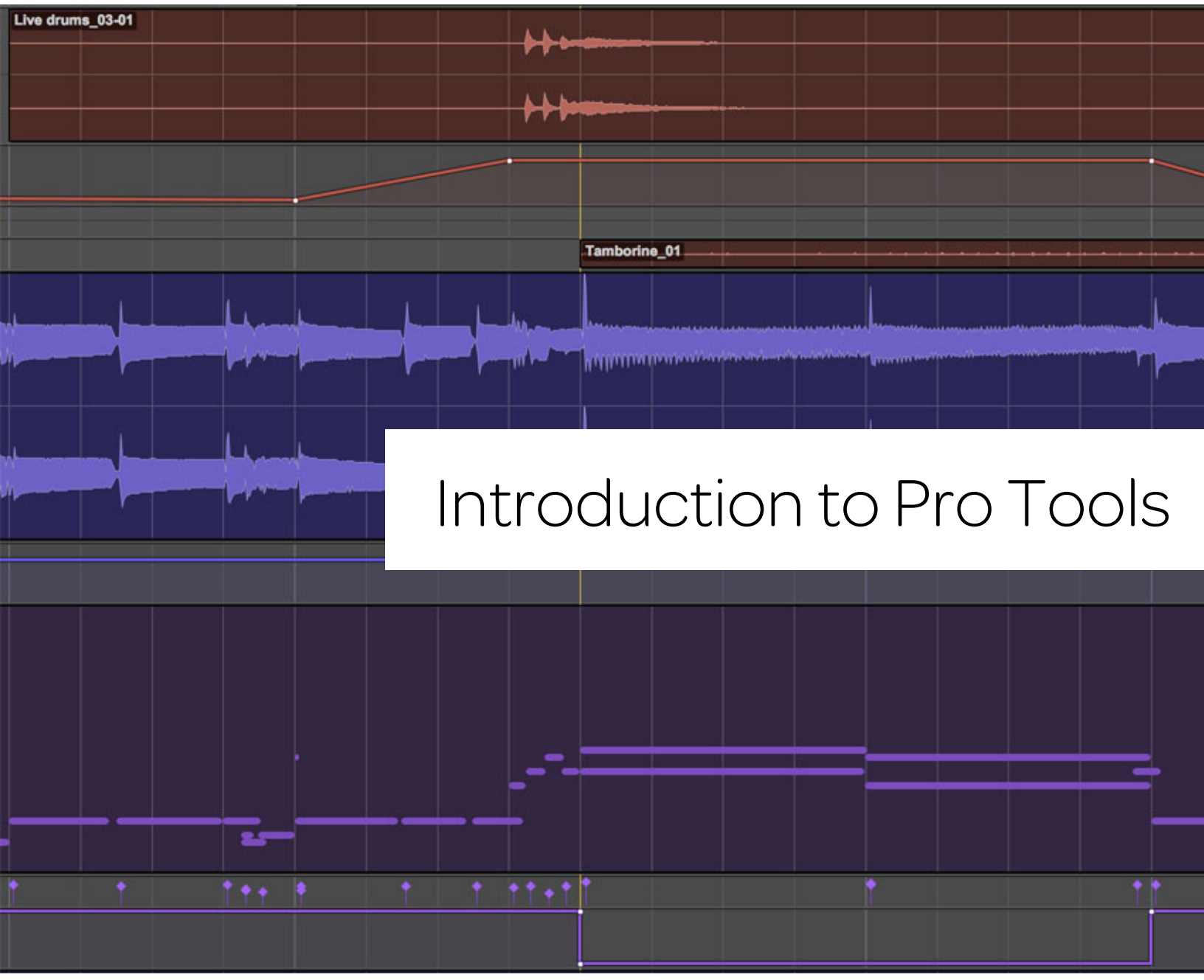


Introduction to Pro Tools

Contents

Introduction to Pro Tools

Read this guide if you are new to Pro Tools®, Pro Tools | First, or Pro Tools | Ultimate™ software, or new to audio production to see examples of how to record, compose, edit, and mix in Pro Tools.

Before You Begin

If you have not yet installed and authorized Pro Tools, do so now according to the instructions in the *Pro Tools Installation.pdf*.

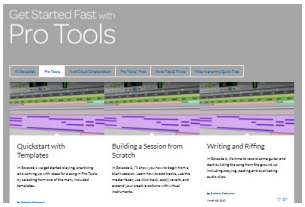
Pro Tools can use the built-in audio of your Mac or Windows computer, or an external audio interface such as Pro Tools | Carbon. If your system includes an audio interface, connect headphones and speakers. For information on connecting other audio equipment and installing drivers for your audio hardware, if any, refer to its documentation (such as the *Pro Tools | Carbon.pdf*). You can download this and other Pro Tools user guides from our Knowledge Base. Visit Pro Tools Documentation.

Tip: On Windows you can use ASIO4ALL to use your computer's built-in audio. For instructions, see the How to use Pro Tools and ASIO4ALL article on our Knowledge Base.

Using the computer's built-in audio and headphones (shown at left) and using a Pro Tools | Carbon audio interface and speakers (shown at right)

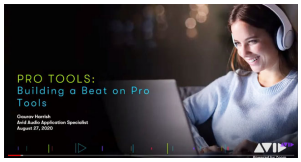
Video Tutorials and Documentation Resources

Video Tips Look for this video icon for links to video resources.



For example, the Get Started Fast with Pro Tools series and other online videos provide tutorials to help both new and experienced user learn how to get up and running quickly with Pro Tools and all the latest new features.

You can find more video tutorials including *Pro Tools Tech Tips* on the Avid YouTube channel.



You can also check out the Pro Tools videos from the Avid Online Learning series.

Documentation and Help

The Pro Tools Help menu provides quick access to installed PDF documentation and online help. The Help system is HTML-based and launches in the Pro Tools in-application browser. It also runs on most common browsers.

The Help menu also provides direct access to the online Pro Tools Knowledge Base, Avid Audio Forum, and the Avid Support Center using the in-application browser (an Internet connection is required).

Launch Pro Tools

To launch and authorize Pro Tools software:

1 Make sure your audio interface (if any) is connected to your computer and powered on.

2 Make sure you have completed the activation and authorization process as explained in the *Pro Tools Installation.pdf*.

2 To launch Pro Tools, do one of the following:

- On Mac, click the application icon in the Dock, or double-click the icon in Macintosh HD/Applications/Pro Tools.
- On Windows, double-click the Pro Tools shortcut on the desktop (or double-click the application in Program Files\Avid\Pro Tools).

Pro Tools icon

3 Pro Tools | First (Only): On launch, you are prompted to sign in to your Avid account with your registered email address and password. Enable the Keep me signed in option if desired. Click the Sign In button and sign in to your Avid account.

Create a Pro Tools Session or Project

The first step to working in Pro Tools is creating a new *session* or *project*.

Sessions are represented by session files that can be saved, copied, and made into templates. Sessions and all associated media and settings files are stored locally on internal or external hard drives, or certain network storage systems.

Projects are similar to sessions except that they store media and project data online in your Avid Cloud account. Projects can also be *online* or *offline*.

- Online projects are stored in the cloud and mirrored locally (though the local cache can be cleared to free up local storage and downloaded later). You can only collaborate with online projects.
- Offline projects are not backed up to the cloud and are only stored in the local project cache (you might want to do this to free up online storage for other active projects).

Pro Tools and Pro Tools | Ultimate can create, open, and save sessions or projects. Pro Tools | First can create, open, and save projects only (although it can convert a session into a project). Otherwise, projects operate just like sessions and provide all of the same recording, editing, mixing, and processing capabilities as sessions.

As such, throughout most of this Introduction to Pro Tools Guide:

- Any references to Pro Tools refer to Pro Tools | First, Pro Tools, and Pro Tools | Ultimate, unless otherwise noted.
- Any references to Pro Tools sessions also apply to projects, unless otherwise noted.

Creating a New Session or Project

You can create a new session or project when you first launch Pro Tools or while it is already running.

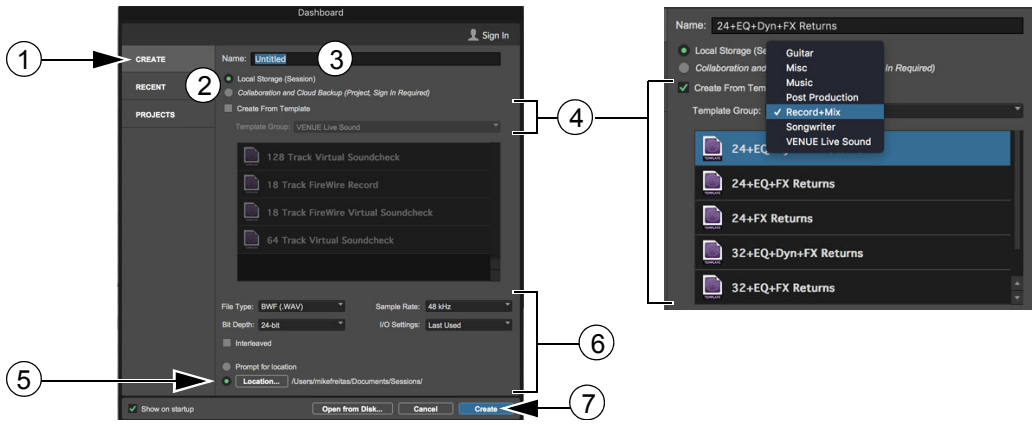
Before you Begin: If Pro Tools is not already running, Launch Pro Tools.

To create a new session or project:

1. In the Dashboard window click the Create tab. The Dashboard opens when you first launch Pro Tools but you can open it at any time by choosing File > Create New.
2. To create a session, choose Local Storage (Session). Or to create a project, choose Collaboration and Cloud Storage (Project).
3. Enter a Name for the new session or project.
4. Optional: *Templates* are session files that are pre-configured with tracks and settings typical to different types of audio production. If you want to create a new session from a template, select the Create From Template option, choose a Template Group (such as Record + Mix) then select a template from the Template list. Or, to create a blank session, make sure that the Create From Template option is deselected.

   Video Tip Learn more about templates by watching the Quickstart Templates video.

5. Click Location and choose where you want the new session to be created.
6. Optional: Configure other session settings as desired, or use the default settings.
7. Click Create.



Creating a new session using the Dashboard

The new session or project is created. If you chose to create a new session or project from a template you might see the Session Info dialog, informing you of session attributes such as plug-ins and I/O (inputs and outputs) that are unavailable on your system. Click No to dismiss the Session Info dialog.

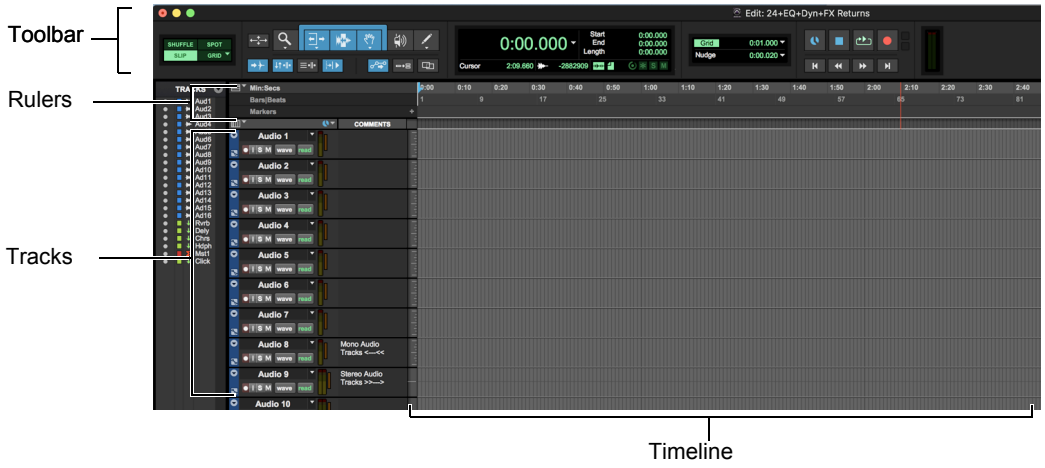
Primary Pro Tools Windows

The Edit and Mix windows are the primary work areas of Pro Tools. Here are quick descriptions of these and other Pro Tools windows (all are available by choosing them from the Window menu):

Edit Window

Use the *Edit window* to edit and arrange audio, MIDI, and automation. The Edit window provides the following main sections:

- Across the top is the *Toolbar*, with edit and navigation tools, the counter, and transport controls.
- Below the Toolbar are the *Rulers* for bars and beats, minutes and seconds, and other time formats.
- *Tracks* are displayed vertically below the Rulers.
- To the right of the tracks is the *Timeline* display, where audio, MIDI data, and mix automation for each track are displayed and edited.



