Your favorite recording just got “re-mastered.” But what does that mean?

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“Remastering” is a term that gets thrown around a lot--by both audio techs and consumers. You’ve probably heard the term before: “Remastered edition,” “Digitally remastered,” “remastered for vinyl”… Usually it’s something that shouts from a sticker on a reissued album: “Newly remastered from the original tapes….”

So what is remastering?

First, we should note that remastering is not the same as remixing; they are two very different things. Remixing means taking the original, individual elements of a recording (the multi-track session including its vocal track, its bass track, etc.) and recombining them to alter the original sound of a previously mixed recording. You can go back to the original multitrack session and move things around. You bring up the guitars, mute the organ, add effects to the vocals, or even rearrange the song entirely. Remixing is creative and can drastically, or slightly, alter the feel of a track.

Remastering, in contrast, approaches the song, or finished product, as a whole. It works from the final stereo mix file--not the individual multitrack elements. It’s a form of audio polishing, where a mastering engineer makes subtle adjustments to EQ, compression, limiting, stereo width, and other parameters to optimize how a song sounds across different playback systems and formats.

In some ways, it’s the equivalent of putting a fresh coat of paint on something: the basic structure of what’s underneath remains the same, but now it looks (and sounds) brighter, more polished, and updated for current tastes and technology.

But, let’s break this down: a “master” is traditionally the object of a sound recording from which other copies will be made. In terms of a vinyl album, that “master” would mean the original metal plate, etched with sound grooves, that would serve as the “mother” that stamps all the

other vinyl records. In terms of a cassette tape, it would probably be another magnetic tape. For digital releases, it would be a hi-res audio file from which, again, duplicates are made.

As a master--especially in terms of a metal "mother" or an early magnetic tape--is used, it becomes worn--sort of like when you attempt to make a photocopy of another photocopy or when you keep using a rubber ink stamp without dipping it back into the ink pad. With time, that image will fade, and something similar happens with sound after repeated replicas are made.

Hence, often when remastering happens, record companies will try to go back to the very first (or earliest) master they have or can find, i.e., the first pressing or the earliest sound element, as these originals, presumably, have the best sound quality.

That's one type of "re-mastering." But there's also another type.

And, again, for it, let's go back to a house metaphor. When you built your house, you used the best lumber you could find so that it would last, hopefully, forever. And when you bought that wood, you had it treated with the best finishes and sealers you could find to further ensure its long life.

But what if, ten years after you bought that wood, new and even better treatments were developed? You might then consider reapplying, to all the wood in your house, this latest, newfangled treatment.

Similarly, when an audio recording is re-mastered, it involves taking something "old," like that recording's original disc or tape, and then re-treating it--not with a new coating of something--but by applying new techniques and resources that were not available to the original engineers 50 years ago or even five years ago.

Thanks to huge leaps in audio technology, even in just the last five to ten years, remastering now includes far more than just adjusting EQ or making a track louder.

Today, engineers have tools that let them surgically repair and enhance old recordings in ways that were previously impossible. With spectral editing, for instance, you can isolate and remove vinyl crackle, tape hiss, or electrical hum without damaging the surrounding audio. Clicks, pops, and even distortion from aging analog gear can often be cleaned up completely.

Today's machine-learning-powered plugins can intelligently reconstruct missing frequencies or improve upon other nuanced issues. This can help bring life back into the original recordings, make muffled instruments clearer, or rebalance a mix without needing the original multi-tracks.

In one example, an album recorded by a localized brass band in the 1960s was recently brought back to life. Originally captured in mono with limited fidelity and noticeable tape hiss, the album was remastered to reduce noise, correct tonal balance, and bring out the warmth of the instruments, and add a stereo dimension with strategic effect use, all without compromising its original vintage charm.

In simplest terms, remastering an earlier work allows the present-day engineer to be able to do any number of things to that original. It all really all depends on how things sound to that particular engineer's ears; there is no formula or, for that matter, a right or wrong answer.

