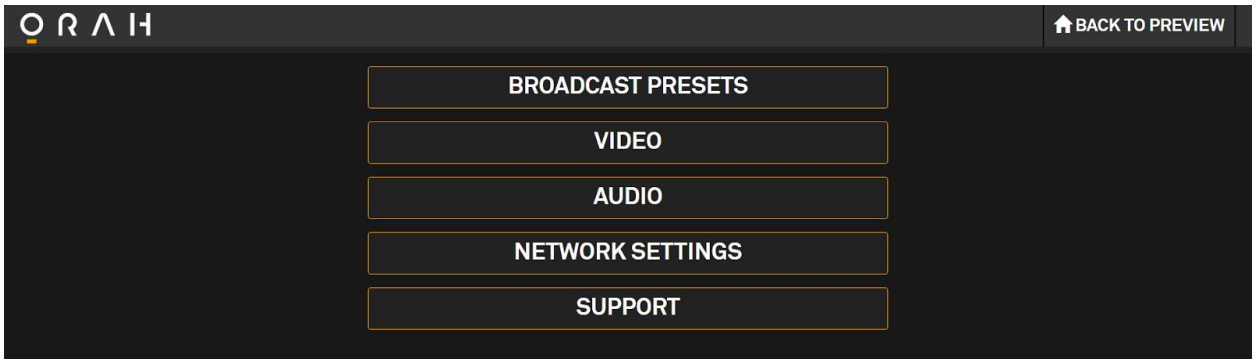
Settings

Clicking on the Settings button will give you access to a menu where you can configure and save your broadcast options (via the broadcast presets), configure the video or audio settings, view the stitching box network details and access technical data for support (firmware versions, logs).



Clicking on “Back to preview” will send you back to the Home page.

1. Broadcast Presets

You can use the broadcast presets menu to edit the broadcasting parameters.

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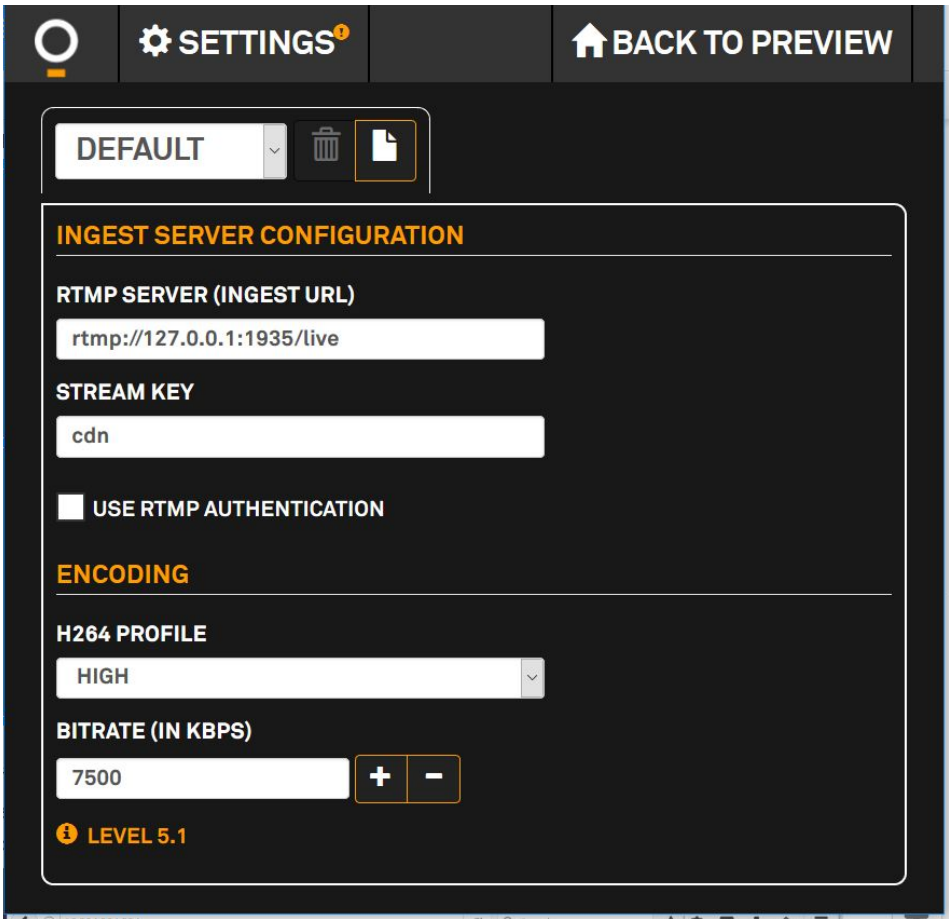

You can choose an existing profile, delete the selected custom profile, or create a new profile.

