

# System requirements for encoder broadcasts

For events with **Your Encoder** as the live acquisition source. This article details the system requirements for broadcasting a Live event or recording a Simulated Live event with an encoder.

To join the Live Studio and moderate or present, your system must meet the following minimum system and hardware requirements. Please test your bandwidth on the same network as your broadcast using <https://speedtest.net> or similar site. You will also need 1.5x the total bitrate in upload bandwidth speed.

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## Live Studio Requirements

If you're joining the Live Studio as a moderator or presenter, your system must meet the following requirements.

What you need	Moderators and Presenters
Hardware	PC or Mac  <b>Note:</b> Your computer must be plugged in and have a sound card with speakers and a monitor with 1024x768+ resolution support.
Operating System	<ul style="list-style-type: none"><li>• Windows 10</li><li>• Windows 8.1 Pro or newer</li><li>• macOS 10.14 or newer</li></ul>
Processor (CPU)	Intel Core i5 3.0GHz or better  <b>Note:</b> Less powerful processors will degrade audio and video performance.
Memory (RAM)	4 GB

What you need	Moderators and Presenters
Browser	<p>Current or previous 5 versions of:</p> <ul style="list-style-type: none"> <li>• Google Chrome</li> <li>• Firefox</li> <li>• Microsoft Edge</li> <li>• Safari (Mac devices only)</li> </ul> <p><b>Note:</b> Safari is not supported for screen sharing.</p>
Internet Speed	<p>A dedicated and wired high-speed internet connection of 5 Mbps or better (upload and download) per stream (primary and backup).</p> <p><b>Note:</b> To ensure a stable connection, disconnect from the VPN and use a wired internet connection, instead of Wi-Fi. Wi-Fi connections are prone to dips in bandwidth that can negatively impact your video connection.</p>

If you are unable to open the Live Studio, access might be blocked by a firewall or your company network security rules. Review our network requirements and make sure the ports and IP ranges in the "Webcast Presenters - Video Events" column are permitted. If you are unsure of your settings, contact your IT Administrator.

## Broadcasting Requirements

A moderator must join the Live Studio to connect the encoder to the event, start the event, manage event content and Q&A, and end the event. Presenters that will be presenting content must also join the Live Studio.

To broadcast with an encoder, your must:

- Have a dedicated connection with bandwidth that consistently exceeds the bit rate you are transmitting. For example, if you are streaming at 800 Kbps we recommend a

dedicated connection of at least 1.6 Mbps. If you're using an active backup encoder, the bandwidth requirements should be doubled to 3.2 Mbps.

- Have a hardware and software package capable of encoding live video streams delivered using the Real Time Messaging Protocol (RTMP). Your PC must permit the RTMP (TCP over port 1935).
- Support H.264 (Video) / AAC (Audio) configurations
- For 720p or 1080p broadcasts, have HD encoding software installed (for example, Wirecast, OBS, or vMix)

### **Notes:**

- To prevent the media playback from freezing and requiring a stream refresh, corporate users behind proxy servers should make sure their network settings don't time out on RTMP requests. If you're unsure of your settings, contact your IT Administrator.
- If you are using an active backup encoder during a live webcast the bandwidth requirements discussed above should be doubled.
- Be conscious of your target audience's bandwidth capabilities when broadcasting at higher bit rates.
- For secured connections using TLS encryption, the RTPS (TCP over port 443) protocol is supported by the platform. The configuration required for using RTMPS will depend on the encoding device or software in use.
- Required Keyframe Interval: 2 seconds
  - Keyframe Interval, which is also referred to as "keyframe frequency" by some encoders, is the frequency that the full image on the screen changes. This should always be set to 2 seconds to ensure optimal playback on the audience viewer. For Wirecast, this should be set to a "Key frame every 60 frames" based on a 30 FPS setting, and OBS should be changed from the default "0=auto" setting to a "2 s" Keyframe Interval.