User Manual

up2talk

Flexible remote production

May 2025

Your audio. Our solution.

2wcom

Manufacturer

2wcom Systems GmbH
Am Sophienhof 8
24941 Flensburg
Germany

Phone (+49) 461 662830-0
Fax (+49) 461 662830-11
Email contact@2wcom.com
Web www.2wcom.com

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About this Manual

You can download the latest version of this user manual here:

https://download.2wcom.com/products/up2talk/

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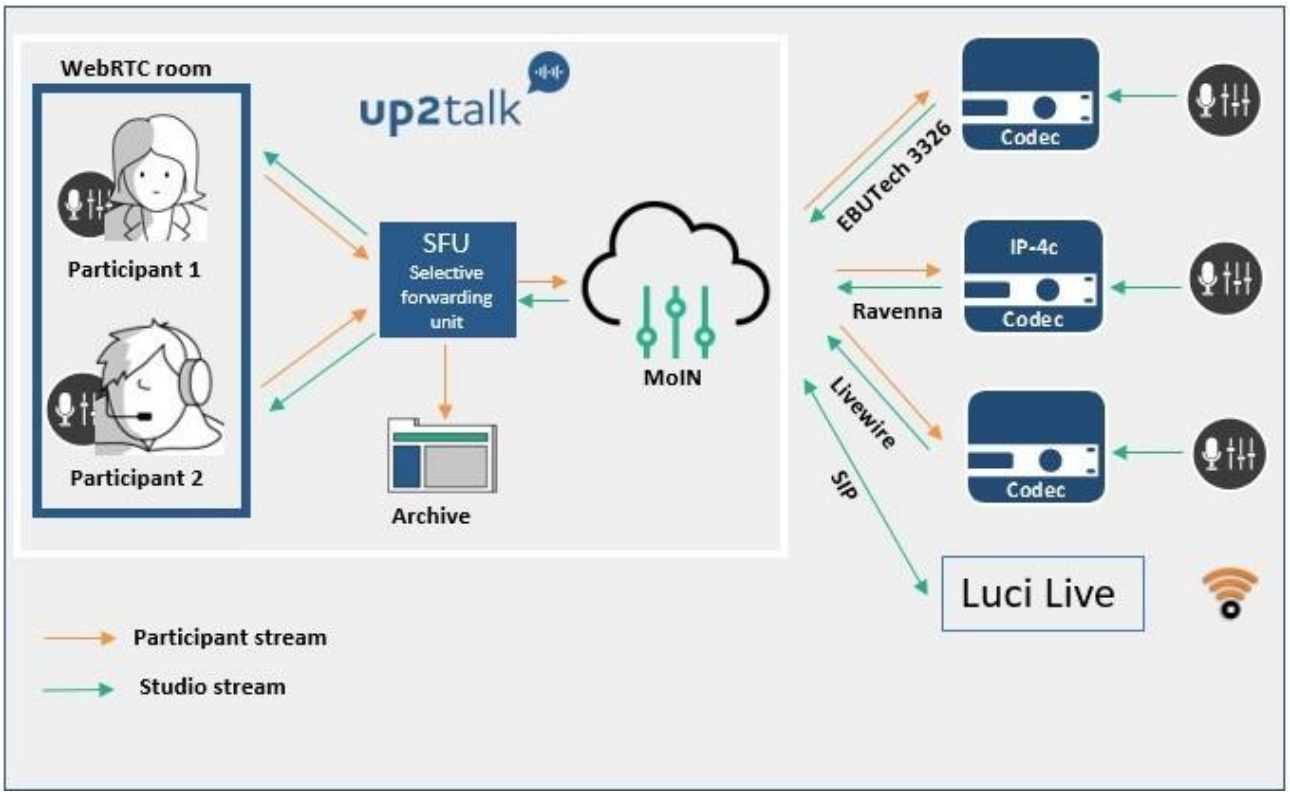
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1 About up2talk

up2talk is a browser-based software that allows broadcast professionals to connect and interact effortlessly with remote workers or guests by creating a virtual studio that is accessible via a simple link. Compatible with laptops, tablets, and mobile phones, up2talk ensures easy access for participants regardless of their device. Users can conduct face-to-face interviews, capturing each participant's audio on individual tracks for precise content production. Additionally, up2talk enables users to operate from home or while on the move. The software also allows moderators to upload sounds for live playback during sessions. up2talk utilizes the MoIN audio-over-IP software to ensure high-quality audio transmission to a real studio. A SIP infrastructure can be integrated as well as SRT, AES67, Dante, Livewire+, RAVENNA, Wheatnet and more.