If you modify an existing profile, you will be able to update, save as a new preset or cancel. The Default profile can not be updated and must be saved as a new name.

- **RTMP endpoint configuration**
  - Enter the correct RTMP server URL to broadcast the RTMP stream to. The system supports any service capable of ingesting RTMP.
  - Enter the stream key as configured on your server.

By default, the Orah 4i does use RTMP authentication. If, for more security when broadcasting, you want to use RTMP authentication, check the “use RTMP authentication” box. The username and password to input in the RTMP configuration are those defined in your CDN configuration.

You can also change the encoding of the video you will stream.

- **Encoding** - to define how the video is compressed and streamed.
  - **H264 Profile**: to change the compression quality.
    - High (recommended)
    - main

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- baseline

Generally **High** profile offers the most bandwidth efficient compression for streaming. **Main** and **Baseline** can be useful if you have specific device or server compatibility requirements. For more details about profiles : click here.

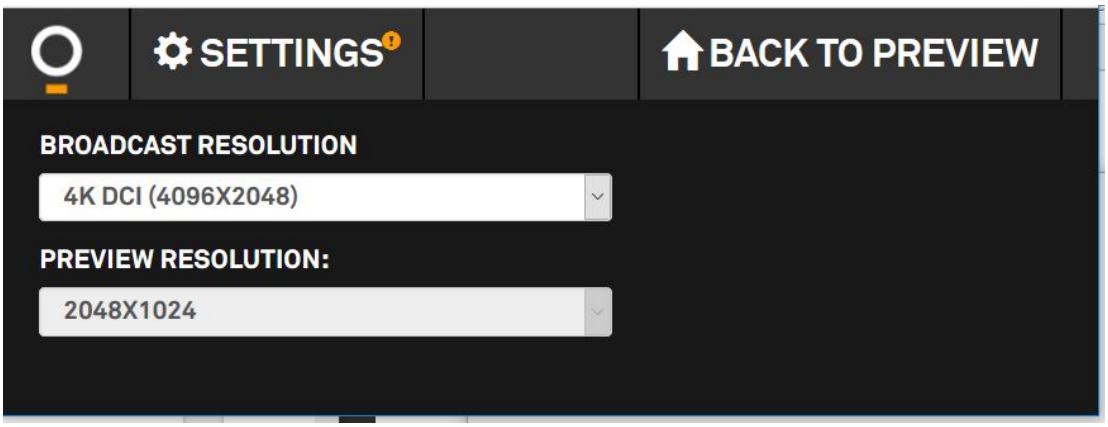
- **Bitrate in Kbps**: the number of kilobits per second. This parameter defines the video compression. It affects the general quality of the image. The minimum is 2500 and the maximum is 50000. YouTube's recommendation for 4k streamed video is between 13000 Kbps - 30000 Kbps. Do not exceed the upload bandwidth of your internet connection, to avoid packet losses during the upload.

The level is the result of the resolution, H264 profile and the bitrate.

Save your changes to a new profile or update one of your existing profiles.

2. Video

In this section you can change the **broadcast resolution,**



Please note, that is not possible to change the broadcast resolution during a broadcast.

There are five available resolution options:

- 4K UHD - 3840x1920
- 4K DCI - 4096x2048
- 2K - 2048x1024
- HD - 1920x960
- 2.8K - 2880x1440

Currently the **preview resolution** is set to 1/4 of the broadcast resolution and encoded as Baseline 4.0, 5 Mbps to ensure it plays smoothly on a wide range of devices.

