LWKS

The Ultimate Guide to Audio for Video

2022 Edition

Introduction

When creating video content, audio is equally as important as the visual aspect — if not more so! In the same way that sound plays a vital role in day-to-day communication, it's also essential to passing on the message you want your video to convey. When your audio all comes together, it's a thing of beauty that elevates your content.

Even if you're not aiming for perfection, it's vital to get the fundamentals right. Your audience might just forgive blurry and out-of-focus visuals, but what they won't forgive is poorly done sound. Imagine listening to an interview with horrible sound or loud background noise. If you can't hear what the discussion is about, you won't engage.

Given its importance, why is audio often neglected in video creation? Well, there could be several reasons. A lack of equipment, uncertainty on how to improve, or even just a general misunderstanding of the role audio plays.

To combat this, we have outlined the best ways to ensure your audio is well captured, edited, and ultimately engaging to your audience — without breaking the bank! You don't need a massive studio with top-quality gear. You just have to know what works and why, and you'll soon have great audio that elevates your content. So, let's look at how you can capture audio, from soundproofing your space to recording and mixing to get the best out of your edit.

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Crap in, crap out!
Or why your audio is only as good as the last part of your signal chain

Before we dive into the practicalities of improving your audio, we need to understand the basics. This starts with something called 'signal chain,' and it's the first key to capturing great audio. Signal chain is simply the pathway your audio takes from its source to its destination.

To help picture this, think about a band performing some music. When playing live music, the audio is played out through speakers so everyone can hear. For this to happen, the instrument's sound (AKA the signal) is passed along to something called a pre-amplifier. The pre-amp boosts your signal before sending it to the actual amplifier, which then drives the sound out through the speaker.

So, the chain goes:

Instrument > Preamp > Amp > Speaker

The importance of this — and the origin of the 'crap in, crap out' expression — is that your sound can only be as good as the previous step of the chain. If you play an incorrect note on your guitar, then no amount of boosting from the pre-amp can fix this. If your pre-amp settings are wrong and the signal isn't boosted correctly, then the amplifier cannot correct this, and so on.

The longer the chain, the more potential points of failure you will have. As with all things, it's best to just keep things as straightforward as possible while you learn.

So, how does this relate to video editing? Well, making sure that each step of your signal chain is optimized will make your life significantly more manageable in your edit.

When editing, chances are your signal chain will be pretty straightforward. If you're recording in your bedroom straight into your editing software, for example, it may just go:

Microphone > Video Editing Software

Our on location, it may be slightly more complex, but not by much:

Microphone > Camera/Capture Device > Video Editing Software

Regardless of the number of steps, the question becomes: how do we prevent crap in, so we can avoid crap out? It's a simple checklist:

- **Is your microphone semi-decent quality?**
- **Are you adhering to good recording practices?**
- **What is the background and ambient sound of your location like?**
- **Are your settings dialed in correctly?**

These are all aspects we will cover in greater detail later on, but the important thing, for now, is to always ask yourself: am I putting crap into this part of the chain? And if so, how can I fix that?

It's important to note that accidents happen, and some factors are simply out of your control. Maybe you've captured some perfect, once-in-a-lifetime footage that you have to use, but there was some strong wind blowing past that your mic picked up. There's not much you can do to prevent that (on a budget, at least). But there are ways to fix it in post-production, which we will cover later.
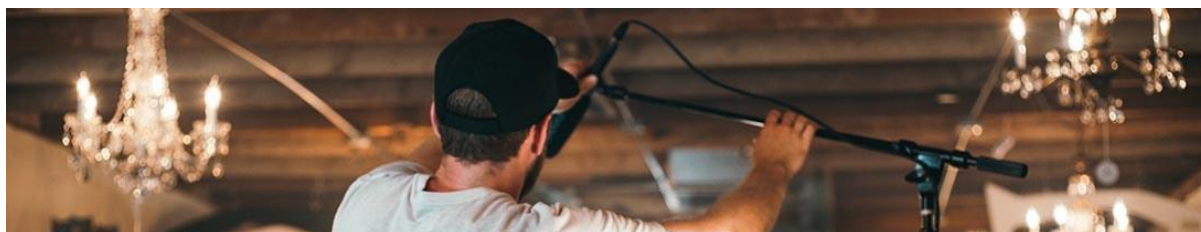
Microphone types…
How to place and use them

Let's take a look at the first part of the signal chain — your microphone. This is arguably the most important place to get things right. It's always going to be easier to enhance well-captured audio down the line than to repair poorly captured audio.

