

# A325 | Beat Detective and TCE tool

## Exercise #4:

- \*Using Beat Detective to:
  - create a tempo map
  - make musicians sound like they can play
  - applying grooves
- \*Using TCE tool to fix mistakes

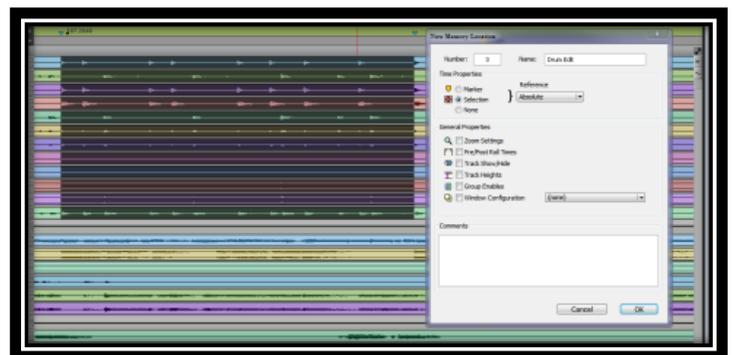


**4.1.** Open your finished Exercise #3 file and use the “Save Copy In...” command (from File menu) to save as your Exercise #4. Be sure to use the naming given in the syllabus “Exercise4—AStudent” and save it into a folder with the same name inside your student folder. We will start with the Tempo Map you created in Exercise #3 and build from there.

*note...if you chose “Audio Files” under “Items To Copy” then a folder will be created as well as the audio files copied. If you do not choose this no session folder is created.*

**4.2.** Select bars 9 and 10. A drum group is already created. Turn this off to make it easier to Tab To Transient to the kick 421 track. This is **ABSOLUTELY** best done with Tab To Transient and not by visually (or aurally) placing the start and end points.

***Make sure your selection is EXACT to the audio, not just your previous tempo map!***  
*(use a memory location “Drum Edit” set to selection so that you can get back to this exact selection later, make sure the reference is set to Absolute, as the bars may change)*



**4.3.** Check your selection by playing back in “Loop Playback” mode. It should play as a smooth loop. I found that I had to move the end point slightly later to make it correct.  
*(if you adjust the start or end points while playing, you must hit play again to hear the changes)*

**4.4.** Turn the “Drums” group back on and create a duplicate group of playlists for the drum tracks (trackname.BD01)

**<playlists must be numbered “.BD01” for all tracks>**

**4.5.** Open the Beat Detective window (CMD-8)

**4.6.** Set the start and end bar/beat markers by entering the values manually unless they are already correct (**not setting this correctly is where many Beat Detective uses go horribly wrong**)

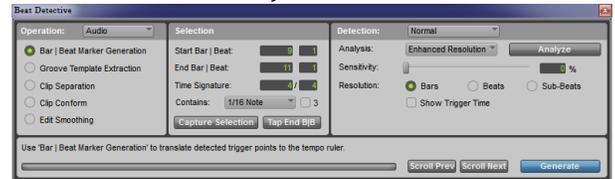
**4.7.** Set the “Contains” menu to the smallest value of note that is in the selection, in this case 1/16<sup>th</sup> note

**4.8.** Using BarBeat Marker Generation: (select at left of Beat Detective)

-click Analyze

- now with sensitivity set to 0% click Generate.

(This sets start and end beat markers for your selection to Bar 9 Beat 1 and Bar 11 Beat 1.)



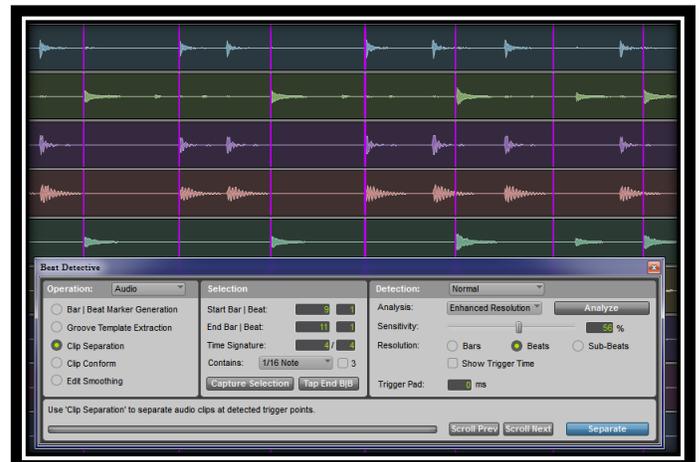
**4.9.** Go to clip separation:

-set to Beats and adjust sensitivity to 56%. You should see markers at each beat, adjust sensitivity to see how it affects their placement. If you prefer a different setting feel free to use it.

