Filtering noise, hum, and rumble from your audio.

The first step to getting clean audio is making sure that we are recording good clean audio in the first place. There are many preventative measures taken on set to ensure that our recordings are clear. But if you are still encountering intrusive noise during editing, here are some steps you can take to fix that.

**Noisy Dialogue (Premiere Pro)**

Sometimes you’ll encounter air conditioner noise, electromagnetic hum from the film equipment, or intrusive noise from beyond the set. If you’re in *Premiere Pro*, navigate to **Window > Workspaces > Audio**.

This is the **Essential Sound** panel. There are four major categories, but we’ll be interested in just **Dialogue** for now. Select Dialogue and then select the audio track that you would like to clean up.

In the Dialogue panel, you’ll notice a **Preset** dropdown menu. Click that and read over some of the useful presets there are. Not only can we clean dialogue with these presets, we can actually transform it with effects that make our dialogue sound like it’s in different locations! But for now, select **Clean Up Noisy Dialogue**.

Clean Up Noisy Dialogue usually works very well with its default presets. If it isn’t to your liking, take a moment to adjust the sliders. **Reduce Noise** identifies and suppresses background noise, **Reduce Rumble** filters out low-end noise, **DeHum** reduces noise from electromagnetic interference, and **DeEss** reduces harsh hissing sounds.
Remember that if you would rather not change workspaces in Premiere or you only need just one parameter, you can find these same effects within the effects library.

On the topic of the effects library, take a moment to search for the Parametric Equalizer. If you are encountering any sort of low frequency hum or rumble, but nothing else, take a moment to try this effect for yourself.

In your Effects Controls panel, locate the Parametric Equalizer and click on Edit.

In Sound Design, this was what we call an EQ Band Filter, or just EQ. In a nutshell, the X-axis is frequency from low to high. The Y-axis is gain from muted, up to normal at zero, and extra gain above zero. EQ is primarily made for boosting and filtering out bands of frequencies. Think of it like color corrections where we want to boost certain colors and filter out unwanted ones.

Let’s say for example you are trying to filter out some unwanted low frequency hum. Check the lower left corner and click on the HP next to Band. HP stands for High Pass filter. A high pass filter allows higher frequencies to pass the filter while rejecting lower frequencies. The same exact thing can be done with a Low Pass filter. Now adjust the frequency of your HP to 60 Hz.

And that’s it! You’ve now “rolled off” 60 Hz and below. Adjust your frequency as needed if there is still some rumble or hum. Remember to not go too high, or you could harm your dialogue. Also remember this trick in case you are working with dozens of tracks that all feature a little rumble or hum. That can add up very fast, so all of those tracks would benefit from a simple High Pass filter.
Noisy Dialogue (Adobe Audition)

One other way of using powerful adobe plugins to filter out noise is by using Adobe Audition alongside Premiere Pro. While in Premiere pro, select an audio clip and right click it. Select Edit Clip in Adobe Audition.

Your audio will now appear in Adobe Audition. Take your selector tool and highlight a section of room tone. Look for any signs of low amplitude in your waveform. Or in other words, anywhere with a flat line.

Now go to Effects > Noise Reduction / Restoration > Capture Noise Print. A pop up window will appear. Click OK.

The Noise Print has been saved in the background. Before doing anything else, deselect the region you highlighted earlier. Now go back to Effects > Noise Reduction / Restoration > Noise Reduction (process).

Hit the spacebar to playback your audio while this window is open. Adjust the sliders for Noise Reduction and Reduce By: until you find a good place for the Threshold to sit where most of the noise is gone but our primary dialogue is still preserved. When you’re happy with your results, select Apply. Now hit Cmd + S to save your new audio. This should save your settings to your original audio clip in Premiere. Return to Premiere and listen to your clean audio.