Let's get the bad news out of the way first. The built-in microphones in your DSLR or phone are not enough to do the job when capturing audio. The good news is it's easy to capture great audio with even budget-level microphones. More on that shortly.

Before we look at microphones that fit your budget, we need to understand the different types of microphones and their best use case. To do this, you must first consider what you need it for. What are you filming? What's your budget? Who is your target audience? These are just a few questions to consider when deciding what type of microphone is best for you.

The main microphones you want to know about…

Dynamic Directional Microphones:

As the name says, these microphones work from the direction pointed. They pick up the sounds closest to the front to minimize unwanted background noise. They are typically used when the sound source is very loud. You'll often find them on music stages, radio studios, podcasting, or live streaming setups. These are the exact same microphones musicians use. For filmmaking, these microphones are used in scenes where they need the microphone close to the audio source without entering the frame.

Yes - they tend to be the cheapest, but they are less sensitive. Dynamic microphones are perfect for recording in an environment where you can position your mic right in front of you — on a desk, for example. Dynamic microphones are wide and pick up audio well from one direction. You simply point them in the direction you want to

capture the sound. You must be aware; however, they will capture EVERYTHING in that direction. Background noise included!

- **Pros:** Most common ones, durable, affordable, no power source required
- **Cons:** They will pick up most sounds in the direction they're pointing, whether you want them to or not.

Condenser Microphones:

Condenser microphones are the choice for voiceover artists and many filmmakers. Condenser mics are commonly used in the studio when recording low noise or vocals. Since they are extremely sensitive when picking up frequencies that other microphones can't, they are perfect for sessions where you have complete control of the acoustic environment. Their main advantage over dynamic microphones is their sensitivity to tone and amplitude, resulting in a more faithful rendering of the voice. Make sure you don't subject these under too much sound pressure because you can easily damage the diaphragms.

Shotgun Mics:

A shotgun mic is actually an example of a small diaphragm condenser microphone. Still, they are so prevalent in video production that it's worth them having their own section. It is somewhat directional but records sound in the broader cone shape, starting narrowly at the mic and spreading wider the further it gets. It captures sound in the same pattern and form as a shotgun blast, hence the (kind of dark) name!

Seen on many film sets, this microphone is flexible when picking up audio without giving up on the sound quality. You can mount these microphones in various ways (mostly seen on camera or a boom pole), which is why they are the go-to mics for many filmmakers. Just make sure you check how the microphone connects to your camera. Nothing is more frustrating than buying a microphone and realizing it won't connect!
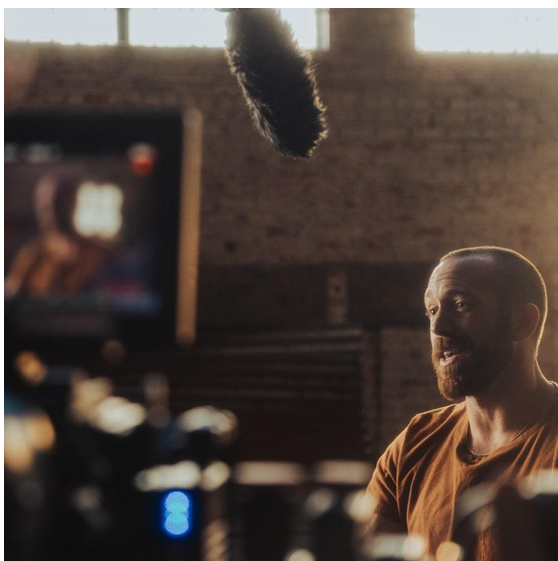
- **Pros:** Unidirectional pickup pattern, hidden from view, no shirt noise, light and small
- **Cons:** Requires another pair of hands or stand, limited in range.

Lavalier (or just 'lav'):

Filmmakers' best friend! Lav mics are great for a specific job, like short films, action, interviews (documentaries!), or vlogs. They are tiny microphones that can be placed underneath your top as you can attach them to the subject without seeing them. For wireless solutions, you don't need to worry about the proximity of how close you can get with these mics. They are worth the investment! They pick up high-quality audio, which makes you just *lav* them.

- **Pros:** Easy to place, wireless, follow your subject, perfect for interviews.
- **Cons:** Shirt noise, potential background noise, seen on camera, connectivity issues

A Mic For Every Budget

So now we understand some of the different types of microphones, but the question remains — what one is best for your budget!?