Edit Window

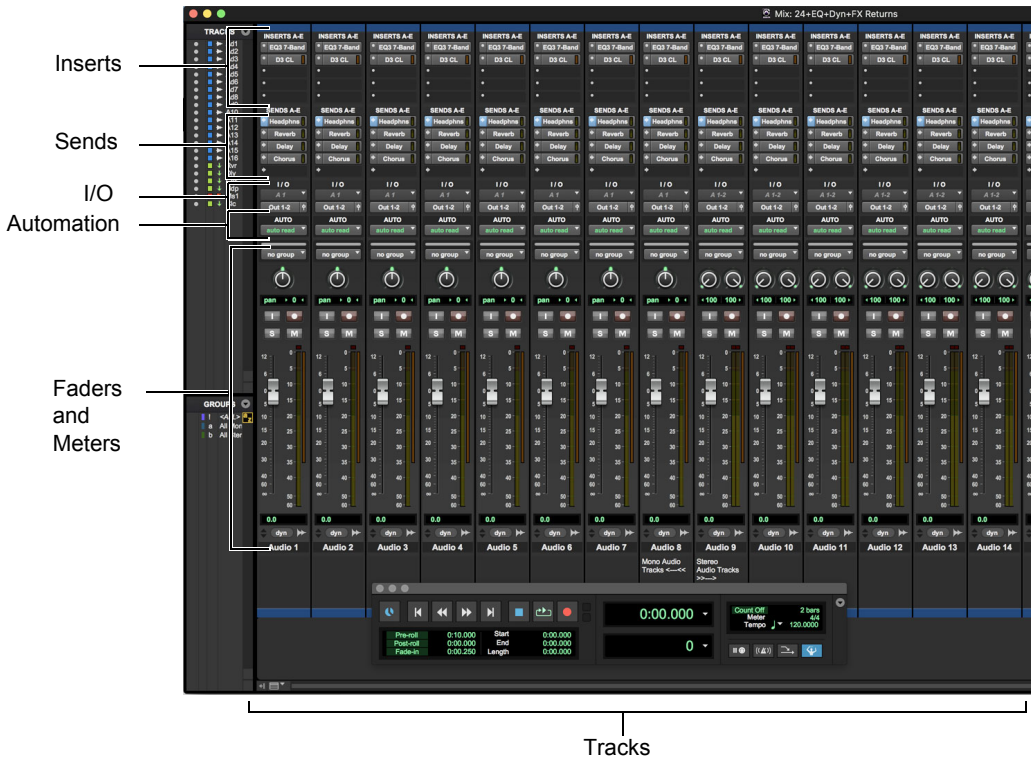
The Edit window can show or hide many different elements, which can be selected from the View > Edit Window menus. Other options are available directly from the View menu.

To display all Edit window view options:

Select View > Edit Window > All.

Mix Window

Use the *Mix window* for routing and mixing audio and MIDI in your session.The Mix window shows tracks as channel strips arranged left-to-right. Each strip provides faders, level meters, and controls for plug-in and hardware inserts, sends, I/O (input and output), automation, panning, volume, solo, mute, and record enable.



Mix Window

Like the Edit window, the Mix window can show or hide different options to optimize its display.

To display all Mix window view options:

Select View > Mix Window > All.

To display specific options, choose them from the View > Mix Window Views sub-menu.

Toggling Between the Mix and Edit Windows

To toggle between the Mix and Edit windows, press Command+Equals (=) (Mac), or Control+Equals (=) (Windows).

Other Windows

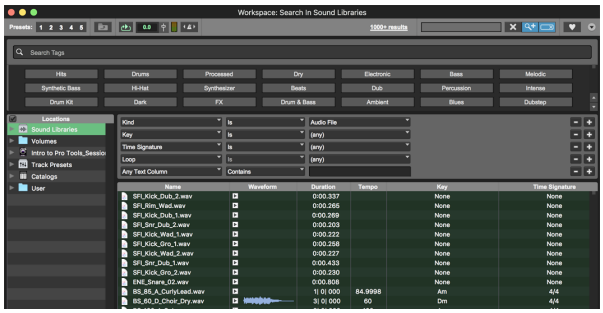
Transport The *Transport* window is a floating window that provides controls for transport related functions such as Play, Stop, master Record, Fast Forward, and Rewind. Transport controls are also available in the Edit window Toolbar.

Transport window

Plug-Ins *Plug-in* windows are floating windows that provide controls for audio processing and virtual instrument plug-ins. To open a plug-in window click an item in the Inserts list of any track.

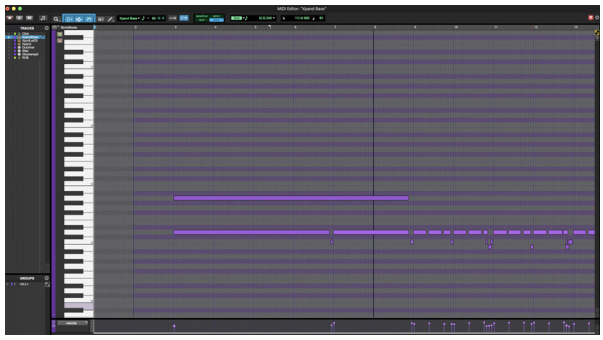
plug-in window (EQ3 7-band)

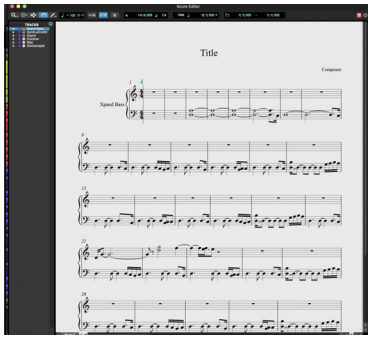
Workspace *Workspaces* and *Soundbase* provide searchable database browsers for all of the media in your session as well as for your system.



Soundbase browser

MIDI Editor and Score Editor The *MIDI Editor* window lets you compose and edit MIDI data using a "piano-roll" style interface. The *Score Editor* window lets you edit the session's MIDI data using traditional music notation. You can even print the score directly from Pro Tools.





MIDI Editor window (shown at left) and the Score Editor (shown at right)

What Next?

Now that you've created your first Pro Tools session and taken a tour of the main windows, proceed to Creating Tracks.

Creating Tracks

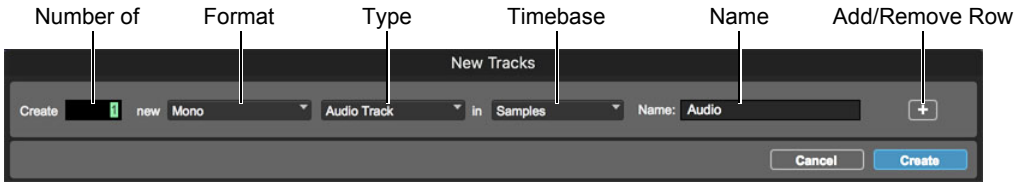
Pro Tools uses *tracks* for recording audio and MIDI in a session, as well as for signal routing and for audio functions. If you created a new session from a template you will already have numerous tracks available. You can easily add tracks to your session at any time.

Video Tip After learning about the different Pro Tools track types, be sure to watch the Track Presets video from the Pro Tools Tech Tips series to see how you can save and load your own Track Presets.

To add one or more tracks:

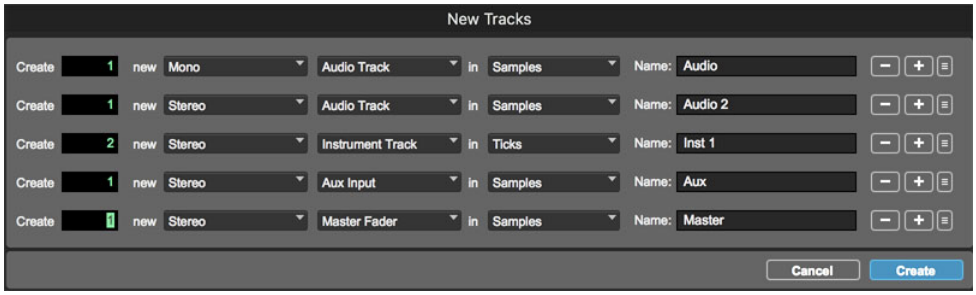
1 Choose Track > New.

You can also right-click any Track Name in the Mix or Edit windows, or Tracks List, and choose New*, or press Command+Shift+N (Mac) or Control+Shift+N (Windows).*



New Track dialog, default settings

2 Configure settings for the new track(s) as desired. Here is an example of the New Tracks dialog configured to add several new tracks of different types.

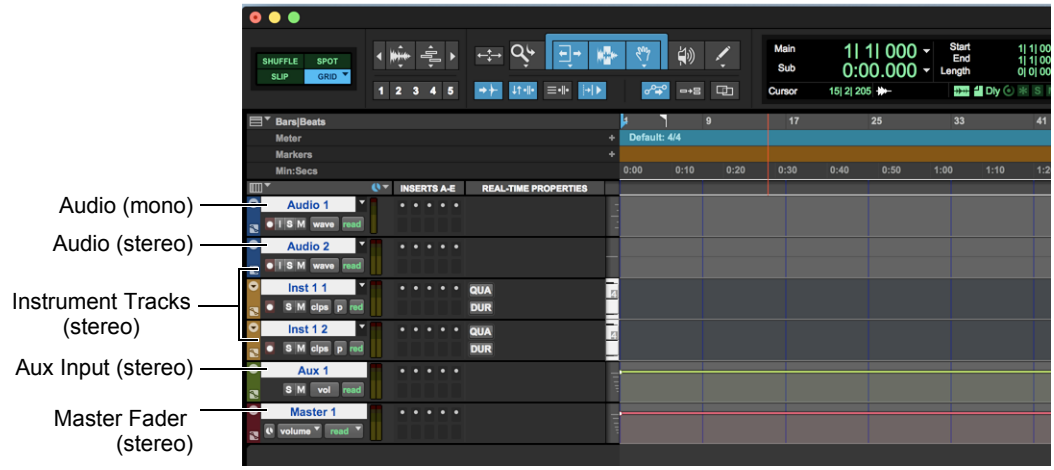


New Track dialog, example settings

In the example New Track dialog shown above, the Add/Remove Row button has been used to be able to create multiple new tracks in one operation. Here are short descriptions of what will be created:

- The top row is set to create 1 *mono audio track* to record a single microphone, or a single (monophonic) input from a guitar, bass, or other source. If you want to record two different microphone inputs for, say, guitar and vocals, create 2 mono audio tracks. For examples, see Recording Audio.
- The second row is configured to create 1 *stereo audio track* to be able to record a pair of inputs from a keyboard, turntable, or other stereo source such as a stereo pair of mics, and for importing stereo loops and samples.
- The third row is configured to create 2 Stereo *Instrument tracks* to be able to record and compose MIDI using "Virtual Instrument" plug-ins (see Sequencing MIDI with a Virtual Instrument plug-in).
- The fourth row is configured to create 1 stereo *Aux Input*. Auxilliary Inputs can be used to apply effects such as delay and reverb to one or more tracks, among other uses (see Plug-In Processing).
- The bottom row is configured to create 1 Stereo *Master Fader*. Think of Master Faders as the main output control for your session audio (sometimes referred to as your "2-bus," Mains, and similar). You will learn one way to use Master Faders later in this guide in the section Mix Automation.

3 When the New Track dialog is set how you want, click Create to add the new tracks to your session.



Edit window after adding multiple new tracks

Video Tip You can customize the display height of the Edit Window for one or more tracks, or all tracks at once. Larger track heights let you access more track controls directly from the Edit window. To start learning how, watch this video on our YouTube channel: Track Height Keyboard Shortcuts.

Folder Tracks

Pro Tools provides Folder Tracks to help you organize both track layout and signal routing in your projects and sessions. To learn more, watch the Introduction to Folder Tracks video.

What Next?

Go to any of the following sections to get started recording, composing, or mixing:

- Session Settings: Time, Tempo and Meter, and Clicks
- Recording Audio
- Importing Audio, MIDI, and Other Session Elements
- Editing Audio
- Sequencing MIDI with a Virtual Instrument plug-in
- Plug-In Processing
- Mix Automation
- Exporting and Sharing Your Mix

Session Settings: Time, Tempo and Meter, and Clicks

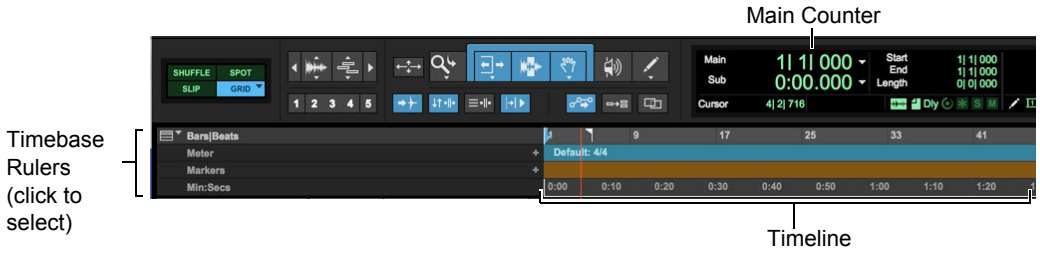
Here are a few session settings that you might want to configure before you start recording and editing.

