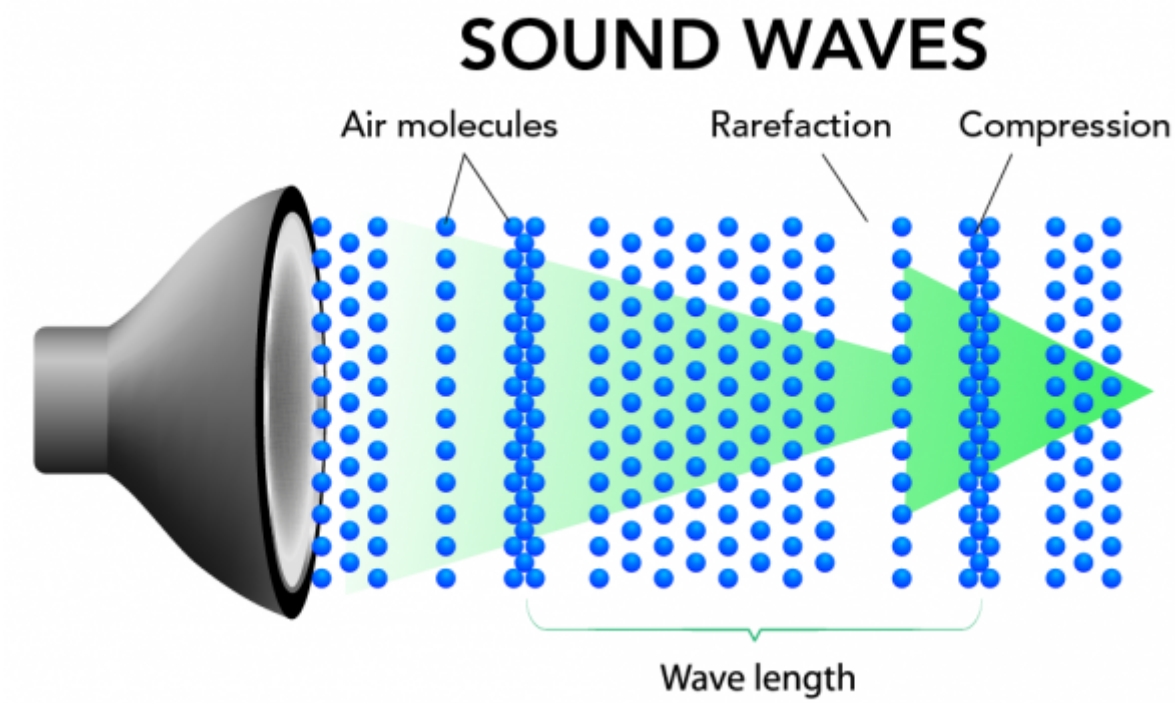
Lesson Proper for Week 9

WHAT ARE SOUND WAVES?

- Sounds are produced by vibrations.
- Sound travels as waves, which are vibrating particles.
- Sound waves are reflected by surfaces.

Sound starts with vibrations in the air, like those produced by guitar strings, vocal cords, or speaker cones. These vibrations push nearby air molecules together, raising the air pressure slightly. The air molecules under pressure then push on the air molecules surrounding them, which push on the next set of molecules, and so on.

As high-pressure areas move through the air, they leave low-pressure areas behind them. When these waves of pressure changes reach us, they vibrate the receptors in our ears, and we hear the vibrations as sound.



WAVEFORM MEASUREMENTS

Several measurements in sound wave that describe waveforms are the following:

- **Amplitude -** Reflects the change in pressure from the peak of the waveform to the trough. High-amplitude waveforms are loud; low-amplitude waveforms are quiet.
- **Cycle -** Describes a single, repeated sequence of pressure changes, from zero pressure, to high pressure, to low pressure, and back to zero.
- **Frequency -** Measured in hertz (Hz), describes the number of cycles per second. (For example, a 1000-Hz waveform has 1000 cycles per second.) The higher the frequency, the higher the musical pitch.
- **Phase -** Measured in 360 degrees, indicates the position of a waveform in a cycle. Zero degrees is the start point, followed by 90° at high pressure, 180° at the halfway point, 270° at low pressure, and 360° at the end point.
- **Wavelength -** Measured in units such as inches or centimeters, is the distance between two points with the same degree of phase. As frequency increases, wavelength decreases.

HISTORY OF ADOBE AUDITION

According to **WIKIPEDIA: Syntrillium Software** was founded in the early 1990s by **Robert Ellison** and **David Johnston**, both former **Microsoft employees.** Originally developed by Syntrillium Software as **Cool Edit**, the program was distributed as cripple ware for Windows computers. The full version was useful and flexible, particularly for its time. Syntrillium later released **Cool Edit Pro**, which added the capability to work with **multiple tracks**, as well as other features. Audio processing, however, was done in a destructive manner (at the time, most computers were not powerful enough in terms of processor performance and memory capacity to perform non-destructive operations in real time). Cool Edit Pro v2 added support for real-time non-destructive processing, v2.1 added support for surround sound mixing and unlimited simultaneous tracks. Cool Edit also included plu such as noise reduction and FFT equalization.