To save you some time, we've pulled together some of the best microphones for different budget price points (as of 2022.)

Consumer Microphones
(Best for Vlogs and Video Podcasts)

1. Blue Snowball iCE

Blue Snowball iCE is the easiest and fastest way to pristine sound for recording, streaming, and podcasting. Powered by a cardioid condenser capsule, this mic has high-quality audio light-years ahead of in-built computer microphones. With Snowball iCE, you'll get great-sounding blogs and video podcasts regardless of where you do the recording—at home or in the office. You can acquire this mic for as little as $39.99

Pros

- Plug and play ready
- Affordable
- has no DSP, so it produces a pure signal
- Delivers crisp audio in a cardioid recording pattern

Cons

- Its stand doesn't angle high enough for proper mouth alignment
- Only 44.1 kHz/16 bit

2. Rode NT USB Mini

The affordable Rode NT USB Mini doesn't boast a vast feature set, but it delivers a clear DSP-free signal in an easy–to–use design. Its fixed cardioid pattern helps record instruments and vocals and is also suitable for podcasting and business calls. While some people may find the lack of EQ/DSP modes and adjustable patterns limiting, most professional mics also lack these attributes. You can purchase this mic at $99.

Pros

- Zero-latency monitoring mode
- Clear, DSP-free mic signal

Cons

- No gain knob
- Fixed pattern

3. Shure MV7

Inspired by the legendary SM7B, the Shure MV7 is an exceptional, broadcast-style dynamic mic with a USB port and a conventional XLR connection. The Shure MV7 satisfies anyone who desires broadcast-quality audio from their podcast microphone setup. This mic is priced at $247.

Pros

- Strong mic signal with excellent clarity
- Proper filter and carrying case included
- Good mic stand and tripod stand mount

Cons

- Expensive compared to other options
- Micro-USB connections feel a bit dated these days.

Lavalier Microphones
(Best for Interviews and Documentaries)

Lavalier microphones, also known as lapel microphones, are best for interviews, film audio, documentaries, and stage production. They allow you to broadcast and record audio without a visible or handheld microphone. The best picks for video production include:

4. Boya By M1

The Boya by M1 lavalier microphone is most notable for its affordability. For only $24.95, you can snag this mic for yourself, making it perfect for beginners. Boya by M1 has two mics attached to the TRRS connector, making it easy to record two people concurrently on your computer, smartphone, camcorder, or similar devices. It also has omnidirectional pickup patterns that help maintain consistent audio levels.

Pros

- Affordable
- Omnidirectional condenser microphone
- Increased sensitivity and signal-to-noise
- Each mic routes to a discrete channel
- It is light

Cons

- Very long cable
- Sound quality is not on par with higher-end mics

5. Sennheiser ME 2-II

The Sennheiser ME-II is a miniature mic with a 3.5 mm connector for Sennheiser transmitters. It is designed for a reliable, interference-free performance with wireless systems. Its speech-focused response filters extreme highs and muddying lows to provide precise, intelligible results. This makes it a popular choice for interviews, presentations, and broadcast work.

The Sennheiser ME 2-II is priced at $129.85.

Pros

- High speech intelligibility
- Excellent tonal balance
- Lightweight fastener for easy attachment to any clothing
- Provides well-balanced sound that's easy to work with

Cons

- A little bit costly for an entry mic
- Not suitable for heavy-duty use

6. Sony ECM-77B

The Sony ECM-77B is a miniature omnidirectional lavalier microphone tailored for recording applications, sound reinforcement, and professional broadcasts. The omnidirectional element pattern ensures even frequency and sensitivity response at the off-axis and direct section of the microphone. On the other hand, the condenser element has a miniature profile that allows it to be concealed during performance and broadcast situations. You'll part with $295 to acquire this mic.

Pros

- Small and compact capsule
- Good frequency response

Cons

- Expensive

Shotgun Microphones
(Best for Films and Creative Works)

Shotgun microphones are known for their highly directional polar pattern, which picks out sound from directly in front with exceptional accuracy while blocking out other noises. Some of the best shotgun microphones are:

7. Rode VideoMicro

The Rode VideoMicro is a premium on-camera mic perfect for filmmaking, vlogging, and other creative works. Lightweight and ultra-compact, this mic is ideal for capturing incredible audio to accompany your videos. At only $49, this is one of the most affordable shotgun microphones.

