

TTM Guide

TTM stands for Turntablist Transcription Method and is a system of notation that represents the rotation of a record or jog wheel against time. It was created in 2000 by DJ Raedawn, Ethan Emoden, and John Carluccio and is used by many DJ schools and teachers to teach scratching and beat-juggling from the most basic techniques to professional battle routines.

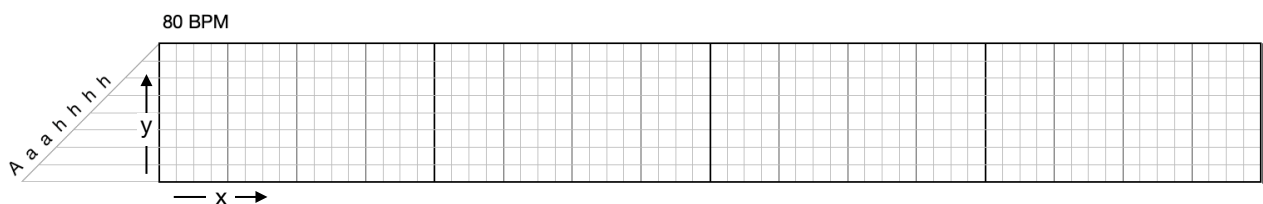
The system we have used contains a slight alteration to accommodate digital DJ-ing equipment.

Main features

The Grid

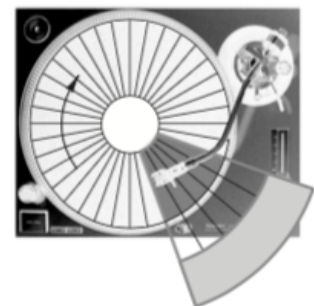
All TTM is notated on a graph, called a staff, just like normal music notation. The x axis represents time and is split into bars, quarter notes and 16th notes. One unit across equals one 16th note (semi-quaver) beat. Unless stated otherwise, TTM is notated in the time signature 4/4, four quarter notes in a bar.

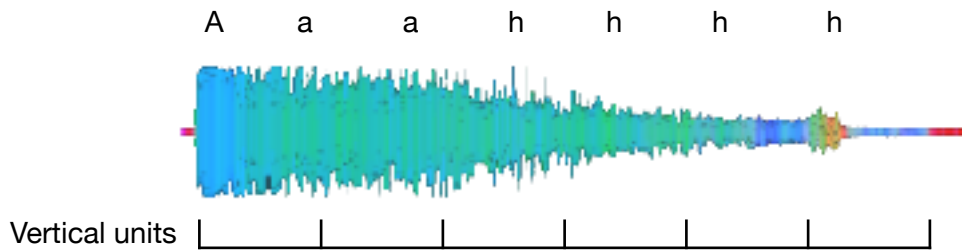
The grid below shows 4 bars. The double-thick barline at the end tells you that is the end of the pattern. Patterns can continue onto several lines, in which case each line is read left to right just like a book. The tempo of the grid is shown above the first beat on the first line.



The y axis represents the sample. The sample sound is given on the 'sample line' to the left of the first staff. It is written out to indicate how the sound is split over the 8 vertical units.

In standard TTM, each vertical unit represents a fixed amount of rotation of a record. Imagine a record broken into 36 segments, each segment equals one vertical unit. Due to the varying rotational speeds of digital DJ-ing equipment, the TTM in the LCME handbooks differs slightly. Rather than the vertical axis representing a fixed amount of rotation, the amount of rotation is relative to the length of the sample as it is written out on the sample line. For example, the 'ah' sample on the staff above is presented across six vertical units. If you imagine splitting the sample into 6 segments, you can work out the amount of rotation needed per unit on your equipment.