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3. Audio

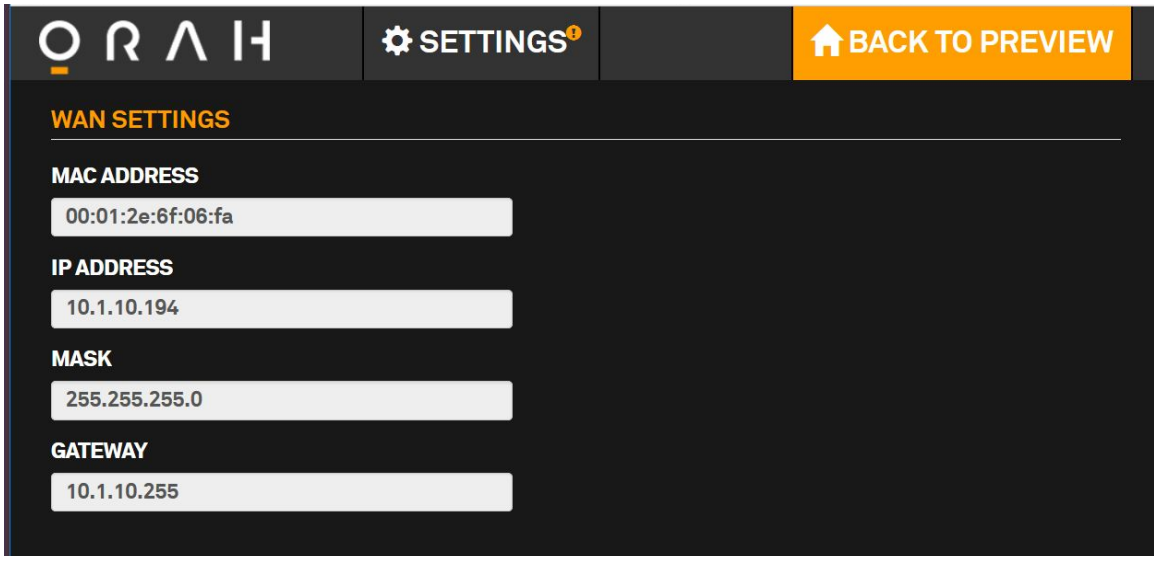
Adjust the audio settings. You can capture sound from two different sources (but not simultaneously):

- Using the camera microphones. Note that the gain can be set using the slider “Gain” (the value ranges from -12 to +67.5).

- Using a line-In: You can use an external device connected to the audio port of the box. Note that you can set delay parameters using the slider “Delay” (value ranging from -1sec to +1sec).

4. Network Settings

Access the **WAN Settings:**



- Mac address - unique identifier assigned to network interfaces for communication at the data link layer of a network segment. The MAC address may be needed by the network administrator to allow the Stitching Box to connect on the network.
- IP address - a numerical label assigned to each device of an Internet Protocol network, allowing to find and reach it.
- Mask - bit mask defining which part of an IP address is targeting the network and which is targeting hosts.
- Gateway - allows to communicate with another network.

If IP Address, Mask, and Gateway boxes are blank then check the physical connections between the Stitching Box and the DHCP server. Ensure the DHCP server is configured correctly. Without information here the Stitching Box will not be able to broadcast a live stream.

5. Support

Displays technical information on your system necessary for any exchange with our support team.

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You will also find your system technical details (stitching box firmware version, camera hardware and firmware version and camera serial number). Camera information will only be displayed if the camera is connected to the stitching box.

Such information is required when contacting the support.

If a firmware update is available, you will also be able to download it from this screen.

