OPTIMIZING THE SOUND OF YOUR INSTRUMENT OR VOICE OVER ZOOM

Peabody Lunch and Learn Series

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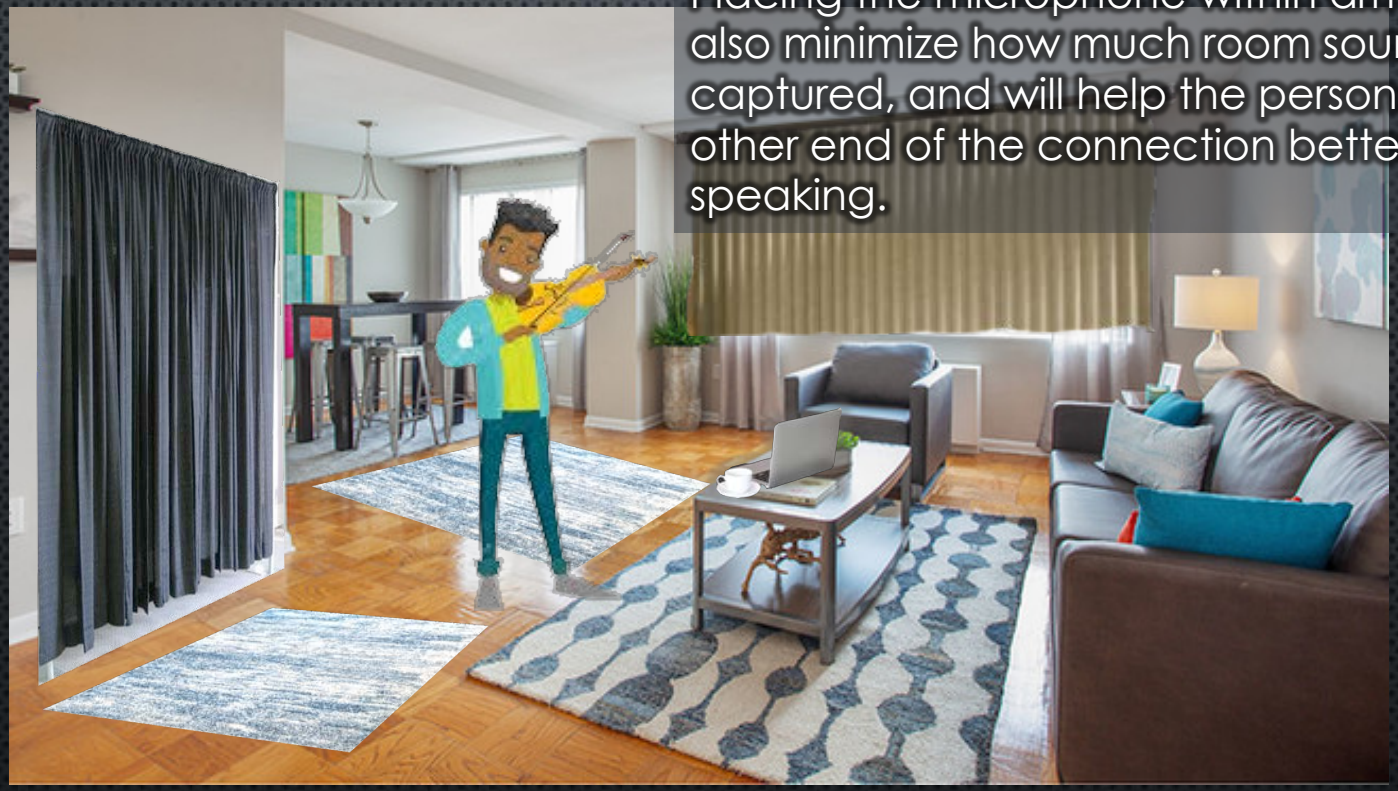
A small room with many hard surfaces (ceiling, floor, walls, windows) can sound good to the ear but are problematic for microphones that merge these reflections – all arriving at slightly different times -- into an unfocused, distant blend. Our ears and brains do a much better job! Microphones do not have a brain, we need to provide that piece of equipment.