Pros
- Easy to use
- Compact and lightweight
- Affordable
- Balanced sound and high-quality audio

Cons
- The windscreen only works for light wind

8. Comica Traxshot Shotgun Microphone

The Comica Traxshot is a transformable all-in-one shotgun microphone. This on-camera microphone is an affordable and versatile solution for mirrorless cameras, smartphones, and DSLRs. The Comica Traxshot shotgun costs $119.

Pros
- Works with various devices
- Great directionality
- Easy to use and set up
- Great sound

Cons
- The design is a little bit off the top

9. Rode NTG5

The Rode NTG5 is an ultra-weight shotgun microphone perfect for use in the most demanding recording situations. It features an acoustic design with circular ports rather than the linear slots in other shotguns. The Rod NTG5 offers unmatched transparency and a more natural sound. You will part with $499 to acquire this mic. Even so, it is worth every penny.

Pros

- Moisture resistant design
- A more precise and natural sound
- A well-balanced frequency response
- Lightweight
- Low self-noise

Cons

- It is pricey

Wireless Microphone Systems
(Various Uses)

Wireless microphones are often used for many purposes, including live performances. Finding the best wireless microphone system can be challenging, especially if you're not generally familiar with microphones. However, you shouldn't fret. Here are some excellent wireless microphones you should consider:

10. Samson Go HXD2

The Samson Go HXD2 is exceptionally high quality for a relatively affordable microphone. Its super-cardioid patterns work extremely well, providing a lot of presence to your vocals while muting out the surrounding noise. Its transmitter can handle a distance of up to 100 feet, giving you the freedom to move. For only $69.95, you're getting a lot from this microphone.

Pros

- A solid, clear signal
- A Versatile stand can be clipped on laptops or mounted on mic stands.

Cons

- Easy to get pop sounds due to the lack of DSP
- No gain knob

11. VeGue Metal Dual UHF Wireless Microphone

This wireless microphone is designed to capture authentic voice effectively and produce clear, crisp sound. With a cardioid pickup pattern, the VeGue microphone captures sound accurately and suppresses unwanted background noises. It is perfect for karaoke, parties, and other outdoor events. This microphone is priced at $99.

12. Audio Technica 10 ATW-1102

The Audio Technica 10 ATW-1102 is one of the best wireless microphone systems available in the market. This microphone system has its own automated internal frequency selection tool to identify interferences and stick to a safe frequency channel. Audio Technica can use up to 8 channels concurrently without any issues.

This microphone is priced at $388.99

Pros

- Easy to set up and use
- Can use up to 8 channels
- Excellent signal

Cons

- It is pricey

Even if none of the above are suitable for you, hopefully this at least demonstrates that there are numerous microphone options to choose from for your video production. With a little bit of research, you can find affordable microphones that will work for your project.

How to help create a better sound environment on a small / no budget

No budget, no worries! Studio panels, baffles, diffusers, reflectors, and blinds can cost a fortune, but there is a lot you can do with your space. You can amp up your audio quality by ensuring your environment is soundproofed. Keep reading if you want to record your sound on a small or even no budget. You will be surprised how simple it is to turn your room into a studio space with just a few things in mind.

Soundproof your space

You don't need to own a studio to record your audio. Many professional content creators use their homes when producing their content. It may not look nice, but trust us, taking the time to seal the windows, doors, and floor makes a difference when you start recording. To ensure your audio environment is spot on, let's go through some tricks that will give your space the acoustic treatment to get your audio to another level.

Airtight. Ensure your walls are airtight to prevent unwanted noise from interrupting your recording. You don't want any passing through cars or buses interrupting your recording, meaning you have to start all over again. Think about it, sound travel by air. Once you seal your room, you will eliminate any unwanted noise.

Windows. Windows are made of glass, a highly reflective surface, so your audio is more likely to bounce. Since you can't just remove your windows, you can place them sideways from the audio source. Another way to trap your sound waves is by using soft materials. Curtains and drapes are great when you need that extra protection. Soundproof curtains are actually a thing! These soft materials help prevent sound reflections from bouncing from your windows and damaging your audio.

Furniture. Avoid any corners in your space that can cause unwanted resonance or phasing. Place bulkier furniture next to thin walls to prevent any noise from coming in. Placing a large sofa or even a bed along one wall will help absorb low and high frequencies. In addition to the walls, think about the flooring as well. Leaving your floor bare means you can end up recording footsteps or any other noise across the rooms. Placing rugs or carpets on the floor will help you to absorb noise traveling through the floor. This is also a great way to prevent complaints from neighbors!

