# macOS native echo cancellation

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**Caution:** This information applies to Chrome M66 and M67. In M68 and later, the functionality has changed but the command line flag remains the same; see the [More Native Echo Cancellation](#) post.

Since version 10.12 (Sierra), macOS includes a native echo canceller. Usage of it can be experimentally enabled in Chrome M66 by opting in to an [Origin Trial](#) or by supplying a command line flag when starting Chrome; [see below](#).

With the experiment enabled, the macOS native echo canceller will be used for getUserMedia streams with the `echoCancellation` constraint enabled. On other platforms, and on earlier versions of macOS, enabling the experiment will effectively do nothing; the same echo canceller will be used as before (usually the software one from WebRTC).

## Why are we doing this?

We want to evaluate the performance of the macOS native echo canceller. Being an Apple developed component, it has the opportunity to be specifically tuned for their hardware. Its placement in the audio pipeline should also make it less sensitive to certain audio glitches that can happen in Chrome.

## What is an echo canceller?

An echo canceller tries to remove from the microphone signal any sound played out on the speakers. Without this, what you're saying as one party of a call, will be picked up by the microphone of the other parties and then sent back to you. You'll hear an echo of yourself!

## How to enable the experiment

To get this new behavior on your site, your need to be [signed up](#) ↗ for the "macOS native echo cancellation" Origin Trial. If you just want to try it out locally, the experiment can be

enabled on the command line:

```
chrome --enable-blink-features=ExperimentalHardwareEchoCancellation
```

Passing this flag on the command line enables the feature globally in Chrome for the current session.

With this experiment, we want to evaluate any qualitative differences when using the macOS native echo canceller, like:

- How well does it cancel echo?
- How well does it handle double talk scenarios - i.e. when both sides are talking at the same time?
- Does it negatively affect audio quality when there is no echo to cancel?
- Do certain audio devices (like headsets) cause problems?
- etc.

We're also interested in how Chrome interacts with other applications when using the native echo canceller on macOS, as well as any stability issues or other problems with the implementation.

If you're trying this out, please file your feedback in this bug ↗. If possible, include what hardware was used (macOS version, hardware model, microphone / headset / etc.). If doing more large-scale experiments, links to comparative statistics on audio call quality are appreciated; whether objective or subjective.

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