Video Tip Watch how to quickly configure these and other session settings by viewing the Build a Session from Scratch video from the Get Started Fast with Pro Tools series.

Time (Minutes and Seconds or Bars and Beats)

Pro Tools provides several different *Timebase Rulers*, any of which can be used as the *Main Timescale.* The Main Timescale determines how session time can be displayed and measured, and how the timeline grid can be used for navigation and editing. For music production, it is often desirable to measure time in *Bars|Beats*. The timing of beats is relative in that it depends on the *Tempo*. The timing of bars is relative in that it depends on the *Meter*.

For post-production (audio for video) you can use minutes and seconds, timecode, or other timebases.



Pro Tools Timeline and Main Counter with the Main Time Scale set to Bars|Beats

Set the Main Time Scale to Bars|Beats if you want to use a click track, or create, edit, and arrange audio and MIDI on a tempo and meter-based grid.

Changing the Main Time Scale

To set the Main Time Scale, do one of the following:

Click the Main Counter selector located at the top of the Edit window and select a Timebase. Or if a Timebase ruler is displayed, click its name so it is lit.

Main Counter selector in the Edit window (shown at left) and selecting the Bars|Beats Ruler (shown at right)

Tempo and Meter

When the main timescale is Bars|Beats, Pro Tools lets you set the *tempo* and *meter*.

Setting the Session Tempo

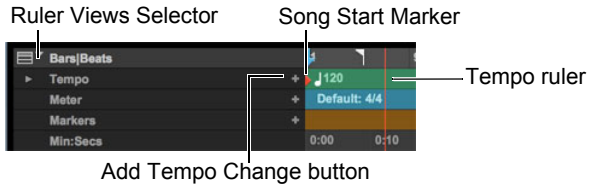
Pro Tools sessions default to a tempo of 120 BPM, but you can change this at any time.

To change the session tempo:

1 Make sure the Tempo Ruler is displayed (View > Rulers > Tempo).

2 Do one of the following:

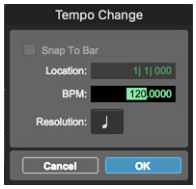
- Click the Add Tempo Change button ("+" plus sign, located just to the left of the Tempo ruler).



Tempo controls and ruler

- Double-click the Song Start Marker in the Edit window.

3 In the Tempo Change dialog, enter the BPM value for the session. You can type in a specific tempo, or click and scroll up and down, or use the T key on your computer keyboard to tap in a tempo.



Tempo Change dialog

4 Set the Location to 1|1|000 to replace the default session tempo.

5 Click Resolution and select a beat value. For example, if you are in 6/8, select a dotted-quarter note.

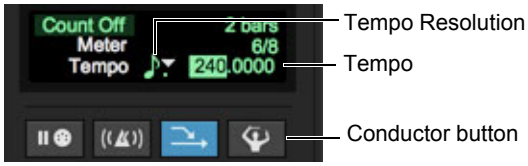
6 Click OK.

Using Manual Tempo Mode

In *Manual Tempo* mode, Pro Tools ignores tempo events in the Tempo ruler and instead plays back a Manual Tempo. This tempo can be set numerically or by tapping in the tempo.

To set tempo manually:

1 In the Transport controls at the top of the Edit window (or in the Transport window), disable the Tempo ruler by clicking the Conductor button so it is unlit. Pro Tools switches to Manual Tempo mode. In this mode, any tempo events in the Tempo ruler are ignored.



Manual Tempo mode

2 Click the Tempo Resolution selector and select a note value. (For example, if you are in 6/8, select the dotted-quarter note, or if you are in 3/4, select the quarter note.)

3 To enter a new tempo, do one of the following:

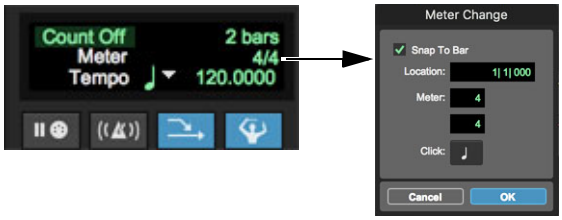
- Click the Tempo value, type a new number, and press Enter.
- Click the Tempo value and drag up or down to change the setting. For finer resolution, hold Command (Mac) or Control (Windows) while dragging.
- Click the Tempo value and press the "T" key on your computer keyboard at the desired tempo.

Setting the Session Meter (Time Signature)

Set the session meter to match the time signature of your music, to make sure the accented clicks from the Click track line up with what you're playing. Meter is set to 4/4 by default, but you can change it at any time.

To set the meter for a session:

1 Double-click the Current Meter in the Edit window Toolbar, or in the Transport window.



Current Meter (shown at left) and Meter Change (shown at right)

2 Do the following in the Meter Change dialog:

- Enter the desired Location for the meter change. For example, to replace the default meter at the beginning of the session timeline, enter 1|1|000.
- Enter the desired meter into the two Meter fields. First, double-click the upper Meter field and enter the desired number, then press Tab and enter the desired number in the lower Meter field. For example, to work in 6/8 time first enter 6, press Tab, then enter 8.
- Optional: From the Click pop-up menu, select a note value for the beat. (For example, if you are in 6/8, you might want to select a dotted-quarter note).

3 Click OK to insert the new meter event.

About Tempo and Meter Changes Within a Session

Pro Tools lets you set tempo and meter changes by inserting tempo and meter *events* in their rulers. To learn more about tempo and meter events, see Pro Tools Help (Help > Pro Tools Help). For an overview of these and other ways in which Pro Tools lets you adjust tempo, meter, and timing, see Tick-Based and Sample-Based Time.

Recording with a Click Track

A *click track* provides a metronomic click for tempo reference while recording. When you start playback or recording, the click can provide a countoff and continue according to the meter and tempo map in the Pro Tools Timeline.

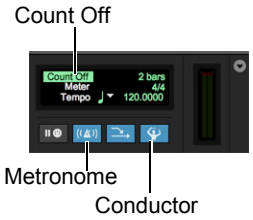
To use a click track:

1 Choose Track > Create Click Track. Pro Tools creates a new Instrument track with the Click II plug-in on the first track insert.

Tip: Whenever you add a track, it is added after the currently selected track (below the currently selected track in the Edit window, and to the right of the currently selected track in the Mix window).

2 In the Transport controls at the top of the Edit window, or in the Transport window, ensure that the Metronome and Count Off buttons are enabled. You can also toggle the Metronome on and off by choosing Options > Click.

3 Make sure the Conductor button is enabled if you want the click to follow the session Tempo Ruler. Disable the Conductor button if you want to adjust the tempo manually.



4 Press the Spacebar or click the Play button in the Transport controls to start playback and hear the click.

Tip: You can customize the Click by choosing different sounds, and setting it to only sound during recording, while playing back and recording, or only during countoff in the Click/Countoff dialog (Setup > Click/Countoff).

5 Click OK.

To silence the click track, do one of the following:

Mute the Click track by clicking the M (Mute) button in the Track controls for the Click track.

Tip: You can also mute a track by first clicking in that track's row in the timeline, then pressing Shift + M.

In the Transport window, deselect the Metronome button so it is unlit. (You can also toggle the Metronome on and off by choosing Options > Click.) Then deselect the Count Off button so it is unlit.

What Next?

With your music session configured, you are ready to do any of the following:

- Recording Audio
- Importing Audio, MIDI, and Other Session Elements
- Editing Audio
- Sequencing MIDI with a Virtual Instrument plug-in

Recording Audio

Before you Begin: Connect your microphone(s), guitar, keyboard, or other audio source to your audio interface (such as Pro Tools | Carbon). Make sure you have configured the audio interface for the connected source. For example, if using a microphone that requires phantom power be sure phantom is enabled, if connecting a guitar or keyboard make sure the hardware input is set to the correct level and impedance. Refer to the guide for your Pro Tools | Carbon or other interface for instructions.

Video Tip Watch the Writing and Riffing video from the Get Started Fast with Pro Tools series for examples of audio recording.

Create an Audio Track

If you are starting from a blank session and have not yet added any tracks, follow the instructions in Creating Tracks to add one or more audio tracks. Keep the following guidelines in mind:

- To record a single microphone or instrument connected to your audio interface, set the New Tracks dialog for 1 Mono Audio Track, in Samples, and click Create.
- If you want to record using two hardware inputs at once, create two mono or one stereo audio track depending on what you have plugged in and what you plan to record:
  - To record two different sources (such as one vocal mic and one electric guitar), create 2 *Mono* audio tracks. After recording, these can be edited, processed, and balanced independently.
  - To record a two-channel stereo source (such as a stereo keyboard), create 1 *Stereo* audio track.

To prepare for recording:

1 Make sure the Mix window is open by choosing Window > Mix. (You can also use controls available in the Edit window, but for this example we will use the Mix window.)

In the middle of the audio track's channel strip are the I/O controls. The upper I/O selector shows which Input path is assigned to this track (the lower shows the Output path).

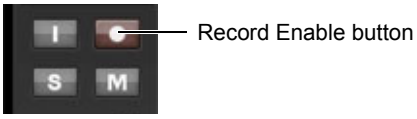
2 Click the Audio Input Path selector and choose the hardware input(s) on your audio interface connected to your microphone or instrument source (such as Input 1 (Mono) as shown in the figure).

Recording Your Performance

To record an audio track:

1 Click the track's Record Enable button to arm the track for recording. The button flashes red.

Tip: You can also record enable a track by first clicking in that track's row in the timeline, then pressing Shift + R.

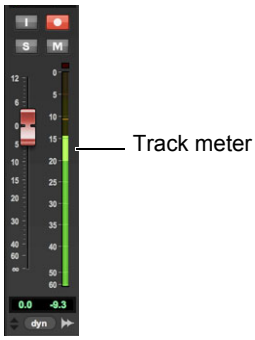


Record enabling a track in the Mix window

2 Sing or play into the mic, or play your instrument.

Watch the meter level in the Pro Tools track while you raise the input gain on your audio interface. (Note that moving the on-screen fader has no effect on *input* levels; it's only for adjusting *monitoring* levels.)

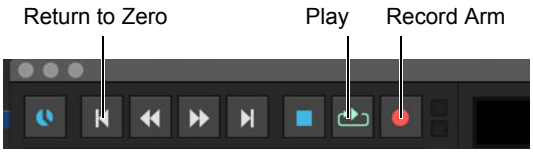
3 Turn up the input gain on your audio interface until the on-screen track meter shows green most of the time, or yellow for only the loudest passages. If the track meter shows red, or you hear distortion, gain is too high; lower the input gain. If you barely see any activity in the track meter, or the signal is not loud enough, gain is too low; raise the input gain.



4 In the Transport window, click the Return to Zero button if you want to start recording from the beginning of the session.

5 Recommended: Double-click the track Name and enter a custom name (such as “Vocals”). The file names of your recordings and clips are based on their parent track name.

6 Click the Record button in the Transport to record arm the session. The button flashes red. (This is the “master” record enable control for the session.)



7 Choose Window > Edit so you can watch what happens when you record.

8 When you are ready to start recording, press the Spacebar or click the Play button in the Transport. The Transport Record button and the track Record Enable button light solid red while recording.

Tip: To simultaneously arm the master Transport Record and begin recording, press Command+Spacebar (Mac) or Ctrl+Spacebar (Windows), or press F12.

9 To stop recording, press the Spacebar again or click the Stop button in the Transport.

You have just recorded your first audio track.

A mono audio track after recording

Listening to Your Recording

After you have recorded some audio, you can play it back for review, editing, and mixing.

To play back a recorded track:

1 Click the track’s Record Enable button again to take it out of Record mode. The Record Enable button stops flashing red.

2 To start playback, press the Spacebar or click Play in the Transport.

3 To stop playback, press the Spacebar or click Stop in the Transport.

Punching In and Input Monitor Modes

If you want to re-record a portion of a performance you can “punch in” and replace previously recorded material with new material. By default, Pro Tools plays back existing track material up to the punch point, at which time it switches to the audio input signal being recorded. You can use Track *Input Monitoring* to instead hear only the audio input signal prior to the punch-in point (for matching levels).

Track Input Monitoring enabled

Recording More Tracks

Repeat the same steps to create additional audio tracks and record more material.

