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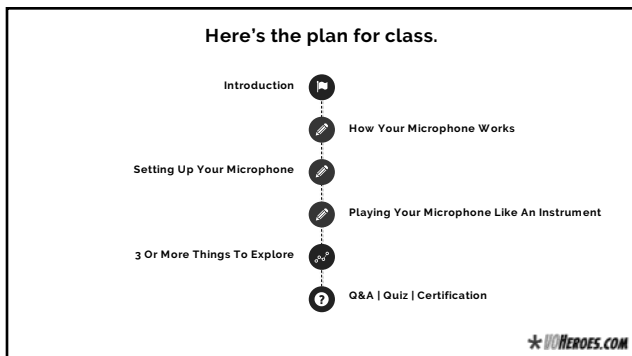
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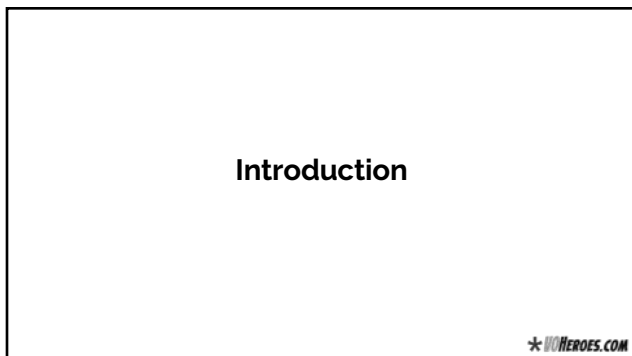
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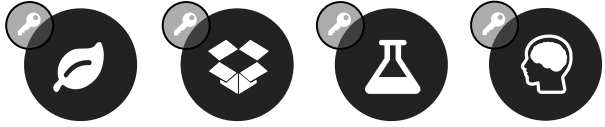
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**Reminder: The four keys to a successful VO practice**



Art Commerce Science Mindset

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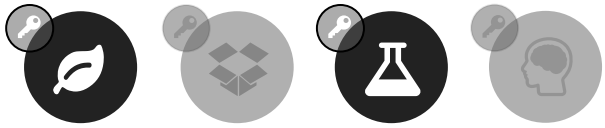
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**And this is an Art and Science course.**



Art Commerce Science Mindset

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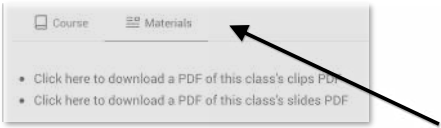
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**Be sure to download your clips and slides**



- Click here to download a PDF of this class's clips PDF
- Click here to download a PDF of this class's slides PDF

The **Materials** link is on the main page of this course, just under the header, next to the **Course** summary link.

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**Ya just talk into it. How hard can it be?**

- + Mastering your microphone requires critical listening skills
- + You need to be able to rely on your mic to play it like an instrument
- + Producers fall in love with you when you know what you're doing
- + Mastering your microphone makes you more money

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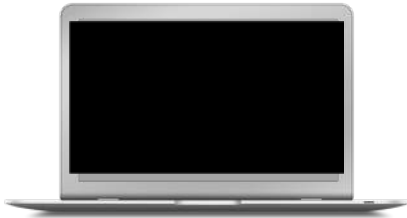
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**How microphones are manufactured**



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**How Your Microphone Works**

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### How your microphone hears sound

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### The pickup is your mic's eardrum

Usually very thin Mylar plastic stretched across a round ring. Also called a diaphragm.

As you speak, it vibrates.

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### Common mic pickup patterns



Omnidirectional

Cardioid

Shotgun

Figure-8/Stereo

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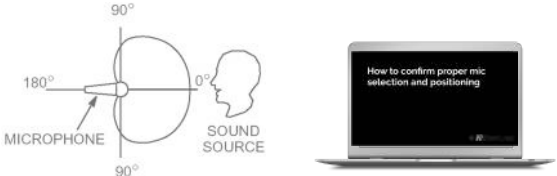
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**Our mic uses the cardioid pattern**



With the cardioid pattern, the mic picks up sounds in front of the mic, and rejects the sounds behind.

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**How all mics capture your voice**

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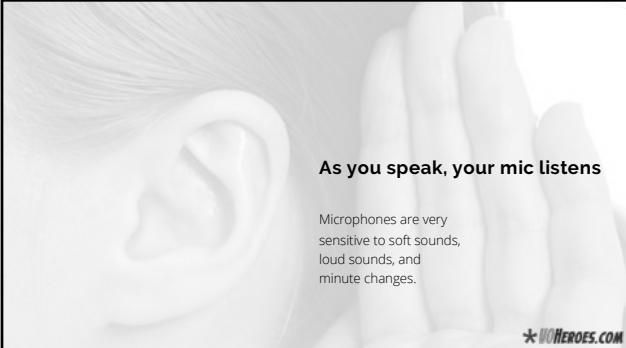
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**As you speak, your mic listens**

Microphones are very sensitive to soft sounds, loud sounds, and minute changes.