Add soft materials to cover as many of these surfaces as you can – area rugs (a pad underneath helps even more!), heavier curtains that allow little to no light through, blankets over a chair or music stand to block a wall reflection, etc.

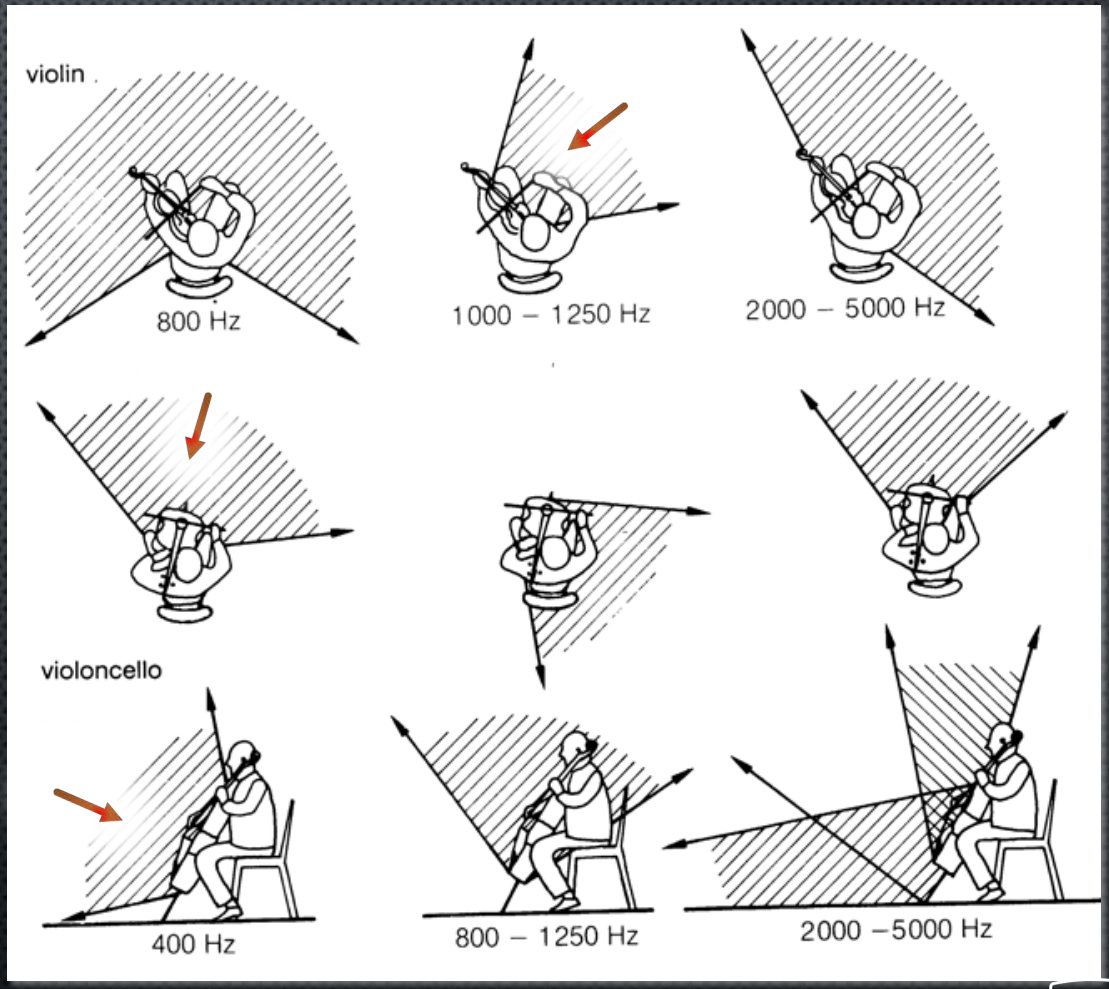
Tip: Inexpensive moving blankets may not look great but can be an effective sound absorber.