2 Requirements

To ensure a smooth experience with up2talk, please review the following technical requirements and recommendations:

Supported Browsers

- Google Chrome (and Chromium-based browsers)
- Mozilla Firefox
- Safari

Hardware Recommendations

- No specific hardware requirements. A microphone or headset is strongly recommended for optimal audio quality

Network Requirements

In environments with restrictive firewalls, the following firewall exceptions must be configured to enable proper operation of up2talk:

- TURN server: turn.up2talk.de
- IP address: 157.230.108.68
- Ports to be opened: 3478/UDP and 443/UDP

Minimum Internet Bandwidth

- Download: 600 KB/s (4.8 Mbps)
- Upload: 100 KB/s (0.8 Mbps)

A stable internet connection is essential for reliable audio transmission.

3 Role table

The following table gives an overview of the roles and permissions for up2talk. Roles can be allocated to groups and specific users (see 21 Configuring user settings).

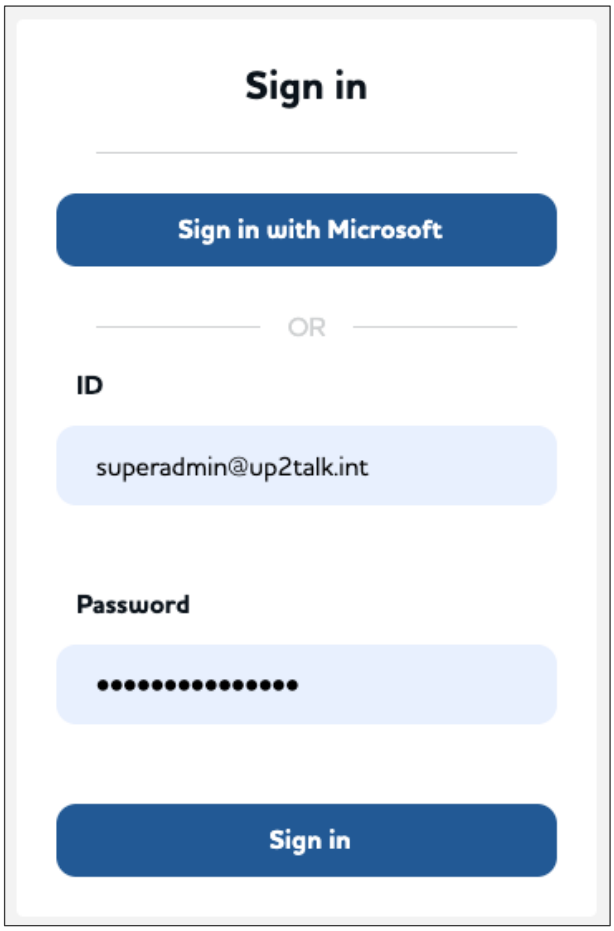
		Admin	Technician	Moderator	User	Guest
General	Join studio	✓	✓	✓	✓	✓
	Mute/unmute self	✓	✓	✓	✓	✓
	Activate/deactivate own camera	✓	✓	✓	✓	✓
	Send chat messages	✓	✓	✓	✓	✓
Invitations	Create studio invite link	✓	✓	✓	✓	✓
MoIN	See "Studio settings" option in navigation bar	✓	✓	✓	✗	✗
	Edit MoIN config	✓	✓	✗	✗	✗
Participants	Control participants (not implemented yet)	✓	✓	✗	✗	✗
Recording Session	See the recordings of a studio	✓	✓	✗	✗	✗
	Start a recording	✓	✓	✓	✗	✗
Settings	See settings option in navigation bar	✓	✓	✓	✗	✗
	See general studio settings	✓	✓	✓	✗	✗
	Edit general studio settings	✓	✓	✓	✗	✗
	See studio-specific settings	✓	✓	✓	✗	✗
	Edit studio-specific settings	✓	✓	✓	✗	✗
	See user settings	✓	✗	✗	✗	✗
	Edit user settings	✓	✗	✗	✗	✗
Sound Panel and Sounds	See sound panel option in navigation bar	✓	✓	✓	✗	✗
	Create, edit and delete sound panel buttons	✓	✓	✓	✗	✗
	See options button on studio list item	✓	✓	✓	✗	✗
	Create studio and see "Create studio" button on dashboard	✓	✓	✓	✗	✗
	Activate/deactivate studio	✓	✓	✓	✗	✗
	Delete studio	✓	✓	✓	✗	✗
Waiting Lobby	Activate waiting lobby for studio	✓	✓	✓	✗	✗
	Accept waiting lobby user	✓	✓	✓	✗	✗
	Decline waiting lobby user	✓	✓	✓	✗	✗

4 Logging in

To log in to up2talk:

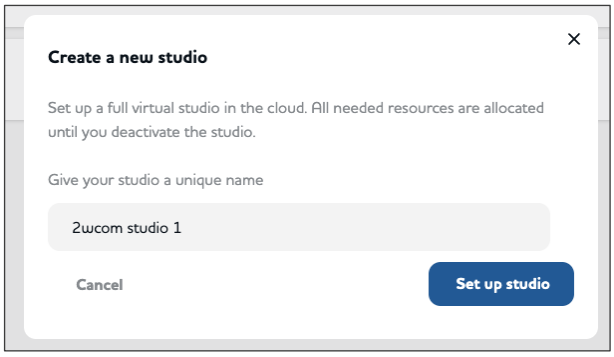
1. Enter your customer namespace into a browser: [example].up2talk.de.
2. Log in with your Microsoft account or use login credentials that you have received from 2wcom.
3. Click **Sign in**.

