

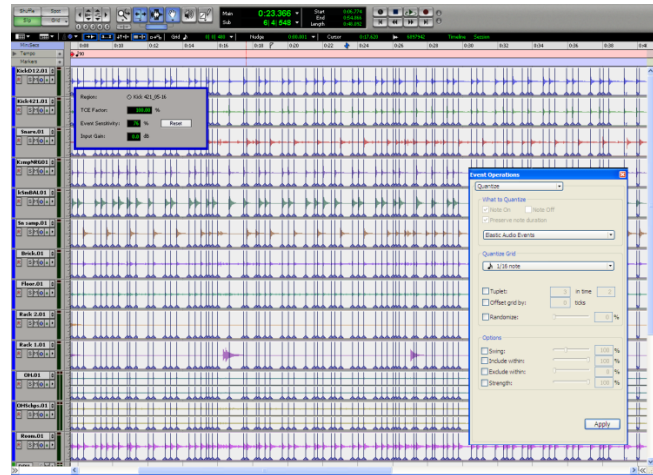
# A325

## Exercise #5:

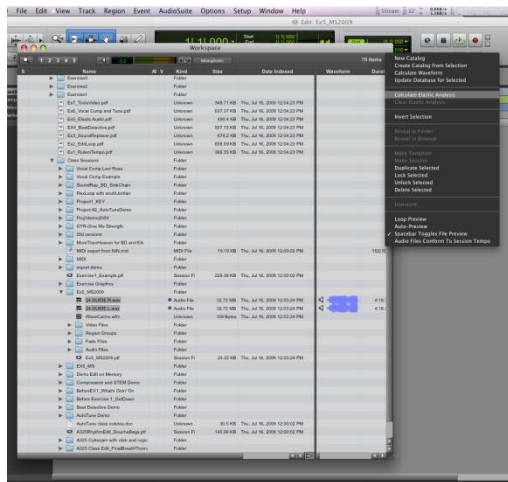
# Elastic Audio


**\*Using Elastic Audio to:**

- create a tempo map
- make musicians sound like they can play




**5.1** It is possible to create a tempo map with Elastic Audio. This works particularly well with loops, or small regions. First we will try it with our old friend “Give Me Strength” from project #1.



**5.2** Create a new session that is 44.1kHz/24bit. Be sure to pay attention to what I/O setup you choose! Then open the Workspace and find the guide tracks from Project #1. Select both tracks(L and R). Copy these to your “Exercise5” folder. Then find them in the workspace , unlock them and then choose “Calculate Elastic Analysis” from the  Menu or Right-click Menu.

**5.3** It will now show these tracks as “tick” instead of “sample” and show a check mark in the “S” column. If it has not; make sure you selected the files in your “Ex4” folder and not the ones in the “Project 1” folder. Those have been locked and cannot be analyzed.

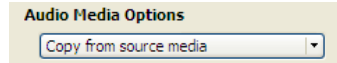
**5.4** Make sure the “Audio Files Conform to Session Tempo”  Rhythmic button is selected. This can also be selected from the workspace menu. Next to the button is the algorithm that Elastic Audio will use. Let’s start with “Rhythmic.”

**5.5** Now drag the 2 files into the edit window, creating a new stereo track. You will be asked if you want to “Import original tempo from file?” Choose “Import”.

**5.6** Play the file and you will see that the tempo has been matched. This just happens to work well on this mix.

**5.7** Delete that track and try the process with another mixed track of your own. If you notice that the icon in Workspace doesn’t change from sample to tick, then it was not able to find a tempo.

**5.8** Delete any remaining tracks so that you have an empty session again. Then import all the tracks from your Beat Detective Exercise file. Use the “File>Import>Session Data” command. Do NOT import the tempo/meter map. Be sure to select.



Then find the copied audio files in the workspace, select them all and choose “unlock selected” from the menu. This will allow elastic analysis of the files.



