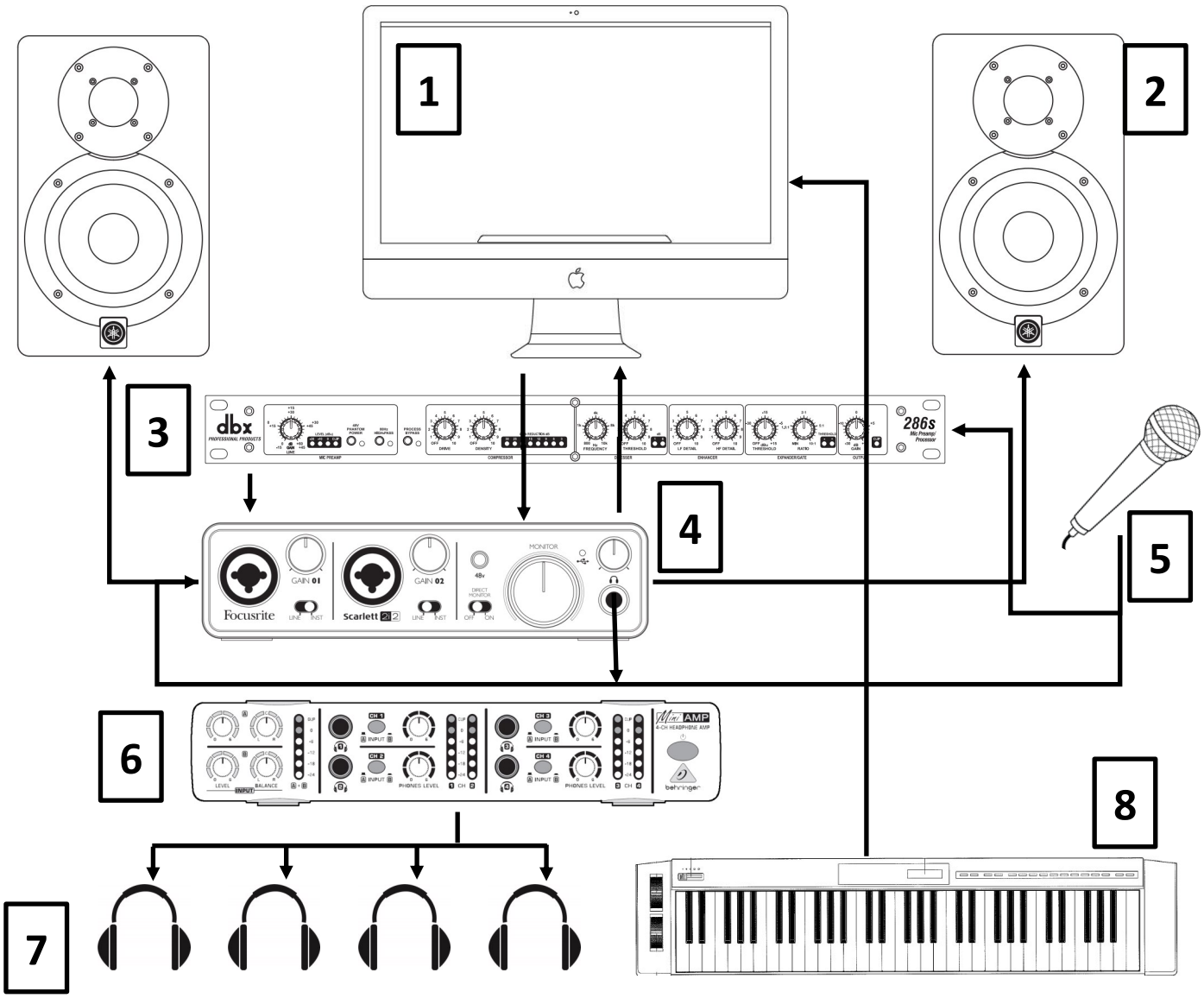
Recording Studio Quick-Start Guide

Audio Hardware

The recording studio's audio hardware is already set up for use and will not require any additional setup unless you wish to add components. You can begin recording in Garageband immediately using the supplied studio microphone and MIDI keyboard.

Included here, you will find a rundown of the hardware, what it does, and the default settings that can be used to reset the equipment if something isn't working. We encourage the use of library resources, including **Lynda.com** to supplement our orientation and to better educate you on the use of software to achieve the desired results.



1. iMac Desktop Computer

2. Studio Monitors

3. Microphone Preamp

4. USB Audio Interface

5. Microphone

6. Headphone Splitter

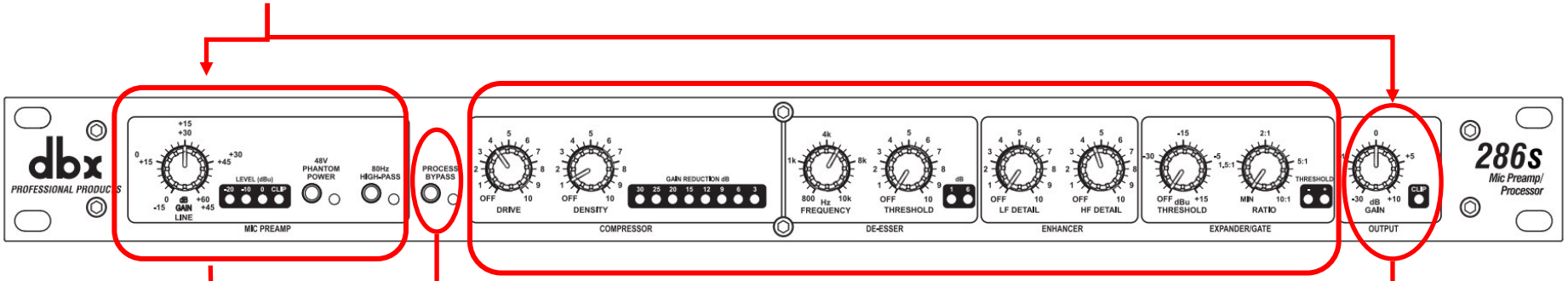
7. Headphones

8. Midi Controller

Microphone Preamp

The **DBX 286s Mic Preamp** amplifies the weak signal from the microphone to a level suitable for recording. The preamp also includes a number of processing features to further shape the sound before it gets to the recording software. By default these features are bypassed in our setup to make basic recording as easy as possible. However, these advanced features are available to patrons who know how to use them or wish to experiment.

ESSENTIAL SETTINGS



MIC PREAMP– Sets the mic amplification (**GAIN**) and **PHANTOM POWER**, which powers the microphone. Ensure the LED LEVEL indicator stays green, and dial back the gain if it goes red.

DEFAULTS:

GAIN: Midpoint

48V PHANTOM POWER: ON
80Hz HIGH PASS: **ON**

PROCESS BYPASS - When active, all settings in the **ADVANCED SETTINGS** section are bypassed, or skipped.

DEFAULT: Bypass turned **ON**, to skip or bypass advanced settings.

OPTIONAL ADVANCED SETTINGS

As long as the **PROCESS BYPASS** button is active, these features will not be used, and their settings will not matter. Advanced users may turn off bypass and adjust these parameters as appropriate.

DEFAULTS: The above dial positions are the best defaults for the average user.

OUTPUT GAIN - Sets the output level being sent from the preamp to the audio interface. If set too high, the LED **CLIP** indicator will flash Red.

