

Berklee**Shares.com**TM

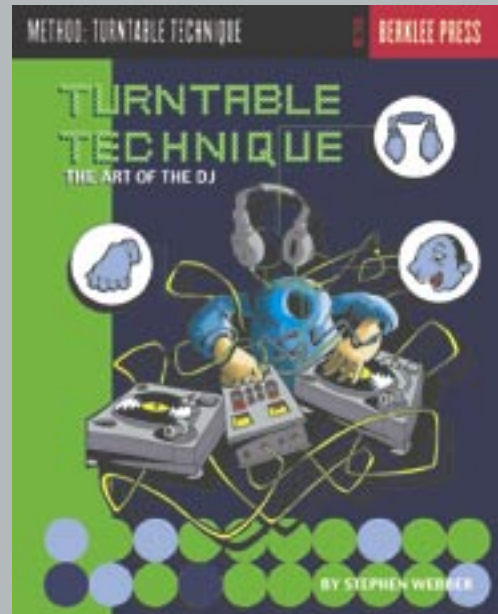
**FREE music lessons from
Berklee College of Music**

**Turntable Technique:
The Art of the DJ**
Stephen Webber

Chapter 5
Beat Matching

Click CD icons to listen to
CD tracks from book.
Press ESC to cancel sound.

Check out Berkleeshares.com for more lessons
just like this one.



© 2003 Berklee Press. All Rights Reserved.

5. Beat Matching

Beat matching means getting two records perfectly in sync with each other. You can then use the crossfader to switch between them. Beat matching is a skill that every DJ must master. When you're playing a rave, party, dance, or club, being able to segue (move smoothly) from one tune to another without losing the beat will help you keep the dance floor full. Beat matching must be second nature if you are going to get into beat juggling, a main component of many scratch-mixing routines.

You can beat match any two records that are close to the same tempo and have complementary beats by adjusting the variable pitch controls on each turntable. It's a good idea to write down the tempos of the different tracks in your collection on the record label or sleeve, or on a list you keep with your records.

Tempos are expressed in beats per minute (bpm). There are devices that can help you find the bpm of any song. For instance, the "Dr. Beat" metronome by Boss lets you tap along with the beat to find the tempo. "Dr. Beat" displays the bpm numerically after four taps. There are other devices that detect bpm automatically, like the "Beatkeeper" by Numark. A few DJ mixers even have them built in.

The easiest way to start getting the hang of beat matching is to get two identical copies of the same record playing in time with each other. Since the tempos on both records are exactly the same, you can practice cueing before you start having to also use the variable pitch controls to precisely match beats.

Begin by cueing up two copies of the *Turntable Technique* record (or two copies of another record) to the very beginning of side 1, track 1. (Follow the steps in the section, "Cueing Using the Start/Stop Buttons.") When the records are cued up:

1. Start the record on your right and let it play.
2. Get yourself in sync with the beat. (Tap your foot, nod your head, etc.)
3. With the index, middle, and ring fingers of your left hand, press down on the record. Use your thumb to press the start/stop button.



Side 1, track 1.

4. Let the platter spin up to speed while you keep the record from moving.
5. Count down four beats, then spin the record you're holding at just the right moment to synchronize the beats on the two records.



Fig. 5.1. Starting the platter while holding the record

If you miss, you can just let the record on your right keep playing, backspin the record on your left to the top, and try setting it in motion again. You may have to try this several times before you get the two records in perfect sync.

Let's say you've gotten both records going and you're close to being perfectly in sync, but not quite. Rather than stopping one of the records, you can use one of the following techniques.

Spinning the Label

1. Decide which record is behind. (The headphones can be helpful for this.)
2. Place your middle finger on the label of the record that's behind, spinning your finger along with the record.
3. Let your finger spin a little faster, pushing the record along with it.
4. Listen closely to determine when you have gotten the two records in sync—or if you're getting farther apart!