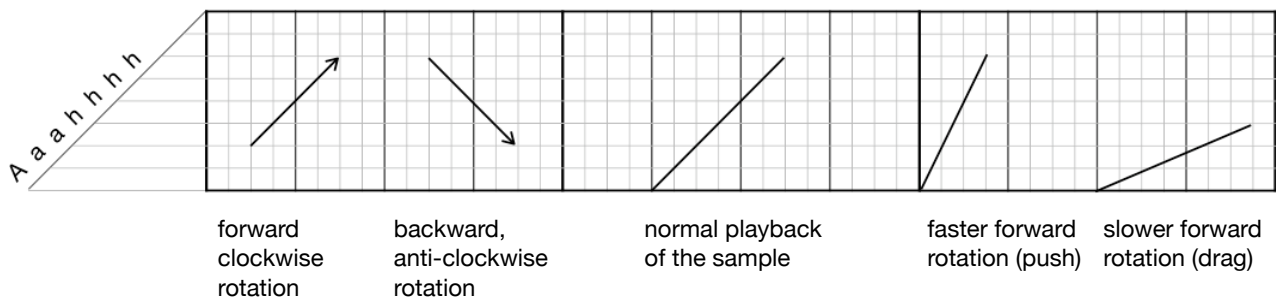


All the scratch phrases are written to fit comfortably on any equipment. Extreme accuracy with regards to amount of rotation is not required, however the notation does represent the ideal performance. The contour of the phrases must be closely adhered to and the consistency of scratch lengths will affect the performance.

Lines

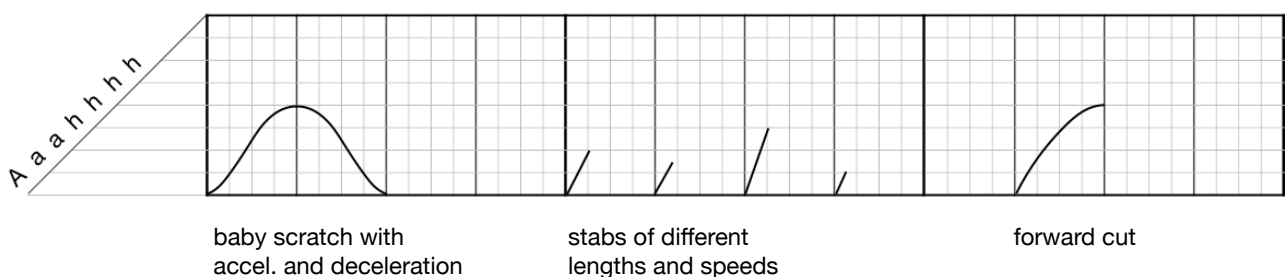
A solid black line represents sound. Where there is a line, sound should be heard through the speakers. Conversely, no line means no sound. That said, if the line is horizontal, there would also be no sound, as a horizontal line represents zero rotation of the record. A vertical line will never be seen as that would mean zero time has passed during the scratch, which is impossible.

Diagram 1



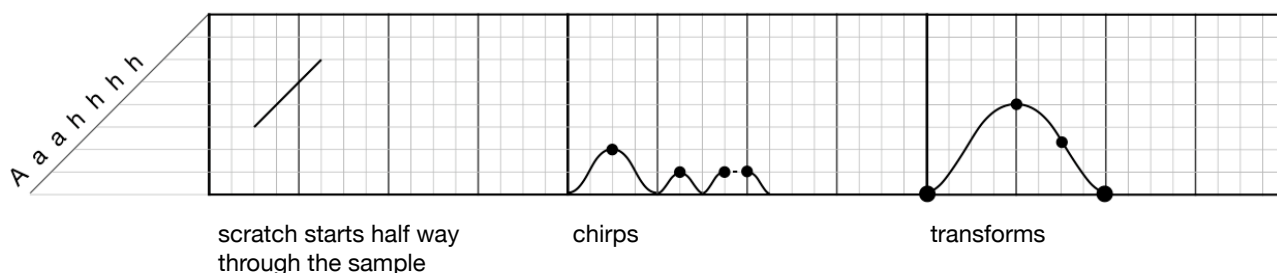
- An upward sloping line indicates a forward clockwise rotation of the record or jog wheel. While a downward sloping line indicates a backward anti-clockwise rotation.
- In the scratch phrases at all levels, a straight upward 45° diagonal line indicates normal sample playback. A straight line means a constant rotation speed.
- A steeper line of the same length would indicate that the record or jog wheel needs to rotate the same amount in less time, which means the record or jog wheel needs to rotate quicker. A shallower line of the same length would mean there is more time to play the same portion of sound, so the rotation of the record or jog wheel would need to be slowed down.