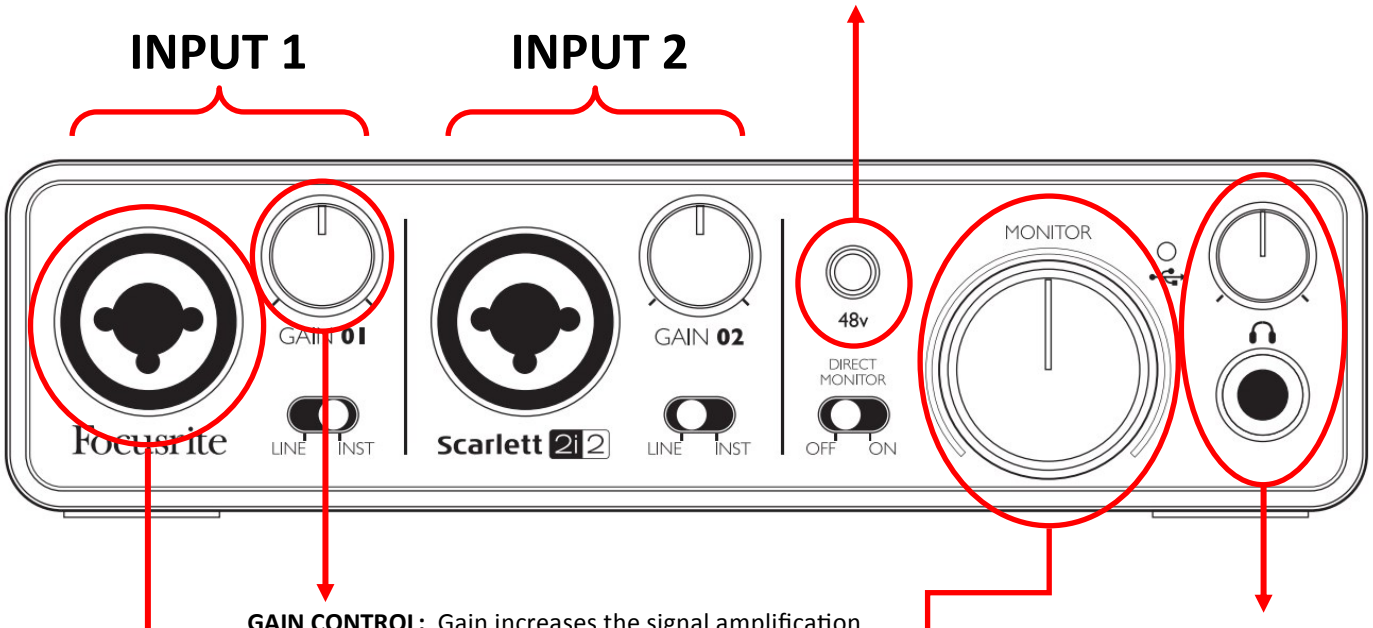
DEFAULT - Midpoint

USB Audio Interface

The **Focusrite Scarlett 2i2** is a USB interface that allows for the connection of analog devices, like microphones and electric guitars, to a computer. It also outputs the sound from the recording software on the computer to studio monitors and headphones.

48v PHANTOM POWER - When depressed, turns on phantom power for powering microphones. Glows red when active.

DEFAULT: The default mic setup includes the Bluebird mic connected to the mic preamp - which already has phantom power - so this button on the USB interface should be disabled. **Do not use phantom power from two separate components at the same time.**



GAIN CONTROL: Gain increases the signal amplification of the mic or instrument plugged into the input. Not to be confused with Volume, set the gain knob so that colored LED rings around the knob stay green, and do not turn red.

DEFAULT: The above position is the studio default.

HEADPHONE OUTPUT AND VOLUME :

Output to headphones; knob controls volume.

DEFAULT: The headphone splitter is connected to the output jack. The above position is the default setting used for the knob.

HYBRID INPUT - The input jacks allow the connection of either an **XLR** cable (microphones) or **1/4"** cable (instruments).

DEFAULT: The microphone pre-amp output is plugged into **Input 1**.

MONITOR VOLUME - Controls the volume output to the two studio monitors.

DEFAULT: To prevent accidental feedback, set this knob no higher than the mid-point to start. It is safest to set to the lowest position (all the way to the left) and adjust as necessary.

Headphone Splitter

The **Behringer Miniamp AMP800** is a headphone amplifier and splitter. It allows for the headphone signal from the USB Audio Interface to be split for up to 4 people to listen at a time, each with a dedicated, independent volume control.

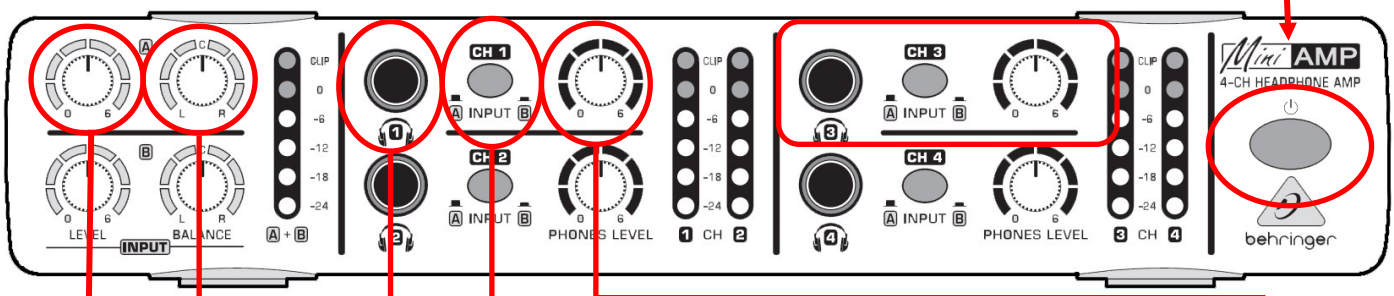
POWER : Turns the device on and off. Glows green when on.

DEFAULT: The "***ON***" position, with the button depressed and green light illuminated.

INPUT SETTINGS

OUTPUT SETTINGS

Each horizontal row is an independent output.



INPUT LEVEL*: Controls the level for the selected input. If the LED Clipping display shows RED, dial the level back until it stays green.

DEFAULT: The midpoint.

OUTPUTS - Plug in headphones here.

DEFAULT: Headphones plugged into Output 1

CHANNEL SELECTOR - Selects A or B input channel. **A is selected when button is extended and light is off**, and B is selected when button is depressed and green light is on.

DEFAULT: **Channel A** (button not depressed, green light off).

BALANCE*: Pans the sound to either the Left or Right speaker. When positioned in the middle, the balance is evenly distributed left and right..

DEFAULT: The midpoint.

PHONES LEVEL - Adjust the volume to the headphones.

DEFAULT: Midpoint.

* *There are 2 inputs, A & B, and each have a Level and Balance setting. Our setup is connected to the A input, so this is the only one to worry about.*

Cables

In most cases, the appropriate cable to plug into an input or output is clear from the shape of the cable end and the corresponding port. Below, you will find a brief summary of the essential cables for the recording studio, what they're called, and what they do. For more information on this topic, the **lynda.com** course, **Digital Audio Principles** has a section on cables that provides greater explanation.

1/4" Cables

1/4" cables - named for the barrel diameter of the plug - are used for connecting audio hardware components, as well as instruments, such as guitars They come in a few varieties, distinguished by the black bands near the tip.