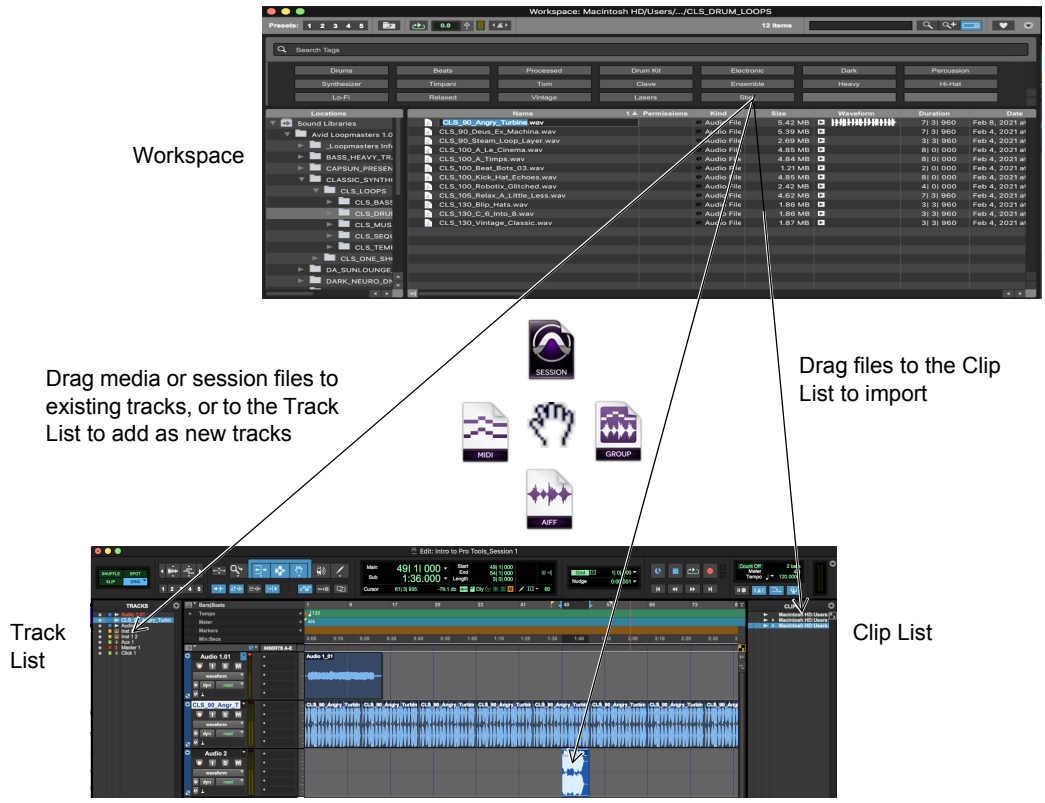
Importing Audio, MIDI, and Other Session Elements

Many music production workflows include using audio loops, samples, and tracks. For example, you can use drum loops instead of a click track for recording. When collaborating and recording remotely, a common workflow is to receive guide tracks, a stereo rough mix, or other existing material from your collaborators. Whether you receive a demo guide track or a complete set of multi-track “stems”, you will want to import these elements into a session so that you can start crafting your own contributions.

Pro Tools provides a number of ways to import audio files from different sources into a session. You can import audio by dragging from a Workspace browser or from the Desktop, or by using the File > Import > Audio command.

Importing Files by Dragging

Pro Tools lets you import audio, MIDI, video, and session files by dragging files from a Workspace browser or the Desktop to the session Timeline, a track, the Track List, the Clip List, or to the Pro Tools application icon.



Importing from the Workspace by dragging

The preceding figure illustrates some of the options available to import files by dragging from a Workspace browser.

To import files into the Clip List:

1 Select files in a Workspace browser, or in the Mac Finder or Windows Explorer.

2 Drag the selected files onto the Clip List.

To import files into an existing track:

1 Select the files you want to import in a Workspace browser, or in the Mac Finder or Windows Explorer.

2 Drag the selected file to a location on a compatible track.

To import files as new tracks:

1 Select the files you want to import in a Workspace browser, or in the Mac Finder or Windows Explorer.

2 Do any of the following:

- Shift-drag files anywhere in the Edit window.
- Drag files to the Track List.
- Drag files to empty space in the Edit window, below or between tracks.

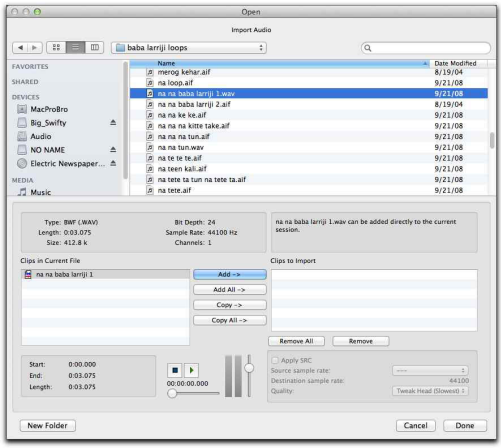
Using the Import Audio Command

The Import Audio command lets you import audio files or clips into your Pro Tools session. Use this command when you want to make sure you can convert any incoming material to correctly match the sample rate (speed), format, or other settings in your session.

To import audio files or clips into a session using the Import Audio command:

1 Choose File > Import > Audio.

2 In the Import Audio dialog, use the controls and displays in the upper half of the dialog to locate and select an audio file to import.In the image below, a short audio file has been selected. Use the controls in the lower half to convert (if necessary) and import the selected items.



Import Audio dialog

To learn more, see the *Importing and Exporting Session Data* section in Pro Tools Help (choose Help > Pro Tools Help).

Editing Audio

Pro Tools lets you edit audio on tracks by trimming, separating, cutting or copying and pasting, moving, re-arranging, and more.

Video Tip Watch the In the Pocket video from the Get Started Fast with Pro Tools series, or the Basic Audio Editing Tech Tip video, to learn about these and other audio editing techniques. For advanced editing tips, watch the Playlist Comping video.

Selecting Clips

Many edit operations such as duplicating, looping, copy/paste, and deleting require you to first select the desired clip or clips.

To select clips, do any of the following:

Select the Grabber tool and then click on the desired clip (Shift-click to select additional clips).

Select the Selector tool and double-click within a clip (triple-click to select all clips in the same track).

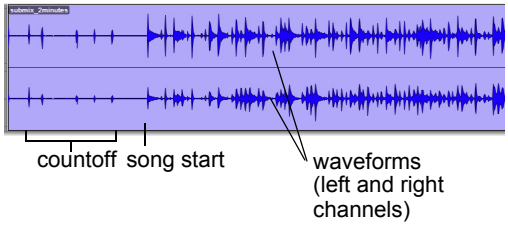
You can also use Tab and Shift+Tab to select clips using only the keyboard by doing the following:

- Make sure Tab to Transient is not enabled by clicking the Tab to Transient icon in the Toolbar so it is unlit, or by choosing Options > Tab to Transient so it is not enabled, or by pressing Command+Option+Tab (Mac) or Ctrl+Alt+Tab (Windows) to toggle it on/off.
- Place the Edit cursor prior to the clip you want to select, press Tab to jump to the beginning of the next clip in the track, then press Shift+Tab to select that entire clip.

Trimming Audio Clips

The following example shows you how to do a simple edit to change where a song starts.

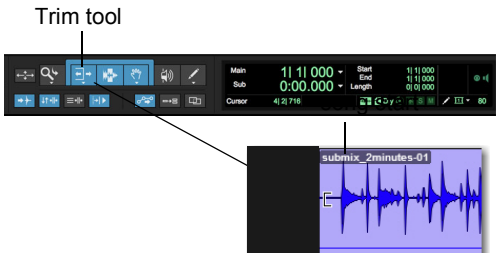
In this example, we'll use a stereo track recorded using just two overhead mics on the drum kit. The drummer is heard "counting off" the tempo "1...2...1.2.3..." before the song starts. Here's what the audio looks like in Pro Tools.



The stereo *waveforms* let you visualize the different sections of the song. You can take advantage of this "what you see is what you hear" aspect of Pro Tools to be able to quickly silence the countoff by *trimming* the beginning of the clip.

To trim an audio clip:

1 Click to select the Trim tool in the Edit window Toolbar.



2 Click in the track after the countoff and before the start of the song (you'll see the cursor display the Trim icon). Drag right to trim the beginning of the clip in, or drag left to trim the beginning of the clip out.

You can "untrim" the clip by clicking and dragging back to the left with the Trim tool. You'll see that the previous audio (the countoff) is still there. This is an example of how Pro Tools lets you edit *non-destructively*.

To trim an audio clip using only the computer keyboard:

1. Click in the track before the location where you want to trim.
2. Make sure Tab to Transient is enabled: Click the Tab to Transient icon in the Toolbar so it is lit, or choose Options > Tab to Transient so it is enabled, or toggle it on/off by pressing Command+Option+Tab (Mac) or Ctrl+Alt+Tab (Windows).
3. Press Tab. The Edit cursor advances to the next detected sound (or transient). For example, if you had placed the cursor between the last "4" and the beginning of the song, the cursor will advance to the beginning of the song.
4. Press Option+Shift+Tab (Mac) or Alt+Shift+Tab (Windows) to select everything prior to the current location of the Edit cursor.
5. Press Delete.

Separating and Rearranging Clips

The following example demonstrates different ways that you can separate and rearrange audio clips in a session. You can use these and other techniques to make a new arrangement of verses and choruses, to lengthen or shorten a section, and to modify individual tracks. This example uses an imported rhythmic audio loop.

Separating Clips at the Edit Selection

To separate a clip at the current Edit location:

1. Choose the Selector tool (click its icon in the Edit tools section, or press Command+3 (Mac) or Ctrl+3 (Windows), or press F7).
2. With the Selector tool, click and drag to make an Edit selection within an audio clip.

Making an Edit selection

3. Do any of the following:
   - Choose Edit > Separate Clip > At Selection to separate the selection. Or press Command+E (Mac) or Ctrl+E (Windows).

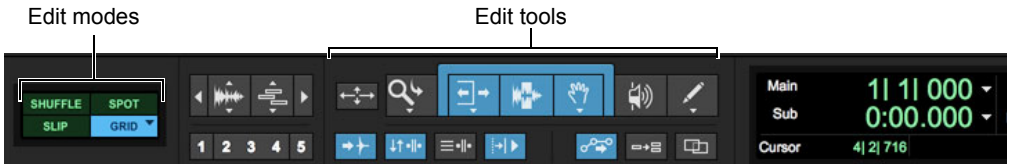
New clips created by separating the parent clip at the boundaries of the Edit selection

   - Choose Edit > Separate Clip > On Grid to separate the audio selection according to the current grid. This is useful when working with audio on a Bar|Beat grid.
   - Use Edit > Separate Clip > At Transients to separate the selection according to individual attacks in the audio. This is useful for separating audio into individual "hits" such as each hit in a drum loop.

Rearranging Separated Clips

The selected *Edit mode* (Shuffle, Spot, Slip, and Grid as set in the left-most section of the Edit window Toolbar) determines how Pro Tools places audio clips when you move them. The *Edit tools* (Trimmer, Selector, and Grabber) provide different ways of selecting, editing, and arranging clips.

Video Tip Learn more by watching the Grid and Nudge, and Smart Tool videos.



Edit modes with Grid mode enabled, and Edit tools with Smart Tool enabled.

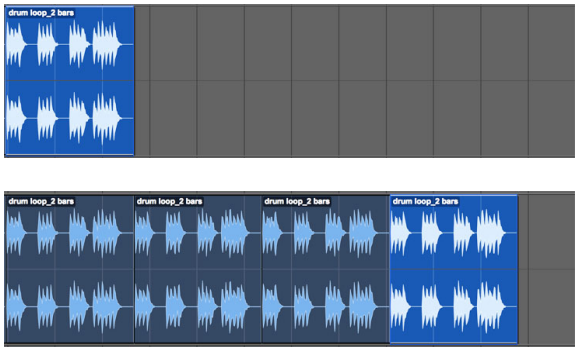
To rearrange clips, do any of the following:

Enable Slip mode, select the Grabber tool, and drag a clip to a new location. Doing the same while Grid mode is enabled snaps the moved clip to the nearest grid location.

Enable Shuffle mode and drag a clip to a new location. Adjacent clips shuffle to make room for the moved clip.

Tip: To make and move a copy of the clip, hold Option (Mac) or Alt (Windows) while dragging.

Select a clip and choose Edit > Duplicate, or press Command+D (Mac) or Ctrl+D (Windows). The clip is duplicated and placed directly after the current selection. Or select a clip and choose Edit > Repeat. In the Repeat dialog, enter the number of times you want to repeat the selection and click OK.



A track with one clip selected (shown at top) and after duplicating or repeating (shown below)

For more information about editing and arranging audio, see the sections on Edit Modes and Edit Tools, Clip Groups, and Elastic Audio in online Help (Help > Pro Tools Help) or the Pro Tools Reference Guide.

Sequencing MIDI with a Virtual Instrument plug-in

The following provides an example of how to program a MIDI sequence on an *Instrument track* to play a virtual instrument plug-in. This example uses the Xpand!² plug-in from AIR Music Technology.