Acoustics and symmetry go hand in hand. If you ever wonder why your vocals sound louder in one speaker than the other, this is probably due to the room's shape. Uneven spaces can result in your sound drastically. Therefore, try consistently placing your monitoring setup in a central room area.

Setting Up Your Workstation

The holy grail is called *an equilateral triangle*. Starting from the middle of the room, your speakers are the most essential gear for your workstation. By positioning your monitors about a meter away from the back wall, you will prevent any resonant peaks and nulls in your audio. You do not want to set yourself too far back either, so try and find the balance of situating yourself in the middle of the room.

The position of your speakers should be facing the long way down the room. Try and place your speakers as far from each other and as far as possible from your listening position. Ideally, this should be at a 30-degree angle facing you from about 3-5 feet away from the monitor speakers.

Make sure that monitors are not placed too close to the room's corners. These corners are the most problematic points of the room, giving sound waves two or sometimes three surfaces off of which to reflect. Monitors should be placed at ear height, so adjustable speaker stands come in handy.

Make sure your speakers are not placed directly on the desk. Like any surface, vibrations from your speakers can readily travel through your desk, causing artificial resonance in your mix. So, you have a few options here. You can purchase isolation pads that are generally inexpensive or just place styrofoam underneath the speakers. The best choice, in the end, is to put your monitors on separate monitor stands to prevent catching any vibrations.

Best practices for capturing your audio

We've got the mic and some good recording conditions, so that means it's time to, you know, record! Let's start by saying 'record everything'. Yes - EVERYTHING. When it comes to recording, more is more. It is always better to have multiple takes to fix any background noise, microphone mistakes, or bad dialogue. Let's go through the best practices for capturing audio.

P-p-popping

Pops can be a nightmare for editors. Popping happens when the air hits the microphone's diaphragm and messes up your input levels. These pops or clicks are low-frequency explosive sounds that occur when articulating letters like P, K, and B. They can really distract the overall viewing experience.

To prevent any popping, you need a diffuser. You can get professional ones, of course, but even using a sock or a shirt in front of your microphone will do. These are highly useful when recording voiceovers or even on set; you can place these on your shotgun. Many professional microphones use a low-cut filter to cut or reduce the bass frequencies occurring in their audio.

The easiest way to prevent any popping is to check how you use your microphone. Make sure you place your microphone at the correct distance. Not too far, though, since you will sound "off-mic" if you are too far from the microphone. Place yourself between 6 to 12-inches from the microphone by speaking across and not into the microphone.

Multiple takes

When you're recording, you can record multiple versions or takes. This mostly means to just do it more than once! You might think you've recorded the perfect take, but you never know when there was something unexpected in the background. You couldn't hear it, but your mic sure could.

Trust us, if you don't record multiple takes, a time will come where you'll be in your edit, wishing you had!

Ambient sound

The closer the mic is to the ambient sound source, the more you can hear it. This is why we mentioned the microphone distance previously. You should try having your mic at different distances from the source to give you more flexibility when it comes to mixing.

For example, suppose you are recording ambient sound for a restaurant. In that case, you may want to isolate the sound of food frying on a pan by placing your mic as close as possible to the burner. Then you also might want to record the overall sound of the kitchen by pulling the microphone in the middle of the kitchen.

Check your input levels

Most ways of capturing audio come with a way to monitor your input level, usually with a light that goes from green to yellow to red. Once you hit red, digital clipping is introduced into your signal, and valuable information is lost with no way of being recovered.

Ensure your input volume allows enough headroom when it comes to peaks and loud sections. This way, you are not suffering any data loss or unwanted distortion in your recordings.

You can also play it "too safe" and end up having a quiet recording too. If it's too low, it's often impossible to bring it back to the same volume levels as the rest. If you are turning up the performance of your recording, you will also turn up all of the ambient noises that it comes with.

The green to yellow means normal. Orange to red warns for over-modulated input. The best sound quality occurs when the audio level bar is kept in the green to light orange range.

Record separate tracks with headphones on

If you're recording a conversation via Zoom or any other video conferencing tool and you only want to pick up what you are saying, using headphones is a must! You can also plug your headphones into a camera and test what you are recording. This way, you can make sure your dialogue is working accordingly. If you are recording yourself, this is an excellent way to self-check your work.