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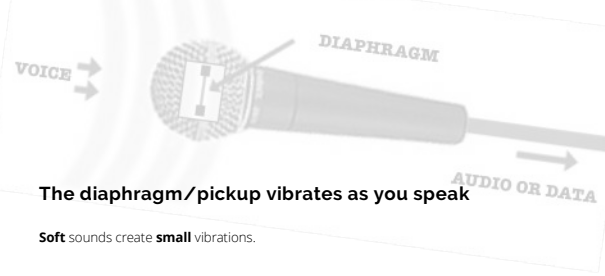
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# VOHeroes: Mastering Your Microphone Slides/Class Notes



**The diaphragm/pickup vibrates as you speak**

**Soft** sounds create **small** vibrations.

**Loud** sounds create **large** vibrations.

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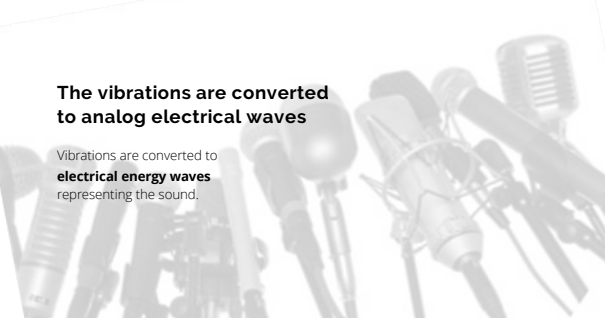
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**The vibrations are converted to analog electrical waves**

Vibrations are converted to **electrical energy waves** representing the sound.

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**The mic carries the audio to the interface**

The typical three-pin round cable and connector you've likely seen on stage and at events.

What traditional mics use to get **audio** from the mic to a mixer, direct to a speaker, or to an **interface**.

We'll look at how that interface works in another lesson.

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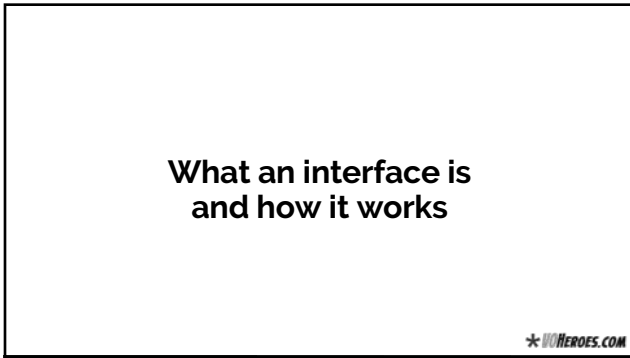
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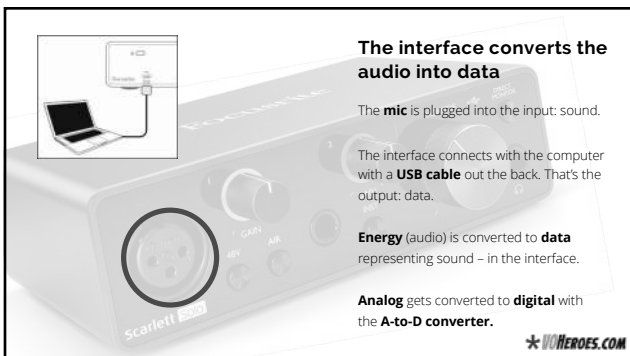
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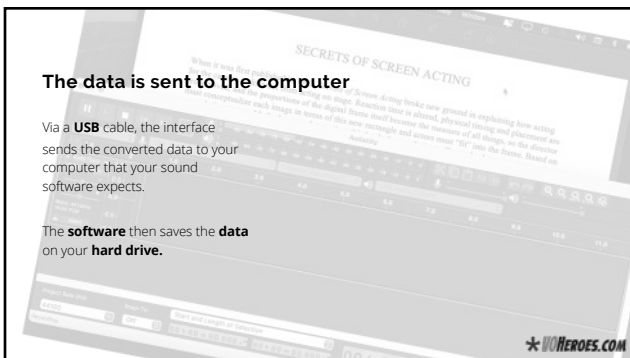
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## How a USB microphone works

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### A USB microphone simplifies things.

Instead of a separate interface with a cable connection, those electronics are packed in the **bottom half of the mic**.

And the mic does both jobs: picking up the **audio**, and converting it to **data**. It has a **USB** cable output, because it sends data, not audio, to your computer.

It's that simple.



