Pro Tools Basics

Audio Engineering I

The Pro Tools Story

- Peter Gotcher and Evan Brooks: Digidrums
  - Recorded percussion sounds onto computer chips
  - Formed Digidrums in 1984
  - Sound Designer

- Digidesign (1985)
  - Developed MIDI and synthesis products for Macintosh computers
  - Sound Accelerator (1988) – CD-Quality 2 channel output card for Mac II
  - Sound Tools (1989) 2-track hard-disk recorded
    - World's first "tapeless recording studio"

- Pro Tools (1991)
  - Four audio tracks (soon expanded to 16 with interfaces and cards). For Mac.
  - Session 8 (1992) Windows-based version of Pro Tools

- 1995 – Digidesign merged with Avid Technology

- Pro Tools changed the economics of the recording industry by providing the same capabilities found in million dollar studios at prices small studios could afford

- 1997 – Pro Tools|24 – 24-bit audio capabilities

- 2001 – Control|24 – mixing console for Pro Tools

- 2002 – Pro Tools|HD systems – support for higher sample rates and large mixing capabilities

- 2004 – Avid acquired M-Audio – many more devices and interfaces compatible with Pro Tools

- Avid's Advanced Instrument Research (A.I.R) Group began developing plug-ins and virtual instruments in the Creative Collection and more

- Pro Tools 9 (2010) introduced compatibility with third-party audio interfaces (or with no interface)

- Pro Tools 10
    - New plug-in format AAX (replacing TDM)
    - New session file format: .ptx (replacing .ptf)
        - PT 10/11 sessions can't be loaded in earlier versions.
        - Save as .ptf if you will open the file on an earlier version

- Pro Tools 11

- Pro Tools vs. Pro Tools HD
  - Pro Tools
    - Host-based: uses the computer's processing power to carry out routing, mixing, and audio signal processing.
    - Compatible with Digi 003 or 002 interfaces, Eleven Rack interface (guitar effects), or M-Audio hardware
  - **Pro Tools Core Audio/ASIO**
    - Also host-based, but compatible with interfaces with Core Audio or ASIO drivers, or built-in audio on Mac computers
  - Pro Tools HD
    - Pro Tools|HD Native hardware – interfaces and sound card for processing
    - Pro Tools HDX hardware combines HD interfaces with HDX cards for even more DSP power!
  - **Complete Production Toolkit**: add-on for non-HD systems that provides multi-channel sound, up to 512 tracks, and other features available on HD systems.

The Power Up Order

1. External hard drives

2. MIDI interfaces and devices

3. Audio interface

4. Computer

5. Monitors

- Edit Window
  - Edit Tools (click the menu button to customize)
    - Zoom controls
    - Transport
    - MIDI controls
      - Command+drag to move tool sets around
  - Edit Modes (Shuffle, Slip, Spot, Grid)
  - Side Columns – make visible with arrow or by double-clicking the column separator
  - Ruler views
    - Time base and Conductor Rulers

- Mix Window
  - Signal Routing controls
    - Insert selectors
    - Send Selectors
    - Input/output selectors
  - Record and Playback Controls
    - Automation mode, Pan Controls, Record Enable, Solo, Mute, Volume
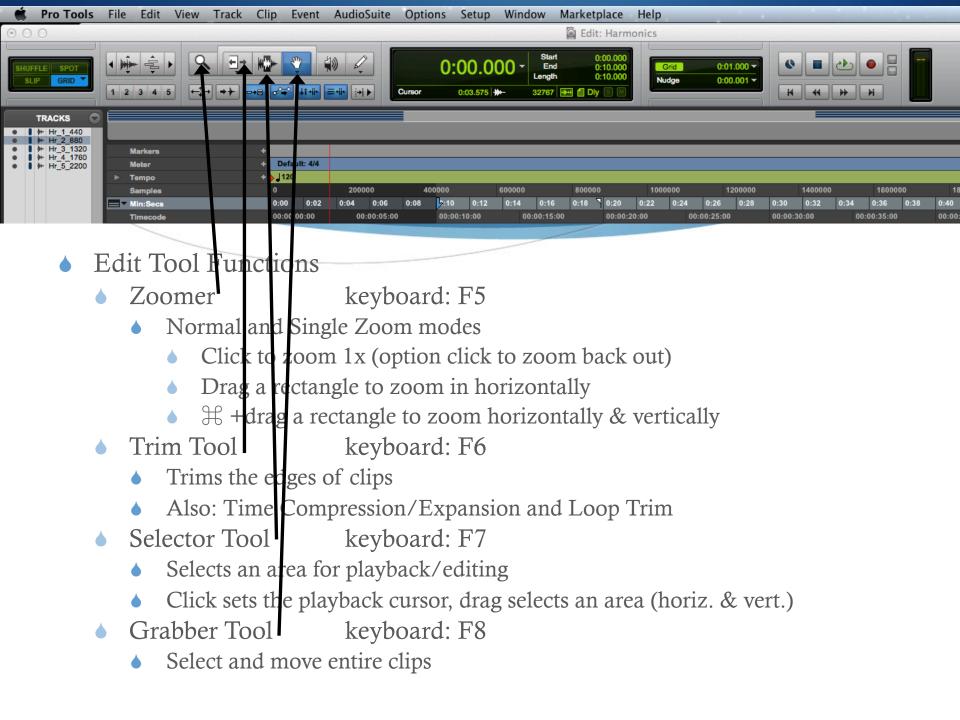
- Window Management
  - Tile, Cascade
  - Command-= : switches between mix and edit windows
  - Command-~ : switches between all open windows