✓ The up2talk dashboard appears.



5 Creating a studio

You can create virtual studios with individual settings and sounds. You can let everyone with the link join the studio or set a guest password. The number of studios that can be active at the same time depends on your license.



To create a studio:

1. Navigate to the page **Home**.
2. Click **Create studio**.
   - ➢ The window **Create a new studio** appears.
3. Enter a name for your studio. The name can only contain letters, numbers, dashes, and spaces.
4. Click **Set up studio**.
   - ➢ Creating a studio typically takes between 10 seconds and a few minutes, depending on server resource availability. Resources are automatically added as needed.

✓ The studio is now active.

6 Joining a studio with an account

To join a studio as a user, moderator, technician, or admin, you must be logged in to up2talk.

1. Navigate to the page **Home**.
2. Click on the panel of the studio that you want to join.
3. Enter the name that will be shown to the participants.
4. Select your device options for audio and video.
5. If the website asks for permission to use the camera and microphone, click **Allow**.
6. Click **Join**.

✓ You have joined the studio. To leave the studio, click .

7 Joining a studio as a guest

Guests can join a studio without an account. As a guest, you can write messages but cannot change any studio settings.

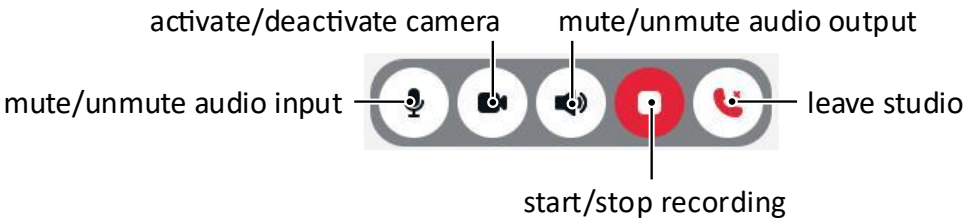
To join a studio as a guest:

1. Click on the invite link that you have received from a moderator.
2. If you were given a password, enter into the password field.
3. Click **Continue**.
4. Enter the name that will be shown to the participants in the studio.
5. Select your device options for audio and video.
6. If the website asks for permission to use the camera and microphone, click **Allow**.
7. Click **Join**.

✓ You have joined the studio. To leave the studio, click .

8 Control bar

In a studio, use the control bar for the following functions:



9 Sending messages

You can send chat messages to other participants in a studio. Messages are not saved and will be deleted after leaving the studio. Participants can only see messages that were sent after they joined the studio.



To send messages:

1. Click **Toggle chat** .
2. Write your message into the text field.
3. When you are ready, click **Send** or press **Enter**.

✓

10 Enabling the waiting lobby

Enabling the waiting lobby requires a moderator, technician, or admin to approve participants before they can enter the studio.



To enable the waiting lobby:

1. Join the studio.
2. Select **Settings**.
3. Toggle the **Enable waiting lobby** switch.
4. Select **Save**.

✓ When participants are waiting in the lobby, an indicator appears on the **Settings** icon, and you will receive a notification. To approve participants from the waiting lobby, select **Accept**.

11 Adding and playing sounds

You can add up to 7 sounds to the soundboard of a studio and play them live.



To add and play a sound:

1. Join the studio.
2. Click **Soundboard**.
3. To add a sound, click **+**.
4. Enter a name for the sound.
5. Select a file or upload a new one.
6. Click **Add**.

✓ The sound is added to the soundboard. To play the sound, click on its panel.

12 Setting up an automatic SIP connection

You can set up a SIP connection to link the virtual studio to a real studio. The audio from the virtual studio will be transmitted to the real studio through the utilization of the MoIN software. You can either enter the settings and let up2talk create a connection with the MoIN software automatically, or you can manually set up the connection on the MoIN.



To set up an automatic SIP connection:

1. Join the studio.
2. Click on **Studio settings → Automatic → SIP**.
3. Enter the address of the SIP server that you want to connect with.
4. Enter the username for registering with the server.
5. Enter the phone number that can be used to call the studio.
6. Enter the display name that callers will see.
7. Enter the password for registering with the SIP server.
8. Click **Set**.
9. To add a contact, click **Add**. Enter the Display name and Phone number of the contact. Click **Enter**.
10. To start a call, select a contact and click **Call**.

