



## Remote Speaker / Video Calls – Webmeeting ...

Integrate speakers from anywhere in the world into a live stream.

### 1. Technical requirements:

- Internet connection: Check whether your Internet connection is sufficient for a video call. The minimum bandwidth is: Upstream = 2 Mbit/s and Downstream = 2 Mbit/s.

The Internet speed can be checked with a "Speed Test". Make sure that the necessary bandwidth is actually available at the time of your video call and is not restricted by your children's computer games or increased other activities in the evenings.

- Hardware equipment: Your computer should be up to date and suitable for carrying out video calls. This requires several technical requirements, which are usually met by modern devices.

- Browser: The video call module requires a browser. Make sure that a current browser (Google Chrome, from version 56 or Firefox, from version 50) is available.

The following operating systems are supported: Windows, Mac, Android and iOS (iPhone, iPad) from version iOS 11 and a Safari browser.

- Network / Firewall: Make sure that the execution of the video call is not blocked by a firewall, or release this application if necessary. We recommend the following settings:

#### Firewall Requirements

TURN/STUN: Port 10349 UDP/TCP

Video/Audio Streams: Dynamic Port Allocation UDP - 49152-65535

#### Minimum Requirements

Video Calls can establish a connection with only TCP access to remote port 10349. However, audio and video will need to be routed via one of our remote servers, so call quality may be reduced as a result.

### 2. Camera/Webcam:

You can use a camera integrated in the PC or monitor, or a webcam connected to the computer via a USB connection.

In order to achieve the best possible image quality, we recommend a current, high-resolution HD camera and set up as follows:

- Camera position: Place the camera in the direct line of sight. Experience has shown that your eyes look mostly at your (main) screen.

- Camera image: The face or upper body to the chest should be positioned as centrally as possible in the camera image. Check your position, distance and orientation of the camera before starting your video call.



### 3. Audio (microphone / loudspeaker):

The audio quality depends largely on the basic technical implementation (audio source) and the influence of disturbing background noise. If you have integrated microphones, such as used in a webcam, PC or monitor, then test them beforehand, especially with regard to the distance and possible noise. To achieve a good result, we recommend using a high-quality lavalier/clip-on microphone.

- The studio controls your audio signal, so always leave your microphone on.
- Since you can also be seen on a video call, the use of a headset may be less suitable.
- You need a loudspeaker to be able to hear your conversation partner(s).
- When setting up the video call, make sure to select the desired devices as recording and playback devices and to set the optimal volume.
- Avoid background music or other disturbing noises.

### 4. Lighting, Environment, Styling:

- Light conditions: Sit well-lit and avoid shadows. It is important to exclude any light source in the background such as: window, door, lamp, sunlight.
- Your environment: The focus of the transmission should be on you. Use a background that is as "calm" as possible, possibly even a solid color, and avoid distractions from furnishings, other people, etc.
- Skin and hair: The camera often enhances details and makes hair and skin appear greasy. Therefore, hair freshly washed and fixed (avoid flying hair), beard groomed or freshly shaved and (shiny) skin powdered if necessary.
- Clothing and accessories: Dress appropriately for the occasion. Colorful and bright colors often look different in the video than in the original and can also affect the way other colors are perceived. Contrasts (white/black) can be more dominating in video. Shiny and flashing objects should be avoided. Make sure that glasses have an anti-reflective lens.

Furthermore, please do not wear checked, lined or patterned clothing. This can lead to "flickering" in the transmission.

Tip: Check your camera image using the tips above before starting the broadcast.

### 5. Test:

It is always advisable to test the equipment used before a video call.



## 6. During a Video Call:

The rules of conduct during a video call hardly differ from those in day-to-day life. Nevertheless, the lack of physical presence of the other person often leads to thoughtless actions, which we want to prevent with the following tips:

- Use the usual polite phrases to introduce yourself and to greet the other participants or to say goodbye at the end.
- Stay seated as long as you are part of the video call and avoid any distractions from hectic movements or other activities. Keep eye contact to signal you are being attentive.
- Speak clearly and at normal volume.
- If there are several participants in the video call, the exchange of visual signs or messages (chat) is useful, e.g. to announce a request to speak, a change of speaker or other information.
- If there are several participants in a video call or if a sequence of different lectures and speakers is planned, we recommend a "moderator" to organize and coordinate the video call.

Should you have any questions, we will be happy to help.

Your IMS webcast team