Placing the microphone within arm-reach will also minimize how much room sound is captured, and will help the person on the other end of the connection better hear you speaking.

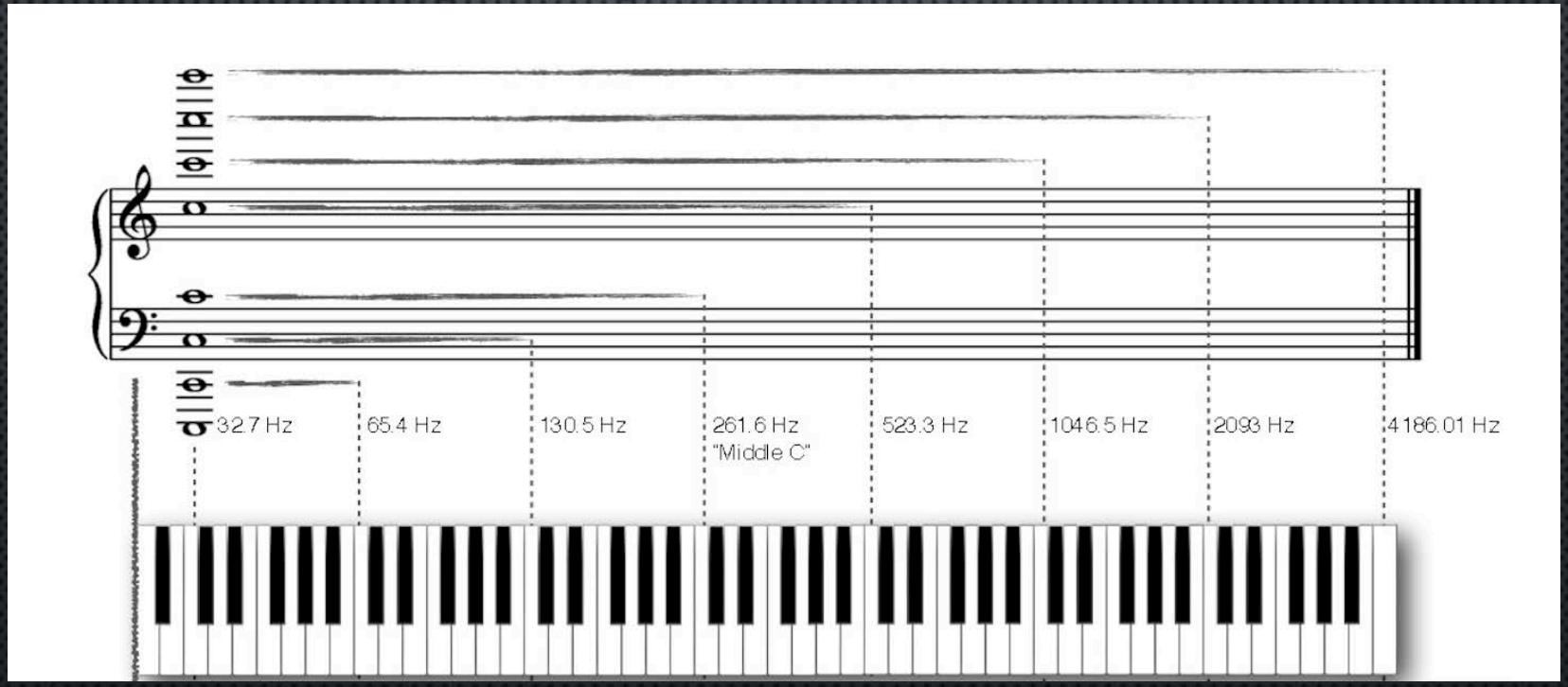
Experiment with placing the microphone in a spot that best represents the timbre you are trying to capture. Moving the microphone just a few inches can make a noticeable change.