✓ You have established a SIP connection.

13 Integrating an SRT video stream

The video supply function allows for seamless integration of SRT streams into virtual studios, making it ideal for applications like sports commentary. This function supports high-quality video streaming and ensures stable, low-latency transmission of video feeds to enhance remote production.



To integrate an SRT stream:

1. Join the studio
2. Under **Studio Settings** select the **SRT** tab.
3. Select **Edit** to open the SRT configuration settings.
4. Configure SRT stream settings:
   - Name: Enter a descriptive name for the stream.
   - Mode: Select the connection mode from the drop-down list.
   - Host: Enter the IP address or URL of the SRT stream source.
   - Port: Specify the port number for the SRT connection.
   - Latency: Set the desired latency in ms.
   - Stream ID: Enter a Stream ID if required by the source.
   - Passphrase: If the SRT stream is password-protected, enter the passphrase.
5. Select **Save**.
6. Select **Activate**. This will enable the video stream within the studio.

✓ The SRT stream is now integrated into the studio.

14 Configuring connections manually on a MoIN

You can set up a SIP or SRT connection to link the virtual studio to a real studio. The audio from the virtual studio will be transmitted to the real studio through the utilization of the MoIN software. You can either enter the settings and let up2talk create a connection with the MoIN software automatically or you can manually set up the connection on the MoIN.



To configure the connection manually:

1. Join the studio.
2. Navigate to **Studio settings → Manual**.
3. Click **MoIN configuration**.
   - ➢ The web interface of the MoIN opens.
4. Set up the connection on the MoIN. For further information, refer to the MoIN user manual: *https://download.2wcom.com/products/MoIN_HSND/*
5. In the studio, click **Connect**.

✓ You have established a connection between up2talk, MoIN, and the real studio.

Ports used in the MoIN

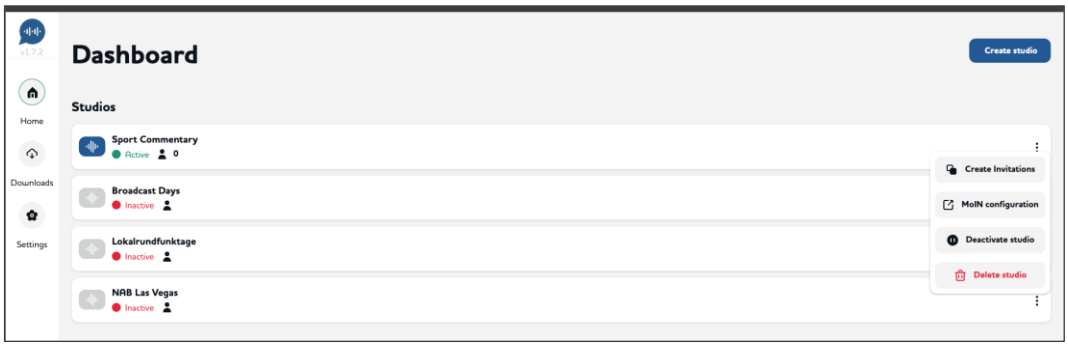
The following inputs and their respective ports are available in MoIN. To add these in the MoIN, go to **Codec → Input Source → ES - RIST** and set the decoder type to **Opus**.

Name	Port	Description
downmix	8004	Mix of all participants (left + right channels)
left_downmix or main_downmix	8014	Mix of the left channel for all participants
right_downmix or talkback_downmix	8024	Mix of the right channel for all participants
srt_loopback	8104	Redirects the second audio channel for Sports Commentary
Participant 1-6	5004, 5014, 5024, 5034, 5044, 5054	Individual streams of each participant (left + right channels)

15 Deactivating or deleting a studio

When you find that a studio is no longer required for your ongoing projects or collaborations, you can deactivate or delete it.

- Deactivating a studio is useful to temporarily stop its use without losing any settings or recorded sessions. Users will not be able to join a deactivated studio. Deactivating studios gives you the option to create or activate other studios.
- Deleting a studio permanently removes the studio and all its related data. Only delete a studio if you are certain that the settings and recorded sessions are no longer needed.