Have no choice but to record via Zoom? Record the audio separately to ensure everyone has the best audio systems. Local recording usually results in better audio quality, which you can sync later to match in the final project.

Leave some space

If possible, leave some room between takes or sounds being captured. This gives you some space in the edit to mix things together or generally have some more flexibility. If a line is delivered with no gap between the previous one, it may be challenging to cut the two apart. This is just one example of why it's good to have some space.

Recording on set

Anybody recording audio outside on set without a wind diffuser or a dead cat, stop what you're doing! (Don't worry, it's not literally a dead cat — it's what the furry wind protector on microphones is called)! Trust me, it is worth it every time! Even for extra protection, placing screens just in front of your microphone out of your frame can help to reduce any noise from the wind or unnecessary pops.

Here's what professionals say to use when recording audio in the windiest of conditions:

- Turn on your mic's low-cut filter
- Use any screens, object, or your own body to block the wind
- Windscreen muff is your bestfriend
- There are mics designed especially for windy conditions

Chapter Six

Editing/mixing audio

When you have all your audio recorded, it's time for mixing. Mixing is the process of taking recorded tracks and blending them together. You could almost think of this as the color grading process but for audio. It gives you the creative and artistic freedom to engage with your audience through sound. Knowing how to set your levels, fade, pan, and work with your EQ can take your audio to a whole nother level.

Setting levels

Mixing is all about balancing your audio, and this is done by balancing your levels. When you are setting levels, you want to achieve several following outcomes at the same time. Think about the kind of emotional effect you are looking to create. There is no quick fix to all. What works for one mix won't always work, even on a similar mix. This is only achieved by making sure we have coherence between all the elements in the mix.

When you have the bigger picture in mind, you have a rough idea of how each of your tracks will fall into place. Don't be afraid to balance those levels by giving them a big cut. Headroom is critical here.

Crossfading

This is one of those few audio terms that actually sounds like what it means. Let's start with fading. When something *fades* out, the volume gets lower and lower until you can't hear it. You have probably heard often on TV or in many film soundtracks that the audio *fades in* (opposite to fading out). The audio will start as inaudible and rise gradually until you can hear it at full volume. Fading is used to balance and blend multitrack recordings seamlessly together.

Crossfading happens when one audio track fades out while another track fades in. Crossfading is handy when you want to delete a certain part from your vocal track. This is why recording everything is essential! If you mess up your vocal, you can easily crossfade another section into the finished mix. No one will ever notice it. Crossfade can also extend any ambient noise you need to place in the background. For example, suppose you have 10 seconds of ambient traffic noise in the background and want it to last 20 seconds. In that case, you can easily just double the track and blend them by crossfading the tracks together.

Using EQ to enhance a voice

Every sound is made of frequencies. When you hear someone talking about highs, mids, and lows, you know they are talking about the different frequencies. An equalizer is a tool you need to boost, cut, and balance all of these frequencies in a mix to get the sound you want. They are basically software or hardware filters that adjust the different frequencies.

The frequency spectrum goes from lows to highs. Bass instruments are usually in low frequencies due to their heavy and boomy sound. As opposite, high frequencies are generally tinnier and snare. Although we categorize sounds in different frequency categories, all sounds have essential information in all lows, mids, and highs. Keep this in mind when you're finishing your mixing.

Using pan to make tracks stand out

Plan to pan. Panning controls the width of the mix. This is the left to right breadth of your stereo field. Panning helps to locate the sound in your mix correctly. Using an audio pan control, you can control a track's position within a stereo image.

Start with the most essential sounds of your project. These are the parts you want to be most audible to your audience, so make sure they are what you want your listeners to hear first. Other low-frequency sounds may be best placed in the center of a stereo mix.

Extending your sound across the stereo spectrum isn't just great for your listener, but also creates space in your mix. Allowing your audio to shine makes it more immersive and engaging to your listeners.

When I say more immersive, let's look at a few examples. If you are a filmmaker and you are editing a scene in a bar. Two people listen to music and start a conversation with each other. Since these two people are on the right side of the frame, you want to pan your dialogue recording to the right. This gives your viewers a sense of space. If you are a podcaster recording a dialogue, you may want to pan the different sound sources slightly separated. If you are mixing music and want to create a distinctive style unique to you, The Killers (Mr. Brightside) are a great example of extreme panning!