Diagram 2



- A curve in a line shows acceleration or deceleration. For example, the movement of the baby scratch above starts from stationary and accelerates as your hand pushes the record or jog wheel forward, shown by the upward concave curve. As the line straightens the speed of the push becomes more constant. Then, as your hand decelerates before pulling the record back, the line levels out and the curve becomes convex.
- A stab (or chop) is performed with a short upward push, without any acceleration or deceleration. In order to not hear any acceleration or deceleration, use the crossfader to cut in and out of the sound while the speed is constant.
- This forward cut has no acceleration, it starts at a constant speed and then decelerates to a stop, before it is cut off.

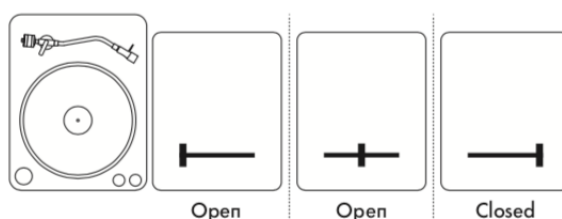
Diagram 3



- The scratch may not begin from the start of the sample and so may not start on the bottom line.
- A black dot indicates that the crossfader is closed. If a line continues after the dot, the crossfader must be closed and then immediately opened again, as a line indicates sound. This quick closed-open action of the crossfader is known as a 'click'. A chirp is notated with a black dot at the top of scratch. A dashed line between two black dots shows there is a pause between the closed and the open crossfader action, in this instance, lasting one 16th note.
- A dot on the bottom line indicates that a scratch begins with the crossfader closed, as with the transform.

The crossfader

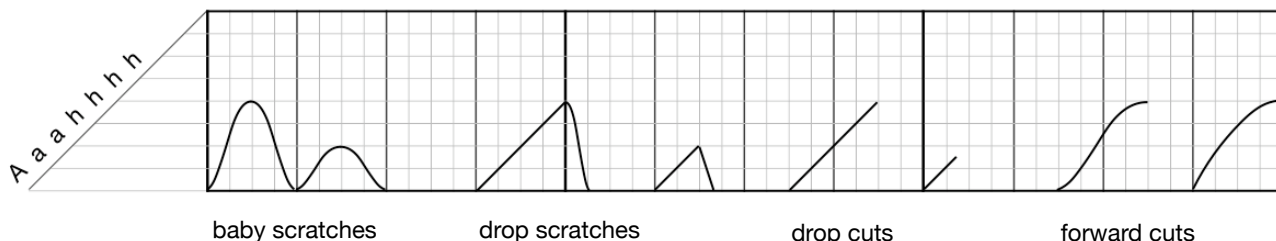
In order to play a notated line, the crossfader must be in the 'open' or 'on' position, so signal is let through the fader and out to the speakers. To be 'open', the crossfader must be either in the middle or to the side of the deck playing the sound. The opposite side is then 'closed'.



Scratch techniques by level

Here are the scratching techniques required for each level, shown in TTM. Names of scratches vary greatly across regions, cultures and teachers. We have given the names as they appear in the futureDJs curriculum and any other names that the technique may commonly go by.

Level 1 (Debut)



Baby scratch

Forward and backward movement of the record or jog wheel. The baby scratch notated here accelerates and decelerates smoothly with no gap between the forward and backward movements.

Drop scratch

The upward 45° diagonal line indicates the record or jog wheel is released and allowed to playback. The record or jog wheel is then caught and pulled back quickly to the start of the sample.

