

ZOOM SETTINGS FOR MUSIC

A successful music lesson or connection over videoconferencing applications such as Zoom **requires** the following three items:

- I. A desktop computer or laptop with a decent processor (see specs below) that is hard-wired to a router with good internet connection speeds.
- II. An external microphone that connects to your computer via USB or Thunderbolt.
- III. Correct audio settings in Zoom.

You can think about it as three separate domains, each of which must be configured to ensure a good experience over videoconferencing.

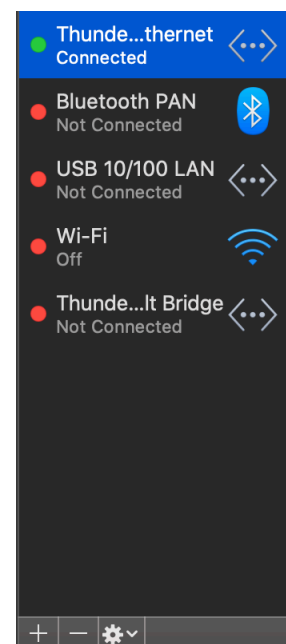
COMPUTER AND INTERNET REQUIREMENTS

The following specs for computers are recommended for use with Zoom. **Note that for computers intended for audio and video editing use as well**, you'll find additional Computing Resource recommendations on the [Remote Learning Technology & Resources](#) webpage.

| | Minimum | Recommended |
|--------------|----------------------------|-------------------------------------|
| Processor | Single Core 1Ghz or Higher | Dual Core 2Ghz or Higher (i3/i5/i7) |
| RAM (memory) | 4 GB | 8 GB or higher |
| Display | N/A | 13 inch or higher |

For stable internet, it is essential to physically hardwire your device to your router. It will drastically improve the stability of your zoom sessions. This is done via a Cat6 or Cat6a ethernet cable (Cat7 also acceptable). Typically, modern PCs do not include an RJ45 Ethernet port. In such cases, it is necessary to get an Ethernet-to-USB adapter to connect your computer to the ethernet cable.

You connect the ethernet cable to one of the LAN ports on your router. Then, you can connect the cable to your computer via the adapter. Once it connects, check your internet settings. You should see that the ethernet adapter has "Connected" (see image to right). Disable Wi-Fi entirely.



EXTERNAL MICROPHONE

An external microphone is necessary to capture music. The built-in microphone of your computer or laptop is not adequate for higher music education. MSM has worked with B&H photo, an audio/video equipment retailer, to offer recording equipment and software to students and faculty at an educational discount of up to 25%. These items can all be found at the using the links provided on the [Remote Learning Technology & Resources](#) webpage in the “Equipment & Software Recommendations” section.

A description of these items is listed below, separated by musical genre.

CLASSICAL MUSICIANS SHOULD LOOK TO GET THE FOLLOWING AUDIO EQUIPMENT:

1. A Zoom H1N – a stereo microphone that works both as a standalone recorder and a USB microphone for lessons over Zoom
2. The appropriate USB cable, depending on the connections to your computer. We have listed on the B&H site two USB cables (one for USB-C, one for USB-A) that are six feet in length, to accommodate appropriate positioning of the microphone. Note that the Zoom H1N has a USB-micro connection.
3. A microphone stand with the CM01 adapter (for mounting the Zoom H1N to a microphone stand).

VOCALISTS IN THE **MUSICAL THEATRE** PROGRAM SHOULD PURCHASE THE FOLLOWING EQUIPMENT:

1. A USB microphone - the AT2020USB+ is recommended.
2. The appropriate USB cable for your USB microphone, preferably one that is six feet in length to accommodate appropriate positioning.
3. A microphone stand.
4. A pop filter, to prevent air from your breath from hitting the microphone (called “plosives”).

MUSICIANS IN THE **JAZZ ARTS** PROGRAM SHOULD PURCHASE THE FOLLOWING EQUIPMENT:

1. A USB microphone like the AT2500x, AT2020USB+, or Blue Yeti. These are ideal for horn/brass players, upright bass players, and vocalists.
2. A Zoom H1N for larger instruments that are more ideally suited for stereophonic recording, such as drums, piano, and vibes.

3. The appropriate USB cable for your microphone of choice, preferably one that is six feet in length to accommodate appropriate positioning.
4. A microphone stand (if purchasing the AT2500x or AT2020USB, no adapter is needed). If using the Zoom H1N, you will need the CM01 adapter to fit on a stand.
5. For vocalists: it is advised if you are using a USB condenser microphone that you also get a Pop filter, to prevent air from hitting the microphone (called “plosives”).

Note that if you plan on using a smartphone for video recording, it’s advised to get an adapter and stand for proper positioning of your phone for recording, such as the Oben ASPTA-20 smartphone adapter (needs a separate stand to use with it).

ZOOM SETTINGS

For a video guide showing step by step instructions on Zoom audio settings, click here:
https://youtu.be/NprsZF_YUm8

Once Zoom has been successfully installed on your computer, there are a number of audio settings that should be configured in order to improve the sound quality. By default, Zoom is optimized for speech audio. This means there is built-in processing to the application such as noise reduction and echo cancellation. This processing must be disabled for music.

To adjust Zoom audio settings on a computer, we need to go to the Preferences window in Zoom. You can get to that window on a Mac by selecting “Zoom” in the top left corner of your screen and then finding “Preferences” in the dropdown.

The following settings may need to be adjusted:

1. Check that your microphone and output devices are correct.
2. Disable (uncheck) “Automatically adjust microphone volume”.
3. Ensure that “Enable Stereo” is checked.
4. In the Advanced tab, enable (check) “Enable Original Sound from microphone”.
5. In the Advanced tab, set both noise reduction settings to DISABLED.

See below for screenshots of proper audio settings, using a Zoom H1N as the input microphone and the built-in output of a Mac (with headphones).

Settings

General
Video
Audio
Share Screen
Chat
Virtual Background
Recording
Profile
Statistics
Feedback
Keyboard Shortcuts
Accessibility

Speaker Test Speaker Built-in Output (Headphones)
Output Level: [Progress bar]
Output Volume: [Slider]

Microphone Test Mic H Series Stereo Track Usb Audio
Input Level: [Progress bar]
Input Volume: [Slider]
 Automatically adjust microphone volume

Use separate audio device to play ringtone simultaneously

Join audio by computer when joining a meeting
 Mute microphone when joining a meeting
 Enable stereo
 Press and hold SPACE key to temporarily unmute yourself

Advanced

Input/Output Devices
UNCHECK automatically adjust mic volume
Enable Stereo
Advanced audio settings

Settings

General
Video
Audio
Share Screen
Chat
Virtual Background
Recording
Profile
Statistics
Feedback
Keyboard Shortcuts
Accessibility

< Back

Show in-meeting option to "Enable Original Sound" from microphone

Audio Processing Restore Defaults

Suppress Persistent Background Noise ? Disable

Suppress Intermittent Background Noise ? Disable

Echo Cancellation Auto

Enable original sound option
Disable noise reduction

After these settings are correct, leave the Preferences window.

In any Zoom meeting, always make sure that “Enable Original Sound” is ON in the top left corner of your Zoom screen. It should say “Turn off Original Sound”. This means that original sound is enabled. You can use the dropdown arrow to permanently select original sound for a microphone, meaning that Zoom will always use Original Sound when you are using a specific microphone.

