

MUS 716 – Sound Systems, Microphones, and Your Ensembles

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Read

Previous Readings:

- Read [Introduction to Audio](#) (5 web pages). Remember the following terms: Wavelength, Amplitude, Frequency, Transducer (Microphone and Speaker) and Amplifier.

Read [Sound Mixer Tutorials](#) (10 webpages)

New Materials:

- Read [How to Prevent Distortion](#) and [How to Eliminate Feedback](#). Be able to explain what distortion and feedback are and how they can be minimized or eliminated.
- Read [Directional Properties](#) of microphones. Remember omnidirectional, cardioid and bidirectional.
- Skim [Microphone Impedance](#). — Remember that low impedance microphones are usually preferred to high impedance. However, the latter are less expensive.

Discussion:

How would you use a sound system and mic an ensemble you are in or that you direct?

Discuss the type of microphone that would be best suited for your primary instrument/voice and why. What questions do you have about sound systems that you are unable to answer?

Use this discussion as a place to learn more about sound systems and recording ensembles.

I use a microphone fairly regularly in my ensemble rehearsals and individual lessons. For my ensemble rehearsals, recordings are used exclusively by me and for my listening. I like to record my ensemble rehearsals at points throughout the year, so that I can listen more critically and repeatedly. I find that this assists in hearing some errors in the ensemble more effectively. Individually, I have used a microphone to record middle school all-state band auditions in Harrisburg. While Iowa doesn't have a middle school all-state band, I know there will be honor band opportunities in Des Moines Public Schools that would require a microphone to yield the best results.

I have tried a few microphones over the past 20 years or so, but I really like the Blue Yeti microphone that I currently use. It features a headphone jack with volume control, so that you can immediately hear what the microphone is picking up. It has a gain control on the back, as well as cardioid, bidirectional, omnidirectional and stereo pattern selection. If I am recording a solo audition, I prefer the cardioid setting, as it gives a good representation of the soloist

without picking up much background noise. For ensemble recordings, I like to use the stereo mode and place the microphone in front of the ensemble, as high as I can place it. I find that allows me to hear the entire ensemble the easiest.

I also appreciate that the mic connects to a computer via USB and has a physical mute button. It's a great mic to use for Zoom sessions, and recording straight to my laptop is so convenient for listening to the ensemble rehearsals.

While I've really enjoyed the Blue Yeti, I've heard some very positive reviews for the Shure MV51 microphone. It is a cardioid microphone only (no bidirectional, omnidirectional, or stereo), but it does contain presets for speech, singing, acoustic, loud and flat recordings. It also contains USB-C and lightning cables, so it can record directly to PC, Mac, and iOS devices. I would love to do an A/B comparison between the MV51 and Blue Yeti someday!