(These markers will determine where the clips will be separated.)

-listen and make sure they are in the correct places, edit if necessary.

-click Separate to separate clips



Using the “Grabber” tool you may edit the trigger points:

To move a trigger simply click on it and move it, to delete a trigger point hold <OPTION> and click on the trigger point, to add a trigger simply click where you want it.

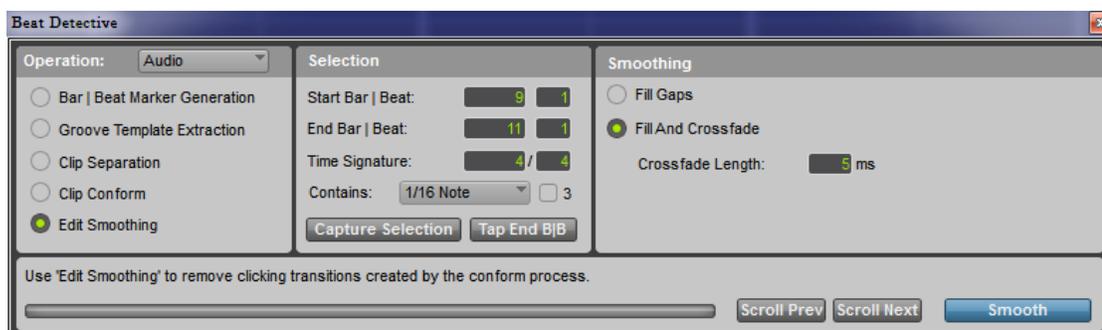
**4.10.** Go to clip conform:

-set conform to “Standard”

-click Conform

-listen to the results

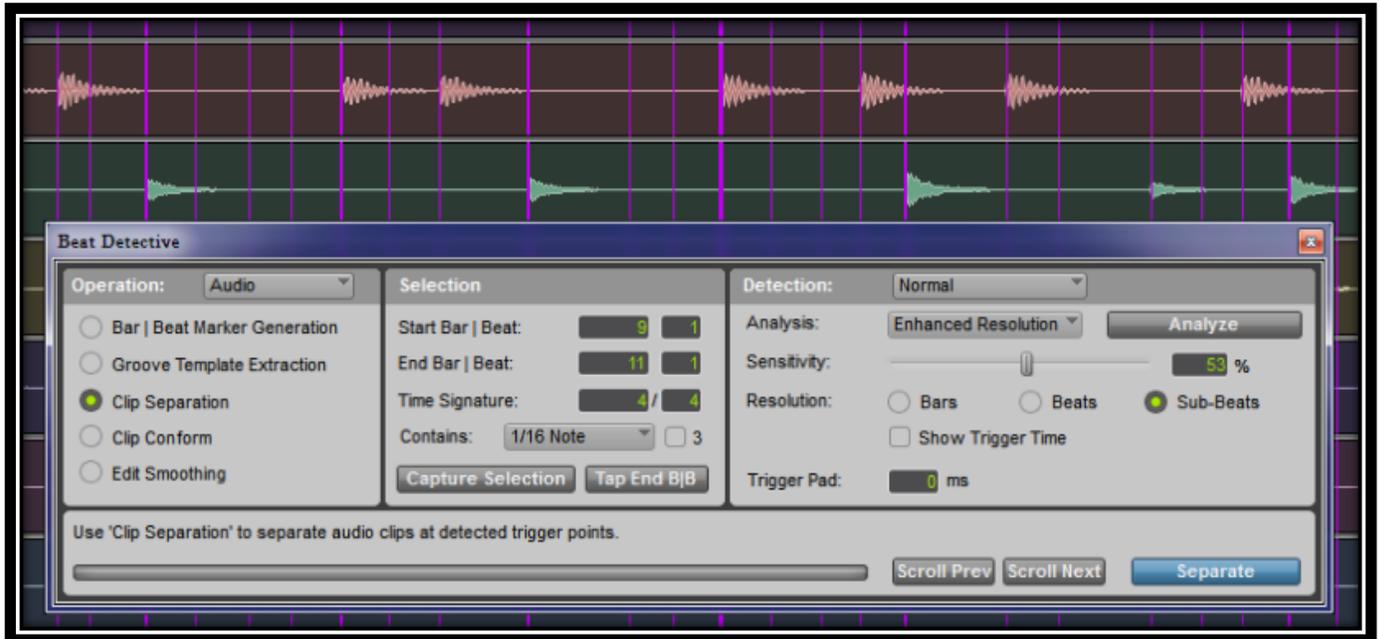
**4.11.** Use Edit Smoothing to fix holes and add fades if needed. Set to “Fill And Crossfade”