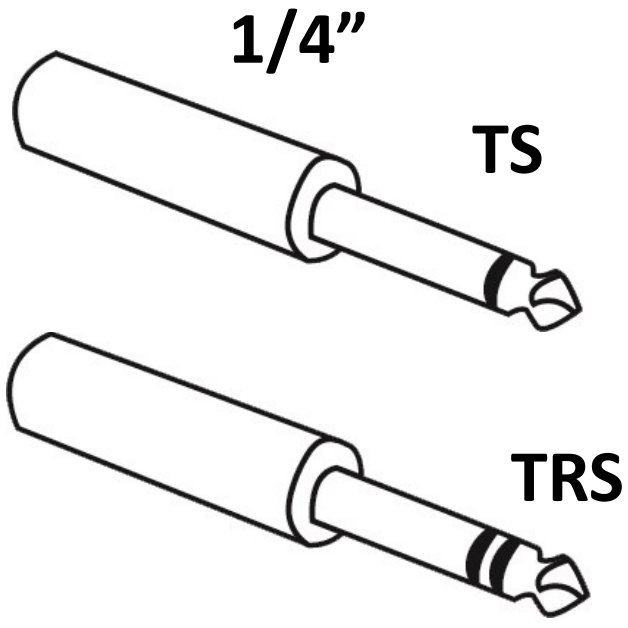
TS - A **single** black band identifies a **TS** (tip-sleeve) jack. This is an **unbalanced** cable, suitable for transmitting a **mono**, or single channel audio signal.

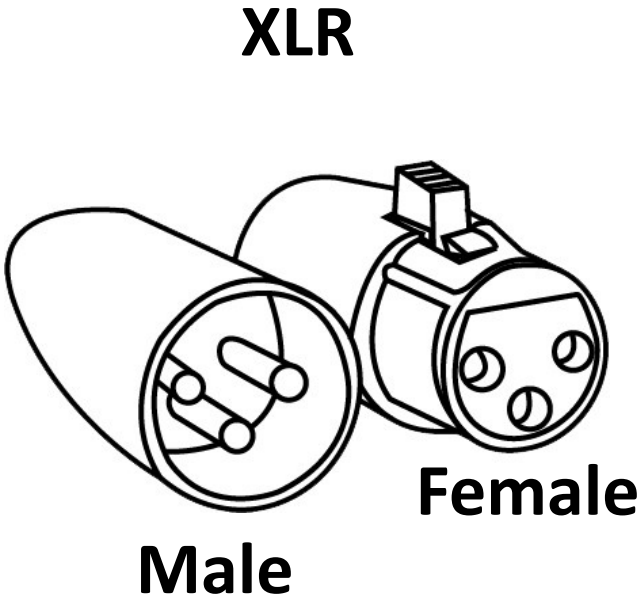
TRS - 1/4" cables with **two** black bands identify a **TRS** (tip-ring-sleeve) jack. This is a **balanced** cable, suitable for transmitting **stereo**, or two channel audio signals. Additionally, they may be used for balanced mono signals.

XLR Cables

XLR cables, like the TRS 1/4", are **balanced** cables that can be used for transmitting **stereo** audio signals, or **balanced mono** signals. There are male and female XLR jacks on both cables and devices. XLR jacks are paired with their opposite, meaning male cable to female jack, or vice-versa.

These cables are the universal standard for microphones, including those in our studio setup. They can, however, be used for other applications, like connecting studio monitors to a mixer, depending on the available jacks on specific devices.



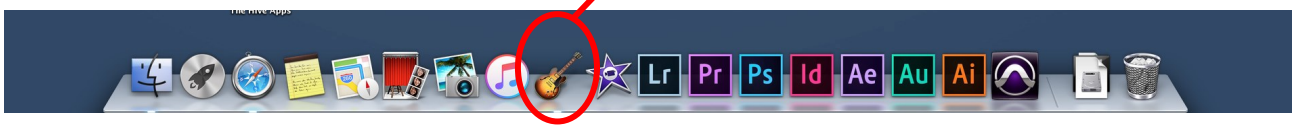


GarageBand

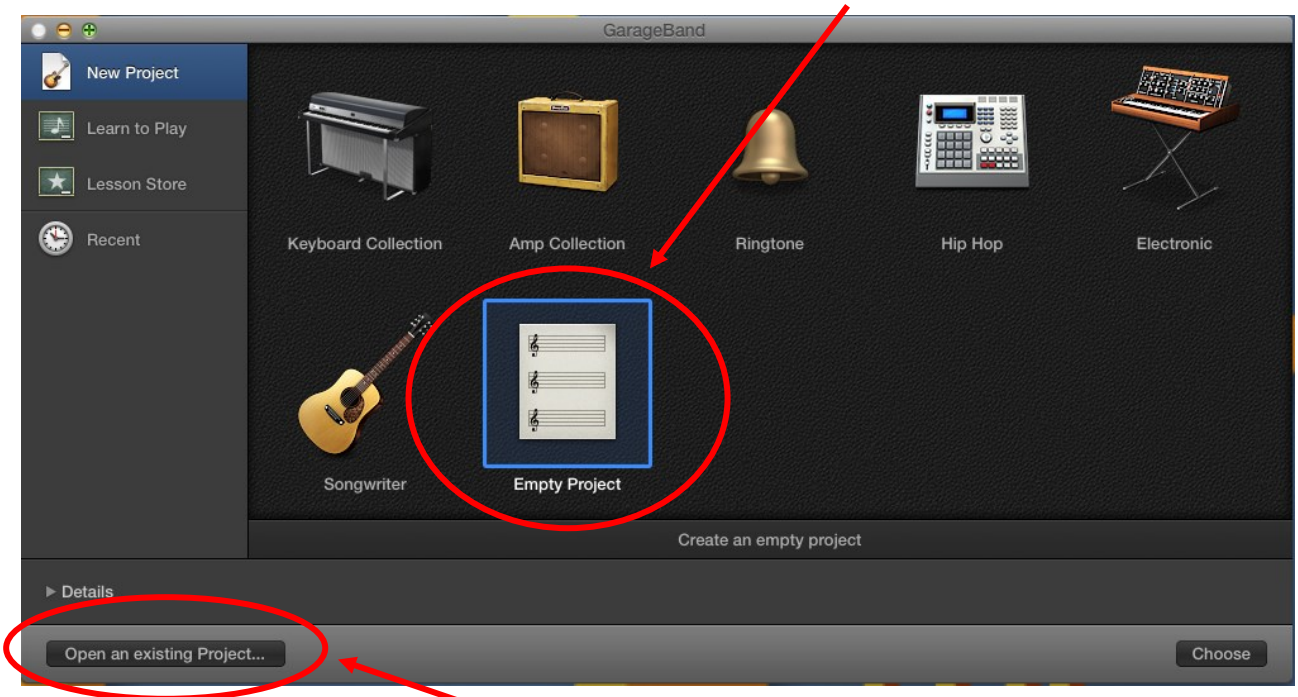
Getting Started

Getting started in GarageBand is easy and fun. Here, we will show you the essential steps to beginning a project in Garageband, but to get the most out of your studio session we encourage the use of library resources, including **Lynda.com** to supplement our orientation and to better educate you on the use of software to achieve the desired results.

To begin, click the GarageBand icon in the dock located at the bottom of the desktop .