⚠ *The Xpand!² plug-in is part of the AIR Creative Collection, which is bundled with Pro Tools as a separate installer that you should download from your Avid account. Be sure to run the AIR Creative Collection Installer, including the associated content, before proceeding with this example.*

What is MIDI? MIDI (Musical Instrument Digital Interface) data is *not* audio. MIDI does not generate sound. MIDI is a way for MIDI-equipped devices—like keyboard controllers, electronic drum kits, and sequencers—to communicate control data and "talk" to one another. MIDI effectively tells sound generating devices (like software virtual instruments) what and when to play.

Virtual instruments are inserted as plug-ins on Instrument tracks in Pro Tools.

Creating an Instrument Track with an Instrument Plug-In

The following example shows how to use an Instrument track for MIDI programming and composition.

To create an Instrument track and insert an instrument plug-in:

1 Choose Track > New, configure the dialog to create 1 new stereo Instrument Track, then click Create.

2 If necessary, select Window > Mix to show the Mix window.

3 Click a track Insert selector near the top of the Instrument track and select multi-channel plug-in > Instrument > Xpand2.

Inserting the Xpand!² plug-in on an Instrument track

4 The Xpand!² plug-in window appears. You can now select a sound preset to play using MIDI.

To select a preset sound in the Xpand!² plug-in:

At the top of the plug-in window, click the Librarian menu (<factory default>) and select a preset Settings file from any of the sub-menus. With Xpand!², presets are grouped in sub-menus by category.

Xpand!² Librarian menu

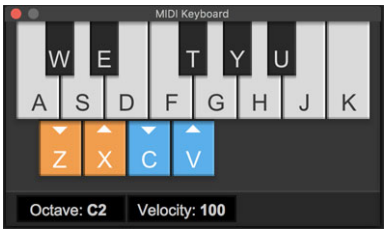
For more information about the Xpand!² plug-in, see its documentation available from the AIRMusic site.

Playing a Virtual Instrument

You can play a virtual instrument (such as Xpand!^{2}) using the Pro Tools Virtual MIDI Keyboard, or from an external MIDI controller. You can record your performance as a MIDI sequence while you play.

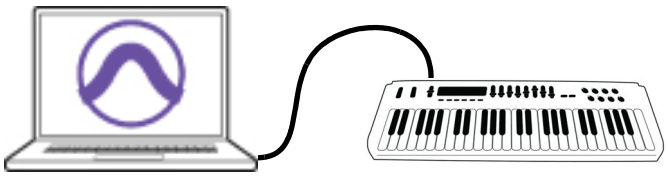
To play a virtual instrument using an Instrument track, do one of the following:

To use the on-screen keyboard in Pro Tools, press Shift + K (or choose Window > MIDI Keyboard). The MIDI Keyboard can play a virtual instrument plug-in using the letters on your computer keyboard as long as the Instrument or MIDI track is record enabled.



On-screen MIDI Keyboard (Shift + K)

If you have a MIDI controller connected, you can play the virtual instrument as long as the Instrument track on which it is inserted is *selected* (meaning its name is highlighted in the Mix or Edit window) or record enabled.



External MIDI controller keyboard connected using USB

You can also import a MIDI sequence (File > Import > MIDI).

Recording MIDI

Pro Tools lets you record MIDI data from the on-screen MIDI keyboard and from an external MIDI controller.

To record MIDI on an Instrument track:

1. Do either of the following:
   - To use the on-screen MIDI keyboard, press Shift + K (or choose Window > MIDI Keyboard).
   - To use an external controller, make sure it is connected and communicating with Pro Tools.
2. In the Instrument plug-in, select a preset (also known as a "patch") from the Xpand!^{2} Librarian menu as shown in Creating an Instrument Track with an Instrument Plug-In.
3. Select Options > MIDI Thru. (Verify that MIDI Thru is checked; if not, select it.)
4. Click the track's Record Enable button to enable the Instrument track for MIDI recording.
5. In the Transport window, click the Record button.
6. Play the on-screen MIDI keyboard or your MIDI controller's keyboard. You should hear the sound you selected.
7. When you are ready to start recording, click Play or press the Spacebar. To stop, click Stop or press the Spacebar.

Recorded MIDI data on an Instrument track

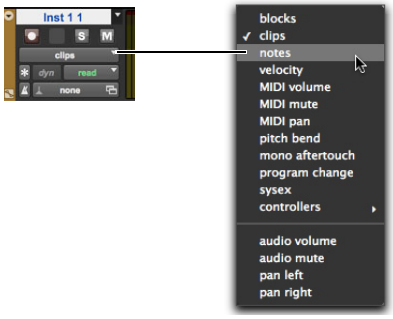
8. Click the track Record Enable button again to take it out of record enable and play back what you just recorded.

Penciling In a MIDI Sequence

You can program a MIDI sequence in Pro Tools using the Pencil tool.

To insert a MIDI note on a track in the Edit window:

1 In the Edit window, set the Instrument track (or MIDI track) to Notes view.



Selecting Notes view on an Instrument track

2 Select the Pencil tool and make sure it is set to Free Hand.

3 Click or draw in the Instrument track in Notes view to start composing or programming.

The location and length of added notes can be controlled by the current Edit mode, Timebase, and Grid settings. For example: To insert quarter notes on the beat, set the Main Time Scale to Bars|Beats, set the Edit mode to Grid, and set the Grid value to quarter note.

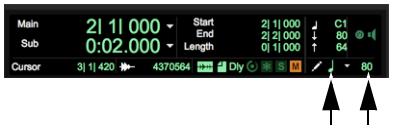
4 Move the Pencil tool into the playlist area for the MIDI or Instrument track in Notes view. The cursor changes to the Pencil tool. Use the Edit window's ruler and the track's mini-keyboard as a reference to locate the pitch and time location you want.

5 When you reach the pitch and time location you want, click to insert the note.

MIDI note inserted with the Pencil tool

Tip: With Grid mode enabled, the start point of the MIDI note snaps to the nearest Grid boundary. With the Free Hand Pencil tool, hold Command (Mac) or Control (Windows) while clicking to temporarily suspend Snap to Grid.

With MIDI, the dynamics of individual notes are controlled using MIDI *velocity*. The velocity for inserted notes is determined by the Default Note On Velocity setting. The duration is determined by the Default Note Duration value. When in Grid mode, the Note On location is determined by the Grid value.



Default Note Duration and Velocity

The Pencil tool can be dragged after clicking (and before releasing) to adjust the pitch or duration. Drag right to lengthen the note without changing its start point. Drag left to shorten the note without changing its end point.

Tip: With Grid mode enabled, the end point of the MIDI note snaps to the nearest Grid boundary. Command-drag (Mac) or Control-drag (Windows) with the Pencil tool to temporarily suspend Snap to Grid.

Editing MIDI Notes

MIDI notes can be edited in the Edit window or in a MIDI Editor window, including start and end points, duration, pitch, and velocity. The Selector, Grabber, Trim, and Pencil tools can operate on individual notes or groups of notes. The following section shows how to edit MIDI in the Edit window, but the same techniques can be used in the MIDI Editor.

Video Tip watch the Building it Out video from the Get Started Fast with Pro Tools series to learn more MIDI and audio editing techniques. And don't forget to watch the Track Height Keyboard Shortcuts video from the Pro Tools Tech Tip series, mentioned earlier.

Selecting MIDI Notes

MIDI notes must be selected before they can be edited.

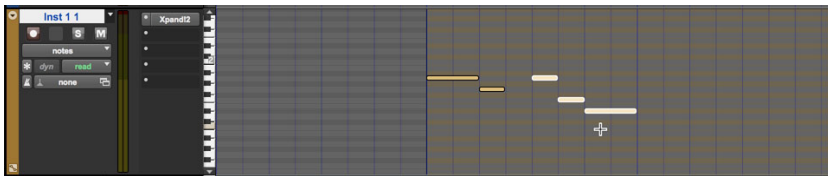
To select MIDI notes:

1 Set the Instrument or MIDI track to Notes view.

2 Do one of the following:

- With the Pencil tool or any Grabber tool, Shift-click each note.

With any Grabber tool, move the cursor to where there are no notes (the Marquee appears) and draw a rectangle around the group of notes you want to edit.If any portion of the rectangle touches a note the note is included in the selection.



Selecting notes with a Grabber tool

With the Selector tool, drag across a range of notes.

Selecting notes with the Selector tool

When using the Selector tool, a note's start point must be included in order for it to be selected.

Transposing Notes

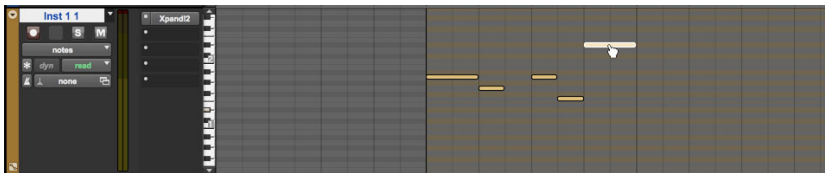
MIDI notes can be transposed by dragging them up or down with the Pencil tool or any Grabber tool. If several notes are selected before dragging, each note is transposed.

To transpose a MIDI note:

1 Set the Instrument or MIDI track to Notes view.

2 Select the Pencil tool or any Grabber tool.

3 While holding Shift, drag the note up or down.



Transposing with a Grabber tool

The Shift key ensures that the transposed note maintains its original start point on the Pro Tools Timeline.

While dragging, each new note sounds and the Cursor Location Value indicator (in the Edit window) indicates the number of semitones and direction (+/–) for the transposition. Hold Control (Mac) or Start (Windows) and press Plus (+) on the numeric keypad to transpose the selected MIDI notes up by one semitone, or press Minus (–) on the numeric keypad to transpose down by one semitone.

Tip: To transpose a copy of the note, leaving the original unchanged, hold Option (Mac) or Alt (Windows) while dragging.

Moving Notes

Like clips, MIDI notes can be dragged left or right with the Pencil tool or any Grabber tool to change their start point on the Pro Tools Timeline. If several notes are selected before dragging, they are all moved together. If the Edit mode is set to Grid, the dragged note snaps to the nearest Grid boundary.

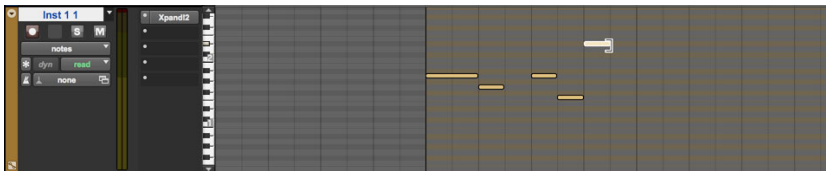
Tip: To copy the selected notes, leaving the originals intact, hold Option (Mac) or Alt (Windows) while dragging.

Trimming Note Start and End Times

Like clips, start and end points for MIDI notes can be adjusted with the Trim tool. If several notes are selected when performing the trim, each note is changed.

To change the start or end points for a group of MIDI notes:

1. Set the MIDI or Instrument track to Notes view.
2. Select the notes you want to trim.
3. Select the Trim tool or the Pencil tool.
4. Move the cursor near the beginning or end of any of the highlighted notes, so the Trim tool appears. Drag left or right to shorten or lengthen them.



Shortening a MIDI note with the Trim tool

If the Edit mode is set to Grid, the new start or end point snaps to the nearest Grid boundary. If the Edit mode is set to Spot, the Spot dialog opens, where you can enter the new location for the note's start or end point.

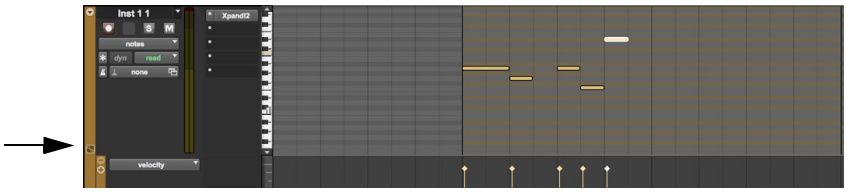
Tip: When in Grid mode, use the Command key (Mac) or the Control key (Windows) to temporarily suspend Grid mode.

Manually Editing Note Velocities

When an Instrument or MIDI track is set to *Velocity* view, or when the Velocity lane is revealed under a track, each note's attack velocity is represented with a velocity stem. The taller the velocity stem, the higher the velocity value (0–127).

To edit MIDI velocity in the Edit window:

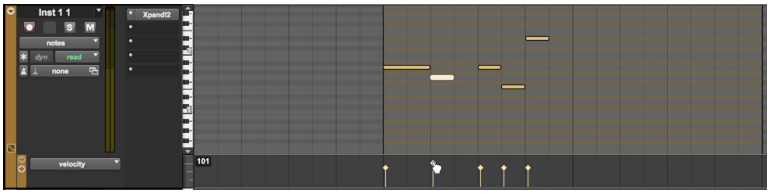
1. Do one of the following:
   - Set the Instrument or MIDI track to Velocity view.
   - Reveal the Controller lane for the Instrument track and show Velocity.



