

# Reverb Type

This is a list of the different types of reverb, their origin, and their uses:

**Plate Reverb** - In 1957, a company called EMT introduced a reverb that worked by placing a speaker type instrument called a transducer in the middle of a large piece of sheet metal. This transducer converted audio into vibrations that would travel through the plate, and was then reproduced as reverb via a pickup mounted on the each side of the plate (the stereo version introduced in 1961). Plate reverbs are typically used for vocals and snare drums...but can equally find their place on other types of instruments as well. It's great that we now have fairly accurate (debatable) simulations of plate reverbs because the original was around 600 pounds!

**Chamber Reverb** - This type of reverb can be heard on most records from the 40's and 50's. This was one of the first reverbs ever used on a recording. A chamber reverb is created by putting a playback speaker in a reverberant room, while placing a microphone to capture the resultant reverb from the music being played. The amount and voice of these types of reverbs were/are controlled by microphone placement, absorption panels, volume of music in the room, defraction panels, gobos, and the type of room. Many studios in the 50's & 60's actually had special rooms constructed of concrete for the soul purpose of having a reverb chamber. This type of reverb is usually pretty lush and rich.

**Room** - This type of reverb emulates what you'd get in a smaller space with lower ceilings. Room reverbs are used when you want a shorter reverb just to enhance the instrument, and not necessarily something big or cavernous. It is important to note that anyone can create a room reverb, or hall reverb, or chamber reverb without a hardware or software unit. All you really need are some playback speakers, a couple of microphones, and a decent room(s). Placing the microphones in X/Y configuration will guarantee the signals will remain in phase. Or you could just use one mic for a mono verb.

**Hall** - As the name would suggest, a hall reverb is like the reverb you'd get if you were sitting in a large concert hall of some type. Halls are probably one of the most used reverb types in the industry right now. They are known for being bigger and richer, with longer reverb times.

**Spring** - The spring reverb was originally conceived in the 1930's by the great Laurens Hammond - proprietor of the Hammond Organ. Today, spring reverbs are mostly used in guitar amplifiers. Spring reverbs really came into popularity in the 50's, 60's, and 70's. Spring reverb is created by having a long spring in a rectangular can type structure with a transducer on one side of the spring, and a pickup on the other. As the sound travels through the springs via the transducer, the pickup captures the resultant reverb. Springs actually were used quite a bit in studios during the 60's & 70's. Usually there is a "shimmer" on spring reverbs that is hard to reproduce anywhere else.

**Convolution Reverb** - (More common with software plug-ins, but some hardware units are out there) - This reverb is the newest of the bunch. This type of reverb uses impulse responses - a series of short bursts of white noise or even hand claps - can be sent through just about anything - rooms, halls, bathrooms, other reverb processors, guitar cabinets, etc - and then the resultant reverb is captured by a microphone(s) and then some magical math is done by little electronic elves, and then from there you can use that reverb on just about anything. Back in the day, if you wanted the reverb of a famous room or hall somewhere, you'd have to travel. Not so anymore. With convolution reverb, it is possible to have any reverb sound on the planet without ever leaving your church sanctuary, studio, or house. This is because there are people all over the world that has captured these IR's (impulse responses) and share them online. From there, the IR's are loaded into your convolution reverb processor. Because IR's can even be captured through any machine or gear, you can now have access to reverb processors that are way too expensive for most people to afford, but yet still have the reverb they feature.

# Reverb Controls and Parameters

Reverb units have a variety of controls and parameters so that you can change and customize the sound of the reverb you are using. If you are newer to using a reverb unit, but want to tweak a certain verb to better suit the situation, you can pull up a preset you like, and then from there, use this list to further enhance it:

**Reverb Time/RT-60 or Decay** - This is the time it takes a signal to drop by 60 decibels. So basically you can adjust how long the reverb actually lasts on a reverb processor. On the actual reverb unit, this will show up in milliseconds or seconds.

**Reverb Type** - The different types of reverb are listed above. Choosing the right reverb is really dependent on what you'd like to achieve. Just know that some reverbs are more commonly used for certain instruments than others. Hall & Plate verbs are the most widely used, but feel free to experiment with others. Sometimes a chamber or room reverb can really add the right amount of "spice" to an instrument, and will help it sit in a mix better.. A lot of people will place a particular type of verb on a sub group (like on vocals), thus adding some "glue" to several voices. Instead of 5 or 6 different vocals all seemingly singing separately, placing them all on a sub-group with the same reverb inserted in, can really bring them together sonically.

**Pre-Delay** - Arguably one of the most important controls on a reverb processor. Pre-delay basically sets the time of the onset of reverb, once the sound of the instrument is produced. Why pre-delay is so important is because it tells the reverb to wait a certain amount of time that you set before you actually hear it. This allows the original sound to be produced first and then the reverb happens, thus preserving the instruments definition and clarity. Sometimes reverb can smear the sound of an instrument, and this keeps that from happening. In a more simplified sense, pre-delay says to the reverb: "Ok reverb, hold on for a little bit until the original sound is heard so that we can hear it clearly, before we hear you. We'll let you know when you can go."

**Early Reflections** - This is probably the name of a cheesy 80's band that sings nothing but power ballads - oh wait, that's already been done by Aerosmith or REO Speedwagon! Ha! Actually, early reflections simulate what you'd hear from what is bouncing off of the closest walls in a room before you actually hear the combined reverb. If the early reflections time is set really short, it'll simulate a smaller room, but if it is set really long, it'll simulate a larger room. The longer the time, the further back you push the walls.

**Damping or High Damping** - This simulates the stuff in the room that absorbs high frequencies. If you are sitting in a church sanctuary that is empty and there is no carpet on the floor, the damping factor would be a lot lower, than if you had the sanctuary packed with a lot of people wearing cotton. A large tiled bathroom doesn't have much damping as would a living room with curtains, couches, and carpet.

**Density** - The more density, the more reflections/echos are being heard vs. the actual reverb itself. Be careful with this parameter. Too much can be too much depending on what you are hoping to achieve. A large hall will have a lower reverb density than a bathroom to give you more of a mental picture.

**Diffusion** - This is basically simulating items in a room in which a sound would bounce off of in all directions. This control basically tells the reverb to sound as if it is being scattered. In the real world, this is like sound hitting a porous brick wall with pictures, bookshelves and other items in the room, versus just having a solid flat walls on all sides. Or, like turning a perfectly square room, into a room in which all of the walls are varying lengths.

**HP/LP aka High Pass & Low Pass aka High Cut & Low Cut** - This is basically how much treble (Low pass) you'd like to take out, or how much bass (high pass) you'd like to take out. In a real world situation, you hardly ever hear a reverberated sound with as much treble as the original signal. Usually, as sound is being bounced around in a room, the treble part of it is being absorbed by carpet, clothes, seat cushions, big poofy old lady hair, etc! If you want a reverb to be more natural and sit in a mix better, filter out the high end a little. Try filtering down to around 5khz and adjust from there. The more treble you cut out, the darker the verb. If you want a reverb to be more easily heard, filter out the bass instead. Start up to 400hz and adjust from there.

**Width** - This is usually represented in %. This basically acts to widen the sound of reverb in a stereo based system. This can sound really cool, but be careful. If you are in mono (most sound systems are mono), you are basically tweaking the phase of one side of the reverb with the other (like adding a bit of delay to the overall reverb on one side) thus causing some frequencies to possibly cancel out.

**Mix** - This is the control that tells the unit how much of the reverberated signal to "mix" in with the dry signal. Typically the higher the percentage rate, the more that reverb is heard.