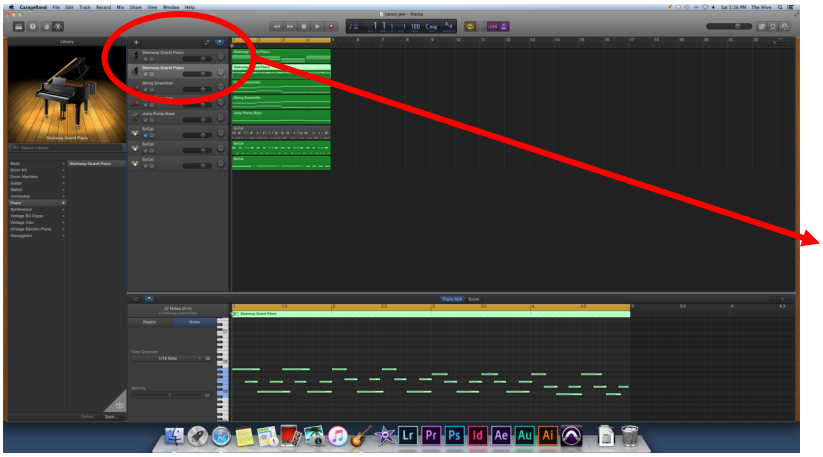


The first screen that comes up lets you select what kind of project you want to begin. You can start with a blank file by selecting **EMPTY PROJECT**.

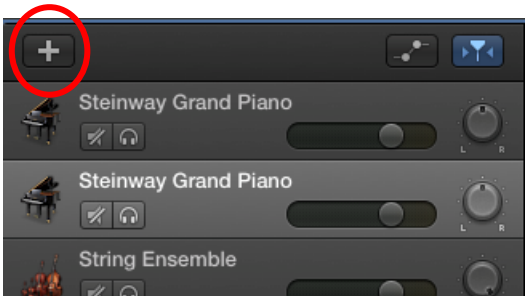


You may also use the **OPEN AN EXISTING PROJECT** option to continue working on a project file you previously created.

Adding Tracks



To add a new track of any type, click the **PLUS** button at the top of the tracks pane.



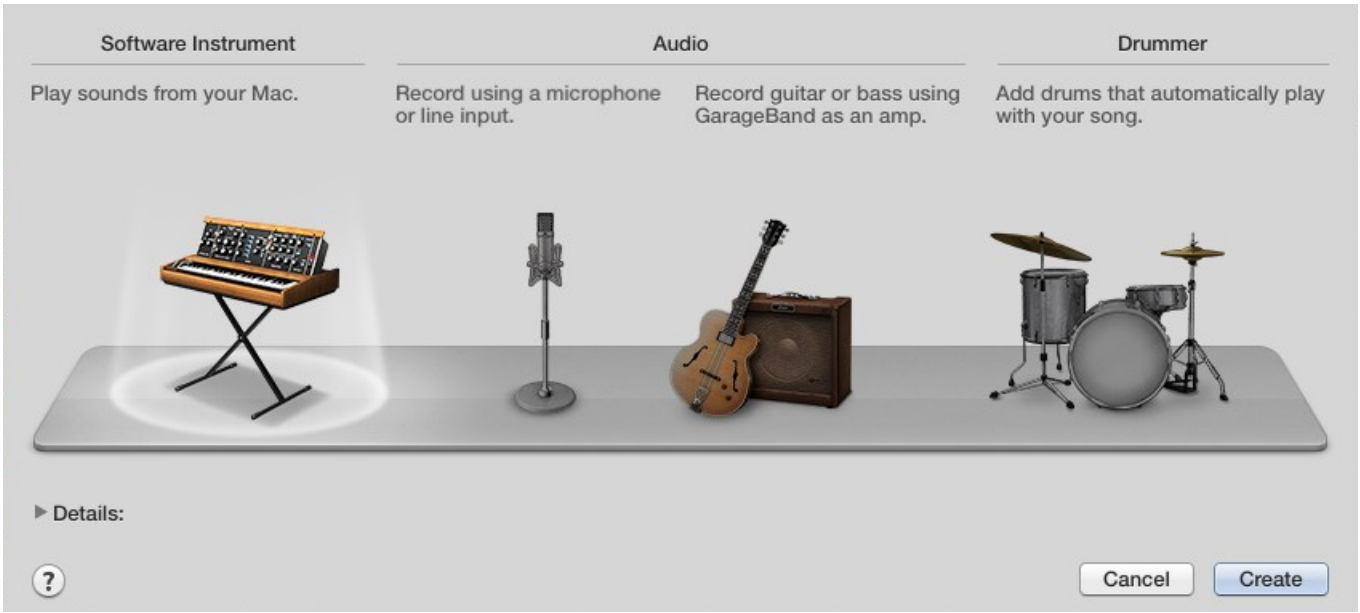
In the window that comes up, select the type of track to add.

KEYBOARD will add a **SOFTWARE INSTRUMENT** track for recording with the midi controller. This allows you to use the physical keyboard to make music with a variety of instrument sounds.

MICROPHONE will add a track for recording with the microphone active.

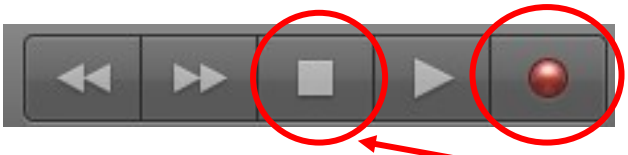
GUITAR will add a track for recording with a an actual guitar or bass connected to the interface.

DRUMMER will add an automated drum track, which you adjust to better suit your song.



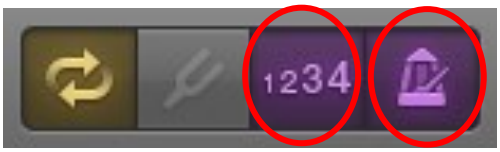
Recording

To record a track with either the mic or software instrument, start by selecting the **TRACK HEADER** in the tracks panel. If you only have one track, it is selected by default. If you have more than one track, the active track will be a lighter shade of gray than the others. You can also delete active tracks by hitting the **DELETE** key.



Use the **RECORD** button to start recording. Alternatively, you may use the **R** key on the keyboard.

When done, use the **STOP** button, or the **SPACE BAR**.



By default **COUNT IN** is turned on, and will provide a 4-count of clicks before actually beginning to record. If you do not wish to use this feature, click the **1234** icon to deactivate.

By default the **METRONOME** is turned on, and will provide a steady click during the recording *and* playback, following the time signature. If you do not wish to use this feature, click the **METRONOME** icon to deactivate.

To delete recorded segments, click on the section in the timeline and hit the **DELETE** key.

Import existing mp3 and wav files by simply **DRAGGING and DROPPING** with the mouse from the desktop or connected devices to the timeline.

Anatomy of a Track

You can layer as many tracks as you'd like, but each individual track can be adjusted and manipulated on its own, in addition to being a part of the large whole. Below are the components of the tracks.

MUTE:

Silences this track during recording and/or playback.

MONITORING:

Lets you listen to the mic input while recording, so you hear what the computer hears.

TIMELINE:

The primary work area, where recorded data appears for editing and arrangement.

SOLO:

Isolates this track, silencing all others.

VOLUME:

This track's volume in the mix. Ideally, the meter should stay green, or barely enter the yellow. If it goes red, decrease the volume to avoid distortion.