Drop cut

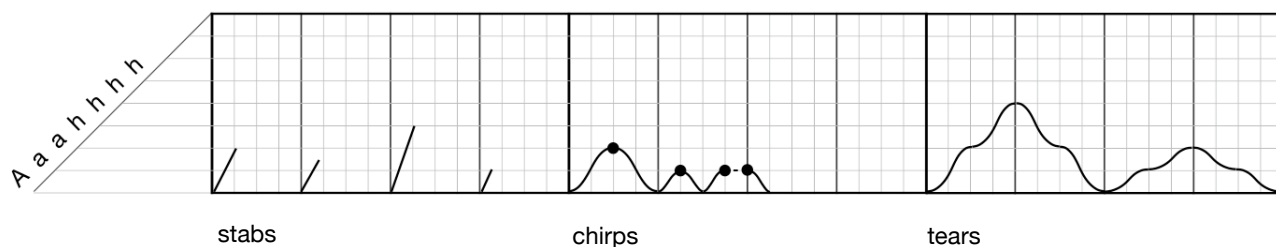
Aka Forward, or Release

The record is released and allowed to play. At the start of the next beat, the sample is cut off with the crossfader. The record can then be pulled back to the start without being heard.

Forward cut

The record is pushed forward with your hand and then cut off with the crossfader. The record can then be pulled back to the start without being heard. The way in which the record is pushed forward can vary and is indicated by the curve of the line.

Level 2 (Breakthrough)



Stab

Aka chop

The stab involves a quick, forward push movement of the record or jog wheel and quickly opening and closing the crossfader so a short stab of sound is let through. Due to the fast rotation speed, the resultant sound is higher in pitch and often louder than a forward cut.

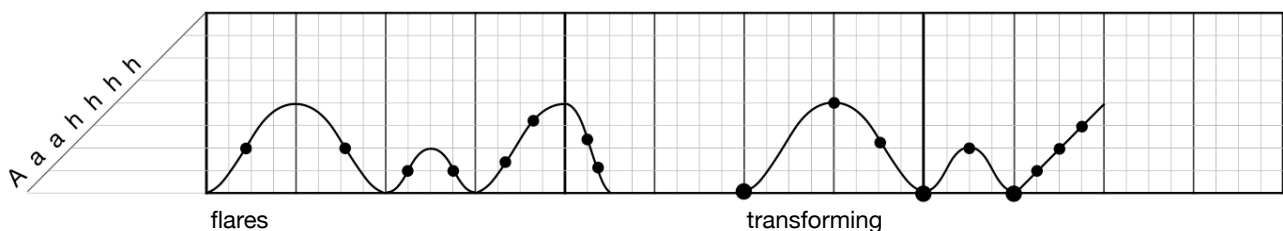
Chirp

The record hand performs a baby scratch, while at the top of the scratch, between the forward and reverse movements, the crossfader hand performs a 'click', by closing and then immediately opening the crossfader again. This splits the sound in two and creates the chirping effect.

Tear

The tear scratch is performed with just the record hand. Where the line is horizontal, the record or jog wheel is stationary. The record or jog wheel is pushed forward, then stopped, then pushed forward again and stopped once more. Then the action is reversed. This creates four sounds in total, two forward and two backward.

Level 3 (Artist)



Flare scratch

1-click flare, 2-click flare (orbit)

The record hand performs a baby scratch as specified by the shape of the line, while the crossfader, starting in the open position, clicks closed as specified by the black dots. With the flare scratch, at the top and bottom of the scratch the crossfader stays open, the clicks happen during the forward and backward movements. A baby scratch creates two sounds, forward and back. The 'clicks' in a flare cut each sound in half, creating four sounds in total.

