

Harmonic Mixing

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<http://www.mixedinkey.com/images/harmonicMixing.jpg>

Harmonic Mixing is the future of DJing. A lot more DJ's are mixing harmonically these days including Dubfire, Pete Tong, Paul Van Dyke, Tiesto, Sasha, John Digweed, and many more of the worlds top DJ's. A skilled DJ has the ability to accurately guess which songs will be in key with one another since they know their records so well, but now there is a system that will take the guessing out of your mixing. There is the traditionally method of Harmonic Mixing which a lot of people are familiar with, but my system goes beyond the traditional system of harmonic mixing and will guarantee your tracks will be in key, no matter what PITCH each turntable is on!

What Is Harmonic Mixing?

A Harmonic mix is when two songs in the same key, or complimenting keys are mixed together to give the mix a musical effect that the songs are "singing together"

The best way to find the key of your record is to play each song on the piano and figure out which scale fits the song best (e.x. Am). The easiest way to do this is find what you think is the root note of the song is, then play a major and minor scale and see which one fits best. The piano method is the most accurate way of figuring out the key. However, there is also a program that will analyze the key of the song for you called MIXED IN KEY (www.mixedinkey.com). Not only does mixed in key tell you what key the track is in, but it will also write the key into the tracks ID3 information so it will show up in Programs such as Traktor DJ Studio in the key column, or it will even write the key before the track or artist name. This allows you to sort your playlists by key.

If you know the key of your record, you can assign them a keycode in the Camelot Easy mix chart (Shown Above). The Camelot's Easy Mix Chart is a replica of the "circle of fifths" (F, C, G, D, A, E, F etc). Using the Camelots Easy mix chart is like going around a clock. You can mix a record with another record in the same key (keycode), or a record that is either to the left, right, above or below that keycode in the Camelot chart, like going around a clock.

Different mixes have different effects on the energy of the room. For example, mixing a fifth up (1A to 2A) will raise the energy of the room. Mixing a 5th down (2A to 1A) will make the mix sing together but it will take the energy "deeper". In musical terms, a record will mix with another record that is in the same key, its subdominant key, relative minor or major key, or a fifth up. You may also wait for a percussive section of the song and mix in a record that is in a key a half step up, or the next note up in the chromatic scale. This will create the feeling of a Modulation, and the new key will provide a sense of renewed energy because it is using a new set of notes.

Using Camelot Sound's "Easy Mix" chart will help take the guessing out of your record selection and allow you to make harmonic mixes quickly, and on the fly.

Why Is Harmonic Mixing Inaccurate?

The major problem with using the traditional harmonic mixing method is that to mix records and beatmatch, you must alter the tempo of one record to match the tempo of the other. Changing the tempo of a record will change the pitch, and will also change the KEY of each record. If the tempo is increased or decreased by 6%, the record will be in a new key that is a semitone, or half step higher.

Lets say for example you are playing two records that are both in the same key (A minor). They should mix together harmonically no matter what right? Wrong! If there is a 6% difference in pitch (one turntable on -1% and the other on +5%), they will both be in a different key a half step apart and your mix will most likely sound terrible!

There is a workaround for this and it is called KEY LOCK. Key lock will lock the key of your record no matter what the tempo of your track is, and will make the traditional system of harmonic mixing accurate, EXCEPT, when you slow a record down on key lock, most of the time the sound quality is degraded and sounds "digital" and you can hear what are called "artifacts" in the sound. If you are using Key Lock in a digital DJ program this can also be very CPU heavy.

I have created a new system of Harmonic Mixing!

While doing my final thesis at Berklee College of Music I came up with a solution to this problem and it is called RELATIVE KEY.

The RELATIVE KEY is the NEW KEY of a record at a SET TEMPO (BPM). It does NOT matter what tempo you use as your RELATIVE TEMPO as long as every track is calculated at this BPM value. I use 140 BPM. Keep in mind, I put my drum and bass at 140 BPM, my breaks at 140 BPM, and my downtempo at 140 BPM. This is just a reference tempo. No matter what BPM I Choose, the effect will always be the same!

To EFFECTIVELY mix harmonically without key lock, you need to mix a record with another record in a complimenting RELATIVE KEY.

Once I figure out the Key of all my records at 140 BPM (or whatever relative tempo you choose), I then assign the new key at 140 BPM a keycode in the Camelot Easy Mix Chart (shown above).

The reason I key every track at the same BPM, is because when two tracks are beatmatched they are at the same BPM (tempo), so if they are keyed at the same tempo then no matter where the pitch is on both tracks, they will mix harmonically as long as the relative key is the same

There is an easy way to figure out the key of your records at the relative BPM inside Traktor 3 (Traktor DJ Studio). In the Traktor preferences there is an option to display the key inside the decks. Traktor will actually tell you if your playing the song in the original key, or a new key. To activate this, you go into your preferences, appearance, file info options, and choose to show the key. Now if your turntable is at +6% the "key" field in the decks will say +1, which means you are a half step up.

This may sound like a lot of work, but hard work pays off and you can HEAR the difference. I have done this for almost 4000 of my tracks, and now I never have to think about pitch difference when I'm harmonic mixing. All I have to do is count from 1 to 12 and I can strategically plan my DJ sets this way. It is the science behind party rocking!

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