PAN:

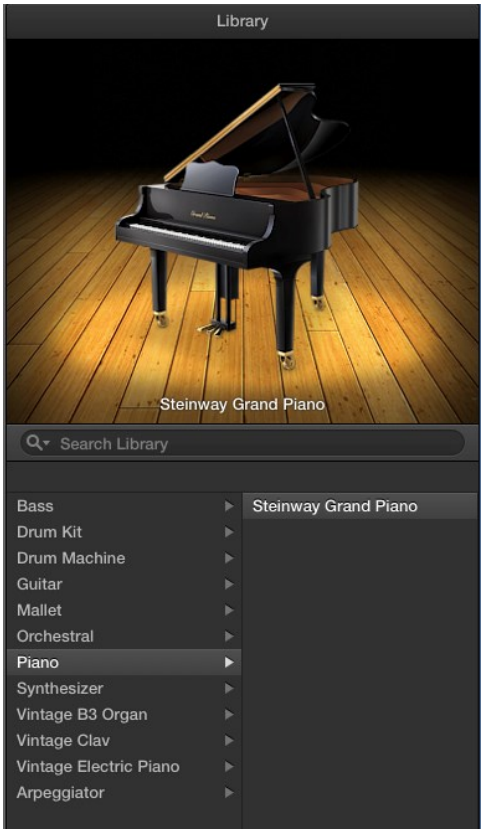
Adjust the track's balance. Centered is balanced between the left and right speakers, but can be pushed more towards one or the other with the knob.

SMART CONTROLS:

Toggles a panel with numerous, instrument-specific settings to adjust the built-in sounds or microphone input.

Track Types

If you added a **SOFTWARE INSTRUMENT** track, it will default to a keyboard sound, which you can easily change. GarageBand has a number of built-in sounds to work with. Individual notes are recorded as midi data.



The available sounds that can be used on a track are found in the **LIBRARY** panel on the left. There are instrument categories, which when clicked on will take you to submenus with individual instruments. Not all instruments will be available; you will only have access to the ones with bright white text, not those that are grayed out. Simply click on one to assign it to the selected track.

For vocal tracks, or recording of live instruments, select a Microphone track. This will use any microphone connected to the audio interface. The sound is recorded as a waveform.

Microphone tracks will have a blue waveform on the left, instead of an instrument image. The green level indicator will move around a lot, depending on how much sound is being picked up.

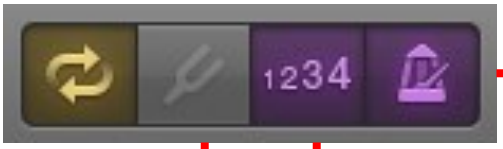
Controls

The project controls at the top of the screen provide access to a variety of tools for navigating your recordings,

PLAY/RECORDING CONTROLS: Record, Play/ Pause, stop, back, forward.

PROJECT INFO: Includes current location in song, BPM, Key, and Time Signature.

SMART CONTROLS / EDITORS: Smart controls let you adjust the sound of the track through a variety of parameters. Editors let you refine midi notes or sections of the waveform.



Repeat/Loop

Turns on a looped section, so a particular segment of the song can be re-peated. Can be adjusted.

Tuner

Built in guitar tuner.

Count-In

Gives a 4-count after **RECORD** is pressed, before recording begins. Used to get your bearings.

Metronome

Clicks in time with the time signature to aid in following the beat.

Controls (cont.) / Loops

Master Volume

Controls the overall volume of the entire mix.

Notes

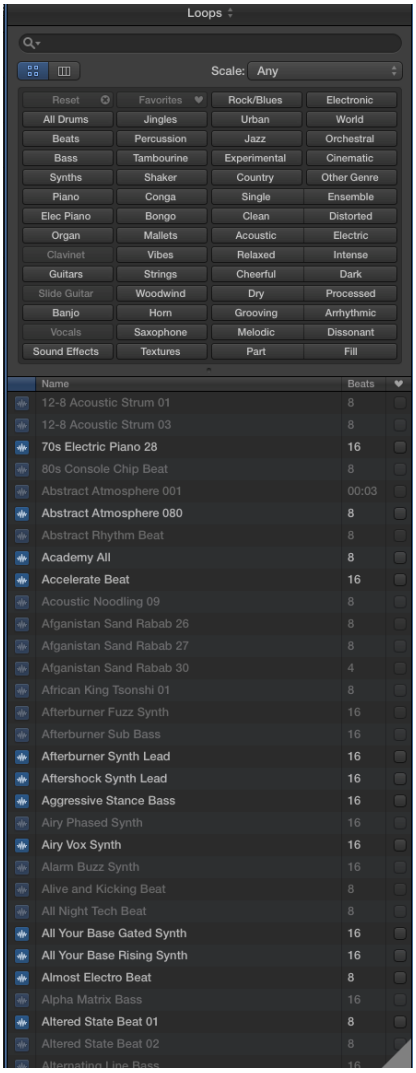
A simple text field for notes.

Apple Loops

Brings up the **APPLE LOOPS** panel .

Media Browser

Browser for finding and importing other media on the computer and attached external devices.

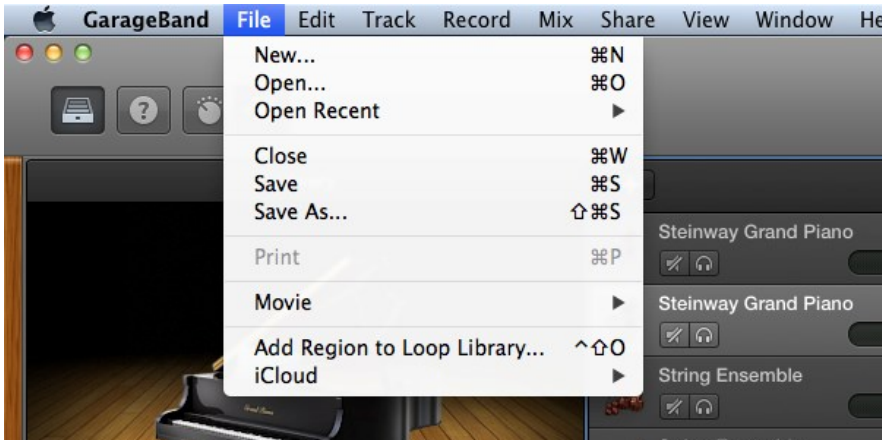


LOOPS:

The **APPLE LOOPS** collection, activated with the LOOPS button in the upper right, provides access to a number of pre-made musical segments that will seamlessly repeat, providing an easy way to add further depth and layers to your compositions.

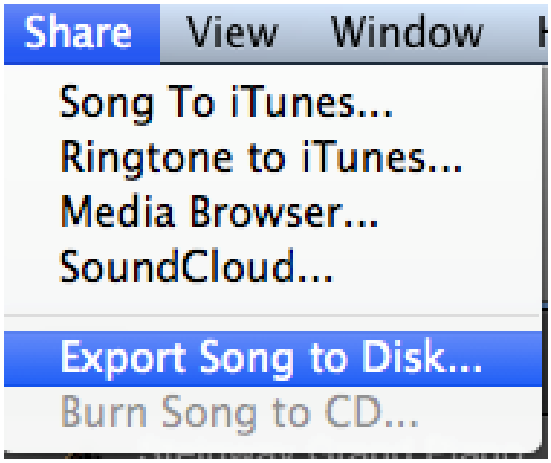
Like the Instruments Library, available loops are indicated with bright white text, while unavailable ones will be dark gray. Listen to them in the Loops panel, and drag ones you like into the timeline to use.