- Adding Tracks: **Create 2 Stereo Audio Tracks and 1 Master Fader.**
  - Keyboard shortcuts:
    - Create new track: Command-Shift N
    - Change track type: Command-Up Arrow or Down Arrow (↑ or ↓)
    - Change track timebase: Command-Option- ↑ or ↓
    - Add/remove rows in track dialog box: Command-Shift- ↑ or ↓

- Track Types
  - Audio: mono or stereo
  - MIDI: data only, no audio in track
  - Instrument: combination MIDI and aux input (for virtual instrument plugins)
  - Auxiliary Inputs: used as effects return, submix, process live audio, etc.
  - Master Fader: overall level of all tracks' output

- Naming Tracks
  - Double-click on the track name
  - Press Command-↓ to move to the next track for renaming
  - **Name Track 1 "Guitar" and Track 2 "Drums"**

- Deleting Tracks
  - Select a track and choose Track → Delete
  - Or: Right-click or Control-click the track and select Delete

- Playback and Edit Cursor

- Click Track: 7 on numeric keypad (or Track → Create Click)
  - Options → Click to configure

- Record-enable Tracks
  - Edit Window:

- Edit Tool Functions
  - Zoomer   keyboard: F5
    - Normal and Single Zoom modes
      - Click to zoom 1x (option click to zoom back out)
      - Drag a rectangle to zoom in horizontally
      - ⌘ +drag a rectangle to zoom horizontally & vertically
  - Trim Tool   keyboard: F6
    - Trims the edges of clips
    - Also: Time Compression/Expansion and Loop Trim
  - Selector Tool   keyboard: F7
    - Selects an area for playback/editing
    - Click sets the playback cursor, drag selects an area (horiz. & vert.)
  - Grabber Tool   keyboard: F8
    - Select and move entire clips

Pro Tools File Edit View Track Clip Event AudioSuite Options Setup Window Marketplace Help

SHUFFLE SPOT
SLIP GRID

1 2 3 4 5

0:00.000   Start 0:00.000 End 0:10.000 Length 0:10.000

Grid 0:01.000
Nudge 0:00.001

Cursor 0:03.575   32767   Dly S M

TRACKS

Hr_1_440
Hr_2_880
Hr_3_320
Hr_4_1160
Hr_5_2210

Markers
Meter   Default: 4/4
Tempo   120
Samples   0   200000   400000   600000   800000   1000000   1200000   1400000   1600000   18
Min:Secs   0:00 0:02 0:04 0:06 0:08 0:10 0:12 0:14 0:16 0:18 0:20 0:22 0:24 0:26 0:28 0:30 0:32 0:34 0:36 0:38 0:40
Timecode   00:00:00:00   00:00:05:00   00:00:10:00   00:00:15:00   00:00:20:00   00:00:25:00   00:00:30:00   00:00:35:00   00:00

🔹 Smart Tool   keyboard: any two keys among F6, F7, and F8

  🔹 Combination of Selector, Grabber, and Trim tools

    🔹 Click on the bracket above, or click one tool and shift click another.

    🔹 Selector: position cursor over the top half of an audio clip

    🔹 Grabber: position cursor over bottom half of audio clip

    🔹 Trim: position cursor near clip's start or end point.

      🔹 Also can be used to create fade-ins, fade-outs, and crossfades.

🔹 Edit Modes   keyboard: F1 – F4

  🔹 Shuffle: clips snap to adjacent clips.

    🔹 Convenient for lining clips next to each other with no gaps/overlaps.

  🔹 Slip: clips can move freely within a track.

  🔹 Spot: like Slip mode, but you are prompted a position in dialog box

  🔹 Grid: clips snap to a grid

Zoom!

- ◉ Zoom Buttons
  - ◉ Horizontal Zoom In and Out
  - ◉ Audio (Vertical) Zoom
    - ◉ Changes the height of the waveforms on screen, *not the volume.*
  - ◉ MIDI Zoom

- ◉ Other ways: Hold option and roll the mouse wheel up/down to horizontal zoom; roll left/right to audio zoom.

- ◉ Zoom buttons on left edge of edit window:

- ◉ Command-[or] for horizontal zoom

- ◉ Shift-Command-[or] for audio zoom