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QUOTE OF THE DAY - from our pages...

"To me, being an artist is a frustrating experience—there's so much inside, how the hell do you get it out? By whichever means you can find! And a new piece of equipment has a cathartic effect on me—it immediately gives me the urge to create something."- Roger Glover

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Better Drum Recordings Through Tuning

Starting with the right sound in the first place...

By Pat Bautz

An engineer/recordist with some basic tuning and damping knowledge can really save the day. Start a session with a mediocre-sounding drum kit, and you will in the end have to overprocess in trying to make up for the sound you didn't fix in the beginning; or you'll be using a sound-replacement program to bring in samples to try to fix your sounds. Sound-replacement programs tend to lose dynamics and the finesse of the drummer you used in the first place.

Pick the right kit

Here are some ideas to help you get a better drum sound. It all begins with picking the right drum kit for the job. In general, drums made of maple produce a warm sound; birch drums produce the same low and mid frequencies as the maple and have a boost in the 2 to 5 kHz range. Mahogany produces more low end than the maple in the 100 Hz to 200 Hz range. So picking the right type of kit for the material being recorded will put you that much closer to the right drum sound.

Drumhead choices are the next step. I usually change my drumheads weekly during medium to heavy use. Heads deaden as they are used, so new heads are a key to a great-sounding drum kit. Different heads produce different sounds. Using Remo's heads as an example, a Diplomat is a thin one-ply head (brighter and giving more ring); Ambassador is a medium weight, one-ply head (not as bright as the Diplomat but still bright); Emperor is a two-ply medium-thick head (a warmer drum sound with less ring than the Ambassador); Pinstripe is two-ply with a thin muffling ring between the plies (drier sound, less ring).

Most heads are either clear or coated. The coated has less ring and fewer overtones. Most drums produce a better sound with a lighter head on the bottom such as a Diplomat and a heavier head on the top/batter such as an Emperor or Pinstripe. Snare drums use a very thin head on the bottom.

Tuning

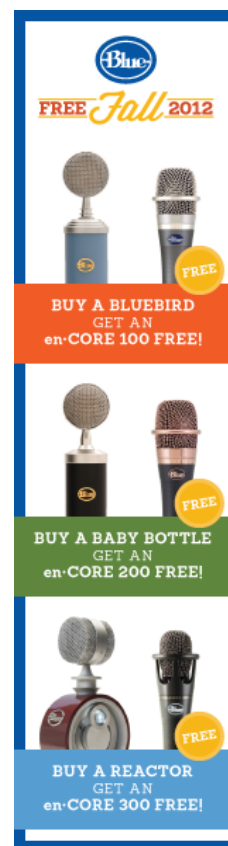
While you can't tune a fish (sorry, just couldn't pass up the obvious pun), there are many different ways to tune a drum. Here is some information that works in a lot of situations.

Basic tuning means even tension on the head from all lugs (tuning keys). Uneven tension on a drumhead will cause all kinds of dissonant overtones in the sound and pitch of the drum. So the first thing I look for when presented with a less-than-stellar sounding drum kit is the age of the heads and the tuning. You can check the uniformity of the tension of the head by taking a drumstick and tapping lightly about 1 1/2" from each lug/tuning key and listening to see if the pitch remains constant and there are no dead spots. If you hear an out-of-tune or dead spot you can lower the tension of the corresponding lug and slowly tighten it up until it sounds like the others.


A drum is tuned in a crossing type of pattern, as shown in Figure 1.

When dealing with a drum kit with newly installed drumheads, tighten the drumhead up to the desired pitch, do not tighten the head overly tight, and then lower the head to the desired pitch. Press the palm of your hand firmly down in the middle of the batter head; this will help seat the new heads. For toms the top head should be at a higher pitch than the lower head, but there shouldn't be a drastic pitch difference. Find the pitch at which each drum resonates best. This may take a little time, but it will really make a difference in your final sound.


The pitches generally don't have to specifically fit the key of the tune you are recording, although in some cases, like when a tom groove is used prominently in the song, it can be



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critical that you tune the pitches of the toms to the key of the song. Again, make sure there is *even* tension on each drumhead.

A common mistake I see from most inexperienced drummers is not tuning the pitch of the bottom head relatively close to the top head. Many times the bottom head is so low in pitch that the drum fails to resonate well enough to produce a good sound. If a drum is ringing too much, try slowly raising the pitch of the bottom head closer to that of the top head; this will start to choke the resonance of the drum, reducing the ring. Be careful—if you get the pitches *too* close it will choke all the resonance out of the drum.

**Damping**

You can reduce unwanted ring with various materials placed on the head of a tom or snare drum. There are many different products that work great, such as silicon patches, duct tape, gaffer’s tape and the Evans Sound Control. The sound-damping material is usually placed on the batter head and close to the rim to avoid being hit by the drumstick. I always try to put on just enough material to accomplish the job. If it takes too much to stop bad ringing, remove the material from the head and check your tuning. You should be able to get very close to the right sound without using any sound control material.

**The snare**

If you have a choice of snare drums for your session, this will be an important decision. The snare and the bass drum are the drums that will be played the majority of the time throughout most songs. Snare drums come in many depths and sizes. In general, the smaller the drum the thinner the sound. As with toms, the wood materials produce relatively the same sorts of sound differences. Metal snare drums produce a more metallic sound and tend to ring more.

The tuning of a snare drum sometimes depends on the technique of the drummer. Some drummers hit the drumhead and the rim of the snare drum at the same time, which produces a very pronounced attack and more ring. You might need to tune the pitch of the snare batter head somewhat higher for a drummer who only strikes the batter head and not the rim. I tighten my snare heads pretty tight and use both techniques on my snare drum depending on the situation.

The tension of the snare strainer will also change the sound of the drum. If the snare strainer is really tight it will choke the resonance of the drum, making it flat-sounding. Some songs require a loose sounding snare strainer (Ballads, some R&B and Pop tunes) and some require a tighter snare strainer (Funk, Techno).

**The kick**

A great kick-drum sound depends on what is striking it as well as the head itself. I have been using a Powerstroke drumhead manufactured by Yamaha on the batter side and a Remo Emperor on the front side, with a 5-inch diameter hole cut in it. Most of the time the drum should be tuned about as low as possible. In general I find that creating a specific pitch in a kick drum doesn’t work.

Most applications require a mostly deadened kick drum. I’ve seen various materials used to reduce the ring in a kick drum, such as pillows, blankets, and sound-control pads made by drum companies. Find the one that works right for the material being recorded.

The beater used on the kick drum pedal will affect the attack greatly. A hard kick drummer made of wood or plastic will create a lot of attack so you don’t have to try and eq attack into the kick drum. There are Kevlar pads you can add to the batter head at the spot where the bass drum beater hits the head that will add more attack.

Having more knowledge about the instrument you are recording will help you understand how to achieve the sound you are looking for. For drum tracking sessions I always have at the ready various sizes of new coated Emperor batter heads, a few different-sized Powerstroke bass drum heads, sound control material, and—of course—a drum key!

*Pat Bautz is a session drummer and recording engineer who does remote drum sessions for clients requiring quality live drum tracks. You can learn more about this service at [www.realdrumstudio.com](http://www.realdrumstudio.com).*