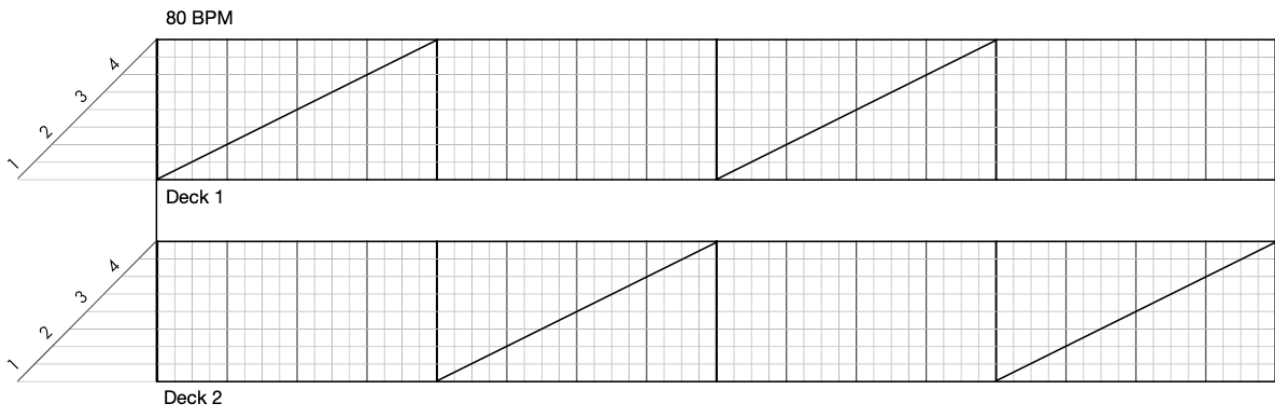
Transforming

While the record hand performs a baby scratch as specified by the shape of the line (or releases the record), the crossfader, starting in the closed position, is tapped open with the fingers to create rhythm, always returning to closed. The black dots indicate when the crossfader is closed.

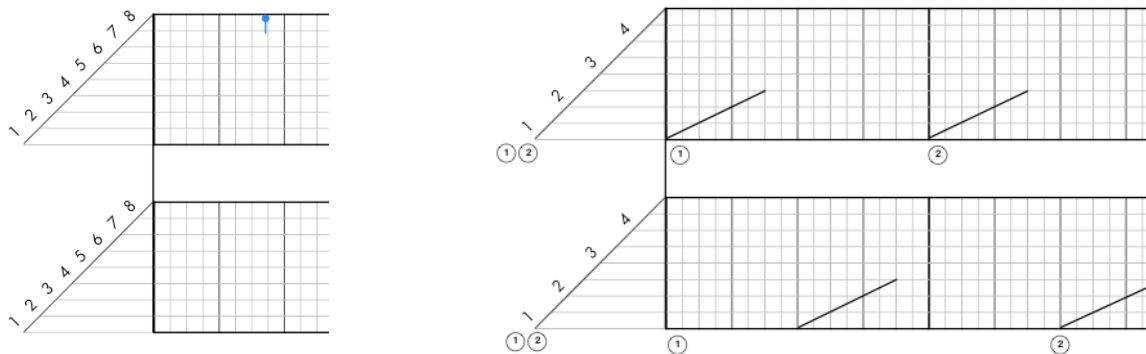
Beat-juggling

Beat-juggling is also notated using TTM. The main difference is the notation is representing movements on two decks, rather than one. So two attached staff are used, one for each deck, that are read together.

Because beat-juggling manipulates beats rather than samples, the y axis shows you the beats in the juggle. The juggle below uses 4 beats (or 1 bar).



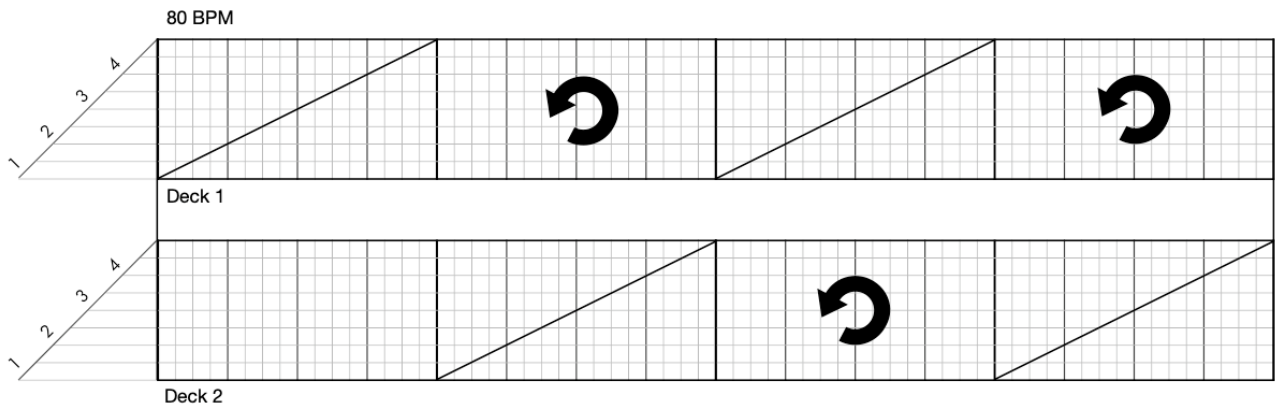
You may also commonly find 8 beats (2 bars). Two bars may also be represented as below. The encircled 1 or 2 shows you which bar is being used at any time.