Save & Export



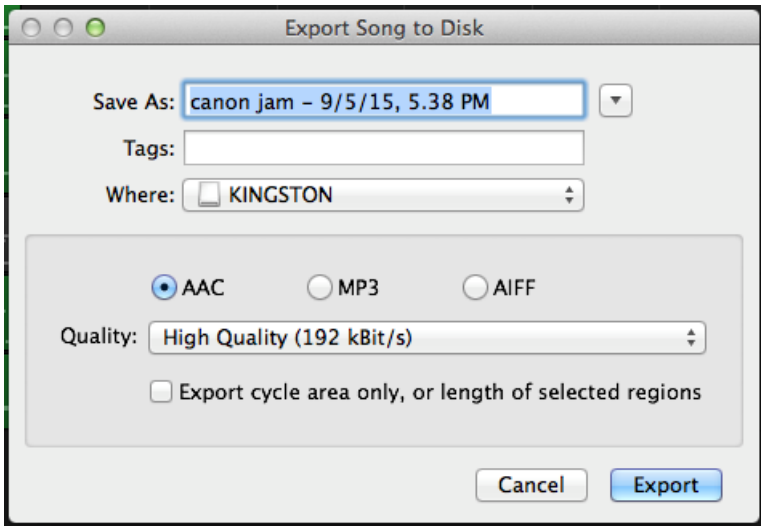
To save a project file that you can continue working on later, use the **Save As…** option from the **File** menu.

Note: This saves the GarageBand project, not an audio file. You can not listen to files saved in this way outside of GarageBand.

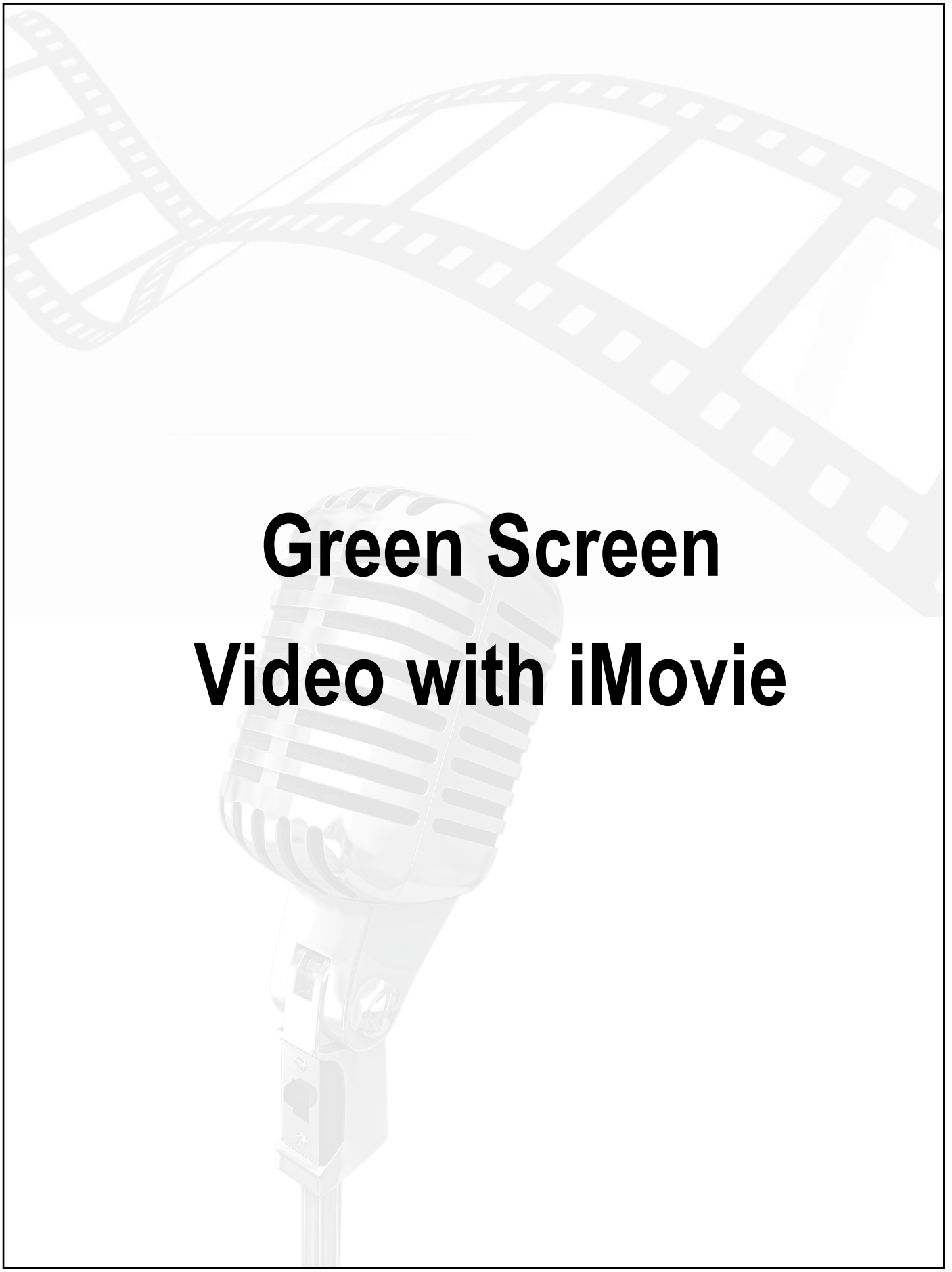


To export the song as an audio-only track that can be widely used or listened to, you'll use the **Share** menu.

There are a number of options available, the easiest of which is **Export Song to Disk**. This allows you to save the audio file in several formats, including **MP3**.



At the prompt, create a name for your file, and choose a file format. For maximum compatibility, select **MP3**. You will also choose the location to save your file to. In the **Where** field, you can select the Desktop for easy access, or choose your own connected media, such as **USB flash drives** or **hard drives**.

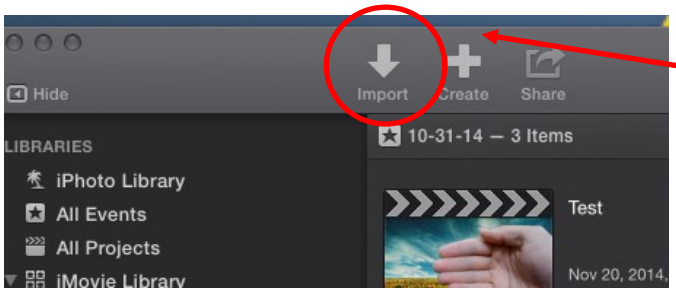


Green Screen Video with iMovie

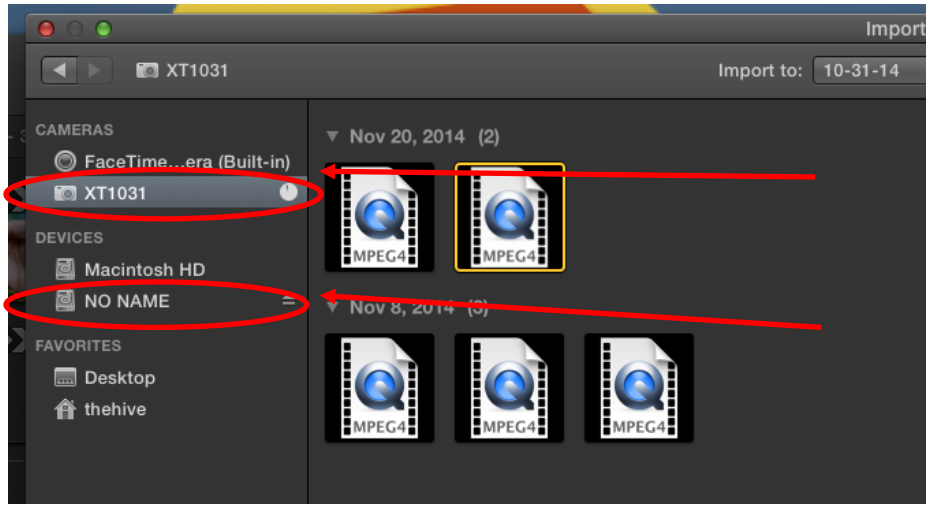
Green Screen with iMovie

To start, open iMovie using the icon in the dock.

