# MTEC-224 Lab #2
## Exploring Pro Tools

1. In this Lab, you and your partner will work with a pre-made Pro Tools session. You will perform common editing and processing tasks in Pro Tools, and explore some of the various features of the program. The materials for this Lab are found on a CDr labeled MTEC-224 Lab #2, which is kept in the Booking Office.
2. In M27, start by setting up the system. First, boot the computer, and drag the Session folder from the MTEC-224 Lab #2 CD-r onto the audio drive. When you are done, be sure and eject the CD-R - this is important!
3. Boot Pro Tools, and set it up correctly. Check the Digidesign 888/24, and make sure it's in Internal sync. If not, go to the Setups/Hardware menu in Pro Tools, and change sync to Internal. In the Session Setup window (Windows/Show Session Set-up), set up the Sync IO – set its clock source to Internal.
4. Set up the DM2000 to its "default" state; reset the Input Patch and Output Patch settings, and recall Scene 0. To clock the DM2000 from the 888/24, go to Digital I/O page 1 on the DM2000, and chose Card Slot 1, inputs 1/2 as the clock source. The DM2000 is now clocked to the first AES pair from the 888/24.
5. Open the Lab 2 session. In Pro Tools, hit Return, then play, and audio should come up on DM2000 channels 25/26 (Layer 2). Set these to unity gain, and hard pan them as well. Since you're working within ProTools for this Lab, you'll leave these channels at unity, and use the DM200 simply as a way to monitor the output of ProTools.
6. In Pro Tools, open the Mix window (from the Windows menu). The faders in the mixer are set to unity, and the pans are all centered. Go through the tracks, listen to them, and set up a rough mix (levels and panning) to work with. Under the Display menu, you can go from wide to narrow view of the mixer if you like.
7. Switch back to the Edit window. From the Windows menu, open the Transport and the Memory Locations windows as well. While you're at it, open and close all the other windows in the Windows menu, just to see what's contained in each. Also note the key commands for each.
8. In the Edit window, your main display should be Bars & Beats, and you should also see a tempo track, a meters track, and a markers track. Check all your displays. Change the main display to Min:Sec, and see how everything changes. When you are done, set it back to Bars & Beats.
9. Practice for a minute with playing and stopping the Session, and also navigating around the Session. You can use the SELECTOR tool to define your playback point, and the ZOOM tool to zoom in. Double click to Zoom tool to zoom out all the way, or use the zoom arrows (to the left of the Zoom tool) to zoom in and out by increments.
10. You can also resize the vertical height of any track by clicking and holding in the small graded area to the immediate left of the waveform display.
11. Go to the Operations menu, and make Link Edit and Timeline Selections active (it may be already, but chek it to be sure). Also, you can choose a Scrolling option here - experiment with these options.

# MTEC-224 Lab #2
## Exploring Pro Tools

12. The Memory Locations window contains a list of markers in the Session to help you navigate. You can go to any marker by clicking on its name in the Memory Locations window. This can even be done while in Play mode.

13. One of the ways to manage a session is to create Edit/Mix groups. Both the Edit and Mix pages have a GROUPS area on the bottom left hand side of the window. If you don't see this, click the double arrow in the bottom left of the window (Mix or Edit) to expose the left hand column, which contains the Groups area.

14. Go to the Mixer page, hold down shift, and click on the track names for Kick, Snare, Kit Stereo, and Tamb. To make a group from these tracks, hit CMD-G, and name it. You'll see the name of your new group in the GROUPS area. Clicking this name will make it active/inactive. Notice the colored icons in the mixer as well, indicating the active group. Also notice that there's an ALL Group, which groups all tracks. Every Pro Tools session has this group.

15. Grouping these tracks links faders, mutes, solos, edit selections, track heights, and more. Work with these tracks for a minute to get a sense of how they are grouped, testing this on both the Edit and the Mix page. Then, make more edit/mix groups, for the guitars, loops, backing vocals, and whatever else you like.

16. Time to do some edits and fixes in this session. First, we need to add Loop 2, and have it repeat. Go to the Edit window, choose GRID mode, grab Loop 2 from the audio bin on the right, and drag it over to the empty track named Loop 2. Place it at Bar 3. Then double click it with the SELECTOR tool, selecting it, and choose Edit/Repeat from the Edit menu. Repeat it 61 times.

17. Since we'll be zoomed in a lot while editing, PRE-ROLL will be helpful for previewing an edit without having to zoom out. In the Transport Window, you can set a pre-roll time (hit enter after entering a time), and activate pre-roll (CMD-K is the short cut). Practice with this for a moment, and you'll see how it might be helpful when you are zoomed way in on a track.

18. The bass track needs some fixes. There are three regions in the track, and they need crossfades at each region juncture. Set your main display to Min:Sec, and choose SLIP mode. Zoom in on the first edit, solo the track, and listen to it. With the selector tool, make a short selection (100ms or less) across the edit. To create a crossfade here, select CMD-F (it's in the Edit/Fades menu). Audition the edit, and hit OK if you like it. If not, try a slightly different selection length. Once you get the hang of it, fix all the edit transitions in the bass track.

19. The Slide guitar track needs similar treatment at Bar 31 and after. Here, you may need longer crossfades to smooth out these transitions. Also, at bar 49, the regions don't quite come together. Use the TRIMMER tool to extend the beginning of region Slide-14 to the left so that it overlaps the previous region. (This also exposes the attack of the chord, which had been chopped). Now make a crossfade.

20. While you're at it, the Slide guitar chords in the opening are not played very accurately - some are late, and some are early. Listen critically to the timing of each, and in SLIP

# MTEC-224 Lab #2
## Exploring Pro Tools

mode, use the GRABBER tool to move them around a little bit. Remember, use your musical ears, not your eyes, to do this!