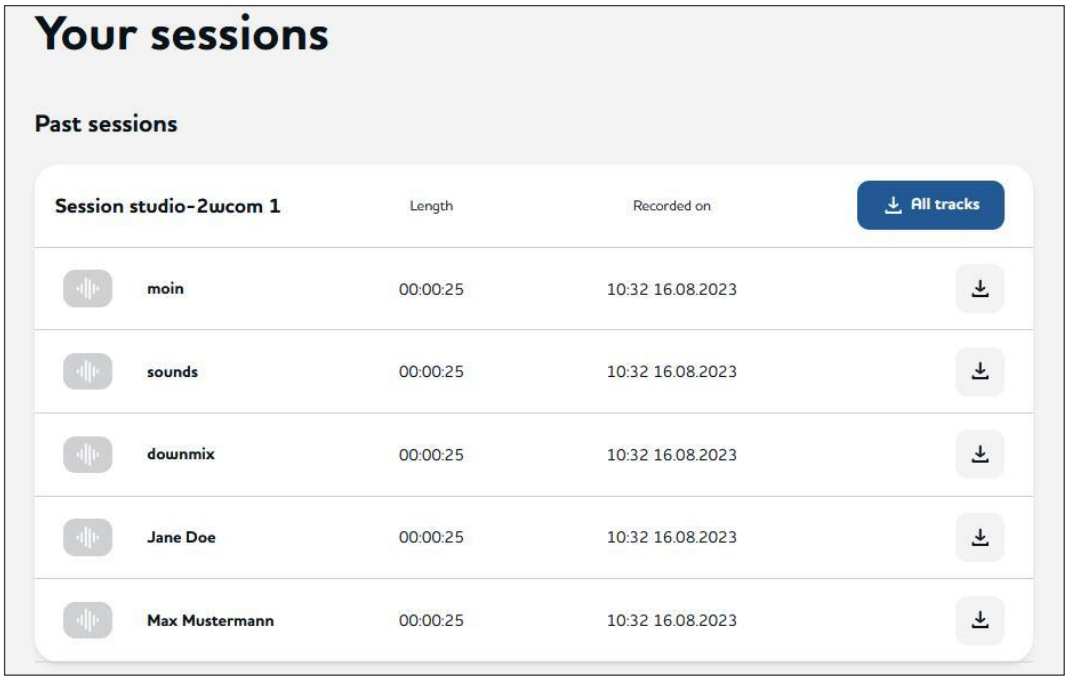
To deactivate or delete a studio:

1. Navigate to the Home page.
2. Click on the menu of the studio that you want to delete or deactivate.
3. Select either **Deactivate studio** or **Delete studio**.
4. Confirm your decision in the dialog window.

✓ You have deleted or deactivated the studio. To activate an inactive studio, click **Activate studio**.

16 Downloading audio tracks of past sessions

During a studio session, all participants' audios can be recorded, each in its own audio track. Simultaneously, up2talk creates a downmix recording with all participants and the live-played sounds.



To download audio tracks of a past session:

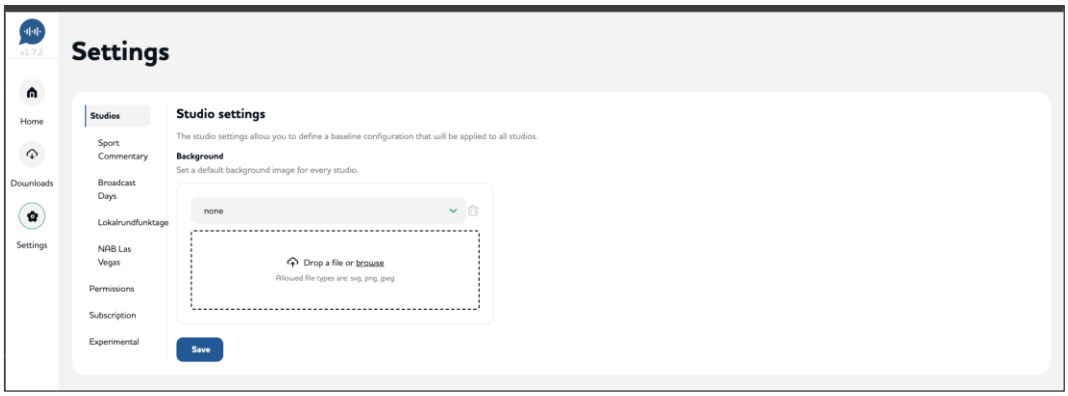
1. Navigate to **Downloads**.
2. Select the studio in which the session was recorded.
3. Click on a session to view all tracks.
4. Download either individual tracks or click **All tracks** to download them all at once.

✓ You have downloaded audio tracks of a past session.

Alternatively, you can join a studio and download audio tracks of past sessions there.

17 Changing default studio settings

You can configure default settings that apply to all studios. Settings specified for individual studios will override these default settings.