Select a theme, or blank template to create a project.



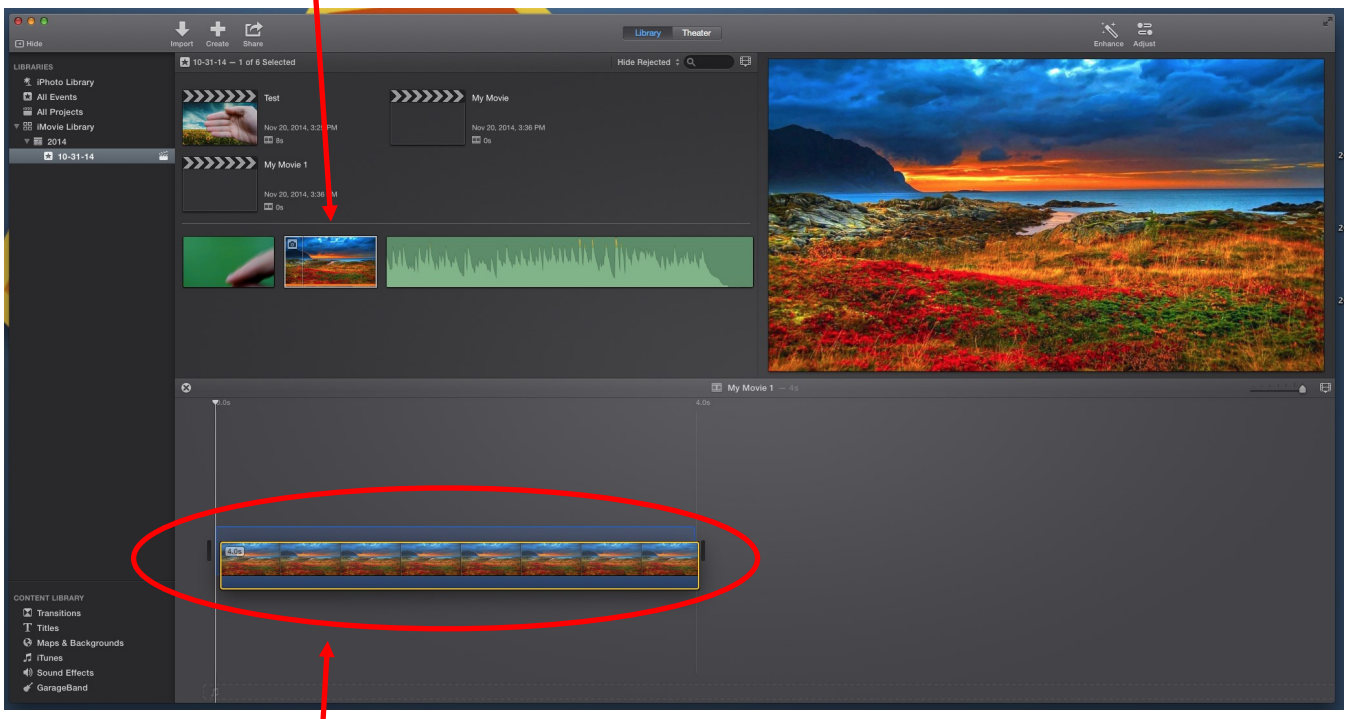
Using the button, import any video and audio clips you intend to use, including the green screen video, and the back-ground still or video you wish to replace the green screen with.



You can import from any connected cameras, which will be visible in a list on the left of the import window.

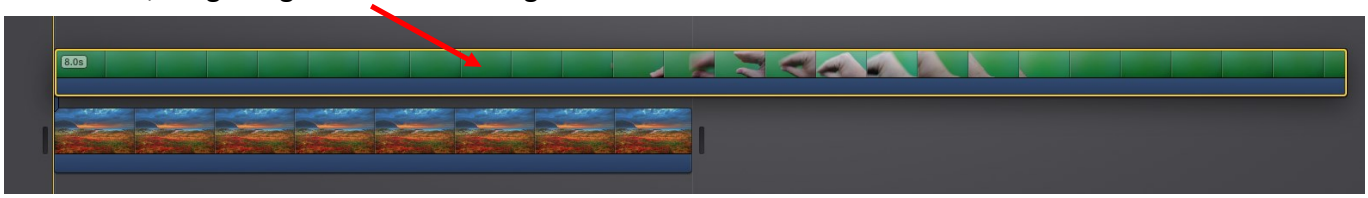
You can also import from connected USB drives, which will appear here as well.

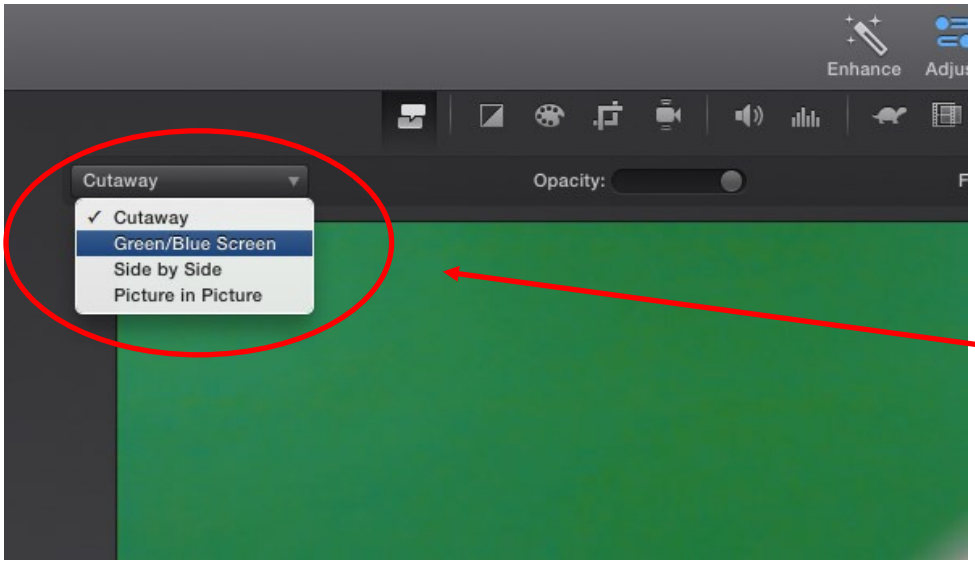
Imported files appear here:



Drag them here, starting with the background.