String Instruments tend to sound best with a microphone placed perpendicular to the instrument's soundboard.



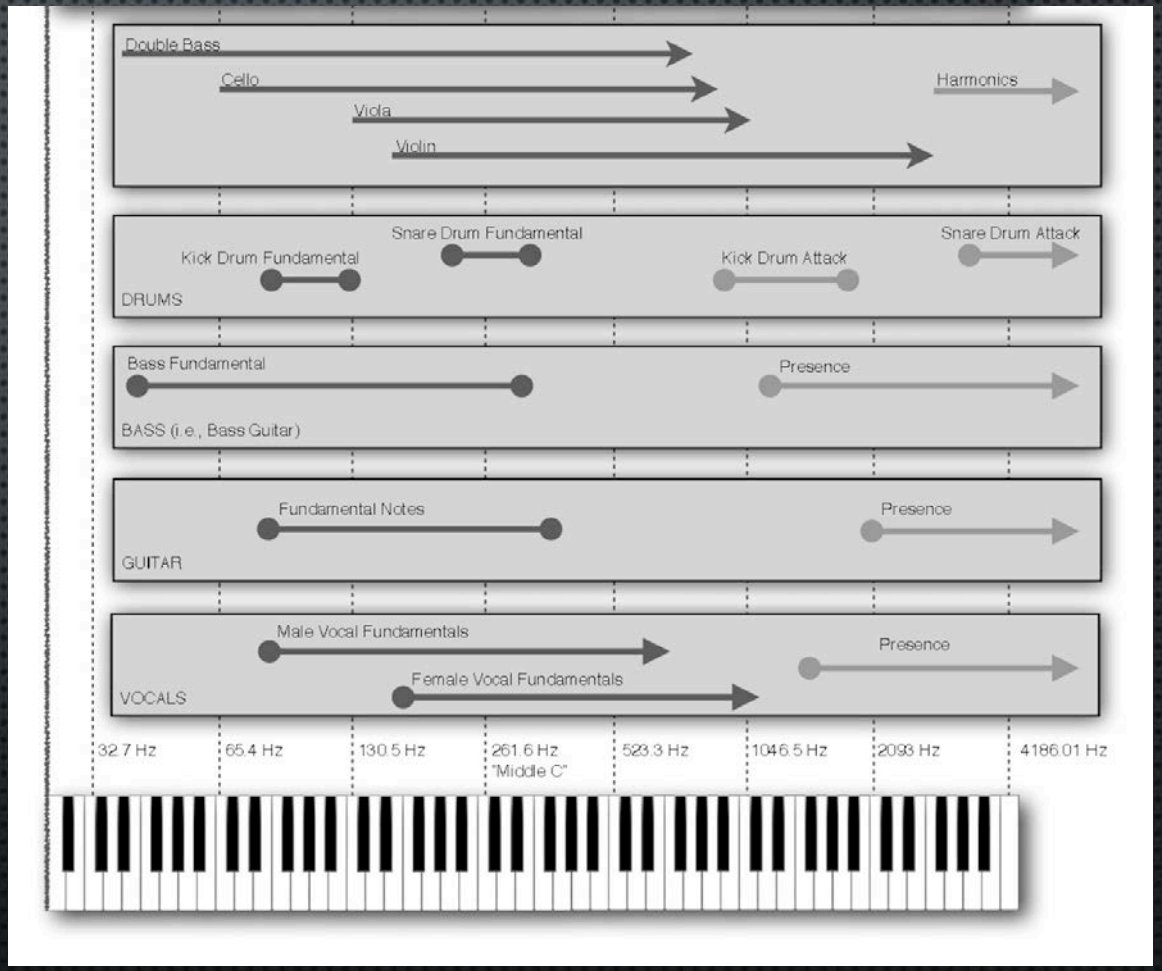
Dickreiter, Michael. Tonmeister technology : recording environment, sound sources, microphone techniques. New York: Temmer Enterprises, 1989.