Revealing the Controller lane for Velocity

2. Select any Grabber tool.

3 Drag the top (diamond) of the velocity stem up or down.



Dragging a velocity stem

Tip: The velocities for a range of notes can be edited with any Pencil tool.

Deleting MIDI Notes

To delete a group of MIDI notes with the Clear command:

Select the notes to be deleted, then do one of the following:

- Choose Edit > Clear to delete the selected notes. The track's underlying controller data remains intact.
- With any Edit tool, Right-click any selected note and choose Clear.
- Press the Delete (Mac) or the Backspace (Windows) key.

Warning: When deleting MIDI notes within a time range selection, all underlying controller and automation data is also deleted.

To delete a single MIDI note with the Pencil tool:

With the Pencil tool selected, Option-click (Mac) or Alt-click (Windows) the note. The Pencil tool changes to an Eraser when Option (Mac) or Alt (Windows) is pressed.

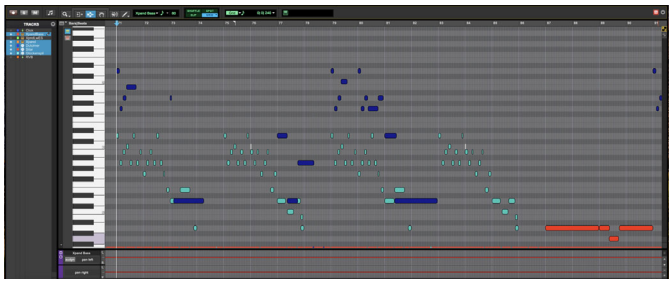
MIDI Editor and Score Editor

Pro Tools provides *MIDI Editor* windows and the *Score Editor* for detailed MIDI editing. Together, these windows provide familiar views into your MIDI data and composition.

Video Tip To learn more, watch the Using the MIDI Editor and Score Editor in Pro Tools webinar from Avid Online Learning.

MIDI Editor

The MIDI Editor windows provide a flexible "piano-roll" view for one or multiple tracks, options for color-coded track or velocity display, chord symbols, and its own optional continuous Notation view.



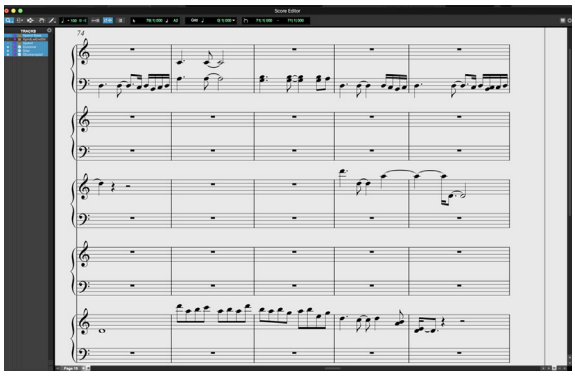
MIDI Editor for multiple tracks, color-coded

To open the MIDI Editor window:

- Choose Window > MIDI Editor.
- Right-click a MIDI clip or track name of an Instrument or MIDI track and choose Open in MIDI Editor.
- Press Control+"=" (Mac) or Start+"=" (Windows).

Score Editor

The Score Editor window lets you view, edit, arrange, and print MIDI from your session as music notation. MIDI notes are transcribed in real-time whether you record, import, draw (with the Pencil tool), or Step Enter MIDI.



Score Editor showing multiple tracks

To open the Score Editor:

- Choose Window > Score Editor.
- Right-click a MIDI clip or track name of an Instrument or MIDI track and choose Open in Score Editor.
- Press Option+Control+"=" (Mac) or Alt+Start+"=" (Windows).

MIDI-to-Audio (and Audio-to-MIDI)

Depending on the capabilities of your computer and the complexity of your sessions, it can sometimes be helpful to convert MIDI into audio. Because some virtual instrument plug-ins require a large amount of computer processing resources, the more virtual instrument plug-ins running at once can require more resources than your computer is able to provide. Pro Tools lets you quickly convert MIDI tracks into audio (also known as "printing" or "rendering") using *Track Freeze* and *Track Commit*, and using simple drag-and-drop. To learn more about the Freeze and Commit commands, refer to Pro Tools Help (Help > Pro Tools Help). For drag-and-drop, watch the MIDI to Audio video from the Pro Tools Tech Tip series.

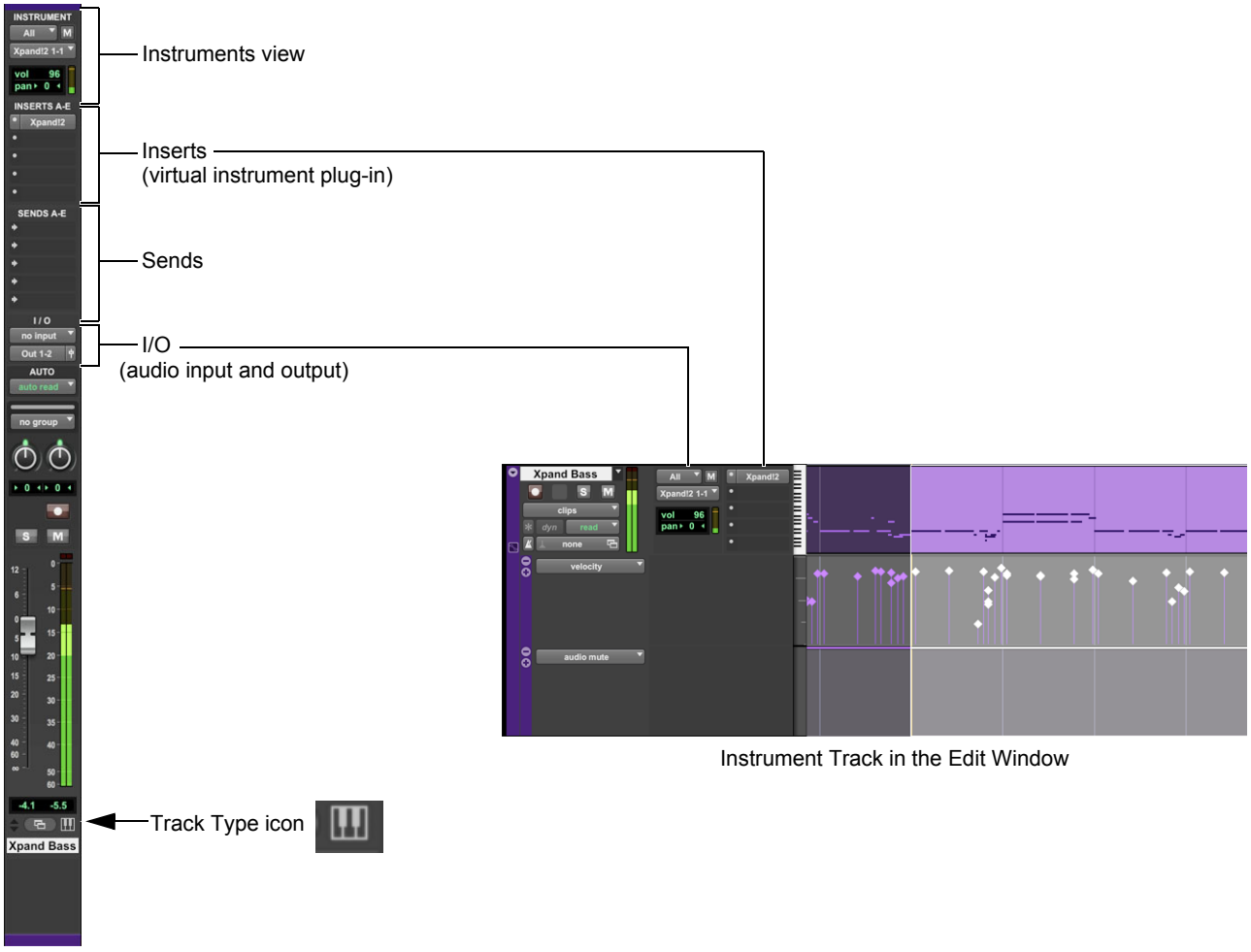
Similarly, you can also use Pro Tools to convert audio into MIDI to reduce the load on your hard drive(s), as well as for orchestration and arrangement workflows. You can learn about this by watching the Audio to MIDI Tech Tip video.

Instrument Tracks and MIDI Tracks (What is the Difference?)

Pro Tools lets you create Instrument and MIDI tracks. Though similar, their differences make them each useful in different situations.

Instrument Tracks

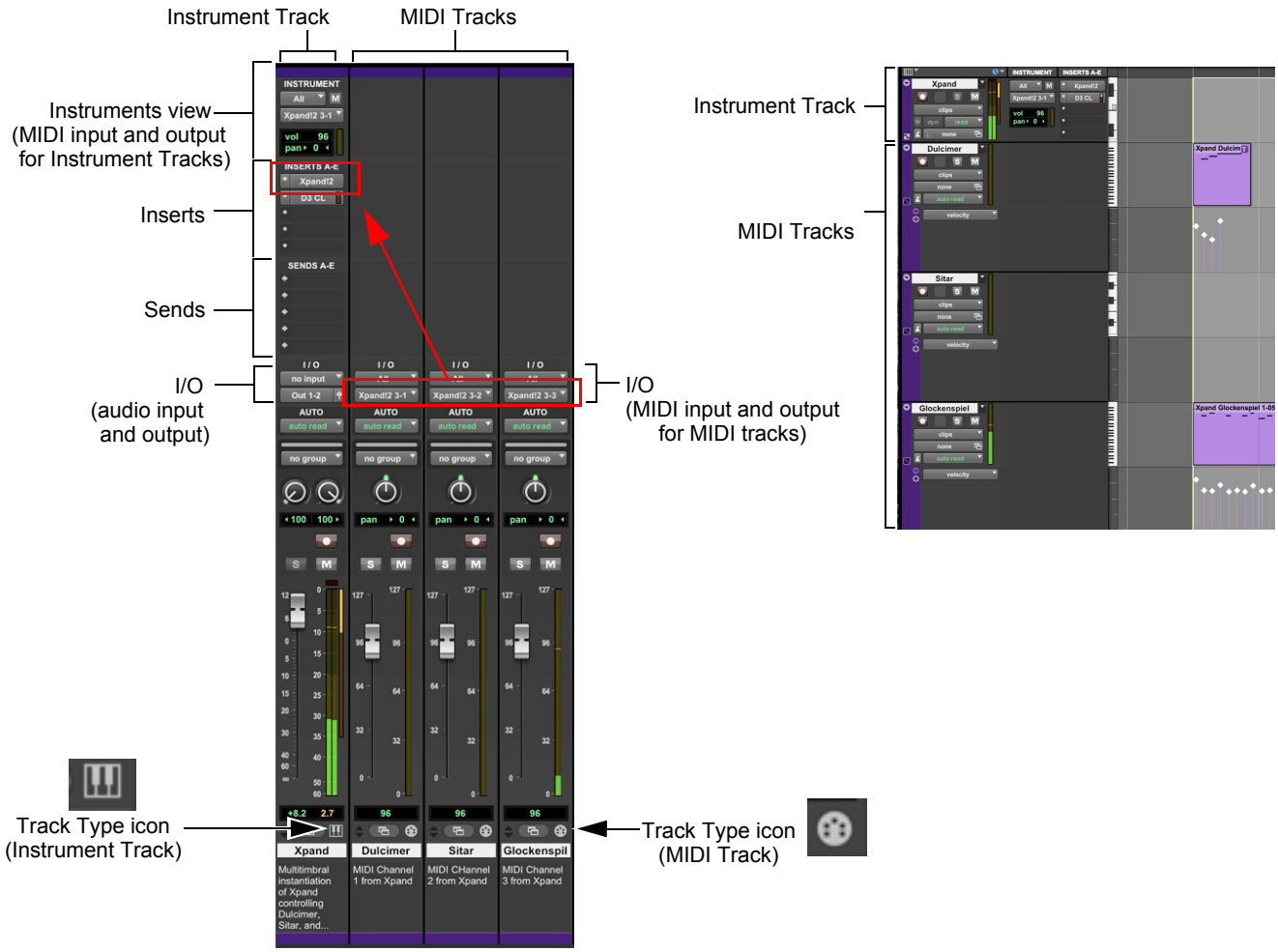
When you insert a virtual instrument plug-in on an Instrument track you can see and hear your work directly from that track. In the Edit window, MIDI notes are visible in the track's playlist, and the audio output of the virtual instrument plug-in is heard from the Instrument track itself.