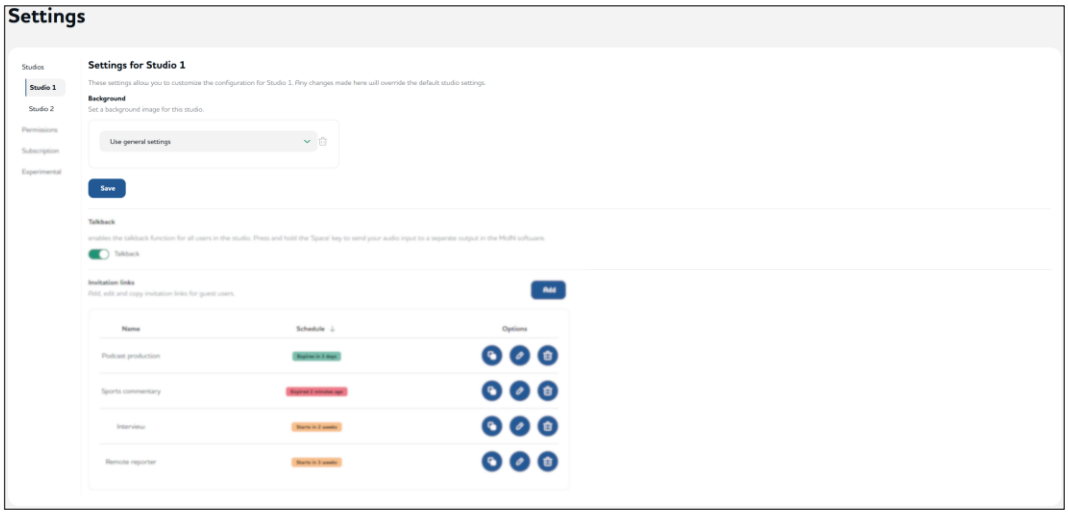
To change default settings for all studios:

1. Navigate to **Settings → Studios**.
2. To set a default background image for all studios, select a background image from the drop-down list.
3. Alternatively, upload a new background image. Accepted file types are svg, png, jpeg.
4. As an admin, you can also set the maximum number of studios that can be active at the same time.
5. Select **Save**.

✓ The default settings are now applied to all studios.
To configure alternative settings for individual studios, see 18 Setting a studio-specific background.

18 Setting a studio-specific background

You can set a studio-specific background that overrides the default background.



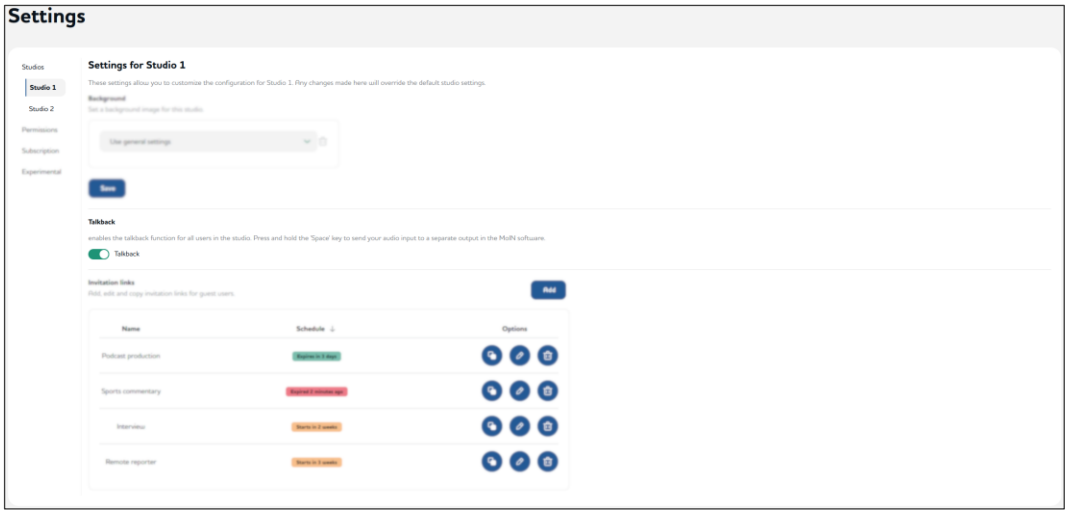
To change the studio-specific background:

1. Navigate to **Settings → Studios**.
2. Select the studio from the list.
3. Under **Background**, select a background. Alternatively, upload a new background.
4. Click **Save**.

✓ The background for this studio is now active for that studio. Alternatively, you can join the studio and change the background there.

19 Activating the talkback function

Talkback allows users in the studio to press and hold the space key to send their audio input to a separate output in the MoIN software. This can be helpful for communication between participants and the production team without it being heard in the main audio stream.



To activate the talkback function:

1. Navigate to **Settings** ➞ **Studios**.
2. Select the desired studio from the list.
3. Under the **Talkback** section, toggle the switch to enable the Talkback function.
4. To use talkback, press and hold the **Space** key on your keyboard while in the studio.