21. The vocals all need help. First, Vox 1. There's a bad glitch in Bar 22. Zoom way in on it, and you'll see the problem. To fix this, first, choose the SELECTOR and click somewhere in the track just before this vocal phrase (end of Bar 21). Choose Separate Region (CMD-E) to cut the region into two. Now zoom in, and do another Separate Region after the word "ready", but before the word "gone". Now you can select the area of the glitch (where the waveform is flat), delete it, and with the GRABBER tool, slide the right hand region over until they overlap (zoom way in and try to match the waveforms). Since it's an individual region, you won't be moving anything after the word "ready". Finally, add a small crossfade to your new edit. This may take a while to get it just right, so don't forget UNDO! Keep at it until the transition is smooth.

22. In Bar 34, the Vox are mumbling something. Let's bring up the gain there so that it's closer to the rest of the track. Select from Bar 34-40 (use GRID, of course...), and in the AudioSuite menu, find Normalize. Set the max peak to -1.5dB, make sure Use in Playlist is selected, and hit PROCESS. Notice how there's now a new region in the track - this is your Normalized audio. Now listen to this vocal improv, and decide how much of it you want to keep or delete.

23. Vox 2 has a few performance problems as well. He was early in Bar 18, late in Bars 20 and 22, and early in bar 28. Again, use Separate Regions to cut up these phrases, and slip them around with the Grabber tool. Use your ears!!!

24. Vox 5 is late in Bar 18. Also, all the vocal tracks could use some tightening up in the attack at Bar 30. Be careful to separate these phrases into individual regions first!

25. Let's work on the drums. First, solo the kick, then the snare. Let's adjust the groove a bit. Select the snare region, and find the NUDGE parameter at the top right hand side of the Edit window. Set the Nudge units to Min:sec, and then set the value to 1 ms. Now, pressing +/- will nudge the region forward and backward in 1 ms increments. Do this carefully, so that you can always UNDO what you've done. Nudge the snare forward and back by 4ms or so, and listen carefully in context (with the other tracks) to how nudging affects the groove. Finally, choose something you like.

26. Explore this on some other tracks as well (Kick, Loops, etc). Nudge a few other regions around, or even separate them into smaller regions to nudge around, and get a sense of how you can manipulate the feel of a performance subtly with nudging. The bass track, for example, could use a little help...

27. There's a little bit of leakage on the snare track. One way to isolate the snare is to select the region, and use STRIP SILENCE from the Windows menu. Here, you can set a threshold, and pre and post times to break the track into regions. Zoom in and move around, so you can see what kind of regions you'll wind up with. Adjust the parameters, and when you think it's good, choose STRIP.

28. Now, let's use Sound Replacer to add some punch to the kick. First, select the track's name (KICK), then make a new track (SHFT-CMD-N). Make it a mono audio track. The new track should appear right under the kick track.

# MTEC-224 Lab #2
## Exploring Pro Tools

29. Next, select the kick region, and in the AudioSuite menu find Sound Replacer. This plug-in lets you define three levels of amplitude, and use each one to trigger a new sample. Set the three sliders on the left hand side so that the low amplitudes trigger the yellow one, moderate amplitudes trigger the red one, and high amplitudes trigger the blue one. Scroll though the track display in Sound Replacer and check your settings visually.

30. Now assign a new sample to each amplitude level. To do this, click on the disk icon under each slider, and assign Kik S (from the session's Audio folder) to the yellow slider, Kik M to the red, and Kik H to the blue. Finally, chose your newly made track as the destination track, and click Process. You should now have a new region in your new track, created from your chosen samples and the original kick track. This new track may need to be normalized. In a mix, you could use this new track instead of the original kick track, or layer both.

31. Do the same with the snare track - there are three snare samples in the Audio Folder to work with. You'll have to select all of the regions in the track first (CMD-A), since you already cut the track up with Strip Silence.

32. From here, there's more to do to tweak and adjust and "slip n slide" in this Session. Spend some more time editing, nudging, and getting the feel of everything just right.

33. When you are done, save and quit Pro Tools. Back up your session by burning a copy of it in Toast. It's easy; just put a blank disc into the CD drive, boot Toast, and drag the entire Session folder over to the Toast Window. Click RECORD when you are ready, and follow the directions. The first CD you make up is for you; it's your backup. Make a second copy to hand in as well.

34. On or before the due date, submit a manila envelope, properly labeled, containing your Session on a CDr, a Session Report (appx 2 pages) from each Lab partner, and any other paperwork you generated pertinent to this Lab. Each team can submit everything in a single envelope.

# MTEC-224 Lab #2
## Exploring Pro Tools

## Helpful Pro Tools Key Commands

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|---|---|
| Undo | CMD Z |
| Redo | Shft CMD Z |
| Show Mix/Edit Window | CMD = |
| Narrow Mix View | Shft CMD M |
| Play/Stop | spacebar |
| Return to session start | Return |
| Zoom to all | Opt A |
| Zoom to Selection | Opt F |
| Zoom In | CMD ] |
| Zoom Out | CMD [ |
| Shuffle Mode | F1 |
| Slip Mode | F2 |
| Grid Mode | F4 |
| Zoom Tool | F5 |
| Trimmer Tool | F6 |
| Selector Tool | F7 |
| Grabber Tool | F8 |
| Pre-Roll On/Off | CMD K |
| Create Crossfade | CMD F |

Additional Key commands are found in the *Keyboard Shortcuts* PDF file in the Digidesign folder on the computer's hard drive. You can also view it from the ProTools menu in ProTools. Finally, the drop-down menus indicate the Key commands for most operations.