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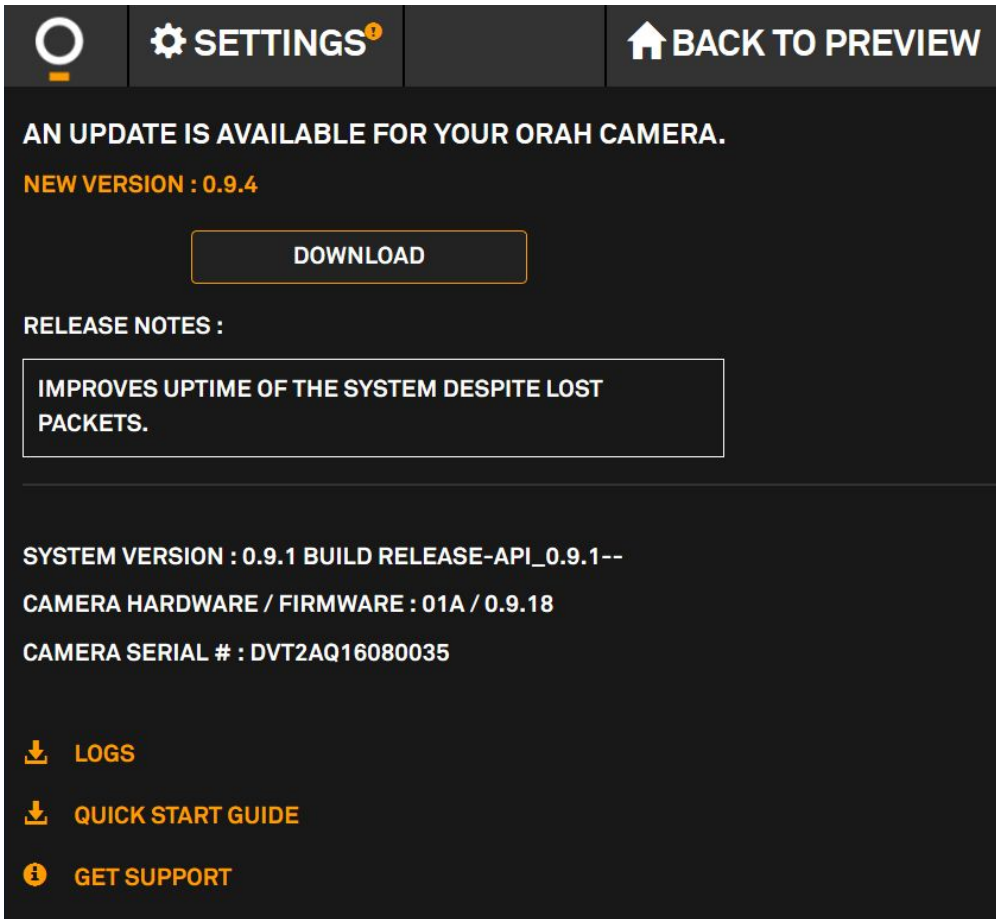

At the bottom section of the support page you can download the logs, documentation and visit our online knowledge base.

- Logs: Download the logs. Logs are secured by a password. Please make sure you attach the log file to your support request if you encounter any trouble using the stitching box or the camera.
- Quick Start Guide: By clicking on this link, you will be able to access and download the Orah "Quick Start Guide".
- Get Support: This will redirect you to the Orah knowledge base where you can access tutorials, answers to frequently asked questions, solutions to common problems and documentation about Orah 4i features.

Broadcast

Broadcast option is available straight from the homescreen. Pressing this button opens a broadcast box.