Frequency to Music Translator



Reference Chart

Frequency to Music Translator



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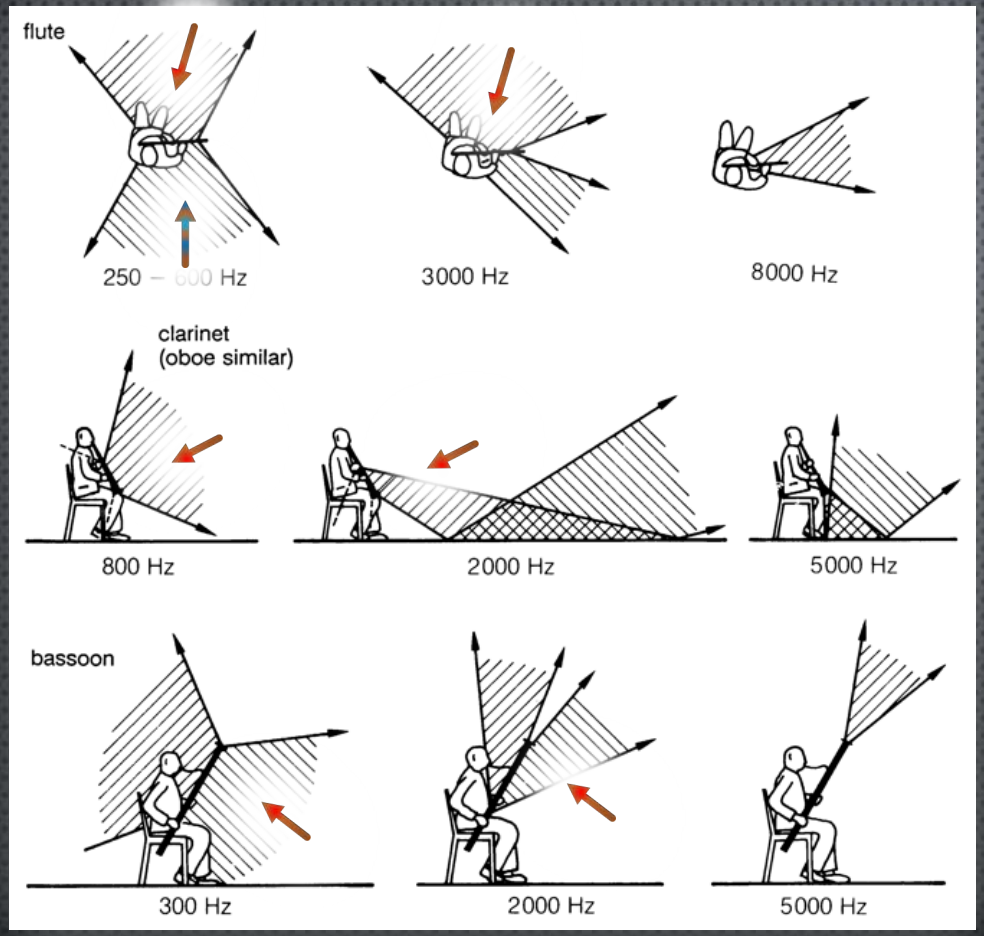
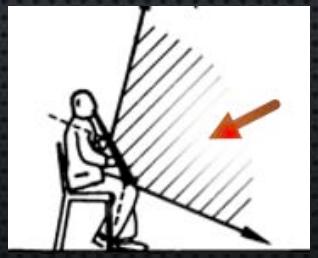


Woodwind Instruments:

- Oboes and Clarinets tend to sound best with a microphone placed perpendicular to the instrument with the microphone somewhere in the lower third