It's important to note that mastering standards evolve over time. In the 1970s and '80s, for instance, mastering engineers often aimed for more dynamic range--meaning the difference between the loudest and softest parts of a song. But as playback environments changed--such as the rise of car stereos, earbuds, and portable devices--engineers began leaning into compression and loudness so that the track could "compete" in a noisier world. This shift in listening culture influences how re-masters are approached.

Additionally, modern remastering isn't only about fixing flaws—it's also about format translation.
A classic example of format translation is transferring a vinyl record to CD. Because vinyl relies on physical grooves, it must first be converted into a digital file before it can be put onto a CD disc. This is a type of remastering.

So, since the very beginning of the CD era, you've technically been, all this time, listening to remastered recordings. Though, that said, some of the very first CDs made were "flat transfers," that is, carried over to CD with little or no tweaking along the way. Since then, however, most CDs get at least a little bit of "boost" in the transition process.

Of course, to many sound-o-philes, this sort of late-in-the-game tampering is akin to someone putting new or fresh colors over the Mona Lisa. It simply should not be done, they say. And it's a debate worth having. And that controversy won't be solved here.

It should also be noted that a CD can only hold so much data/information. When CDs were first introduced, Sony (their originator) set the "rules" for it. For example: the sample rate for a CD is 44.1kHz or, in other words, 1411 kilobits per second. (Generally speaking, the higher the sample rate, the better the sound fidelity.)

Ironically, MP3s, which for years were the predominant currency of the recording industry, have a sample rate LESS than that—less than a CD. A standard MP3's bitrate might be 128 kilobits per second or even as low as 64 kbps, one of the reasons that those who work in audio and serious listening fans don't like MP3s!

So that means that, when some works are transferred from their original source to CD or into an MP3, some sound quality is inevitably lost.

But in addition to legacy mediums like vinyl and CD, engineers now often remaster for high-resolution digital formats such as 24-bit/96kHz WAV, FLAC, or Apple Lossless (ALAC), which preserve far more audio detail than MP3s or even standard CDs. While we can't truly "up-res" audio--that is, we can't restore information that was never there to begin with--we can process and enhance the existing material to sound better as described earlier. Then, once improved, it can be ideal to render the remaster in the highest quality format available to preserve those

enhancements as faithfully as possible, especially for distribution on platforms offering “Hi-Res” or “Lossless” audio tiers.

Through all stages of this process, from audio enhancements to formatting, engineers have to make hard decisions. This is especially true in the matter of transitions from one cut to another, one song to another. If one song was cut analog, it can sound rather feeble when placed next to something recorded digitally. So, sometimes, augmentations have to be made so that songs, played in succession, won’t be jarring to the listener.

Additionally, engineers must ensure that remastered works translate well across a wide range of playback systems--from earbuds and laptop speakers to car stereos, home theater systems, and professional studio monitors. This concern with *translation*--making sure the music sounds balanced, impactful, and emotionally consistent regardless of how it's played back--is actually one of the foundational purposes of mastering itself. Whether it's a new release or a remaster of an older work, mastering exists in large part to make sure the mix holds up across real-world listening environments. Proper remastering continues this tradition, taking into account not only modern playback systems but also today’s listening habits, loudness standards, and delivery formats. So while remastering may involve EQ adjustments, noise reduction, or format upgrades, it also demands the same critical attention to how the audio translates outside the studio--ensuring it connects with listeners wherever and however they hear it.

Finally, there’s the issue of artistic intent. Should remastering honor the “vintage” sound of the era in which a recording was made, or should it try to modernize the experience for new audiences? There’s no consensus. Some engineers aim to preserve every nuance as the artist originally heard it. Others view remastering as an opportunity to elevate older recordings with today’s sonic tools.

In the end, the goal remains the same: to make the sound *sound* as good as it can… an artistic standard that’s always, inevitably, subjective.