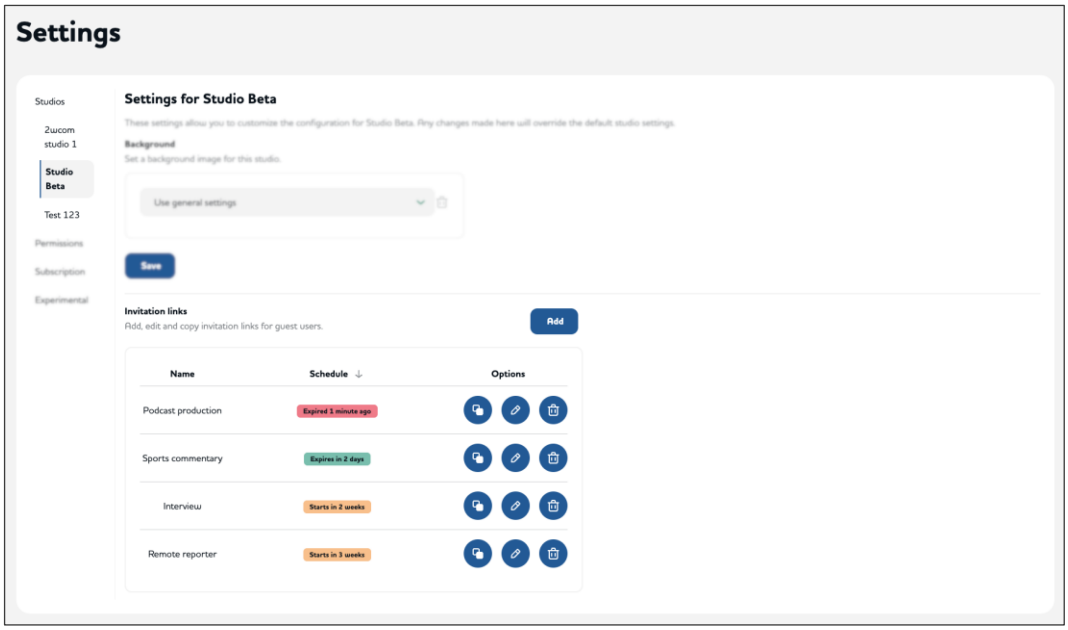
✓ Your audio input is now sent to a different output in the MoIN software as long the **Space** key is pressed.

How talkback works

- When the talkback function is enabled, audio is transmitted in mono for each user. Each user's audio is sent to the left channel by default. When a user presses and holds the Space key, their audio is temporarily routed to the right channel instead.
- When the talkback function is disabled, the audio transmission will adjust according to the input type (mono/stereo).

20 Managing and sharing invitation links

You can create invitation links for each studio, and set a password and a specific schedule for use. These settings help you control who joins the studio and when, preventing unauthorized access and ensuring that participants join at the correct time.



To create an invitiation link:

1. Navigate to the **Settings** page and select the studio for which you want to create an invitation link.
2. Under **Invitation Links**, select **Add**.
3. Enter a name and password for the invitation link.
4. Select a start date and an expiration date for the password validity.
5. Select **Create**.

✓ The new invitation link is now listed under **Invitation Links**.

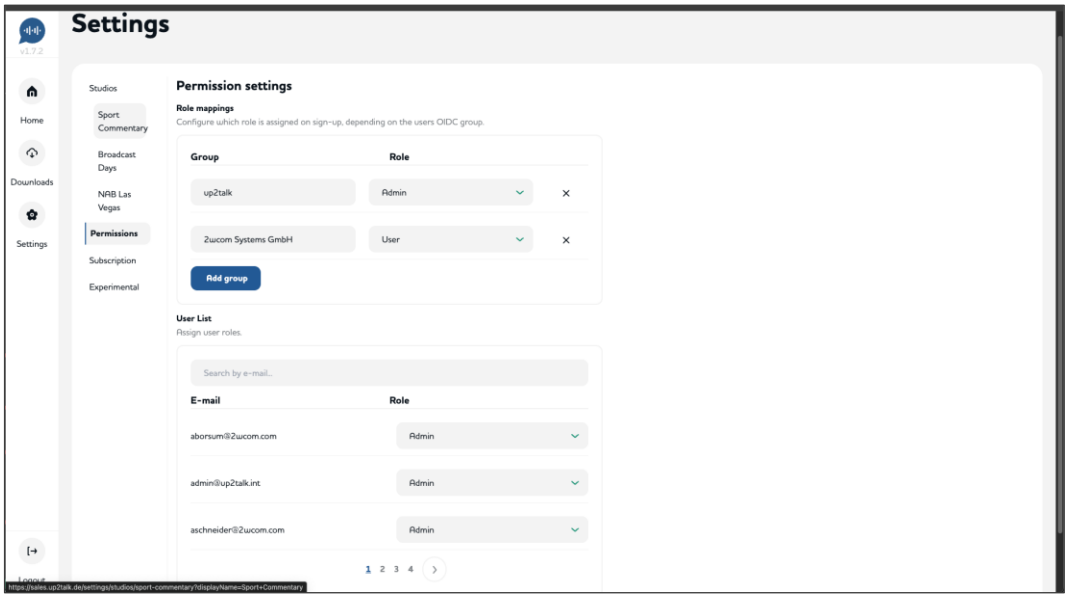
To send the invitation link to participants, copy it from the **Settings** page.

