



## 10 Reasons You Should Use A Microphone Preamp

### Introduction

I bought a new microphone recently and it came with a cable that had a female XLR on one end to plug into the microphone, and a mini plug on the other end to plug into my computer. The results were disappointing. That's why I decided to write *10 reasons you should use a microphone preamp*.

I knew that the one I purchased was a *condenser microphone*. I knew it would require an additional power supply.

The packaging and presentation with the cable that it came with told another story. I knew better, but I plugged it in anyway.

So the results were disappointing. The sound was terrible and hardly audible. It was very low. Very similar to the direction my mood was heading.

I then found out that there were many complaints from people about the manufacturer's unspoken suggestion that you could plug this mic right into a computer. Many of them returned the product claiming it was no good, that they had received a defective one.

Some of them probably didn't know it, but they thought they had purchased a dynamic microphone.

So I did what I knew I should have done in the first place, I plugged it into a preamp.

The sound was incredible, the gain was huge and the tone was warm and crisp at the same time.

***A huge difference from what I, and all those consumers who returned their product, got the first time.***

*There are too many people missing out on how good their product can be because they just don't know about using a preamp.*

And by product, I mean the actual microphone they purchased as well as the end result.

So I put together this guide of all the reasons why you should use a preamp, not just for the first reason.

Let's get to it!

## 1. Phantom Power



I know, I know it sounds like a superhero, right?

Well, in a way it is. You see, every condenser microphone needs to be powered in order for it to work properly, if at all.

If you are going to plug a microphone into the back of your computer, the only choice you have is to use a dynamic mic. It's the kind of mic that works by the force of sound pressure waves, just like your eardrum.

The sound waves activate a thin diaphragm with a *moving coil* behind it which generates a current to produce the audio signal. Its operation is *dynamic*.

But a condenser mic has no moving parts. It is electronically powered which makes it much more sensitive to sound pressure waves than a dynamic mic.

Therefore, it will pick up all the great nuances of your voice much better which also means you may not have to work so hard to get the level or the sound quality you want.

If you are doing a podcast from home or video tutorials, making your voice sound as good as possible for your listeners will keep them listening longer.

Speaking as naturally as you can without forcing to get a particular sound out of your voice should be the objective.

If you have your own product for sale or are working to promote affiliate products, a better quality voice recording will also improve your conversion rate.

I am not saying dynamic microphones are a bad choice, but they do take a little more getting used to because they require a different mic technique. Move just a couple inches away from a dynamic and your level is going to drop drastically and it is easier to get "off axis".

If the only choice you have right now is a dynamic you can still greatly benefit from a preamp. All you have to do is bypass the phantom power switch and you'll be ready to enjoy the remainder of a preamp's features.

## 2. Getting Good Levels



The most important step in any recording process is getting good levels. The input or gain knob on your preamp, in combination with the output knob, is going to allow you infinite control over the recording levels that are going to your computer.

The gain control is what you use to get the right level coming from your mic to your preamp. Once you're happy with that and not overdriving it, the output control is where you send a good level to your recording program.

There is no need to strain your voice or have to speak above normal conversation volume to get a decent level to your recording application, like you probably are doing now if you are not using a preamp.

With a preamp you have the option of turning up the gain knob to get a better level or turning up the output knob.

The same principle applies if you have a booming voice and it is just too much for the mini jack mic input of your computer. You probably don't want to whisper through your podcast or tutorial in order to keep good levels.

Just turn the input gain down on your new preamp until you sound more natural.

If you are already practicing good mic technique, you don't have to worry about trying to change your position to the mic to make adjustments to the sound level. (Something you constantly have to do when just plugging a mic directly into the computer with no level control.)

In the beginning of any voice recording process, people usually start out a little softer spoken and then as the energy starts to rise, so does the volume of their voice. You can just simply reach over and adjust the level as you go.

Here is where the output knob is the one to reach for. A preamp will tend to have a certain sweet spot in the gain knob that will bring out the best character of your mic.

If you need to make an adjustment in the middle of a recording it is best to leave the gain knob alone and adjust the output. I'll go into more detail on character in a minute.

It is also good practice to turn everything down to zero when plugging in or unplugging equipment of any kind. You won't have the option to be able to do that if you are just plugging a mic directly into your computer.

### 3. High Pass Filter



Most preamps will also have a high pass filter, also known as a low cut filter. This gives you the option to roll off the lower frequencies that you are most likely not going to want in the recording signal.

Another way to look at it is the higher frequencies above where the filtration starts are permitted to pass through, hence the name, high *pass* filter. This low frequency rolloff is fixed usually around 75 or 80Hz and may also be as high as 100 to 150Hz.