A lot of beat-juggling notation is made up of straight diagonal lines, as the beats are played back at normal speed. The crossfader is used to switch back and forth between each deck so you only hear one deck playing at any time. The crossfader movement is not directly notated, however where there is no line, there should be no sound. Use the crossfader to make sure sound is coming from the correct deck.

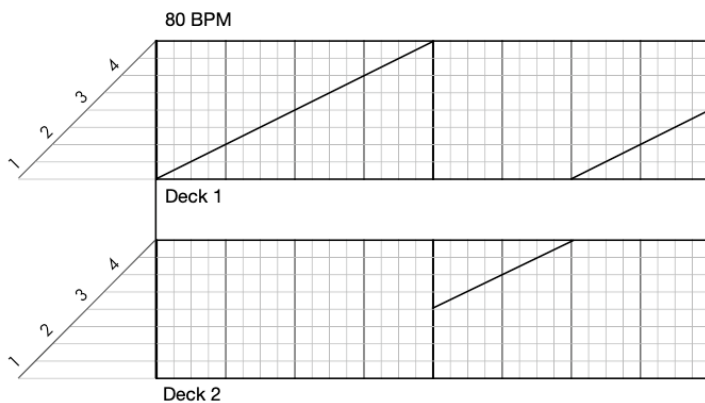
Rewinding

Traditionally, and in order to performed beat-juggles at the higher levels (Breakthrough and Artist) the beats must be brought back to the start by rewinding the record or jog wheel. At Debut, it is possible to use Hot cues or Cue points to jump back to the beginning of the beat. These must be set-up by the candidate before they begin. The action of rewinding or restarting the deck is not directly notated, as TTM notates sound rather than hand movement, but it is required in order to begin the next bar from the beginning of the sample, as shown below.



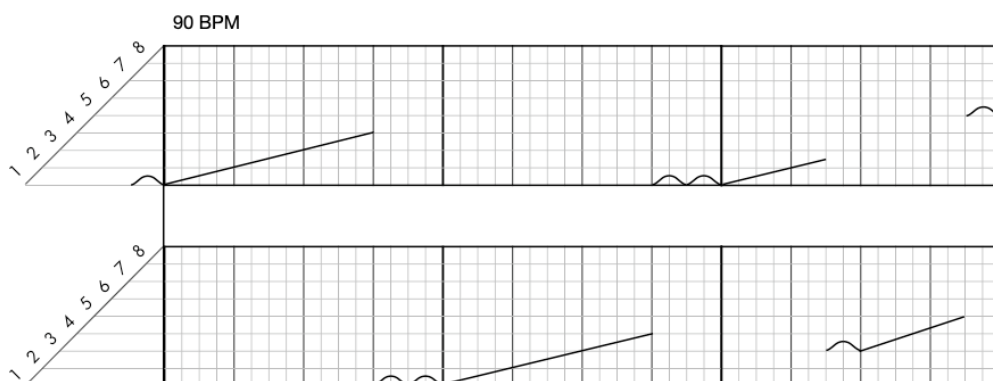
Starting position

Just as in scratching, beat-juggling may require you to start from a particular beat in the bar. In the example below, deck 1 starts from beat 1, and in the next bar, deck 2 starts from beat 3.



