
12: Beat Detective I

Pro Tools 2

App 3

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Overview

By the end of this chapter you should be comfortable with time correcting a drum performance using the beat detective software built into Pro Tools.

Things to consider BEFORE you edit.

Music Theory

What is our smallest subdivision? (8th notes, 16th notes, 64th notes?) It is important to consider what the lowest common denominator in the song is before we start editing or else entire sections of audio can get lost!

After we consider what the lowest common denominator is we have to decide what is the lowest common denominator that matters to the song. Are we going to chop every sing high hat hit or every tom hit in a fill? Or is just locking the kick and the snare to the grid good enough?

Before you go any further also scan through the song and see if there are any triplets or dotted notes to take into consideration. It will be important to know if they are there when we do the quantization process.

Context:

Once we've looked at our music theory values we can start taking a look at what other instruments are playing within the arrangement. If you've been hired simply as an editor make sure you get the producer to clarify how tightly they want to quantize. If you are producing the session then you'll want to think about if you are going to quantize the bass as well, are there any drum looks in the session that are already locked to the grid? How many synthetic instruments do we have versus real instruments? All of these are questions you can ask yourself to help you choose weather you want to stay closer to the live performance or aim for perfection on a grid.

Genre:

The genre of music that you are working within can have a great effect on how you treat your quantization. In genres like Metal, Pop, Country and Electronic music it is very commonplace for everything to be hard quantized with no variation left in the track. In these genres precision is valued over everything else.

In genres like Hardcore, Folk, Rock and Pop Punk we find a lot of soft quantizing. These genres still demand a tight feel but allow some leeway for movement in between the driving beats.

Some genres of music have maintained a standard of no quantization at all. Punk, Grunge, Indie Rock, Blues and Jazz are all great examples of where quantizing is ignored. The performance of the individual musician is preferred over perfection.

Key Terms:

Hard Quantizing: Cutting every single note to an exact point on the grid.

Soft Quantizing: Cutting only key driving notes to the grid and allowing more subtle notes and ghost notes to maintain their relative position based on the original performance.

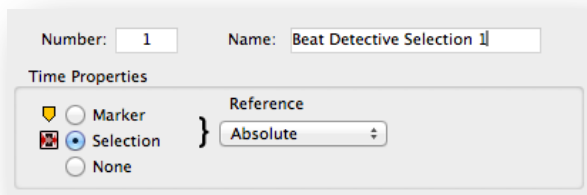
Thinking about the final mix

What sort of sonic values are you looking at in your final mix? Do you want your bass and drums tight together for this song? Do the drums need to lock with any loops or can the flam and still sound good? What kind of mix techniques (side chaining, parallel or bus compression) will you be using in the mix?

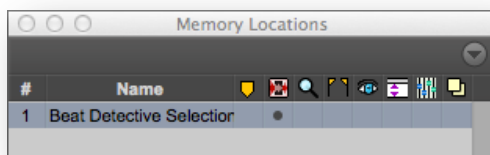
Making Your Selection

Before we begin quantizing anything we have to make sure we have a selection that beat detective can understand. Beat Detective can be easily confused by tempo changes and meter changes so if there are any in the track be sure to do those sections as a separate selection. Beat Detective also requires whole bars to function correction. If your selection starts on beat 2 and goes to beat 2 you will end up with quantization errors. Your selection **MUST** start on a beat 1 and end on a beat 1.

Once you have made your selection you can save it as a memory location so that if you lose your selection you can easily restore it. Save the selection by pressing enter on the keypad. When the memory location dialog box shows up change the radio button from marker to selection. When the memory location dialog box shows up change the radio button from marker to selection.



Once you've saved your selection you can recall it from the memory locations window. You can open the memory locations window by selecting Window > Memory Locations from the dropdown menu or you can use the quick key!



Beat Detective

Open beat detective from the Event > Beat Detective dropdown menu or use the quick key!

Quick Keys:

Memory Locations Window:
Command + Number Pad 5

Beat Detective Window:
Command + Number Pad 8



There are simply too many features to go over beat detective in one lesson so for this lesson we're going to focus on what we need to edit drums. We will start off within the audio function and the clip separation function.

Clip Separation

Once you have clip separation selected you can click capture selection. The capture selection function simply inputs the values of your current selection in pro tools into the beat detective window. It does NOT analyze any audio or observe any meter data. Make sure your selection is whole bars!

After you are confident that you've captured a proper selection you can double check that beat detective has captured the correct time signature that you are working with. Then you can select from the "contains" dropdown menu what your lowest common denominator that you want to edit is going to be.

The Detection mode will by default open up in Normal. Normal simply analyzes all the transients of your current selection. There are three modes of analysis, High Emphasis, Low Emphasis and Enhanced Resolution.

High Emphasis: Scans the audio for transients with an emphasis on high frequency content.

Low Emphasis: Scans the audio for transients with an emphasis on low frequency content.

Enhanced Resolution: Uses an algorithm to search for transients in material that has both high frequency and low frequency content.

Next you can click the analyze button to scan the audio. Once beat detective has scanned the audio you can adjust the sensitivity slider until the transient markers show up on your desired hits.

Below the sensitivity slider control are 3 different resolution options. Bars, Beats and Sub-Beats.

Bars: Will only put transient markers near whole bars

Beats: Will only put transient makers near beats, which we previously selected under "contains"

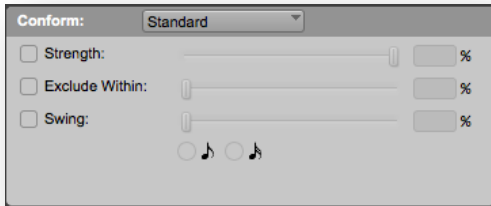
Sub-Beats: Will put transient markers to a higher resolution than the current beat selection.

Trigger Pad: When enabled beat detective will automatically place sync points at the transient makers then cut the clip before the sync point by the amount of milliseconds defined here in the trigger pad.

Separate: Once you have all of transient markers set the separate button will physically separate the clips and place the appropriate sync points.

Collection Mode: Collection mode allows you to analyze multiple tracks separately and combine the collected information together to create more precise cuts.

Clip Conform



Now that the clips have been separated we can conform them to any number of tempo options. When nothing is enabled beat detective will default to hard quantizing the clips to the grid settings we selected in the selection menu.

Strength: When set to 100% beat detective, just as when unselected will hard quantize to the grid. Using a lower strength percentage will tighten up the clips while still leaving a hint of the original performance.

Exclude Within: If a clip is already within a certain percentage of closeness to the grid beat detective will ignore that clip.

Swing: Swing setting lets you introduce some new swing or shuffle to the performance by shifting the regions that were defined as sub-beats.

Edit Smoothing

The edit smoothing option will automatically fill gaps within the moved clips and can even add crossfades. I personally do not recommend adding cross fades here because if you use batch fades later you can include other options like fade pre-slice and adjust the type of fade to your own liking.