Most of the moderate to higher priced microphones will also have a high pass filter.

This feature reduces any low end noise such as rumbling from air conditioning units or traffic noise or the occasional bump of the mic stand.

It will also help reduce the impact of plosives from the letters 'p' and 'b'. It is not a good substitute for a pop filter, though. (You are using a pop filter, aren't you?)

In general it will give you a much cleaner signal for voice work because it is basically reducing the lower frequencies that are not in the average person's voice, so there is really no point in passing them on to your recording program.

Again, just like with the phantom power button, this is an option that you have with a good preamp that you can choose to engage or bypass if you find that a bit more low end helps an already thin voice sound a little fuller.

## 4. Character



As I mentioned earlier in reason number 3, setting your input level in the sweet spot can bring out the character of your microphone as well as enhancing the performance of the preamp itself.

It's something that you will have to experiment with at first until you are satisfied that you can dial in the best sound for the components you are using.

One of my favorite features of a particular mic pre that I use is the ability to adjust between solid state and tube circuitry or any percentage of both.

A tube mic pre will give you some nice warmth and anywhere from a bit of gentle to firm compression.

Tubes were in practically every piece of gear in the 50's and 60's and were instrumental (no pun intended) in imparting the character that we so cherish from the recordings of that era.

Using a mic pre that gives you added control over that kind of character could lead to your productions standing out above the average crowd.

Whatever aspect of voice recording you are doing, there is a lot of competition out there. YouTube is a huge platform for video style tutorials and there are millions of uploads and it is only going to grow.

That is a sea of competitors and many of them are using the same, cheap, built-in microphones on their computers. Many people are catching on and starting to go the USB mic route.

*You can raise the bar to another level and bump up your quality and character even more.*

## 5. Headphone Monitoring



This is a biggie if you've ever had to deal with latency. You know, that annoying delay you get when plugging a microphone directly into a computer.

(I am starting to see a theme emerging here. Does anyone else get the sense that "plugging a microphone directly into a computer" is a bad word?)

Yes, you can use a USB microphone and they will usually have a headphone jack on them, but the tiny little preamp in them just doesn't compare to a dedicated mic pre.

And you don't get the rest of these 10 reasons to use a preamp either.

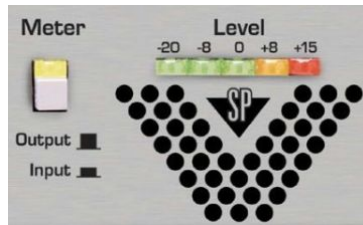
Being able to plug headphones into the pre for direct monitoring without the latency issue is a big jump in getting you back to focusing on creativity. There is nothing more distracting than having a delay in your headphones when trying to record.

Hearing your voice in real time immediately instills the confidence that you are already sounding good even before pressing record. No more fumbling around trying to find a solution or the frustration of just forcing yourself to deal with it throughout your voice-over.

*Latency? BAD*

*Direct Monitoring? GOOD!*

## 6. Visual Monitoring



This goes back to reason number 2: Getting Good Levels.

Visual monitoring with some form of meter, either VU or segmented LED will help you visualize the correct levels in conjunction with your input gain.

You can't always hear distortion if the signal is just dipping into the red, but with it being that close to peaking, you have no headroom for processing your voice later with compression or EQ.

If your mic pre has a VU style meter you want the signal to be hovering between -5 and 0 with your peaks being the ones around the zero mark.

If you're working with an LED meter, they will very likely be color coded so that you can keep signal in the top of the green section with the peaks lighting up the yellow area.

Try and make it a practice to stay out of the red with both styles of metering.

Generally speaking, the optimal range for audio levels for any piece of equipment is somewhere around 75%. If you are hitting your meters at approximately that level you should be in good shape.

I am talking about *average level*. *Not peak level*.

That is 75% of the meter range **before** the peak level indicators. This is especially important when you are dealing with a VU meter.

The zero (0) indicator on VU meters falls at about 60% of the ENTIRE meter range. The other 40% of the meter range is clearly marked in **RED** for *over modulation danger*.

*Remember, a preamp is in the analog realm for it's input stage, and the signal is not digital until it leaves the preamp on it's journey to your Digital Audio Workstation. (your computer recording program or DAW for short)*

This is assuming you are using a USB preamp. Otherwise it is not digital until it actually enters the interface of the computer.

I am starting to get side tracked. It's all connected you know. Breaking it down into smaller, understandable segments is the challenge.