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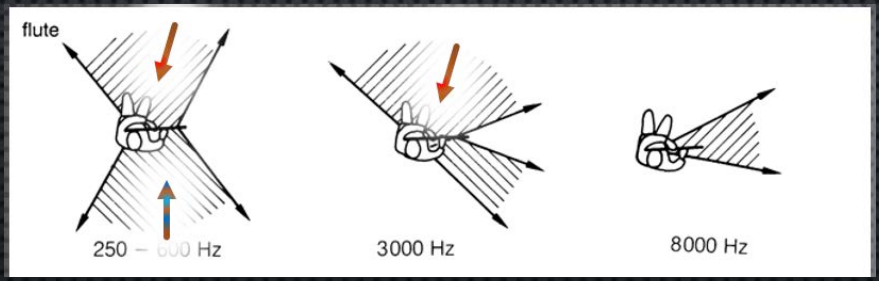
Woodwind Instruments:

- Flutes tend to sound best with a microphone placed perpendicular to the instrument, aimed between the mouthpiece and the hands



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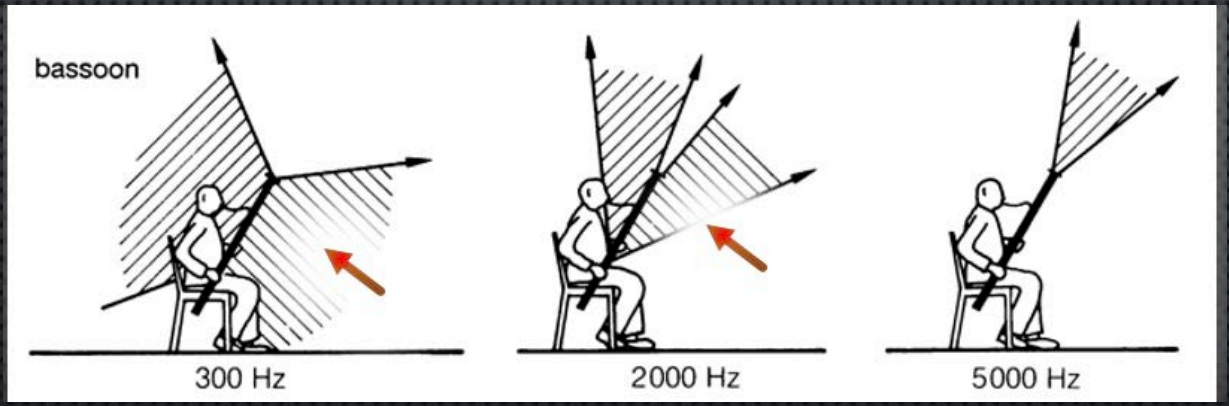
Woodwind Instruments:

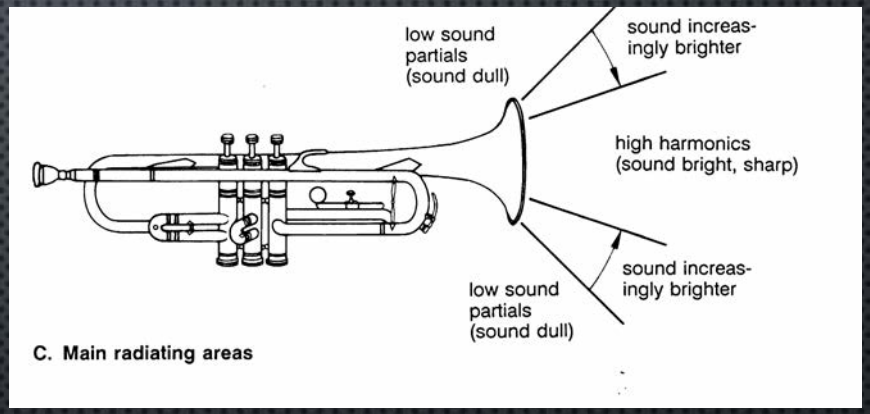
- Bassoons near the upper-third



Dickreiter, Michael. Tonmeister technology : recording environment, sound sources, microphone techniques. New York: Temmer Enterprises, 1989.

