



Shortcuts

CMD + A	Select All	
Arrow key up/down	Previous/next track	
CMD + D	Duplicate Track	
CMD + R	Repeat Section	
К	Metronome	
Q	Quantize	
R	Record	
SPACE	Play/Pause	
Enter	Back to the beginning	
S	SOLO	
Μ	MUTE	
CMD + Z	Undo	
C	Turn on/Off loop	
CMD + B	Bounce	
Т	Tools	
>	Jump 1 bar to the right	
<	Jump 1 bar to the left	
CMD + 1	Open Logic Profect	
CMD + 2	Open Mixer	
CMD + 3	Open Plug-in	
CMD + 4 Open Piano Roll		
CMD + 5	Open Score	

### Loops Library

Logic Pro features an extensive Sound Library of Apple Loops, patches, drum kits, and other content that you can use in your projects. When you install Logic Pro, essential sounds and instruments are included as part of the installation. Additional content is available to download after the installation is complete.

8		Loop Packs:	All Packs 🗘				
0	Instrument	Ger	nre	Descrip	tors		
	All Drums	Piano	Guitars			Strings	
	Kits	Synths	Acoustic Guitar		W	loodwind	
	Beats Click to find loops by in:	Elec Plano strument, genre, and descrip	Elec Guitar			Brass	
	Percussion	Olgali	Slide Guitar			Vocals	
Tambourine Shaker Conga		Clavinet Mallets	Bass			Impacts	
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#### Instrument Library

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Q~ Search Sounds						
Bass		Arrangement FX		80s FM Bass Attack		
Drum Kit		Bass		80s Pluck Bass		
Electronic Drum Kit		Bell		90s Solid Synth Bass		
Guitar		Brass		90s Stereo Synth Bass		
Keyboards		Classics		808 Bass		
Mallet		EDM Bass		808 Mutation Bass		
Orchestral		EDM Chord		Acid Etched Bass		
Percussion		Lead		Agile Synth Bass		
Piano		Pad		Alphabet City 808 Bass		
Quick Sampler		Percussion		Alphabet City Boundless Bass		
Studio Horns		Plucked		An Alphabet City Boundless Bass		
Studio Strings		Rhythmic		Analog Sweep Bass		
Synthesizer		Sound Effects		Arcade Attack Bass		
Vintage B3 Organ		Soundscape		Auten Road Interaction Bass		
Vintage Clav		Strings		Bass Keys		
Vintage Electric Piano		Experimental >		Big Saw Bass		
Vintage Mellotron				Blooming Bass		
World				Boxy Synth Bass		
Arpeggiator				Breaking Bass		
Cinematic				Breathless Synth Bass		
Legacy				Classic Funk Boogie Bass		
⊖ × Revert				Delete Save		

Troubleshooting

How to access settings

Changing Outputs/Inputs

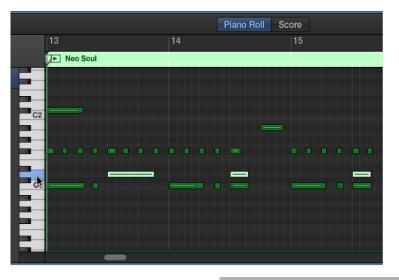
How to get the mic working

## MIDI (MULTI-INSTRUMENT-DIGITAL-INTERFACE)

MIDI (Musical Instrument Digital Interface) is a protocol designed for **recording and playing back music on digital synthesizers** that is supported by many makes of personal computer sound cards. Originally intended to control one keyboard from another, it was quickly adopted for the personal computer.

After you have chosen your software instrument and recorded your composition, All data recorded into logic is processed as MIDI, this can be accessed by pressing CMD 4 to access the piano roll.

Piano Roll:



# Quantizing

Basically, quantizing means **moving notes recorded into a MIDI sequencer or DAW in line with the "grid,"** which makes a rhythmically imprecise performance end up perfect.

This will make everything sound in time making the music more coherent.