It is even more helpful to get a mic pre with an option to switch the meter display between input and output monitoring. In this way you can be sure that signal into and out of the preamp is registering at the correct levels before it gets into your computer and recording program.

It also helps if you need to do any troubleshooting.

If you can visually see the right levels to and from your mic pre and you sound good in your headphones, assuming you are monitoring from the preamp, you can narrow any problems down to something in your computer and program preferences.

It is always a good idea to test the recording and play it back to make sure that your signal is sounding good. With the ability to monitor your voice from the preamp's headphone output, you are not hearing how your program is handling the recording.

If there is something amiss there, you would not know if you didn't do a test first. I know how frustrating it can be to record for an hour and find out my buffer settings were too low in my program preferences and there are clicks and gaps throughout my file.

Visual monitoring on your preamp may be only half the battle when it comes to tracking down problems, but then again, it is already half the battle out of the way.

## 7. USB Connectivity





Let's face it, the mini jack mic input on the back of our computers just isn't that great. You could replace the sound card, but that could cost you big bucks.

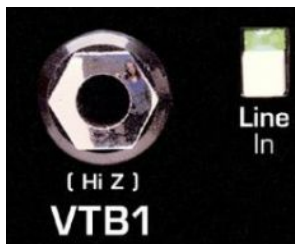
A USB microphone is a better option than plugging a dynamic mic into the mini jack, but we have already established the limitations of cheaper components in its built-in preamp.

Microphone preamps made today also connect to your computer via USB. Bypassing the computer mic input jack with a USB connection from a dedicated preamp is a huge step up in quality.

USB connections have a nice, deep and wide contact surface with a firm grip in the port on your PC. A much better connection than any mini jack could ever hope to establish.

Just plug into the USB port and you are all set to go, including much higher sampling rates than you will get out of a mini jack.

## 8. Hi-Z Instrument Input



You will also find a quarter inch Hi-Z or instrument input jack on the majority of preamps. These things aren't just for voice work ya' know.

For a nominal extra bump in purchase price you can get a dual channel preamp.

This model will have a mic input and a Hi-Z input for each channel. So you can either use two mics with it or two guitars with it. Or you can use a mic in one channel and a guitar in the other.

If you are a singer/songwriter or like practicing with your favorite band, you can have your mic and your guitar feeding your preamp at the same time and record both to separate tracks through the USB cable. Pretty cool!

By the same principle, you can record two voice talent who may be recording a dialog to separate channels as well. All through the same single USB cable.

## 9. FREE SOFTWARE!



Yes, that's right. Many preamps today will come with free recording and editing software. That in and of itself can be worth the price. You may already have recording software and if you do this is just a bonus.

But if you don't, you just killed two birds with one credit card. Now it may not be the program of your choice but it's probably a good quality program none-the-less. It may even be excellent software that might cost a couple hundred bucks just by itself.

## 10. Better Quality

Adding up the first 9 features leads to the biggest reason you should use a microphone preamp, all around you are going to get much better quality recordings.

- The flexibility
- The options
- The sonic character
- The ability to use any microphone
- Free software (in many cases)

It all adds up to the kind of quality expected by professionals. You would *never* see a mic plugged directly into a computer at a professional recording studio.

With the price that you can get a preamp for today that includes recording and editing software, there is no reason to ever use the mini jack mic input.

## I Conclude...

10 reasons you should use a microphone preamp.

1. Phantom Power
2. Getting Good Levels
3. High Pass Filter
4. Character
5. Headphone Monitoring
6. Visual Monitoring
7. USB Connectivity
8. Hi-Z Instrument Input
9. FREE SOFTWARE
10. Better Quality

Any commercial voice talent recording their Voice At Home is hopefully already using a preamp. But what about those who are podcasting or narrating video tutorials? You want that quality too, don't you?

Think of the control you could have over your sound before you even press record. Without wasting precious time with re-doing bad recordings.

One more thing before I finish up. Shop carefully and make sure you are getting what you want in the way of features for your new preamp. Read reviews and purchase the best piece for your needs and budget. There are many different options available with as many different price points.

Thanks for being a subscriber!

Jim Sherry  
VoiceAtHome.com

Here are some good places to start.

## [PreSonus Tube](#)



## [Studio Projects](#)



## [Scarlett Solo](#)



## [Art Pro MPA II](#)



## [Avalon M5 Class A](#)



You may even want to purchase a complete starter package if you are just beginning to put together a home studio.

## [Focusrite Scarlett 2i2](#)



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[Presonus AudioBox USB Recording PodCast Studio Interface with MXL440 Microphone, 2 XLR cables and AKG Headphones](#)



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