Instrument track in the Mix window (shown at left) and the Edit window (shown at right)

MIDI Tracks

MIDI tracks, by comparison, are purely for recording, displaying, and editing MIDI data (notes, velocity, modulation, and other). Their MIDI must be routed to a virtual instrument plug-in inserted on either an Instrument track or an Aux Input track. The audio output of the plug-in is managed using the I/O controls on the Instrument (or Aux Input) track.



One Instrument track and three MIDI tracks in the Mix window (shown at left) and the Edit window (shown at right)

For many MIDI composition tasks, Instrument tracks provide everything needed to record, edit, and arrange. MIDI tracks can be used with Instrument and Aux Input tracks for more advanced workflows. For example, when programming MIDI drums you can program each part of the drum kit on their own separate track, such as one MIDI track just for bass drum(s), a second MIDI track just for snare drum, and so on. By assigning the MIDI output of the individual drum tracks to a single virtual instrument drum plug-in inserted on an Instrument track, each part of the kit can be seen and edited on their own tracks while listening to the entire drum set through the output of the one drum plug-in on the Instrument track.

Tip: You can easily view and edit MIDI for multiple tracks at once using the MIDI Editor and Score Editor windows.

Tick-Based and Sample-Based Time

Pro Tools lets you set any track timebase to either *sample-based* or *tick-based*. You can also set the Timeline to be viewed as tick-based or sample-based. Primarily, these two different timebase designations let you determine how material on audio and MIDI tracks do or do not respond to changes to session tempo settings.

Audio in Pro Tools is sample-based by default. This means that if an audio clip is located at a particular sample location, it will *not* move from that location if the tempo changes in the session—though its Bar|Beat location *will* change.

MIDI data in Pro Tools is tick-based by default. This means that if a MIDI clip is located at a particular Bar|Beat location, it will not move from that Bar|Beat location if the tempo changes in the session—though its sample location *will* change.

Sample-based audio track (shown at left) and a Tick-based Instrument track (shown at right)

You can select whether a track is sample-based or tick-based when it is created, or change timebases later.

Example: Imagine you are working on the music and sound effects for a video. The sound effects include one audio clip of a door slamming, which you have lined up with the visual of the slamming door. You have used several Instrument tracks to compose a simple music score for the video but decide you want the tempo of the music to be faster, so you increase the default session tempo from 120 bpm to 125 bpm. Because the audio track is set to sample-based, the door slam remains at its location, aligned with the visual. Because the Instrument tracks are tick-based, they move to reflect the increased session tempo.

Sample-Based Audio and MIDI

With a sample-based audio track, all clips in the track have an absolute location on the Timeline. Clips stay fixed to the sample time, regardless of where tempo or meter changes occur in a session. If you make an Instrument or MIDI track sample-based, all MIDI events in the track have an absolute location on the Timeline. MIDI events stay fixed to sample time, regardless of any tempo or meter changes in a session.

Tick-Based Audio and MIDI

Tick-based audio is fixed to a Bars|Beat location, and moves relative to the sample Timeline when tempo and meter changes occur. However, MIDI events and tick-based audio respond differently to tempo changes with respect to duration. MIDI note events change length when tempo or meter is adjusted, while audio clips do not (unless Elastic Audio is enabled). When Elastic Audio is not enabled on an audio track, meter and tempo changes affect only the start point (or sync point) for each audio clip in a tick-based track. If Elastic Audio is enabled on an audio track, tempo changes apply Elastic Audio processing, which changes the duration of the audio clip.

Elastic Audio

Elastic Audio provides real-time and non-real-time (rendered) Time Compression and Expansion (TCE) of audio. Tick-based Elastic Audio tracks actually change the location of samples according to changes in tempo. The audio stretches or compresses to match changes in tempo. Elastic Audio also provides high-quality non-real-time clip-based pitch shifting.

Pro Tools Elastic Audio uses exceptionally high-quality transient detection algorithms, beat and tempo analysis, and real-time or rendered TCE processing algorithms. Elastic Audio lets you quickly and easily tempo conform and beat match audio to the session's Tempo ruler, with an unprecedented degree of control over transient detection and TCE processing on an event-by-event basis.

With Elastic Audio, Pro Tools analyzes entire audio files for transient "events." For example, an event can be a drum hit, a sung note, or chord played by a guitar. These detected events can then serve as control points for "*warping*" the audio. Pro Tools can warp (TCE) audio events automatically, such as when automatically conforming audio to the session tempo or quantizing audio events, or you can warp audio manually using the standard editing tools with the audio track set to Warp view.

Elastic Audio is useful in several common workflows: working with loops, correcting performances, remixing, beat and pitch matching, and sound design and special effects.

Plug-In Processing

Pro Tools comes with a suite of audio effects processing plug-ins that you can use to change the sounds you've recorded. This section shows two examples of how to use plug-ins to *process* your sound.

For detailed information about the plug-ins included with Pro Tools, see the Audio Plug-Ins Guide (Help > Audio Plug-Ins Guide).

Equalization and Compression

Two of the most common types of audio processing are *equalization* and *dynamics* processing, which are often used on individual tracks, groups of tracks ("submixes" or "stems), and the final mix output ("2-mix" or master) to get your audio to sound just right.

Equalization (EQ) Lets you shape the frequency spectrum of the sound. A simple example of equalization are the bass and treble controls on many stereo systems. You can use these controls to *boost* (make louder) or *attenuate* (make quieter) the low frequencies and the high frequencies of the audio. You can use EQ to sharpen drums, emphasize vocals, and even to cut out unwanted noise.

Dynamics (Compression, Limiting, Expansion, Gating) Lets you smooth the dynamics of your audio. *Compression* can keep loud parts from getting too loud. You can use compression to make vocals sound more intimate, or to keep cymbals from sounding too shrill. Use a *limiter* to keep peaks in the audio signal from exceeding a certain threshold without affecting audio that doesn't exceed that level.

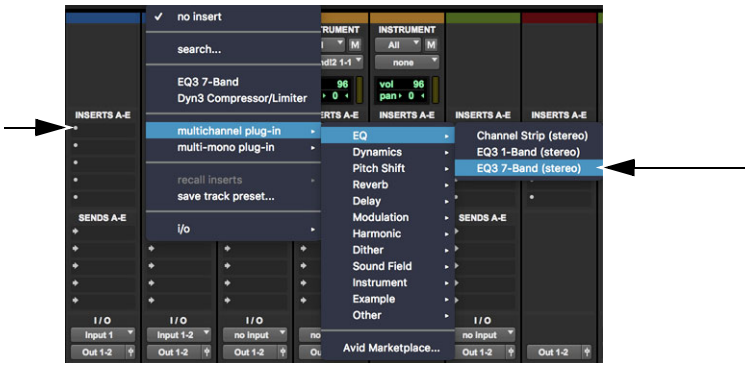
Pro Tools includes many EQ, dynamics, and other plug-ins, and many more are available from our Development Partners and other manufacturers.

Tip: Choose Avid Link > Marketplace to explore available plug-ins, services, and other resources.

To apply EQ to a track:

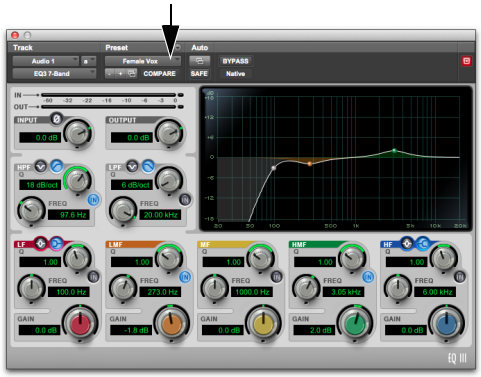
1 Choose Window > Mix.

2 In the top part of a track, click an Insert selector and choose EQ3 7-Band from the EQ submenu.



Insert selector for a track in the Mix window

3 The EQ III Plug-In window opens. Use the plug-in presets as a starting point for exploring how different settings affect the sound.



EQ III Plug-In window, Plug-In Preset selector

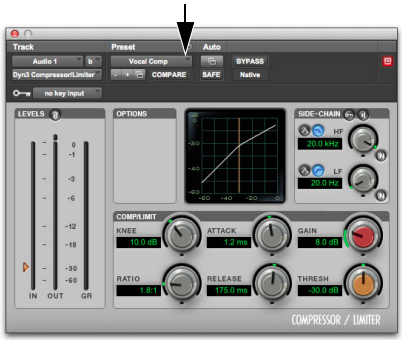
4 Start playback to hear the effect.

To apply compression to a track:

1 Choose Window > Mix.

2 In the top part of the track, click the next Track Insert selector and choose Dyn3 Compressor/Limiter from the Dynamics submenu. Pro Tools inserts the Dynamics III Compressor/Limiter plug-in on your track and opens its plug-in window.

3 The Dyn3 Plug-In window opens. You can use the plug-in presets as a starting point for exploring how different settings affect the sound.



Dyn III Plug-In window, Plug-In Preset selector

4 Start playback to hear the effect.

Video Tip *Side-chaining* lets a track's dynamics processing be triggered by a different track. If you want to learn more you can read about it in Pro Tools Help (Help > Pro Tools) or by watching this video: Pro Tools Expert: How to Set Up Side Chain Compression in Pro Tools.

Using Reverb

Using Sends and the New Track Shortcut

Reverb provides a sense of room acoustics. Reverb can make individual tracks, groups of tracks, or your whole mix sound like it is in a big concert hall, an intimate room, or even a narrow hallway.

One of the best ways to incorporate reverb in your mix is in a "send-and-return" configuration. In Pro Tools, use *sends* to route audio from multiple tracks to and through the same reverb plug-in inserted on an Aux Input track. The basic steps to achieve this are:

- Create a new stereo Aux Input track and set its input to a bus.
- Assign a Send on each of the tracks you want to apply reverb on, such as all the background vocal tracks.
- Insert a reverb plug-in on the Aux Input and choose a preset, then adjust as desired.

In the following example you will learn how you can simplify a few of these steps using a convenient Pro Tools feature that lets you create and route to a new Aux in one gesture.

Video Tip You can see this in action by watching the Quick Effects Sends video from the Pro Tools Tech Tips series.

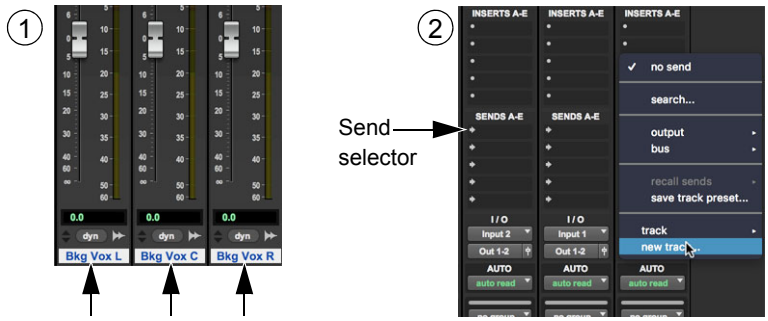
To use reverb with an Auxiliary Input track and multiple source tracks:

1 In the Mix (or Edit) window, click the track Name plate of the first desired track, then do either of the following:

- To select multiple tracks that are all next to each other, hold Shift and click the last track to also select it and all tracks in between it and the first track you selected.
- To select multiple tracks that are not next to each other, hold Command (Mac) or Ctrl (Windows) and click each additional track.

The Names of all selected tracks become lit.

2 Hold Option+Shift (Mac) or Alt+Shift (Windows), click the top-most Send selector (for send A) on one of the selected tracks, and choose new track...