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Quick Help	🐧 Edit 🗸 Functions 🗸 View 🗸	III 🔳 🦨 🖂
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Transpose:	<sup>2</sup> MSR	
Track: RhythmMIDI		
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	in Classic Electric Piano	Classic Electric Piar
Classic El Setting	C3	
	Time Quantize (classic)	
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E-Piano O	Swing	1
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Bus 4		
Bus 3		
Stereo Out	Scale Quantize C	2
Group Group	Off 🗘 Major 🗘 Q	

# AUDIO

Audio is **sound within the acoustic range available to humans**. An audio frequency (AF) is an electrical alternating current within the 20 to 20,000 hertz (cycles per second) range that can be used to produce acoustic sound. In computers, audio is the sound system that comes with or can be added to a computer.

How to get a signal to a microphone



A microphone is a device that translates sound vibrations in the air into electronic signals and scribes them to a recording medium or over a loudspeaker. Microphones enable many types of audio recording devices for purposes including communications of many kinds, as well as music vocals, speech and sound recording.



Audio interfaces **convert microphone and instrument signals into a format your computer and software recognize**. The interface also routes audio from your computer out to your headphones and studio monitors.

## MIXING + MASTERING

#### What is Mixing?

Mixing is **the stage after recording where you blend individual tracks together**, while mastering is the the final stage of audio production where you polish the entire mix to prepare for distribution. Mixing is when an engineer carves and balances the separate tracks in a session to sound good when played together.

## Press CMD + 2 to access your Mixer Window on Logic Pro X.

# What is Balance?

Musically speaking, balance is the relative level of two or more instruments, voices, sounds, etc. in either a live or recorded mix, as through a mixing board, or achieved by placement of musicians in a hall, and by musicians listening to one another, so that dynamics blend well to the ear.

## What is mastering?

Mastering is **the final stage of audio production**—the process of putting the finishing touches on a song by enhancing the overall sound, creating consistency across the album, and preparing it for distribution.



# Limiter

A limiter is a tool for signal processing (like mixing music) that applies a type of dynamic range compression. That means that it can take an input signal, evaluate its amplitude (volume), and attenuate (lower) the peaks of the waveform if those peaks reach and exceed a threshold value.

## Multi-Meter

The basic electronic measuring tool is the meter. The most common meter is called a multimeter, and will **measure voltage, current and resistance**. Inexpensive meters are analog, meaning they have a moving needle and usually a lot of scales to decode.

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Peak J Ro Expnd	Ratio 1 r/RMS 4 Attack 7 elease 22 Thrsh 4 Ratio 1	568 1 331 000 5ms 500 5ms 7 008 7 10	200ms 2.0ms 98.0ms -50.048 2.24 6.058	2 27.58 2.111 2.007 2.075 98.077 98.077 50.560 1.10 - 16.560	3 20.669 2.511 100 2.00m 2.00m 2.00m 2.00m 2.00m 2.00m 1.00 3.000 3.000 1.01 1.01		Out
				Multipresso	r		

Multi-Band Compressor (Multipressor) **A versatile audio mastering tool**. It splits the incoming signal into different frequency bands—up to four—and enables independent compression of each band. After compression is applied, the bands are combined into a single output signal.

# Mixing PLUG-INS



MIDI plug-ins are inserted in software instrument channel strips and process or generate MIDI data—played from a MIDI region or a MIDI keyboard—in real time.

# Channel Strip

Channel Strips: Each track in Logic Pro X is represented by a Channel Strip that contains various controls for that track including overall volume, pan, mute, solo, input/output and a series of slots to load up effects and more

# Compression

Compression reduces the overall dynamic range of a piece of audio by detecting when it exceeds a specified level, and then attenuating it by a specified amount. Put simply, it narrows the difference between the loudest and softest parts of a track so that it's more consistent in level.

# EQ

EQ stands for Equalization, which is a plug-in intended to manipulate the frequency content of your recordings, and help all of the elements of your production work together sonically.



#### Reverb

Reverb is **the persistence of sound after a sound is produced**. Reverb is created when a sound or signal is reflected off of a surface causing numerous reflections to build up. They then decay as the sound and reflections are absorbed by the surfaces of the objects around it.

## Recording

Audio recording is **the process by which sound information is captured onto a storage medium like magnetic tape, optical disc, or solid-state drive (SSD)**. The captured information, also known as audio, can be used to reproduce the original sound if it is fed through a playback machine and loudspeaker system.

# Metronome

A metronome is **a device that produces a click at a regular interval of time**. You can set how fast you would like it to go based on beats per second. Mechanical metronomes, which have been around for several centuries, have a pendulum that swings back and forth.

Structure