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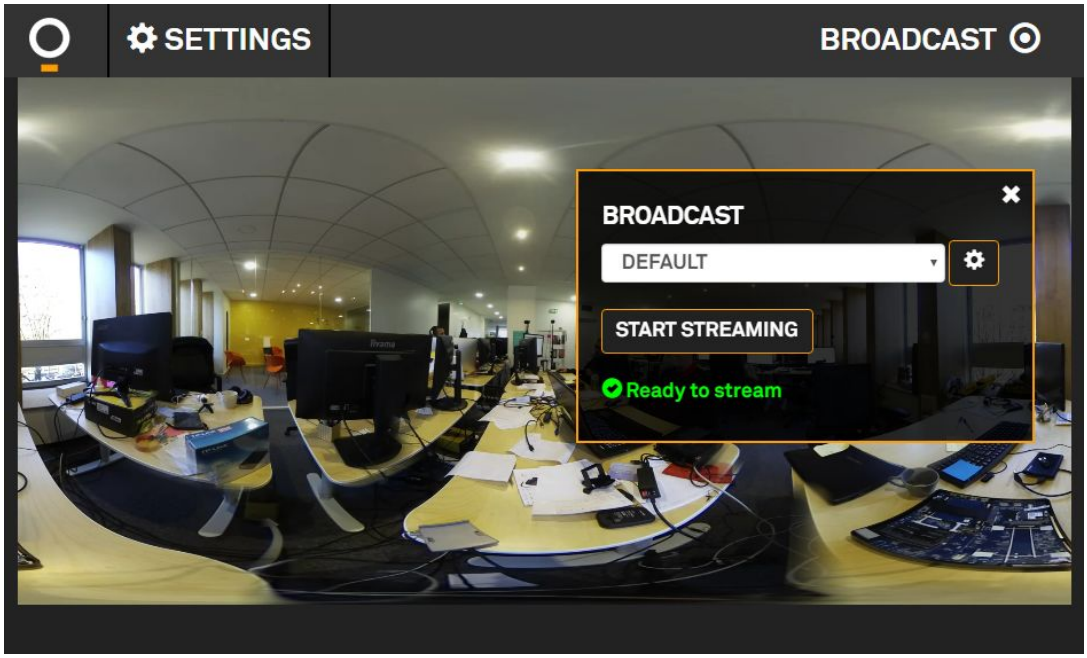
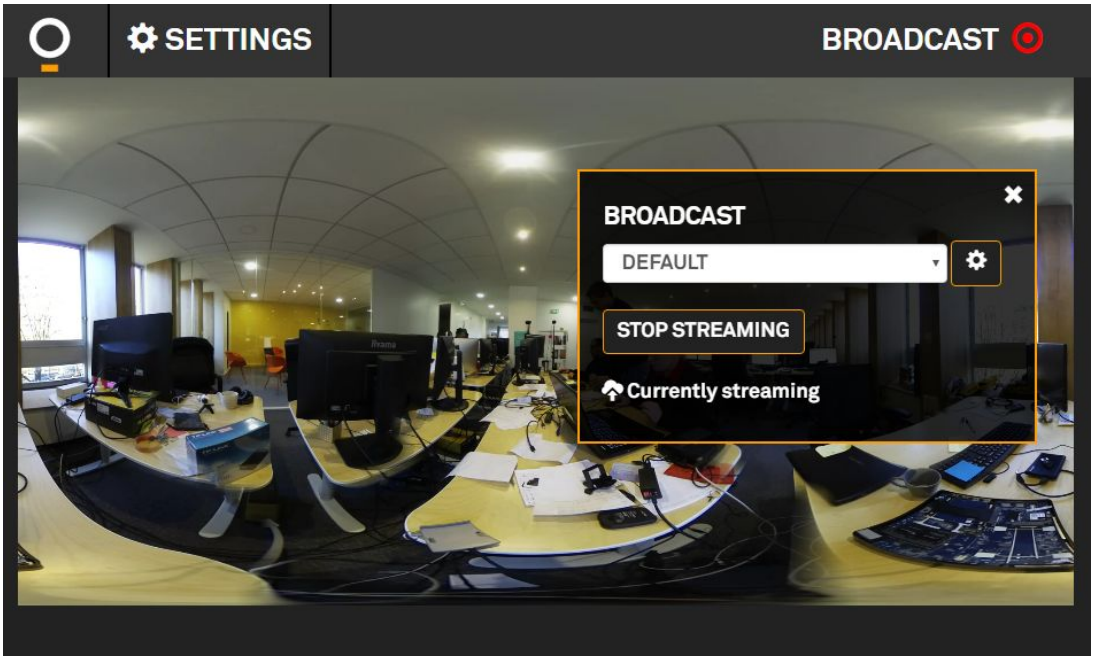


Choose from one of the created profiles. Click the gear to view or modify the profile. Refer to the first chapter of this page for more information about this section.

Click start streaming to publish the panoramic video to the selected profile. Once the streaming has started it must be stopped to make any change to the profile.



How to setup a live broadcast

You can access our dedicated YouTube and Wowza tutorials through the link below.

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Broadcast to YouTube

http://support.orah.co/hc/en-us/articles/206497084-How-to-stream-to-YouTube-using-the-Orah-4i

Broadcast to Wowza

http://support.orah.co/hc/en-us/articles/207316010-How-to-live-stream-with-the-Orah-4i-and-Wowza

Using the preview streams in a third party player

- There are some 360° video players for PC and smartphone that can play the streams interactively.
- An example of this is SpherePlay available for Android and iOS.
    - Connect to your Stitching Box using WiFi
    - From the menu **…**, choose **Open URL**
    - Enter the http://10.224.224.224/hls/preview/index.m3u8 (http://myorah4i.orah.co/hls/preview/index.m3u8 can also be used)
    - Select projection, choose Sphere
    - Hold your phone level in landscape mode and double tap to set the orientation.
    - Pan and zoom to inspect the video to ensure the camera is placed in the ideal location.

Basic Troubleshooting

- Can not access the stitching box WiFi
  → Make sure antenna is connected to box
  → It generally takes several seconds after booting for the camera Wifi connection to appear, please give some time for the wifi signal to become visible from your device.

Getting support

For any question you can contact our support team at
→ http://support.orah.co/hc/en-us/requests/new

Make sure you provide the camera and stitching box versions and attach your log files.

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Supported browser

The following system/browsers are supported at the time of this documentation release.
System updates and/or browser updates can have an impact on the effective compatibility list.

For Mac users :

- Chrome 52
- Firefox 48

For Windows 10 users :

- Chrome 52+
- Firefox 47+
- Opera 39
- IE 11
- Edge 38

For Android users:

- Firefox 41+

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