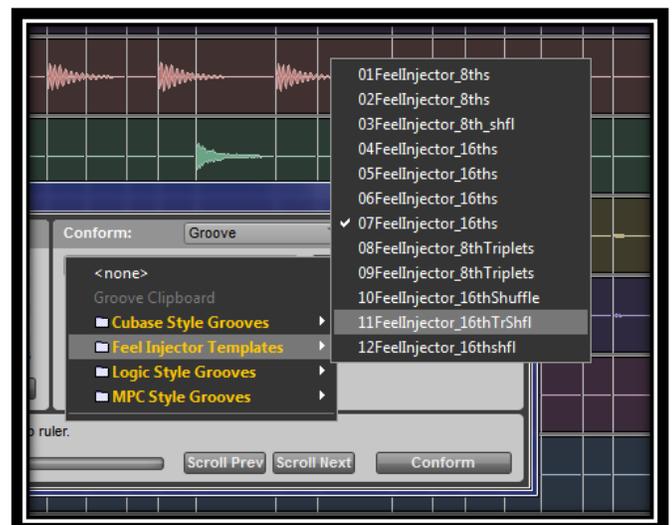
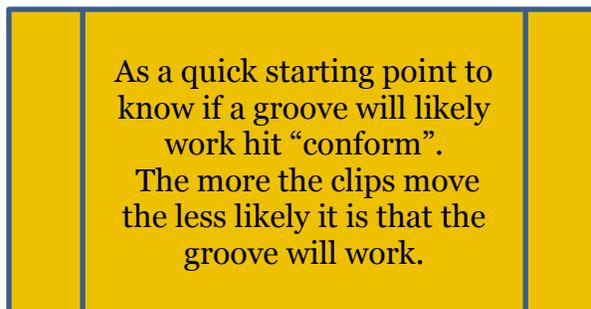
**4.12.** Go back to the original playlist and create another duplicate (trackname - B002).

**4.13.** Re-select bars 9 and 10 (*this is where that memory location is handy*)

**4.14.** Repeat #s 9-11 above except select “sub-beats” instead of beats. Trigger points that show up must be at sub-beats in the music, but every sub-beat does not have to have a trigger point. I found that a setting of 53% worked well. Try other settings and see how it affects the placement of trigger points. Make sure that the trigger points are on drum or cymbal attacks. Try it different at different settings and judge for yourself if you like.



**4.15.** Repeat again with a new playlist (trackname - B003) and conform using groove templates. With “Clip Conform” selected choose “Groove” next to Conform.



You should now have 5 drum playlists

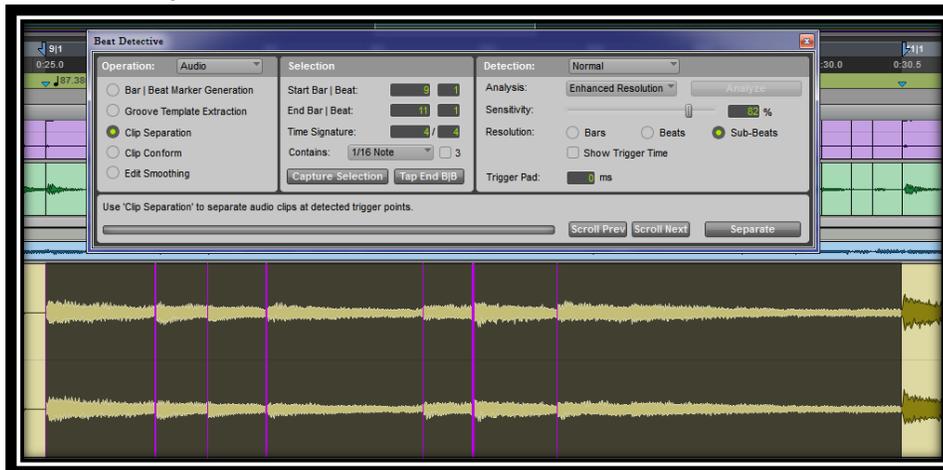
- Original
- Manual Edit (trackname - Manual)
- Conformed to beats (trackname - B001)
- Conformed to subbeats (trackname - B002)
- Conformed to subbeats using groove. (trackname - B003)

**4-16.** We just moved the drums. That means that the piano edits we did in Exercise #3 where we snapped the piano to the drums is now wrong. It is important to remember this as you edit sessions. In this case it works out as we want to explore another method of fixing that same section. We will try two different methods of fixing the issues at the start of the piano track. First go back to the original piano playlist and create a duplicate of that named (Piano - BD)

**4-17.** Select Bars 9 & 10 on the piano track. You can use the tempo map to roughly set the start and end point but it must be fine-tuned to the piano track using Tab To Transient.