To copy the link when inside the studio, go to **Participants** and select the link from the dropdown menu.

21 Configuring user settings

You can configure which role is assigned to a user on sign-up depending on the group. The groups are linked to the group mapping of your provider (for example Microsoft). You can also assign roles to specific users.

-



To configure the user settings:

1. Navigate to **Settings → Users**.
2. In the block **Role mappings**, click **Add group**.
3. Enter the group name and assign a role to the group. Make sure that the group name is identical to the corresponding group name in your provider's group mapping.
4. To assign a role to a specific user, enter the e-mail address in the block **User List**.
5. Select the role for the user.
6. Click **Save**.

✓ Users are now assigned a role on sign-up.

If a user is assigned to several groups, the user will be assigned the role associated with the group that has the highest-ranking role. This ensures that the user is given the most privileged set of permissions available to them based on their group affiliations.

22 Specifications

up2talk – Specifications

WebRTC

WebRTC is a real-time communication standard developed by Google and supported by all major browsers.

For optimal audio quality, Opus is used with the highest settings. The video codec is selected based on browser compatibility.

Supported Browsers

- Chrome
- Firefox
- Edge
- Opera
- Safari (Some functions of WebRTC are limited)

Audio

Besides Opus, WebRTC supports several other audio codecs.

Codecs

- Opus (Chrome, Firefox, Edge, Opera, Safari)
- G722 (Chrome, Firefox, Edge, Opera, Safari)
- PCMU (Chrome, Firefox, Edge, Opera, Safari)
- PCMA (Chrome, Firefox, Edge, Opera, Safari)
- ISAC16 (Chrome, Safari)
- ISAC32 (Chrome, Safari)

MoIN

The MoIN audio over IP Software can transmit the audio to a real studio. It supports integration with SIP infrastructure as well as AES67, Dante, Livewire+, RAVENNA, Wheatnet, and more.

Recording

In up2talk, the audio from all participants can be recorded on separate tracks. Simultaneously, a downmix recording is created, combining all participants, the connection to MoIN, and any live-played sounds.

Sounds

Sounds can be uploaded by a moderator of a virtual studio in MP3 format. These sounds can be played back live to the participants and are recorded synchronously to each participant's audio track.

Video

The optional up2talk SRT Stream Integration Extension enhances virtual studios by enabling seamless integration of SRT (Secure Reliable Transport) streams. This extension allows users to incorporate high-quality video and audio streams into their virtual studio environments with ease.

SRT Stream Input

- **Licensing:** Each license permits the addition of 1 SRT stream per virtual studio.
- **Protocol:** Supports TS (Transport Stream) over SRT
- **Modes:** Configurable as either Caller or Listener
- **Recommended Latency:** 250 ms for optimal performance or 2.5x round trip time
- **Encryption:** AES-256 encryption ensures secure data transmission

Video Stream

- **Encoding:** H.264 codec support
- **Resolution:** Up to 1920x1080, providing full HD quality
- **GOP Size:**
  - At 1920x1080 resolution: Minimum GOP size of 50
  - At 1280x720 resolution: Minimum GOP size of 25

2wcom Systems GmbH – Am Sophienhof 8 – 24941 Flensburg – Germany
+49 461 662830-0 (Fax11) – contact@2wcom.com – www.2wcom.com

up2talk – Specifications

Audio Stream

- **Channels:** Each stream includes two stereo audio channels.
- **Encoding:** AAC-LC codec.
- **Bitrate:** 256 kbit/s for each stream, ensuring high audio fidelity.
- **Sample Rate:** 48 kHz for clear and accurate sound reproduction.

Performance

Studio

Up to 6 participants can join a session in a virtual studio and use all functionality.

Scalability

By using Kubernetes, you can scale the number of virtual studios according to your needs.

Recommendations

Hardware

Up2talk is a browser-based solution that works on any device with a browser and internet access. Therefore, an external microphone is recommended.

Hosting

Hosting can be managed by the customer or provided as a service by 2wcom.

License Options

Select from our list of licensing options and only pay for the functionality that you need.

Article no.	Name	Description
VER63903	up2talk – Video Input	Extension for up2talk virtual studios that enables seamless integration of SRT streams. Each license allows the addition of an SRT stream with an H.264 video with a resolution of up to 1920x1080 and two AAC-LC 256 kbit/s 48 kHz audio streams. Price per virtual studio per year.

Datasheet Version: 11. September 2024
These data are subject to modifications and amendments. Errors excepted.

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