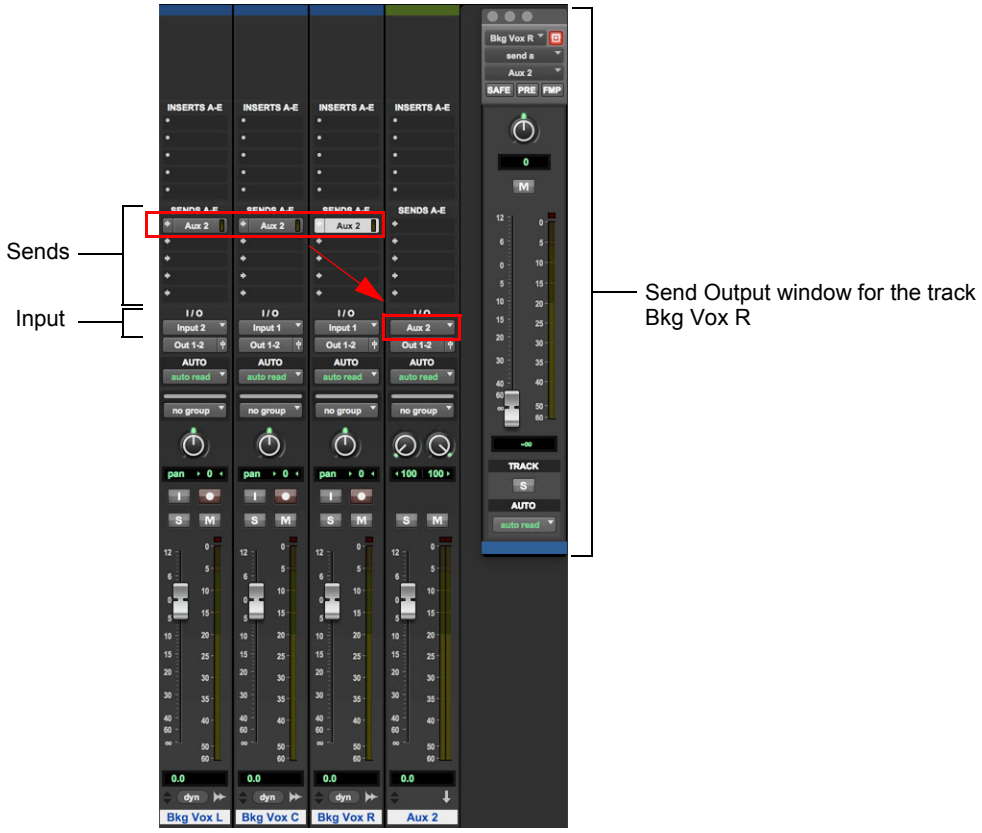
3 tracks selected

3 The New Track dialog appears, pre-configured to create a stereo Aux Input.

New Track dialog

4 Click Create. Pro Tools adds a stereo Aux Input and automatically sets the required signal routing.

- A new *bus path* is created and named according to the destination track (such as "Aux 2").
- A send to the new Aux 2 bus is assigned to each of the selected tracks.
- The input of the Aux Input track is assigned to the new bus Aux 2.
- The Send Output window appears for the track on which you initiated the assignment (step 2, above).



5 Insert a reverb plug-in on the Auxiliary Input track by clicking an Insert selector on the Aux Input track and choosing a reverb plug-in (for example, choose multichannel plug-in > Reverb > D-Verb).

6 From the D-Verb Librarian menu, choose a preset (such as Vocal Plate).

Choosing a plug-in preset

7 Press the Spacebar (Play/Stop) and slowly raise the small fader in the Send Output window or in the Sends track controls. This adjusts the level of source track audio being sent to the Aux Input for Reverb processing.

- Click the Send on each source track to open its Send Output windows.
- Or, you can set the Sends view to display the send controls for a particular send (for example, select View > Expanded Sends > Send A).

8 Keep playing and listening, adjusting the individual track send levels, and checking out different plug-in settings to find just the right effect for your mix.

Tip: Make sure the plug-in Mix control is set to 100% Wet. Some presets might have Mix set to a different value, but in send-and-return configurations it is best to have the plug-in at 100% wet. Lower Mix values are most often useful when a plug-in is inserted on, and affecting only, an individual track to balance the amount of "dry" source audio with the wet, processed signal.

Mix Automation

Pro Tools features dynamic *automation* of mixing controls on each of the track types. You can perform or draw automation moves, view them in real time during playback of your session, and edit automation data with many of the same techniques as audio and MIDI data.

Writing Automation

You can write automation for all write-enabled controls by moving those controls during playback. Use the on-screen faders, knobs, and buttons, or use a compatible EUCON™ control surface such as an Avid Dock, S1, S3, or S4/S6. For this example we are going to automate a simple fade-out on a Master Fader track.

To write automation on tracks:

1 Choose Window > Automation, and make sure the desired automation type is write-enabled (lit red). For this example, we will be writing some Volume (Vol) automation. Close the Automation window after confirming Volume is enabled.

Automation window (Window > Automation) with VOL and other types enabled.

2 On the Master Fader track, click the Automation Mode selector and choose Latch.

Setting the Master 1 track to automation latch mode

3 Start playback to begin writing automation.

4 Move the controls you want to automate (such as lowering the Volume fader on the Master Fader track).

5 When you have finished, stop playback.

6 Switch the Automation mode back to Read to play back the automation you just wrote.

- In the Mix window you can watch the Master Fader read the recorded fade-out automation.
- In the Edit window you can put the Master Fader into Volume view to see the automation displayed in breakpoints.

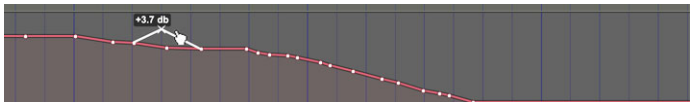
Automation breakpoint display of a fade-out

Video Tip Learn how to automate plug-in parameters for filter sweeps and other effects by watching the Plug-In Automation Tech Tip video.

Manually Editing Automation

Pro Tools provides several ways to edit automation data. You can edit automation data graphically by adjusting breakpoints in any *automation playlist*. You can also cut, copy, and paste automation data in the same manner as audio and MIDI data.

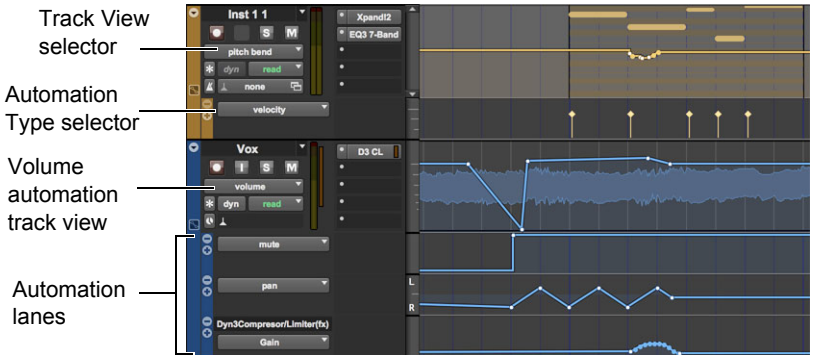
Automation data takes the form of a line graph with editable *breakpoints*. You can click and drag breakpoints up and down to raise and lower them, move them left or right to change their time location, and use the Pencil and other tools for specific and special effects (such as drawing in Triangle mode to auto-pan in time with the song tempo).



Manually editing automation

Tip: Pro Tools provides extensive automation capabilities. Be sure to learn about the different track automation modes (such as Touch and Write) from Pro Tools Help (choose Help > Pro Tools Help*).*

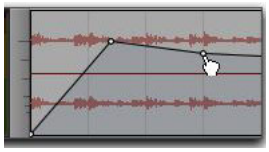
To view the breakpoint automation type on any track, either select the corresponding Track View or reveal the corresponding *Automation* or *Controller lane* under the track. For example, you can view and edit Volume, Panning, Mute, MIDI controller data, and even plug-in automation. Multiple lanes can be displayed at the same time.



Examples of Track View and Automation lanes

Here are some quick tips for manually adjusting automation using the different Edit tools.

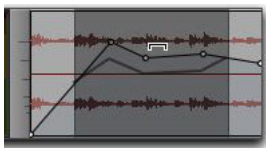
Using the Grabber Tool The Grabber tool lets you create new breakpoints by clicking on the graph line, or adjust existing breakpoints by dragging them. Option-click (Mac) or Alt-click (Windows) breakpoints with a Grabber tool to remove them.



Using the Pencil Tool The Pencil tool lets you create new breakpoints by clicking once on the graph line. Option-click (Mac) or Alt-click (Windows) breakpoints with the Pencil tool to remove them.

Using the Trim Tools

The Trim tools let you adjust all selected breakpoints up or down by dragging anywhere within that selection.



Video Tip Watch the Changing Track Views video from the Pro Tools Tech Tips series.

Exporting and Sharing Your Mix

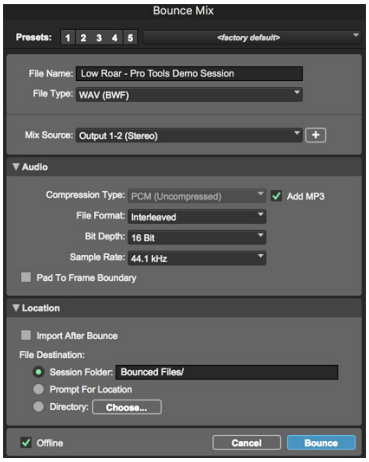
After you've finished recording, editing, and mixing tracks in a Pro Tools session, you're ready to *mix down* your session to share your work. You can use the File > Bounce Mix command to export your entire mix, selected tracks, or combinations of both in one step.

To export the mix from your session as a stereo audio file:

1 Use the Selector to select the length of the session in the Timeline or on a track.

Making a Timeline selection to Bounce Mix

2 Choose File > Bounce Mix.



Bounce Mix dialog

3 In the Bounce Mix dialog, do the following:

- Enter a name in the File Name field.
- Select the File Type (for example, WAV).
- Select the Mix Source. This should often be set to the main output path for your mix (such as Output 1–2), but can also be set to any available stereo bus or output path to bounce a "sub-mix" or stem.
- To bounce multiple Mix Sources simultaneously, click the + button and select the desired additional Mix Source.
- In the Audio section, configure other settings as desired (such as enabling MP3 to also create an MP3 version of the bounced files, select Interleaved for the File Format, and so on).
- For faster than real-time Bounce, select the Offline option.

Video Tip To see how to bounce multiple sources, watch the Bouncing Multiple Stems video from the Pro Tools Tech Tips series.

4 Click Bounce.

5 In the Save dialog, type the name for the audio file you are bouncing, and select the location where you want it saved. If you enabled MP3, configure those settings when prompted.

6 Click Save. Pro Tools begins the bounce.

If the Offline option is not enabled, Pro Tools bounces are done in real time, so you can hear audio playback of your mix during the bounce. (However, you cannot adjust any Pro Tools controls during the bounce.)

Other Options for Sharing and Collaboration

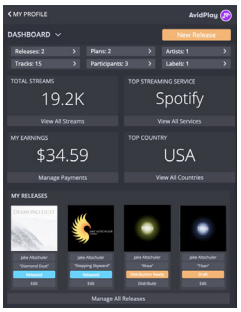
When collaborating with other artists you might be asked to provide only the tracks that you have created or edited, rather than a mix of the entire song. This might be requested so that someone else can import everyone's contributions and create the final mix, or so that a fellow collaborator can use the MIDI from the drum track you programmed but try out sounds from one of their drum sample libraries.

Here are few additional Pro Tools features that can be useful in these and other production situations:

- To bounce an audio mix of only certain tracks, enable Solo on only the tracks you want included in the bounce. (This is an alternative to configuring signal routing to be able to use the Mix Source feature in the Bounce Mix dialog, described earlier.)
- To export only the MIDI data from your session, choose File > Export > MIDI.
- To save a new Pro Tools session file that only includes some, but not all tracks, click the track Name for each track you want to include in the new session and then choose File > Export > Selected Tracks as New Session.

AvidPlay

AvidPlay lets you stream and sell your music worldwide to audiences directly, on social media, and in print. Simply choose a single or album you'd like to share, and AvidPlay takes care of the rest—from file distribution and code generation for marketing, to tracking song performance and payments. You can even use AvidPlay to distribute your Dolby Atmos® Music to TIDAL HiFi, Amazon Music HD, and future services to give your fans a whole new listening experience.



To learn more about AvidPlay visit our website: AvidPlay Music Distribution.

You can also start learning about AvidPlay by watching this and related videos in the Pro Tools Tech Tips series: AvidPlay: Create a New Release.

What Next?

We hope this quick introduction to Pro Tools has inspired you to make music. To learn more about any of the topics presented here, see the Help menu for complete details on all Pro Tools systems and software, keyboard shortcuts, and more.

Here are additional resources you can use to continue learning.

Avid.com

The Avid website (www.avid.com) is your best online source for information to help you get the most out of your Avid system.

Account Activation and Product Registration

Activate your product to access downloads in your Avid account (or quickly create an account if you do not have one). Register your purchase online, download software, updates, documentation, and other resources.

www.avid.com/account

Support and Downloads

Contact Avid Customer Success (technical support), download software updates and the latest online manuals, browse the Compatibility documents for system requirements, search the online Knowledge Base or join the worldwide Avid user community on the User Conference.

www.avid.com/support

Training and Education

Study on your own using courses available online, find out how you can learn in a classroom setting at an Avid-certified training center, or view video tutorials and webinars.

www.avid.com/education

Video Tutorials

The *Get Started Fast with Pro Tools* series of online videos provide tutorials to help if you are new to Pro Tools.

www.avidblogs.com/get-started-fast-with-pro-tools

Pro Tools Tech Tips on YouTube are short videos focused on the latest tips and tricks available with Pro Tools.

For deeper explanations of workflows, check out the Pro Tools videos from the Avid Online Learning series.

Products and Developers

Learn about Avid products, download demo software, or learn about our Development Partners and their plug-ins, applications, and hardware.

www.avid.com/products

Avid Store

Visit the Avid store for plug-ins and control surfaces to extend the capabilities of your Pro Tools system.

shop.avid.com