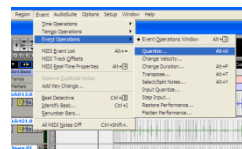
**5.9** Select the unedited playlists for the drum tracks and create a duplicate. Name this “trackname .EA” We are just going to work with the drums tracks for this exercise so mute everything else. We will start by adding a few Bar | Beat markers. Add markers at Bar | Beats: 1 | 1, 9 | 1, and 13 | 1. (note that for 13 | 1 the snare is on the downbeat, not the kick). If you wanted the drums to follow the other instruments closer you might want to add more markers.

**5.10** Select the entire section of drum tracks (double clicking on any drum track will do this). Create a duplicate playlist for your editing.

**5.11** You will now add Elastic audio to the tracks by assigning an algorithm. This is done in the edit window on each track below the automation selector. With the “Drums edit group” on, set the tracks to at least medium size and then set the Elastic Audio Plug-in to “Rhythmic”. You may notice the tracks “gray out” for a while the system analyzes the audio.

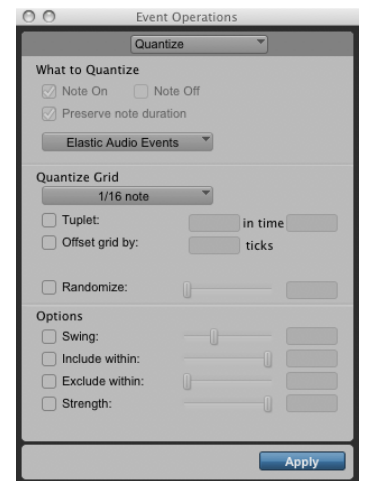


**5.12** Switch the track display to “Analysis” and you will see the “event markers”. You can move these if Pro Tools has placed them at incorrect points. For this example they have been placed way too often, but we will start with it like this.

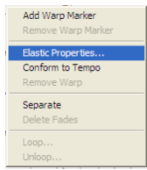


**5.13** We will now let Pro Tools align the “events” it found to the grid based on the tempo we gave it. Select “Event>Event Operations>Quantize”. Set it to quantize “Elastic Audio Events” with a grid of 16<sup>th</sup> notes.

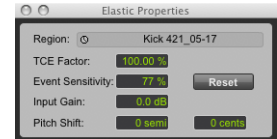
(if Elastic Audio Events” is greyed out, un-check “Preserve note duration”) Select all the entire audio for all the drum tracks in the edit window and hit “Apply” in the quantize window. Change the tracks view to “Warp” and you can see the warp markers that are being moved around. Play the selection. You will notice that there are some areas that are shown in red. This means that Pro Tools thinks it was stretched too far to not be heard. You should hear Elastic doing too much in these spots and probably some not marked,



**5.14** This doesn't feel right to me, so "Undo" and try it again with a Quantize Grid of 1/8<sup>th</sup> notes. That still feels "stiff" to me, you can try it at different grid settings. A larger note value grid setting will make fewer adjustments, but also leaves some hits alone that really need fixed. Go back to the grid setting that you felt sounded best and apply that again (make sure you "undo" back to the original before hitting apply).



**5.15** Now we'll take some more control over what Pro Tools is doing by adjusting the Event Markers. Go back to the un-edited playlist and create another duplicate. Set the track view back to "Analysis". With the "Drums Edit group" on triple click on any drum track to select all of the audio. Then right click on any of the drum tracks (over the region). Select "Elastic Properties". Hold your cursor over the "Event Sensitivity" and drag it down until it reads "0%". Notice that all of the event markers disappeared.



**5.16** I would like to just have edits on kick and snare hits, maybe toms too. Here's how we'll do that. First turn off the Drum Group. Then move the "Kick421" and "Snare" tracks next to each other. Select them both, hold OPT-SHIFT and set the track height to "fit to window".

**5.17** Now select "Kick421" track region (by double clicking on it) and then right-click, select "Elastic Properties" and adjust the sensitivity until only the kick hits are showing as event markers. For me it was at "76%".