Brass Instruments:

- Trumpets and Trombones tend to be more straight-forward (so to speak!). See chart to the right:



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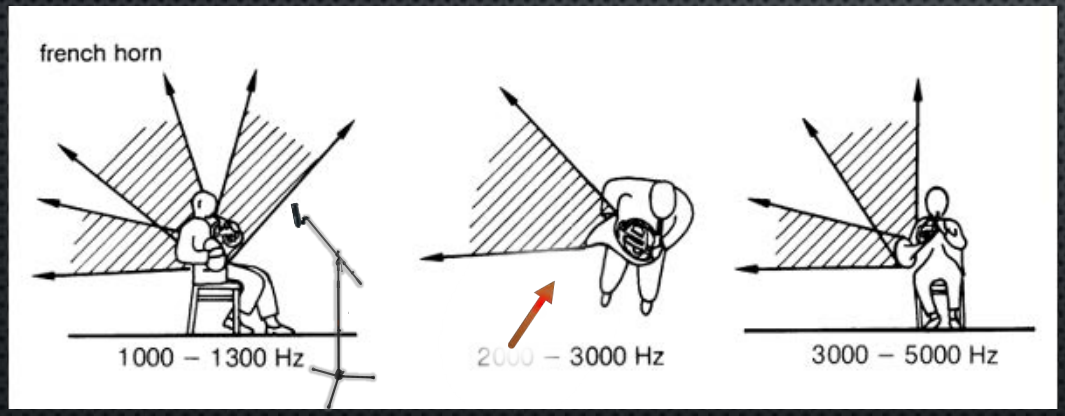
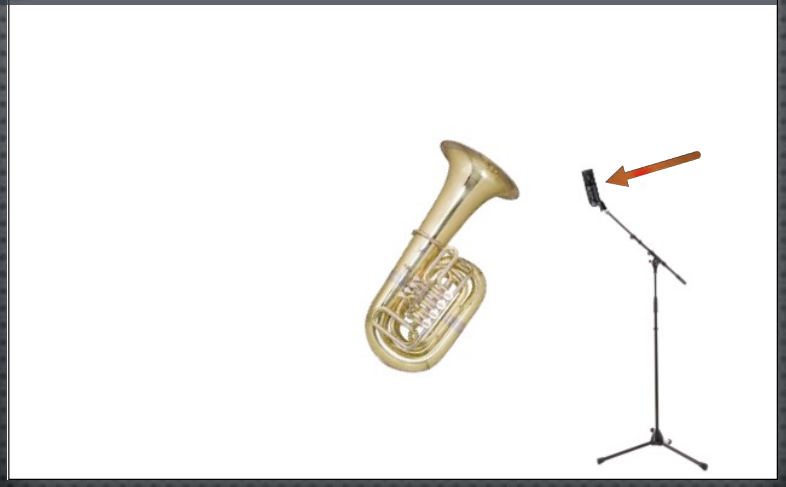
Brass Instruments:

- French Horn and Tuba present challenges in a small room since their direct sound is not the desired sound, but not catching some of it makes for a very unfocused, distant quality. Experiment with placements that catch just a *little* direct sound from the edge of the bell.





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Vocals:

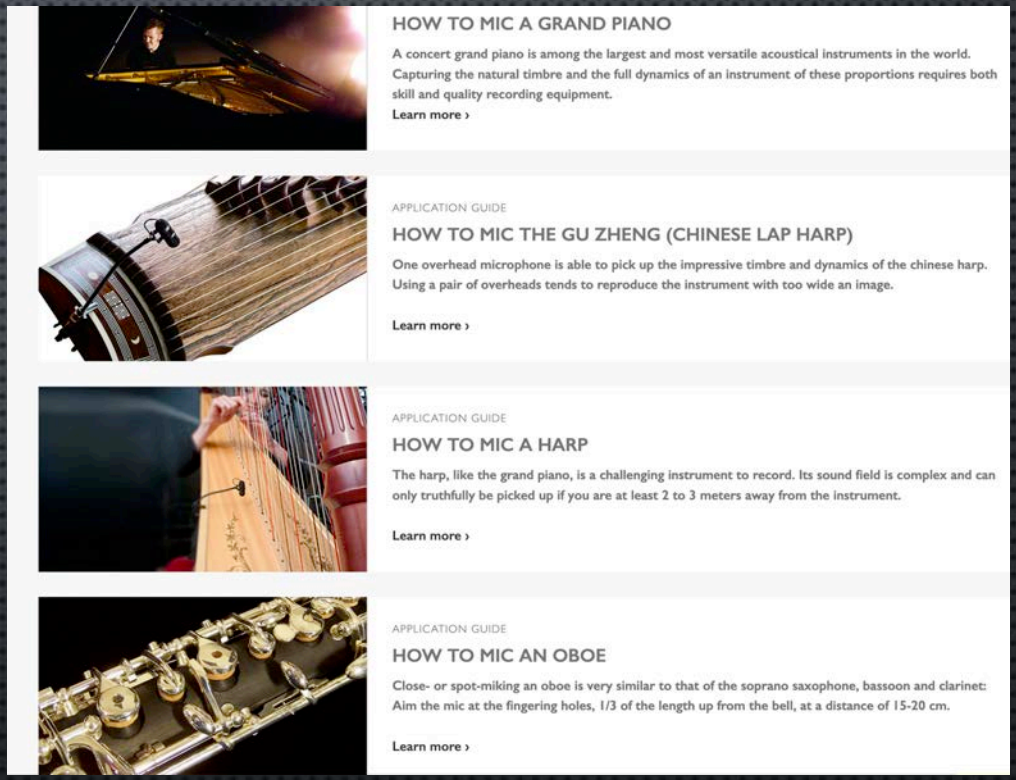
- Best about an arms-length away
- Keep microphone in a position where it can "see" the mouth, not blocked by handheld music or a music stand

In general, "Large Diaphragm" microphones (also called "side-address") work better at close distances, like within an arms-reach.

An interface (left) is necessary when using a conventional mic that has a standard XLR cable/connector

USB microphones (above) have a built-in interface; no need for anything external, connect directly to your computer or mobile device

Great resource for microphone placement ideas



https://www.dpamicrophones.com/mic-university

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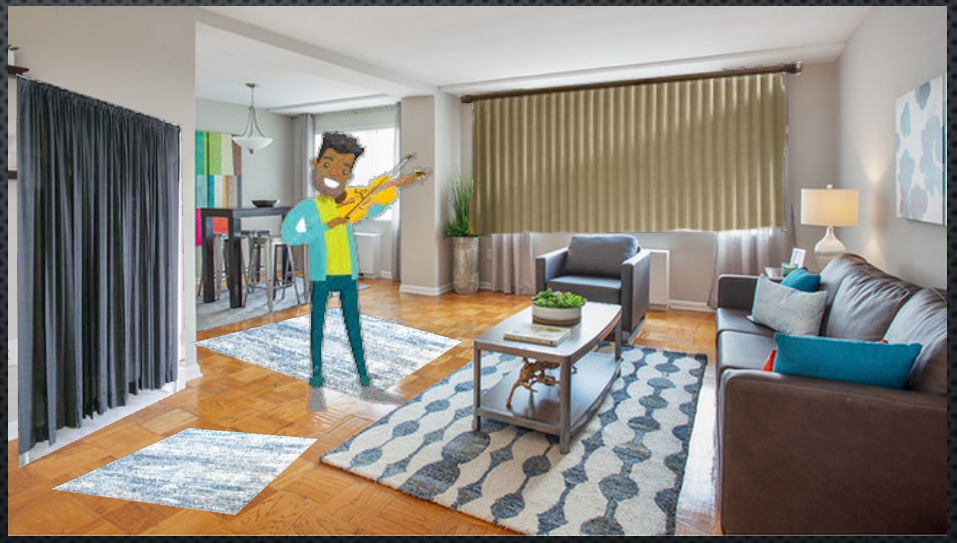

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