Adobe Incorporated purchased Cool Edit Pro from Syntrillium Software in **May 2003** for **$16.5 million** as well as a large loop library called "Loopology". Adobe then changed the name of Cool Edit Pro to "Adobe Audition".

STARTING ADOBE AUDITION

You start Audition just as you do most software applications.

To start Adobe Audition in Windows XP or Windows 7 (32- or 64-bit):

Choose Start > All Programs > Adobe Audition CS6.

To start Adobe Audition in Mac OS X:

Open the Applications/Adobe Audition CS6 folder, and then double-click the Adobe Audition CS6 application icon.

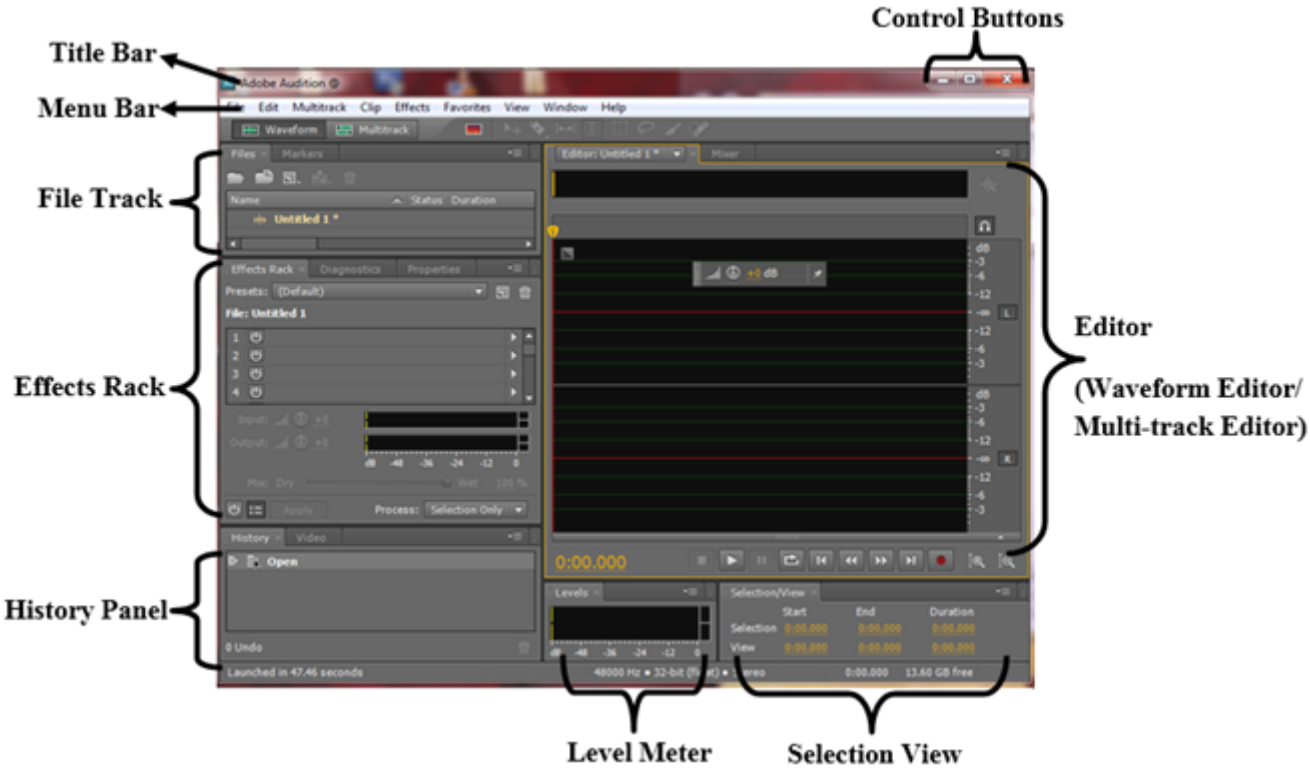
SCREEN ELEMENTS OF ADOBE AUDITION CS5 (WORKSPACE)

About workspaces

Adobe Audition applications provide a consistent, customizable workspace. Although each application has its own set of panels, you move and group panels in the same way across products.

The main window of a program is the application window. Panels are organized in this window in an arrangement called a workspace. The default workspace contains groups of panels as well as panels that stand alone.

You can also customize a workspace by arranging panels in the layout that best suits your working style. As you rearrange panels, the other panels resize automatically to fit the window.