**5.18** Now do the same for the "Snare", this time I liked "81%".



*You can also access the "Elastic Properties" window by selecting the region and then choosing "Region > Elastic Properties"*

**5.19** Turn the drum group back on, select the audio on all the drum tracks and try quantizing again. I found a 1/64 note grid worked best.

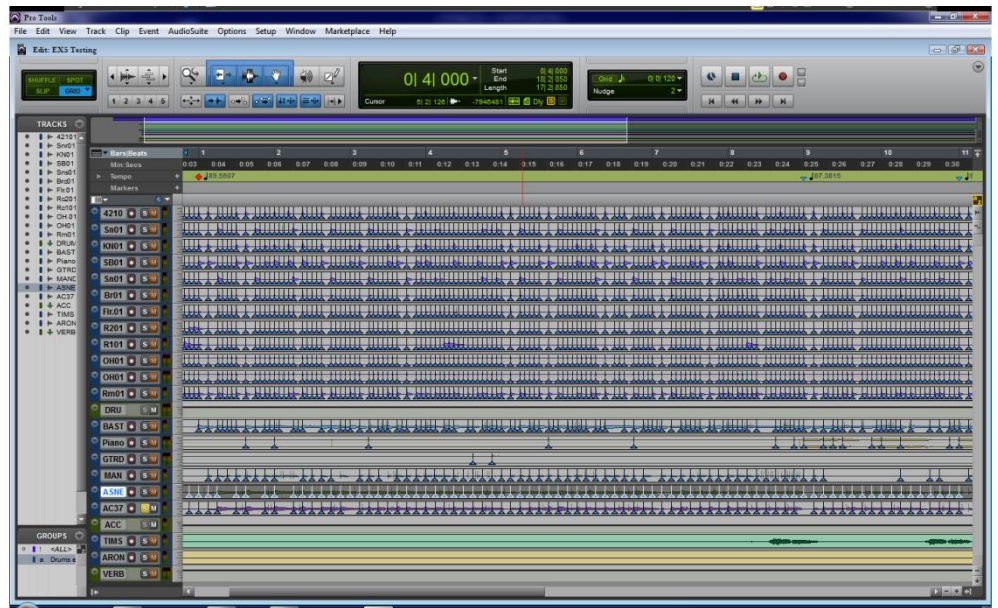
**5.20** For the most part this works pretty well and was relatively quick. The drum intro sounds odd though, let's tweak it by hand. Select the entire drum region again and right-click and choose "Elastic properties". You will notice that "Event Sensitivity" shows "\*"%" this is because they are set differently. Click on it and pull it up to 100%. You must do this for further editing to work.

**5.21** Set the drum tracks view to “Warp” and move the first 2 hits around until they feel better. Part of the issue is that we set a tempo change at Bar1:Beat1 and this happens before that where the tempo is different (120bpm) so just set it in slip mode until it feels right. You will probably want to add warp markers for the toms hits. You will see light lines on those hits (those are event markers), you can simply click on them to add a warp marker over that event marker.

**5.22.** The first Warp marker that is already there has probably been moved by quantizing, so delete it by OPT(alt)-clicking over it. To add warp markers CTL(win)-click on the spot you want them. To move the marker without changing the audio CTL(win)-click over an existing marker. If you want to move the audio simply drag them with warp marker with the grabber tool. (*make sure the entire region is not selected or you will be moving all of the markers*)

**5.23** Compare the Elastic Audio version of your editing with the Beat Detective. Listen not only for timing but also for any possible sonic changes.

**5.24** Now try this with all the other instruments tracks. Use the “monophonic” elastic setting for the Bass and “Polyphonic” for the other tracks. If you go with 1/16<sup>th</sup> note quantize it comes out reasonable. If you listen to the individual tracks, particularly the mandolin and acoustic you will hear real problems but it does get everyone playing together really quickly. You can use the “exclude within” setting in the quantize window to make this feel a bit better.



There are additional tweaks you can do in Elastic to make artifacts less but we are too limited in time to address those.