

Increasing the quality of the RMT and client's audio in telehealth conferencing

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LEGALITIES

- **Its all still unclear.**
- **Ideas for getting legal advice as a profession**
- **We're going to discuss recording clients and sometimes keeping and sharing audio and video**

Audio overview

- **Talk through each section briefly**
- **We're going to start with basics and gradually get into more complex equipment**
- **The quality of audio will increase with better equipment**

Enhancing your live recorded audio through software settings

We're using Zoom because it appears to be more hi fidelity, but other platforms may have similar settings.

ZOOM - Steps to increase quality of streamed audio (within ZOOM app)

You want to disable several functions in order to stop the ZOOM app from cutting out audio that is outside the bandwidth of regular spoken word. This will allow your microphone to pick up the lower register of your instrument as well as softer/louder sounds. Warning: if you have background noise (i.e. birds chirping outside, traffic noise, housemates talking, babies crying), it will now pick up these sounds quite, too.

- **Make sure you have the most up to date version of ZOOM**

- Click on ^ next to mute button
- Audio settings
- Untick Automatically adjust microphone
- Advanced
- Suppress Persistent Background Noise
 - Disable
- Suppress Intermittent Background Noise
 - Disable
- **Tick** “Show in-meeting option to enable original sound from microphone”
 - Then, in your normal chat window, on the top left, hit “Turn on Original Sound”

Enhancing your live recorded audio with hardware

Using a USB Mic

This is the most basic and affordable way to increase the quality of the live sound that is sent to the client. We cannot make any recommendations as we have not tested any, but other RMTs have pointed towards the [Blue Snowball ICE USB Microphone \(\\$90 JB-Hi-Fi\)](#)

An audio interface with built in high quality microphones can be used to add depth to the live sound you are sending to your client. The audio interface can also be used through other video conferencing platform, such as doxy.me or skype. When using these platforms, simply go into the ‘sound’ settings of your Mac, hit ‘input’ and choose your audio interface (H4/H2) as your input source (instead of the ‘built in microphone’).

Defining ‘Audio Interface’:

An audio interface is a way of connecting multiple audio signals (such as microphone leads, guitar leads, keyboard leads) to your computer via a usb connection. The audio interface expands what you can connect to your computer beyond the existing inbuilt computer microphone.

Use an audio interface

- Zoom H4/H2/H1:
 - Instructions:
 - Plug Zoom H4 in to computer via usb
 - Select:
 - ‘AUDIO I/F’
 - Frequency = 44.1khz
 - Connect
 - On ZOOM (app)
 - Next to mute symbol, click on ^

- Under **select a microphone** choose H4
 - Make sure your **select a speaker option** is still at 'built in output'

Using a mixer

- A mixer multiple inputs for multiple instruments
- You can get the levels right and tweak EQ
- Many modern mixers have a USB connection and can be used as an audio interface.
- I'm currently running my mixer into an audio interface

Enhancing the client's audio:

- Ask a parent/guardian of client to perform the steps involved in '**ZOOM - Steps to increase quality of streamed audio (within ZOOM app)**' (see above)
- Cultivate an awareness of where the client's iPad/laptop is placed and how that effect the audio they are streaming to you
 - Note: the iPad/iPhone microphone is located at the bottom of the device
 - If the client has the iPad positioned upright, the microphone at the bottom of the device may be squished against the client's table/desk
 - This will mean that the sound going in to the iPad is compromised
 - If their device is placed too close to the source of a loud instrument
 - You may experience distortion/blipping
- Ask the parent / guardian to connect the device to a good quality speaker or soundsystem. This could be a bluetooth speaker or a home stereo.
 - Note: speakers connected via bluetooth (as opposed to an audio cable) will typically have a noticeable latency (i.e. the audio will be slightly behind the video). This will decrease the realism of your audio/video that the client is receiving. Therefore, best practice would be to use an external speaker via auxiliary cable.
- If you want to receive better audio from the client you can advise them to get a USB microphone such as a **Blue Snowball ICE USB Microphone (\$90 JB-Hi-Fi)**

How to stream high quality audio from your computer straight to your client (Spotify/Youtube)

One of the best tricks here is sharing your computer audio!

On the ZOOM app

- Click:
 - Share screen (bottom middle)
 - Advanced (top middle of window that has popped up)
 - Computer sound only (middle)

You can now play music from Spotify or Youtube, streamed in high quality to your clients. You can talk over the top of the music, but your talking will be slightly behind the music... so you can't play in time with the music that your client is hearing.

How to stream high quality LIVE audio from your computer straight to your client using Garageband or similar.

- In the setup for the meeting select computer audio only, (Not telephone).
- Use a DAW (Digital Audio Workstation) such as Garageband or Ableton. You will need to choose the Zoom Audio Driver in the output from your DAW to send it to Zoom. Choose your audio interface for the input option.
- In Ableton, reduce buffer size to reduce latency.
- Arm / record enable a track in the DAW so your audio is going through it.
- Mute your audio in Zoom.
- Turn off speakers and use headphones.
- The client should now hear you audio from INSIDE the computer, in much higher fidelity.

CAVEATS: We only got this to work on Max's new iMac (a very powerful computer) using Ableton. Video and audio were out of sync when using Garageband on less powerful computer, however, the audio quality was still really fantastic.

Other ZOOM (videoconferencing) tools - fun tools that can be used in sessions

- Virtual backgrounds can be a point of interest within sessions for the client and can include photos or video that we choose. Computer power / light is an issue here.
- The screenshare tool in ZOOM has an "Annotate" option for both drawing on a screen / whiteboard, you can make artworks together while listening to music
- The record feature enable you to film yourself / the client, which can be good for making "music videos" - to film only the client just go into gallery view, select the drop down menu "... " and choose "pin video". *This Can Also Be Used For Screen Share such as drawing an art project and filming the collaboration.*
- Let's share these idea between us ! Shared doc?

Looking towards the future:

- <https://obsproject.com/>
- Live performance platforms