Critical Issues Streaming Troubleshooting

Because live streaming video uses the same technology as YouTube and other popular online video, most content plays for most people automatically. You should be able to view live streams without installing any additional software or doing anything special. BUT if you are experiencing any issues watching content, please read the problems and solutions below.

Quick Tips

Many factors can influence video playback, including some that pertain to your computer or device. If you're not getting the best viewing experience, you might want to try these simple fixes.

- **ALWAYS try just refreshing your browser**.
  With hundreds of combinations of video codecs, browser versions, and computer specifications weird issues can pop up from time to time that are difficult to recreate or isolate. Always start troubleshooting by simply hitting refresh on your browser window. It usually looks something like this: . For longer broadcasts, this might be necessary from time to time if you are seeing glitches or dropped frames and is a really good "catch all" that fixes any problems resulting in an interruption in the signal, browser timeouts or loading issues.
- **Switch to "Auto" in the quality menu, if available**.
  Auto mode automatically adjusts to the best quality of video for your current Internet connection and processing speed. We recommend using this default setting to avoid buffering delays. (If "Auto" is not available, switch to one of the lower quality options.) If your browser is having trouble while on "auto" you might try telling the computer to use a lower bandwidth stream.
- **Check your bandwidth**
  For a standard quality stream you will need 500 kbps or higher bandwidth. You can use this speed test to get a general sense of your Internet speed during the time of the issue. Keep in mind that bandwidth can fluctuate, especially on Wifi or cellular networks. To improve this turn off other devices that use the internet and plug into a cat5 cable if you have one.
- **Disable any browser extensions, plugins, or add ons**
  Third party programs can sometimes cause issues during playback— including blocked video segments, dropped frames, buffering, etc. If you're having trouble, try disabling any active extensions one-by-one to find the culprit. You can also

open your video within an incognito or private window of your browser for testing.

- **Restart your router and modem**
  Resetting your router or modem can help to refresh your connection and improve playback performance. Try disconnecting the power cord and then reconnecting to perform a hard reboot.
- **Update your browser**
  Browser software is constantly being improved upon. Make sure you are using the latest version of your browser for peak performance. The latest version of each browser can be found here. All the major browsers should be compatible with streams, but it may also be easier simply to try a different browser that is already installed on your computer.
- **Close excess browser tabs or applications**
  Keeping too many applications open can make everything run slower, including video playback. Especially on a mobile device, it's easy to forget which apps are running. Make sure that you completely close or disable apps instead of just minimizing their windows. Having a second video window open can also cause an echo effect as both videos are playing audio nearly simultaneously.
- **Clear your browser's cache**
  Although this may sound simple, refreshing your cache can help with many different issues, including playback. Learn more here.
- **Disable/Enable Hardware acceleration**
  Hardware acceleration makes resource-hungry operations run more efficiently, but sometimes doesn't work well with older graphics cards. Try disabling or enabling this option within your browser settings.

Detailed Viewer Troubleshooting Tips

Online Speed Tests

Streaming videos are viewable in a variety of different qualities, ranging from 240p to 1080p. In "Auto" mode, the video player switches between all available qualities to accommodate changes in the viewer's Internet, processing speed, and player size.

The quality of your playback experience is largely dependent on how your ISP (Internet Service Provider) or mobile provider connects to the playback servers. Keep in mind that your overall Internet speed can vary depending on many factors, including but not limited to: time of day, WiFi performance, other devices/ users utilizing your connection, and the strength of the signal provided by your ISP. When possible, plugging in via an ethernet cable can help you avoid the possibility of an inconsistent wireless connection.

The following table shows the an example of minimum speeds required for each playback quality:

Quality	Required Minimum Bandwidth
240p	500 kbps
360p	1 Mbps
720p	3 Mbps
1080p	7 Mbps

When a video plays in lower than expected quality, it's likely because the viewer's Internet speed (bandwidth) or computer processing speed cannot support higher quality playback. Viewers can manually force a particular quality by selecting the gear icon in the lower right corner of the player. (This may result in frequent buffering if the bandwidth does not meet the required minimum outlined above.)

Online Speed Tests

Speed tests can give you a general sense of the download speeds you're receiving from your Internet provider, but it's important to note that the servers used in the speed test are different from those used by other services. The actual speeds being received by your device may differ. This is because speed tests are designed to ping the closest server to your location, while other servers may be further and more utilized.

As a best practice, we recommend avoiding Flash based speed tests and using trusted HTML5 tests like https://testmy.net/download to get a general estimate of the speeds you're receiving from your Internet Provider. If you expect higher bandwidth than what's being reported, we recommend getting in touch with your Internet Provider for more information.

Update Browser

While the stream should play in any browser, we recommend viewing on an up-to-date version of Chrome or Firefox. Go here to get the latest version of Firefox or Chrome.

Dropped frames during playback

Dropped frames can occur if your machine/device's processing is unable to keep up with the video data that's being transferred. If your system cannot process a higher quality of video, frames of video may be skipped, which can cause audio to become out of sync as well. This tends to happen most when multiple programs are running while viewing video. Try closing unused applications or browser tabs and/or update your browser and graphics

card.

Check that content is not blocked by an ad-blocker, firewall, or being filtered on your local network.

Particularly if you are watching at a school or in a corporate environment, it is possible that a firewall or content filter is blocking content. If you see a black screen instead of the live video stream, this is one of the possible causes. You might also see an error that says “access to the URL has been denied”.

If you have any ad-blockers installed, disable those in your browser. If you can talk to your network administrator or control it yourself make sure the stream is not blocked. If you are using a VPN, try disabling the VPN and viewing while not connected with a VPN. Other problems might include DNS settings, and probably will require your IT team to take a look.

Common Problems and Solutions

No video player, there is just a blank space where the player should be

- Refresh the page
- Update browser
- Try opening the URL in a “private window” of your browser. If it works there, you may have a caching issue. You can watch in the private window or try clearing your browser’s cache and then refresh your browser.

Stream is frequently re-buffering, looks "choppy," "laggy", "pausing" or "stop and go."

- Refresh the page
- Check bandwidth and find a stronger internet connection.
- Check computer resources
- Manually select a lower resolution stream using the gear in the bottom right

corner of the player

Black screen instead of a live video stream, even though I see a red "live" badge in the bottom of the player

- Refresh the page
- Check bandwidth and find a stronger internet connection
- Check computer resources
- Check that content is not being blocked by a firewall or content filtering from your local network.

Stream is playing back at a lower than expected frame rate

- Refresh the page
- Check bandwidth
- Disable or enable hardware acceleration
- Watch at a lower quality
- Check computer resources

Viewer can see video but can’t hear audio

- Refresh the page
- Ensure speakers are on
- Make sure system volume is turned up
- Make sure the video volume is turned up. Hover over the video to bring up the control bar and adjust the volume at the lower right corner. The bars that look like steps or a graph control the volume.

Mobile Viewing

Most streams are available for viewing on iOS and Android devices.

The first viewer who begins watching from a mobile device may have to wait up to 30 seconds for the stream to load.

The following tips are recommended for mobile viewing:

- Sometimes the content won't autoplay on mobile devices. If it doesn't, there is a tiny play button in the lower left. It almost doesn't look like a play button (we're working on this), if you tap that button, the content should load.
- Do not use private browsing mode on Safari on iOS
- Use Wi-Fi rather than cellular connection whenever possible