Scratching

Scratching techniques are added to the beat-juggling patterns at Breakthrough and Artist levels. They are notated exactly the same as in the scratch phrases.

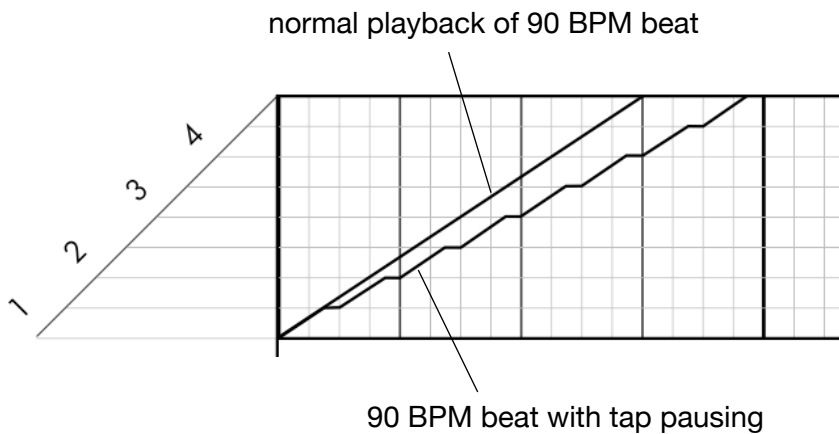


Tap pausing

As with scratch notation, where the line is horizontal, the record or jog wheel is held still, or paused, with your hand. Tap pausing is achieved by touching and releasing the record or jog wheel to a specific rhythm.

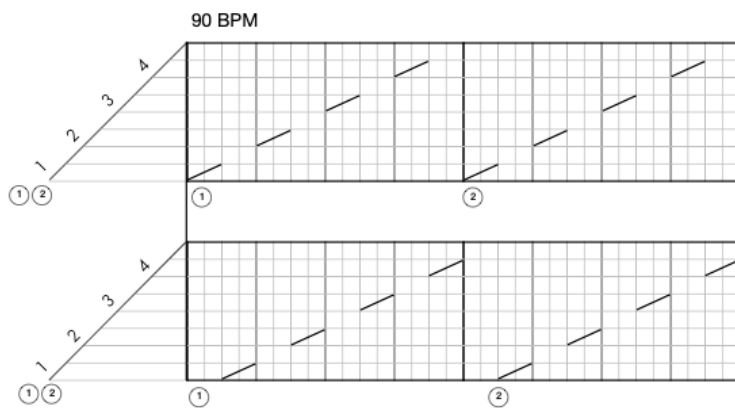
As the beat is continually paused at regular intervals, it has the effect of slowing down the tempo of the beat. While the tempo of the beats you are using may be one tempo, the tempo of your performance will sound slower.

This effect occurs in Breakthrough Beat-juggling Pattern 2 and Artist Beat-juggling Pattern 1. The tempo of the beat used in both patterns is 90 BPM, however, because each deck is paused every 1/8th note beat by roughly a triplet 1/16th note, the tempo of the performance is around 25% slower. This pattern is notated at the slower tempo, so the beats represented on the x axis are at 67.5 BPM.



Doubling

This technique requires you to offset the beats by specific note value and then while letting both decks play, flick between decks with the crossfader at the given rhythm. In the example below, the decks are offset by a 1/8th (quaver) beat and the crossfader cuts back and forth to a 1/8th note pulse.



Chasing/Strobing

Chasing/Strobing is like tap pausing and doubling combined. Rather than tap pausing one record at a time, chasing/strobing requires you to alternate between tap pausing on each deck. In order to hear what you are doing on each deck, you also need to switch the crossfader from deck to deck as you alternate the tap pausing. Bar 1 shows the tap pausing action on both decks, bar 2 shows the combination with switching the crossfader

back and forth. The red sections in bar 1 are the tap pauses that you don't hear when the crossfader is used.

Beat tempo: 90 BPM
Pattern tempo: 67.5 BPM