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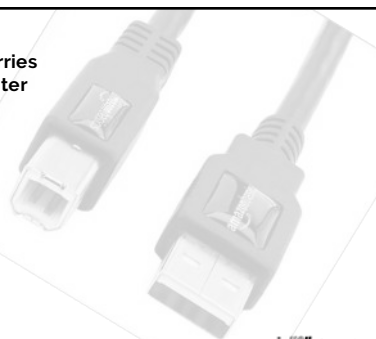
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### The USB mic cable carries the data to the computer

Instead of the three-pin round **audio** cable used in the studio mic, a **USB** cable comes out of a USB mic.

The USB mic uses its cable to get **data** from the mic to the **computer**.



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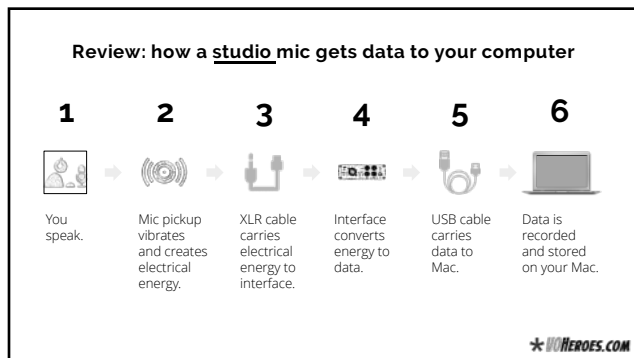
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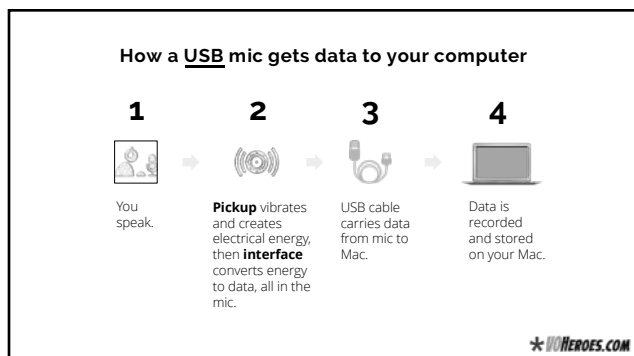
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**Our go-to VO microphone**

Yes, it's a USB mic. But a bit of a unicorn – not one of those USB mics.

It's what I use every day.

The **interface electronics** in the **bottom of the AT2020** are world-class, not cheap and tawdry.



**AudioTechnica  
AT-2020 USB Plus**  
Includes USB cable  
[voheroes.com/my-gear](http://voheroes.com/my-gear)

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**The AudioTechnica  
AT-2020 family of mics:  
get the right one.**

**AT-2020**  
We don't use this one for solo VO work. It's a traditional XLR studio mic, and requires an interface. \$99.

**AT-2020 USB +**  
This is the one we use. \$149.



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**[VIDEO]**  
**Tech Shoot Out: Is the  
AT2020 USB Plus all you need?**

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**Microphones we don't ever use**

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**Lots of different microphones we don't use for VO**

						
<b>Built-in</b> Our Mac's mic	<b>Stage</b> SHURE SM-58	<b>Stereo</b> Sony ECM- DS70P	<b>Lavalier</b> AudioTechnica ATR-6550	<b>Crappy USB</b> Blue Yeti	<b>Headset</b> Logitech Gaming Mic	<b>Mobile</b> Airpods

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**Setting Up Your Microphone**

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**In the next lessons, we'll completely set up your mic:**

- 01 Unbox and assemble your mic stand
- 02 Unbox the AT-2020 USB Plus
- 03 Mount the AT-2020 on the mic stand
- 04 Install your Mic Sock
- 05 The many ways you can position your microphone



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**[VIDEO]**  
**How to unbox and assemble the Onstage Desktop mic stand**

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**[VIDEO]**  
**How to unbox and assemble the AT2020 USB Plus**

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**[VIDEO]**  
**How to mount the AT2020 onto your mic stand**

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**[VIDEO]**  
**How to install your Mic Sock**

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**[VIDEO]**  
**The many ways you can position your microphone**

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## Recording at the proper level

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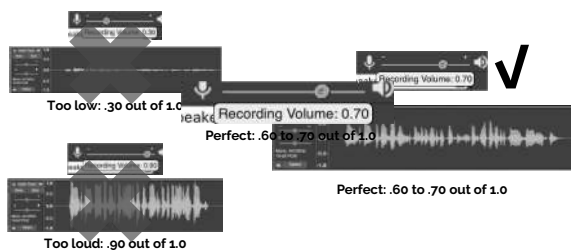
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## The AT-2020's input level in Audacity



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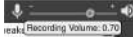
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## Great levels make great wave forms



You want to perform at a level that's loud enough to peak at between -12 and -6 dB.