**4-18.** Open Beat Detective and set it for Clip Separation. You should notice that the markers have nothing to do with the piano track. That is because they are still left over from the drum tracks. Until you hit “Analyze” they remain from the last time it was used. *This can actually be very useful.* Hit analyze to get markers from the Piano track.

**4-19.** Set the Resolution to “Beats”. Adjust the sensitivity to get as many markers as you can. You can only get 3 within the selection (plus the start and end). This is because those are the only attacks that Beat Detective sees that are on the beat. Play it to make sure that those attacks are actually on the beat.



**4-20.** Set the resolution to “Sub-Beats” and adjust Sensitivity to get markers on all the note attacks. In this case there are seven attacks within the selection. I find that at 82% I can get 6 of the seven but above that I get a seventh marker but it is in the wrong place.

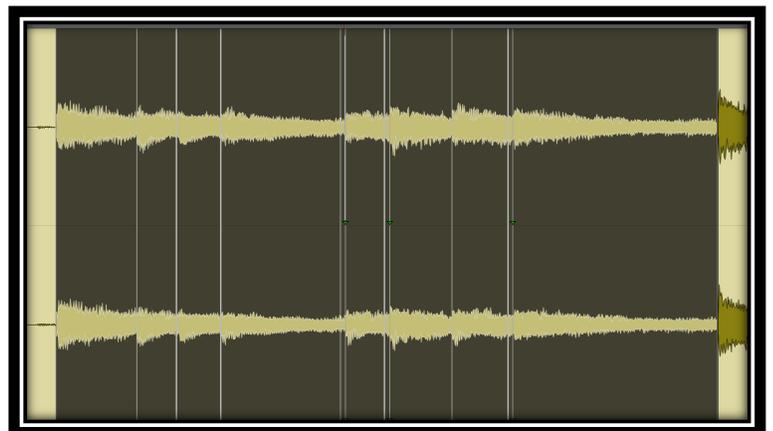
**4-21.** You can either set it high and move the last marker or leave it low and add a marker.

**-moving the marker:** Move your cursor over the marker you want to move. Your cursor will become a hand, click on the marker and drag it where it should be.

**-adding a marker:** Simply click where you want to add a marker.

**-deleting a marker:** OPT-click (alt-click in Windows) over the marker you want to delete

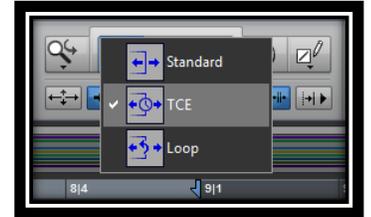
**4-22.** Once the markers are where you want them (make sure to listen) Separate, Conform, and Edit Smooth the clips. (best to skip the Groove conform). Give it a listen. for me this works pretty well. If you want you can manually adjust the edits or try Beat Detective again with different settings.



You may have noticed that the piano has a mistake at Bar11|Beat1. Let's try two different ways to fix that. First listen to it and realize that there is a mistake.

#### 4-23. Fix #1: copying another note

- 1) create a duplicate playlist for the piano from `Piano - BD` and name it (`Piano - 01`)
- 2) copy the note at Bar 13 Beat 1 and paste it into Bar 11 Beat 1
  - try doing this in grid and slip mode
  - in grid mode, set grid to 1/4 note and select note to copy
  - select point to paste (Bar 11 Beat 1) and paste
  - now switch to Slip mode and trim out the note you just pasted
  - add fades if needed



#### 4-24. Fix #2: lengthening the previous note

- 1) return to `Piano - BD` and create a duplicate (`Piano - 02`)
- 2) cut out the bad note at Bar 11 Beat 1
- 3) set cursor at a point just before the note before the one that was cut and separate clip
- 4) set "Trim" tool to TCE (Time Compression Expansion)
- 5) using the "Trim" tool expand the end of the clip to just beyond the next note.
- 6) reset the "Trim" tool to normal and trim the clip you just expanded to start with the new longer note. Also trim the beginning of the next piano note and add fades as needed.

The TCE tool utilizes whatever Plug-in is selected in preferences (Processing tab). The default Avid one works well but we have Serato Pitch n time which is does this incredibly well.

I have used this TCE tool much more often than you might think. Trombone player didn't hold a note long enough? We can fix that!