SCREEN ELEMENTS DESCRIPTION

- **Title Bar** – It displays the name of the application.
- **Menu bar** – it shows the menu tab application window.
- **Control Buttons** – It allows you to minimize, maximize and close the program.
- **File track-** holds all the collection and sessions you import and create in your editor.
- **Level Meter-** it shows the basic recurrent rhythmical pattern of note values, accents and beats per measure in music.
- **Effects Rack-** Store combinations of effects, fades, and amplitude adjustments, and quickly reapply them to any file or selection in the Waveform Editor.
- **History Panel -** Easily roll back edits and mixes to earlier states, comparing different effects processing, noise reduction, signal flow, and more. Recall your original settings with a single click.
- **Selection View-** it shows the time duration you manipulate in your work file.
- **Editor-** Easily mix audio from diverse sources, Analyze phase relationships and frequency response in real-time using the Phase Meter and Frequency Analysis panel. Evaluate audio amplitude and frequency with maximum precision.

MULTITRACK EDITOR ORIENTATION

COMPARING THE WAVEFORM AND MULTITRACK EDITORS

Adobe Audition provides different views for editing audio files and creating multitrack mixes. To edit individual files, use the Waveform Editor. To mix multiple files and integrate them with other file, use the Multitrack Editor.

The Waveform and Multitrack editors use different editing methods, and each has unique advantages. The Waveform Editor uses a destructive method, which changes audio data, permanently altering saved files. Such permanent changes are preferable when converting sample rate and bit depth, mastering, or batch processing. The Multitrack Editor uses a nondestructive method, which is impermanent and instantaneous, requiring more processing power, but increasing flexibility. This flexibility is preferable when gradually building and reevaluating a multilayered musical composition or video soundtrack.

You can combine destructive and nondestructive editing to suit the needs of a project. If a multitrack clip requires destructive editing, for example, simply double-click it to enter the Waveform Editor. Likewise, if an edited waveform contains recent changes that you dislike, use the Undo command to revert to previous states—destructive edits aren't applied until you save a file.

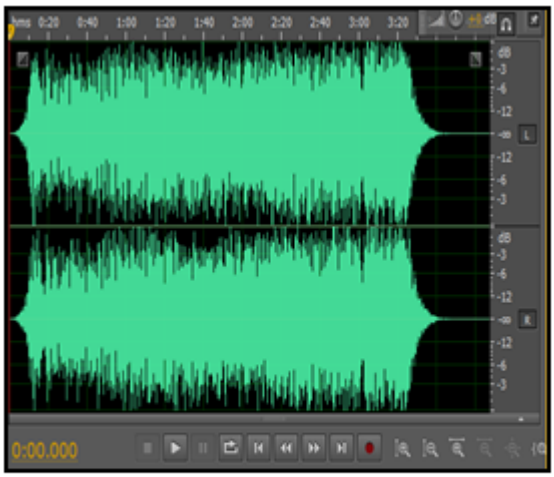


Figure 43: *Waveform Editor*

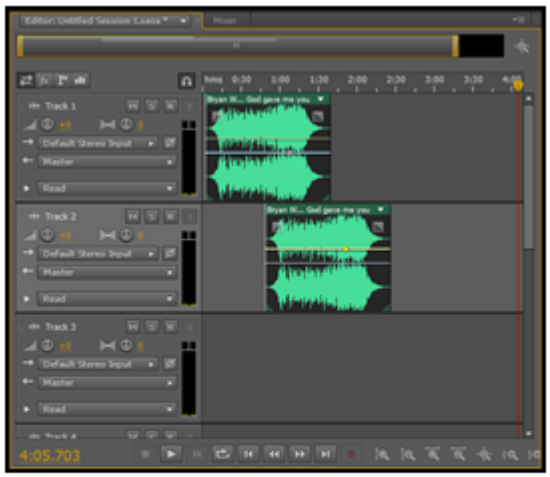


Figure 44: *Multitrack Editor*

The first thing to note is that there are two different work views in Adobe Audition – Waveform and Multitrack – and we'll be going through how to get started using both of them in this guide.

Waveform	Multitrack
Allows to edit a single audio file with higher precision.	Allows mixing multiple audio tracks in a layer-based composition.
It's destructive In nature. Saving any changes or applied effects overwrites the original audio file.	It's non-destructive in nature. This editor uses existing media or creates new media files but never makes changes to the original media file.
Useful for in-depth analysis and sample-accurate selections and processing	Good for creating musical compositions, podcasts, and video post-production which require multiple audio tracks to be modified independently.

◀ Preliminary Activity for Week 9

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Fair Warning

COURSE OF ACTION: Whoever has maliciously uploaded these concerned materials are hereby given an ultimatum to take it down within 24-hours. Beyond the 24-hour grace period, our Legal Department shall initiate the proceedings in coordination with the National Bureau of Investigation for IP Address tracking, account owner identification, and filing of cases for prosecution.

2nd Semester Enrollment

Activities

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