This creates the perfect robust wave form.

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**Input level jumping around?**

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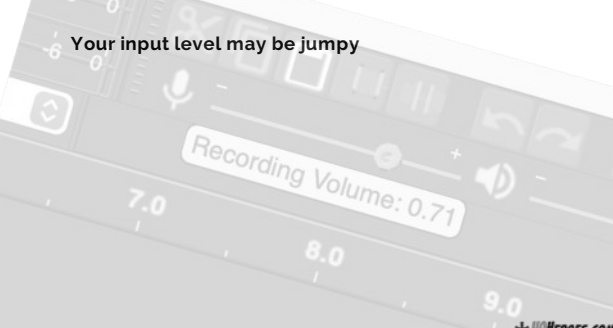
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**Your input level may be jumpy**



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**Check Zoom's audio settings**



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**Check Skype's Microphone settings**



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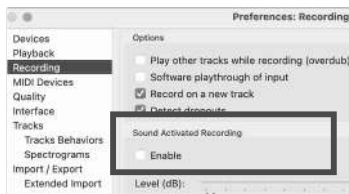
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**Check Audacity's Recording settings**



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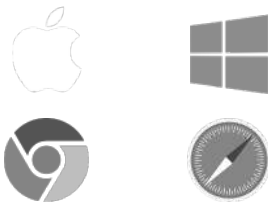
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**Check your system and browser mic settings**



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**Measuring your noise floor**

You must be able to achieve -60 dB.

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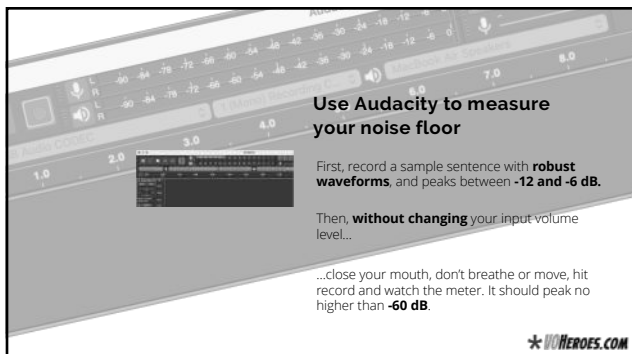
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**Use Audacity to measure your noise floor**

First, record a sample sentence with **robust waveforms**, and peaks between **-12 and -6 dB**.  
Then, **without changing** your input volume level...

...close your mouth, don't breathe or move, hit record and watch the meter. It should peak no higher than **-60 dB**.

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**[VIDEO]**

**Don't game the noise floor**

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### Setting proper monitoring volumes

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### Match both volumes in your earbuds



**Record**

What you hear when you're recording yourself speaking live.



**Playback**

What you hear when you playback what you've just recorded.



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### Set the overall volume of your earbuds



**Not too loud, not too soft**  
Comfortable volume that allows you to hear presence and detail



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**[VIDEO]**  
**David helps Sean balance his mic**

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**Playing Your Microphone  
Like An Instrument**

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**6 steps to proper mic addressing**




**01** Make sure the label is facing you. Not the word **BACK**.




**03** Distance: the Scouting salute, not the surfer's "shaka mahala."



**04** Listen to previous work when matching, such as audiobook chapters.



**05** Use the "bass proximity effect" for intimate reads.



**06** Control your headphone volume

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### 5 ways to stop the pop

- 01 You should be sitting comfortably, with good posture.
- 02 Begin at three fingers away. Adjust as needed.
- 03 Once you measure, be careful not to adjust your head.
- 04 The AT2020 should be facing you at a 45 degree angle.
- 05 Be sure to speak across the microphone, not into it.

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### [VIDEO] How David addresses his AT-2020

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### [VIDEO] The many ways of positioning your AT2020

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### The art of earbud/headphone volume

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### Use headphone volume as a tool

**Turn volume up for an intimate read.**

Raised headphone volume equals lowered voice volume.

**Turn volume down to raise your voice.**

Lowered headphone volume equals raised voice volume, as you again try to hear yourself as you usually do.



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### David helps Sean master his mic



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### 3 Or More Things To Explore

Your homework and other actionable items.

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#### Fine-tune your most important tool

- ➕ Acquire and connect your AT-2020 USB Plus, your stand and earbuds.
- ➕ Set your recording levels, then balance your record/playback volume.
- ➕ Record as many pieces of copy as you can, and minimize room noise.
- ➕ Notice how your system sounds when not set up right. Learn how to fix it.

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### Questions?

Post in the ProConnect discussion group

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**Not a VOHeroes Pro yet?**

<https://voheroes.com/pro>

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**Grab some coffee and take the quiz.**

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