

## Music work during an online workshop

Initially, we aimed to utilize “source connect now” which is a desktop/laptop only, browser-based peer-to-peer voice chat service. Depending on internet connection quality, up to 4 people can logon (using their google chrome browser, only) and communicate at a higher fidelity than zoom. It still has a slight lag but it’s slightly better than zoom and remarkably better sound quality. Having said all this, even if you are working with good internet if the computer on the other end is dated or “slow” then you’ll find running this browser-based audio chat along with Zoom problematic as the CPU will overload.

It works best when you use two devices. The laptop/desktop is logged onto google chrome with headphones plugged into the computer. Then on an iPhone or iPad, log into zoom and only use video (don’t “join audio”). Now you have the computer only focusing on transmitting audio and the other device on transmitting video. It works even better if the computer is the only device in the household connected to the internet (hard-wired, ideally) and the iPhone/iPad is utilizing 4G/5G cellular. It’s really all about available bandwidth and computer processing power.

Due to the number of actors we had for 1776 there was obviously a wide variety of available tech and a few people only had iPad/iPhones, so we ended up abandoning Source Connect Now altogether and focused on making the zoom experience as pleasant as possible.

So, first things first with Zoom. You have to accept that you cannot rehearse live music in the way you would in a rehearsal studio. The technology (mainly the internet speeds) just ain’t there yet on the basic consumer level. There are ways to do nearly zero latency sessions but that capability exists only in the highest end television broadcast and music recording businesses, and I’m sure in deep government. The infrastructure is rather involved. Once you get over that, you can focus on embracing the change and lean into make that experience palatable for everyone

I focused in on making the audio feed I’m sending to Zoom as high quality as possible. Hard wired internet connection is very helpful, and eliminating conflicting WiFi usage on other devices in the household is also essential. For instance, if my wife really had to do something online while I was in a zoom music session, she would hot-spot from her phone to keep the Internet unfettered. Also, if you’re financially comfortable with this, call up your internet provider and explore upgrading your speeds. I use Spectrum and was able to double my speeds for nominal cost increase. You can check your speeds through good internet speed test, and should be aiming for at least 100 Mbps Download, and at least 10Mbps Upload.

\* Check what equipment is available to you and the actors.

*In this case: A keyboard and two singers, each on their own laptops, plus a small assortment of non-musical participants. The MD has a MIDI keyboard, connected via USB to my MacBook Pro, which they can run through Logic to get a piano sound. No audio interface. Just using the headphones jack. But could conceivably use a program like Audio Hijack to pipe computer audio directly to Zoom or Google Chrome.  
A good wifi (80 Mbps download, 11.6 Mbps upload).*

Without an audio interface or USB microphone, Audio Hijack would be useful, setup a logic session with your keyboard routed to a nice piano sample and your internal MacBook Pro microphone set to a stereo input, you can then find a balance between the levels that suitable and pipe it to Zoom via Audio Hijack. That's essentially what I do on my end, though I have an RME Babyface Pro which comes with the extremely versatile Totalmix, a virtual mixer that has paid for itself many times over since we started doing everything remote. However you end up piping your audio into zoom, you need to change a few settings in Zoom, both in the webportal and the client app.

#### **What to do on Zoom:**

From Zoom Webportal (note: administrator should do this as well):

- Disable Group HD Video: through the web portal, login to your account, click "settings" > meetings tab > click on In Meeting (advanced) > verify that this feature is disabled > > If the setting is enabled, click the toggle to disable it.
- Enable Original Sound: through the web portal, login to your account, click "settings" > meetings tab > click on In Meeting (advanced) > verify that "Allow users to select original sound in their client settings" is enabled > > If the setting is disabled, click the toggle to enable it.
- Enable Stereo: through the web portal, login to your account, click "settings" > meetings tab > click on In Meeting (advanced) > verify that "Allow users to select stereo in their client settings" is enabled > > If the setting is disabled, click the toggle to enable it.

From Zoom Client:

- Disable HD Video + Touch Up Feature: through zoom client, at top left click "[zoom.us](https://zoom.us)" > [select preferences](#) > click Video > uncheck box labeled "Enable HD" > uncheck box labeled "Touch up my appearance"
- Disable Auto Volume Leveling: through zoom client, at top left click "[zoom.us](https://zoom.us)" > [select preferences](#) > click Audio > uncheck box labeled "automatically adjust microphone volume"
- Enable Stereo: through zoom client, at top left click "[zoom.us](https://zoom.us)" > [select preferences](#) > click Audio > check box labeled "Enable stereo"

- Disable Persistent Background Noise Settings: through zoom client, at top left click "[zoom.us](https://zoom.us)" > select preferences > click Audio> from the drop down menu beside "Suppress Persistent Background Noise" select "disable"
- Disable Intermittent Background Noise Settings: through zoom client, at top left click "[zoom.us](https://zoom.us)" > select preferences > click Audio> from the drop down menu beside "Suppress Intermittent Background Noise" select "disable"

The Zoom Client settings should be replicated on the actors side.

Now, as far as planning a rehearsal, you will want to have PDF's, piano accompaniment tracks and melody guide tracks ready on the first day ideally. You can teach actors the music from your keyboard, and they can even follow along and practice, so long as they mute their microphone. They will hear you in time and you won't hear back their latent signal. Now, this is unusual because they are essentially practicing in a cone of silence. This is where the tracks come in, you will want the actor, once they are comfortable with the material to now play the piano accompaniment track (triggered by their cell phone and ideally playing through an external speaker) and sing along to it, un-muted of course. If you wanted to be able to work in sections, you can create multiple versions of your accompaniment tracks starting at various parts in the song with some sort of verbal count-off or a piano bell-tone in time sorta thing (if you don't want to bother recording your voice multiple times.) Create a dropbox with everything neatly organized so its easy for the actor to navigate.

I would say that if you aren't starting immediately, ordering a small audio interface and a microphone will dramatically improve the quality you port to zoom. If you have time and \$260 to invest you can go barebones with these two items..

[A RT USB Dual Pre](#)

[A T2035 Condensor Mic Podcast Pak](#)

And for the actors, I would suggest sending them (again if budget allows) these wonderful (\$50/each) usb mics that are plug-n-play and will enhance the quality of the audio they send to zoom immensely. It will also serve them well for any voice over auditions, self-tapes, etc. [Blue Snowball USB Mic](#). If budget allows, for \$100 the next step up is the [Rode NT-USB Mini Condenser Mic](#) is an excellent option.