Quality audio and how to manage it

Before digital audio, tracks were stored in analog formats: vinyls, tape cassettes, and CDs. These definitely took up some space before moving to digital. Let's look at how you can use different ways to store and deliver your digital audio in formats that ensure the best audio quality for your needs. Louder is not always better!

Compressed vs Uncompressed audio

When we talk about audio compression, we need to know precisely what kind of compression we are talking about. We can talk about the dynamic range or amplitude, but essentially compression is about making audio data files smaller. There are a few different types of compressed files you need to know:

Lossless audio files contain 100% of the audio data, providing the highest-quality sound and the largest file size. The two most popular formats of lossless audio files are WAV (Waveform Audio Format) and AIFF (Audio Interchange File Format).

- WAV gives you the highest quality. While keeping the original data, it holds its time code as well. This is helpful when you are sending your files back and forth.
- AIFF was created by Apple and used by both Mac and PC, these codecs keep all the data except time codes.
- DSD provides an uncompressed, high-resolution audio format, but they need a professional audio system due to their large size.
- PCM is used in CDs and DVDs since it captures analog waveforms and turns them into digital bits.

Compressed lossless audio files are designed to keep your data while packing your audio data into a smaller file. They are liked by audio professionals because they keep all of the original sound waves. Since they do not break down the data, the size of these files remains relatively large. Examples of compressed lossless audio file formats are FLAC (Free Lossless Audio Codec) and ALAC (Apple Lossless).

- FLAC is a free and open-source codec that is great for lossless compression.
- ALAC is a lossless compression that works only on Apple devices.

Compressed lossy audio files are the smallest compressed files you can get. They do this by removing certain data to shrink the file size. Be careful - lossy compression can adjust the original audio file when used too much. Most audio file formats try and find the right balance between audio quality and file size. These are formats like AAC (Advanced Audio Coding), MP3, and Ogg Vorbis.

- MP3 is the most famous digital music format, used by Amazon MP3 and Google Play, and basically every device, app, or cloud service that can play music. For professional audio editing, MP3 files only reach up to 16-bit, whereas sometimes, working with 24-bit is better when you are recording and mixing audio.
- AAC compresses its files into very little space, which makes it suitable for streaming, especially over mobile devices. The AAC format is commonly used in iTunes/Apple Music, YouTube, and Android.
- Ogg Vorbis is a free, open-source audio codec that Spotify uses. Despite being suitable for streaming, this codec can result in some data being lost. It is still considered better than MP3 by some audio experts.

What quality/format do you need?
When is best to use each?

Audio is a relatively simple matter for video editing. It's likely to arrive at a 48kHz sample rate, mono or stereo. If it's stereo, make sure you don't accidentally separate the right and the left files. If you have two separate files - one for right and one for left - make sure they're panned opposite each other.

Make sure your incoming audio matches the project sample rate. If your project is at 48kHz and you import digital audio from a CD, it will be at a 44.1kHz sample rate. You'll have to convert this to 48kHz in an external program (typically with your DAW).

You should always choose a format that gives you the quality you need. Uncompressed formats are always better when you are recording and mixing. Still, depending on your source, compressed formats can be good as well. Lossless formats like FLAC are just fine, but MP3 can be pretty good, too with a decent bitrate.

Sometimes you have to work with what you've got. To deliver your audio, ensure a surround format is needed. Then you should probably

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deliver uncompressed unless it's for preview only, in which case just go with compressed audio formats. Large files take time to move, share and manage, so finding the right balance between file size and quality is vital here.

For example, if you are delivering a video to Youtube, they recommend the AAC format. You can find their recommendations [here](#).

Compressor formats are pretty good these days. Most people won't even notice the difference between lossy or lossless compression. The way you handle the sound during the edit is more important than the actual format. Don't reduce and then increase the gain later - that will bring up the unwanted noise. And try to output at a level that will not need additional gain by the end user. Ultimately, if you can't hear what people are saying, nothing else matters!

If you're listening to music and looking for audio representation, use lossless or even lossy audio compression. When it comes to compressed file formats, MP3 is the most famous digital music format, used by Amazon MP3 and Google Play, and basically every device, app, or cloud service that can play music. AAC (Apple's alternative to MP3) is the most popular type of lossy compression. At the same time, Hi-Res libraries offer FLAC as the standard for archiving files. With a decent internet connection, you're unlikely to notice any perceivable difference between the vast majority of these services. Just make sure your devices are compatible with your file format of choice.