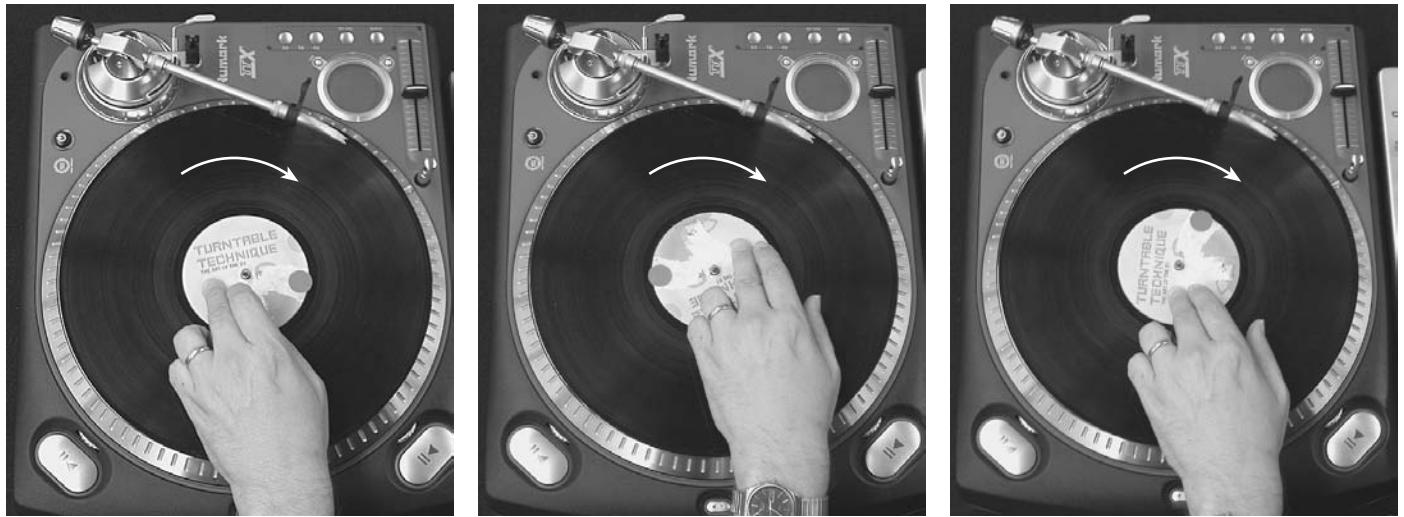


Fig. 5.2. a, b, and c. Spinning the label

Dragging the Platter

1. Determine which record is ahead.
2. Drag your middle finger against the side of the platter that the record is on, slowing down the record slightly.
3. Listen closely to determine when the two records are in sync—or whether they're getting farther apart!



Fig. 5.3. Dragging the platter

Get on in there and spin and drag up a storm until you've gotten the hang of it. Once you get comfortable with these techniques, beat matching becomes a breeze.

You may need to use the variable pitch control on your turntables to perfectly match beats on two records. If you are matching beats on two different songs, you will almost always need the variable pitch control. Some DJs get two records in sync using only the variable pitch control, speeding up and slowing down the record without spinning the label or dragging the platter.

Tips:

- Use a metronome, drum machine, or beat-sensing device to determine the bpm of the songs or beats you want to work with, and write the tempos down. Once you choose two songs to beat match, write down the variable pitch settings you're using to put them in sync.
- There are dots on the side of the platter that are lit by a colored light (often red or pink) on most DJ turntables. When the turntable is operating at exactly 33-1/3 or 45 rpm, the dots look like they are standing still.
- As you scratch, hold, spin, drag, or adjust the pitch of your records, watch the dots to see when the record speed changes. If the dots look like they are staying still, the record's speed is not changing. The faster the dots seem to move, the more you are slowing down or speeding up the record.
- When two copies of the same record are close to being in sync, the records will sound "phased." Or, if the records are already in sync, when they start to sound phased, it's a sign that they are drifting apart. You can also use this sound, also referred to as "flanging," as a musical effect.

Cueing with Headphones

When you're mixing for an audience, you'll probably want to be able to cue a record without the audience hearing it. This is where headphone cueing comes in.

Suppose you want to get the next record ready to play on the left turntable while your audience is hearing the record playing on the right turntable.

1. Make sure the crossfader is all the way over to the right.
2. Set the mixer's cue switch to monitor the left turntable (often labeled Ch-1 or Program-1) in your headphones.
3. Listening through your headphones, cue up the record on the left turntable. (Follow the steps in the previous sections.)

Make sure the volume fader is up for the left turntable (Ch-1 or Program-1).

When you're ready for the audience to hear the next record, use the cross-fader to "segue" (pronounced seg-way, meaning, to transition smoothly) between the two records.

Practice cueing with headphones for both the right and left turntables.

TIPS

If you are matching the beat of the record in your headphones to a record that's playing over the sound system, slide one ear out of the headphones as you cue it up, so you can hear both records. There are headphones made just for DJs that have only one earpiece.



Fig. 5.4. Cueing with headphones, one ear off

Creative Mixing

How you put together and mix a set is a big part of what defines your style.

Edan, a talented Boston DJ and MC, suggests, "Look for tracks that complement each other, and mix them in a way that pays tribute to the music."

Records containing "club mixes" often feature long, unstructured intros and outros that allow DJs to crossfade in and out of records without matching beats.

When you do beat match two different songs, you can do some creative mixing by using the crossfader to go back and forth between the two.

To start getting the hang of this, beat match *Turntable Technique*, side 1, track 1 with side 1, track 2 of a second copy of the record. While there are different elements in each track, both tracks share the same tempo.



Side 1, track 1.
Side 1, track 2.

Mix the tracks together for awhile, then crossfade back and forth between the two, making sure that the sync between the two remains solid. Try slamming the crossfader back and forth every eight bars, every four bars, every two bars, every bar, every two beats, every beat, and every half beat! Be creative and create your own arrangement. (See Chapter 7 for help on musical terminology.)

You can also use more advanced crossfader techniques such as the “crab” and the “transformer” (described later in this book) when mixing beats.

Search your record collection for other songs and tracks to play together. Remember, the variable pitch control on your turntables can help match tempos between songs where the tempos aren't the same.

Build up your record collection, and develop your own style, your own taste. Most of all, enjoy yourself!