

When choosing a microphone for vocal performance there are three factors to take into consideration. **The Microphone type, the interface and the pickup pattern.**

In recording your voice, two conversions happen. First, the sound waves of your voice are converted into electrical impulses. Second, the electrical impulses are converted to digital information to be understood by your computer. Science or magic? you decide.

Types of Microphones:

For vocal performance, there are two types of Microphones: **Dynamic** and **Condenser**. These use different technology to change the sound waves of your voice to electrical impulses. Here are some ways in which they differ:

DYNAMIC	CONDENSER
More Durable	More Fragile
Produces a weak electric signal Needs more amplification Rejects ambient noise and room tone Requires less acoustical treatment	Produces a stronger signal Needs less amplification Picks up more nuances in your voice Requires more acoustic treatment
Can be held in your hand	Almost always mounted to a mic stand.
Versatile - can be used on stage for live performances, Singing, Stand up comedy Field reporting, etc.	Most frequently used in a studio.
Does not have "Proximity effect"	Has "Proximity effect" - the closer to the microphone you are the richer the bass tones in your voice sound.
A possible option when traveling and you are not able to record in an acoustically sound area.	The preferred option when you are recording in a studio.

Types of Interface:

By interface I mean how the conversion from electrical impulses to digital information takes place. Let's compare microphones that use **XLR cables** and microphones that use **USB cables**.

XLR (X-series, Latching, Rubber insulation)	USB (Universal Service Bus)
Uses an external Audio interface for analog to digital conversion.	Digital to analog Conversion is built into the microphone.
Plugs into an audio interface, which plugs into your computer.	Plugs directly into computer
Controlling sound input (gain, filters, etc) is controlled externally by the audio interface	Sound input (gain, filters, etc) is usually controlled using the computer software (although some more expensive USB microphones have gain controls on the mic itself, and/or a decibel reduction pad switch)
"Studio quality"	"Audition Quality"
Generally more expensive, More equipment to troubleshoot if something is not working	Often less expensive, simpler to use.

The main thing separating these two types of microphones is how the sound waves are changed to digital information. USB microphones have a digital to analog converter built into the mic itself while XLR mics requiring purchasing a separate digital to analog converter.

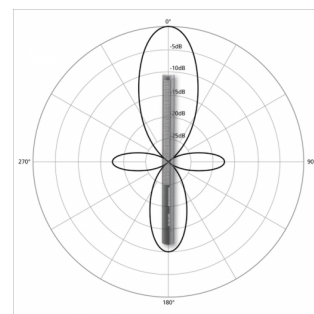
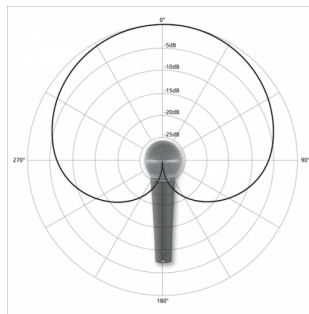
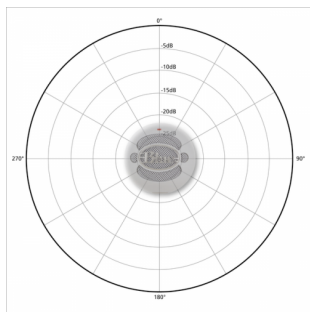
The general consensus is that the D/A converter in a USB mics are not of the same quality as an external, dedicated converter.

For the purposes of recording auditions which are exported as an .mp3 file, I feel the converter in a USB mic is more than sufficient.

TYPES OF PICK UP PATTERNS:

There are several types of pick up (or polar) patterns. Here are the 3 most common:

OMNI-DIRECTIONAL	CARDOID	SHOTGUN
Often used in dynamic mics.	Often used in condenser mics.	Often used in condenser mics.
Pick up pattern is a circle, so is equally sensitive to input from all sides.	Pick up pattern is heart shaped, with the top of the heart facing toward your voice.	Pick up pattern is a long narrow column.
Does not discriminate as to what direction the sound is coming from.	Favors sound facing directly toward it, picks up less sound from the sides and rear.	Strong rejection on the sides, favors a narrow area directly in front of the mic and the rear. Easier to go 'off mic'
Good for interviews, Podcasts - any situation where more than one person is using the same Microphone.	Good for all types of voice acting from commercials to animation.	Used on set as a boom mic. Used for commercials and Trailers / Promos because it has a stronger / edgier proximity effect. This edgier proximity effect doesn't work so well for animation and video games as it becomes tiresome hearing this over a long period of time.
		works best in a larger space, If your studio is small, it may need more acoustical treatment to avoid recordings sounding 'boxy'



CONCLUSION:

I recommend that people starting out opt for a **condenser USB mic with a cardioid pick up pattern** for audition recording. As it's less expensive and is simpler to set up and troubleshoot.

Later when it becomes necessary to use a higher quality home studio, you may want to consider upgrading to an XLR mic with a cardioid pick up pattern. This also requires the purchase of different cables as well as a separate pre-amp / analog to digital converter as well.

For travel, some people prefer to use a Dynamic mic with a cardioid pick up pattern as these may be a good option for hotel rooms with poor acoustics. However I find my **Apogee MiC 96k USB mic** is great if I'm creative with where I place it and am careful to surround it with some sound absorbing material (pillows, clothes, blankets, etc). It is also a relatively small mic, easy to pack to bring with you in a carry on.

MORE INFORMATION:

For a very informative podcast on microphones I highly recommend episodes 11 and 12 of the **Voice Acting Mastery Podcast by Crispin Freeman**

[Voice Acting Mastery - Episode 11: Understanding Mics pt 1](#)

[Voice Acting Mastery - Understand Mics pt 2](#)

The VAM podcast is an excellent resource for all areas of voice acting and many of the episodes are around 15 minutes.

SOME USB MICS WORTH CHECKING OUT

Audio-Technica AT2020USB / USB Plus / USB i Cardioid Condenser USB Microphone

This mic was recommended to me by another voice actor when I was just getting started. It has a very solid feel and the background hiss that is noticeable using other USB microphones at the same price point is not noticeable with this mic. (I've heard stories about low end Blue and Yeti mics having this problem, I have not tested this out myself)

You can plug the AT mic directly into your Computer or an iPhone / iPad using the **Apple Lightning to USB Camera Adapter** Which costs 29 bucks

The **USB i** model is the most expensive of the line. It comes with an additional cable that will connect to your iOS device as well as a mic gain control to adjust the input volume on the mic. instead of your computer or iPad. It is also capable of recording at a higher bit depth.

Rode NT-USB USB Condenser Microphone

This mic was recommended by someone I met at the Don La Fontaine Voice Over Lab. He said it was as good as the AT-2020+. It looks similar and has lists many of the same the same features. It also comes with a pop filter. designed for the mic. The included tripod stand also appears to be more sturdy.

(Note: for any mic you decide to purchase, I recommend buying a standing mic stand, not using the included desk mic stand.)

Apogee MiC 96k Professional Quality Microphone for iPad, iPhone, and Mac

I purchased this mic for travel. It does have a few more features which is why it is a bit more expensive than the Rode and some of the AT models. It has a gain adjustment which controls the volume of audio going into your computer, so you don't have to adjust the volume on the computer itself. it also has a light which turns red if the volume is too hot. The mic's main selling point is that it was 'designed to work with the iPhone and iPad'. It has two cables, one with a lightning adapter.

The carrying case is a separate purchase and costs around 29 dollars.

There are other versions in the Apogee MiC line that are more expensive. I can't say if buying one of these mics is worth the increased cost as I haven't used them.