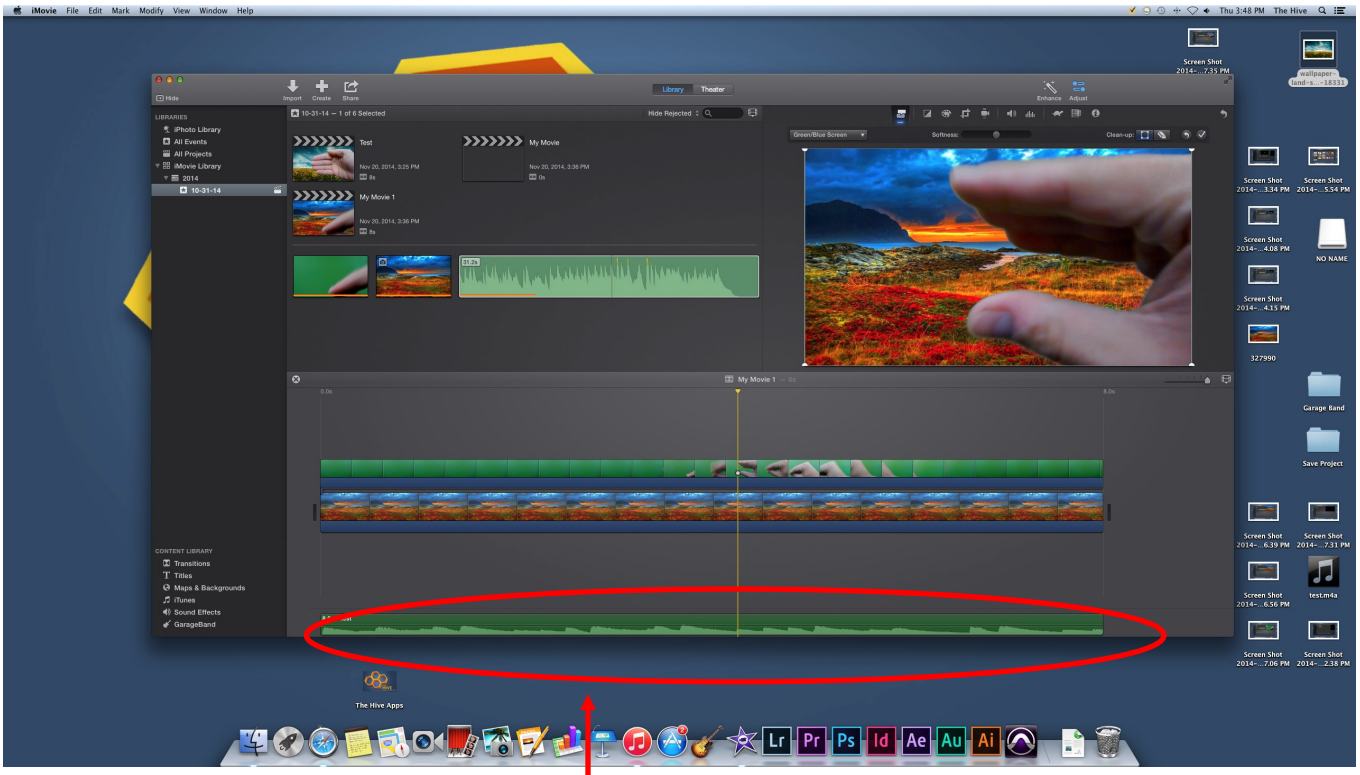
Then, drag the green screen footage above it.





Click the drop-down menu that says "Cutaway" above the preview window. Select "Green/Blue Screen from the list.

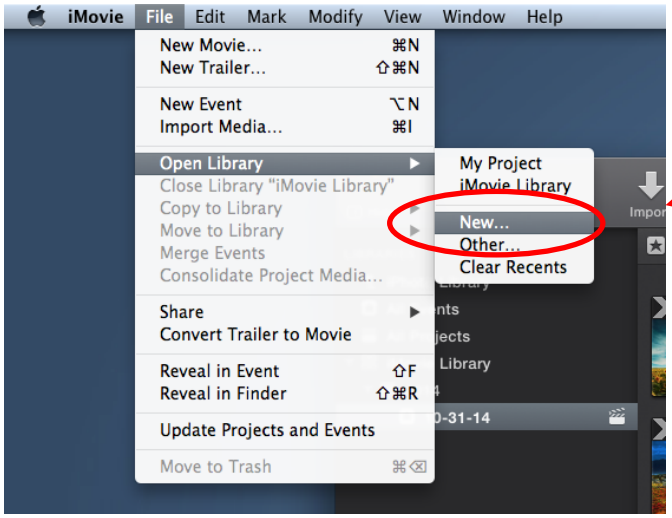
The preview window will now show the composited footage.



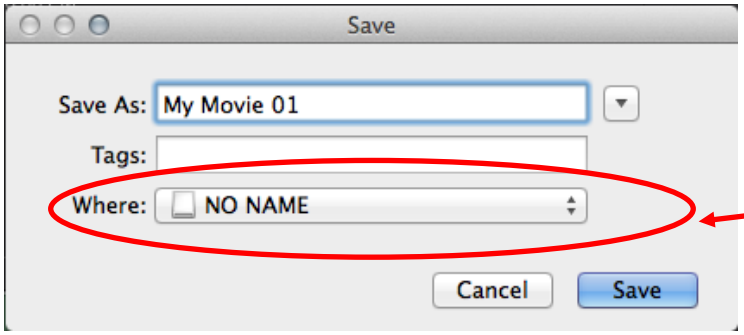
If you added any external audio tracks, you can edit them in by dragging them to the music note at the bottom of the edit window.

Additionally, any imported video will have its included audio track, which can be adjusted or muted using the blue bars directly under the video footage in the editor.

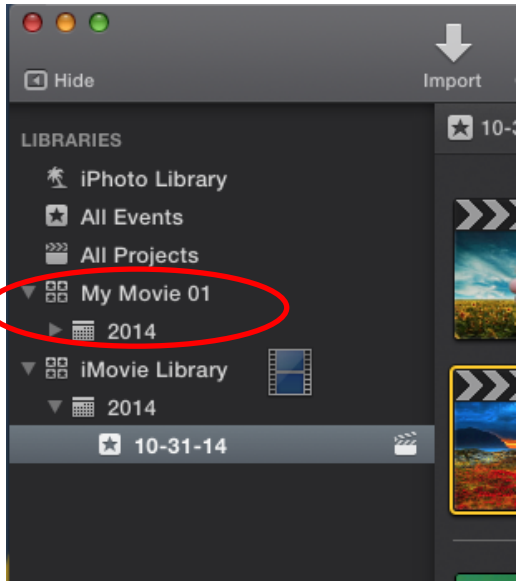
Saving Project Files



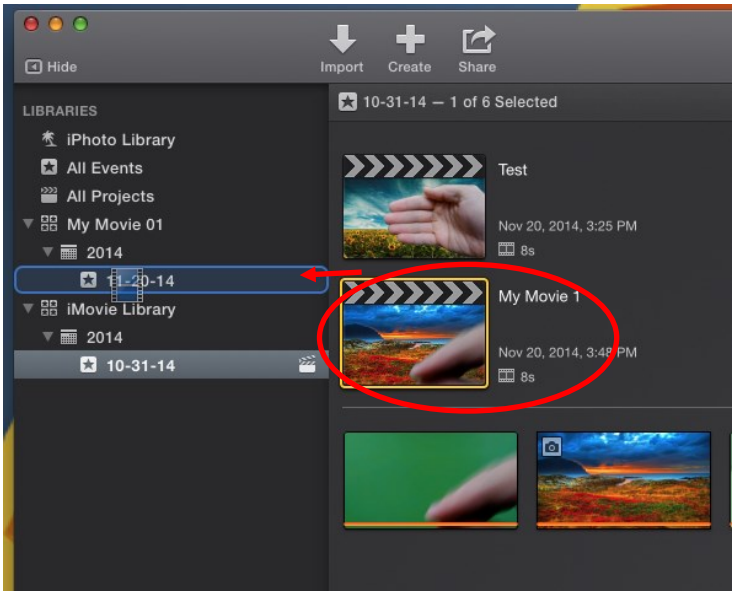
To save your project for further editing later, from the "**FILE**" menu, select "**OPEN LIBRARY**" and click "**NEW.**"



Choose a file name, and select your USB drive from the "**WHERE**" drop-down.

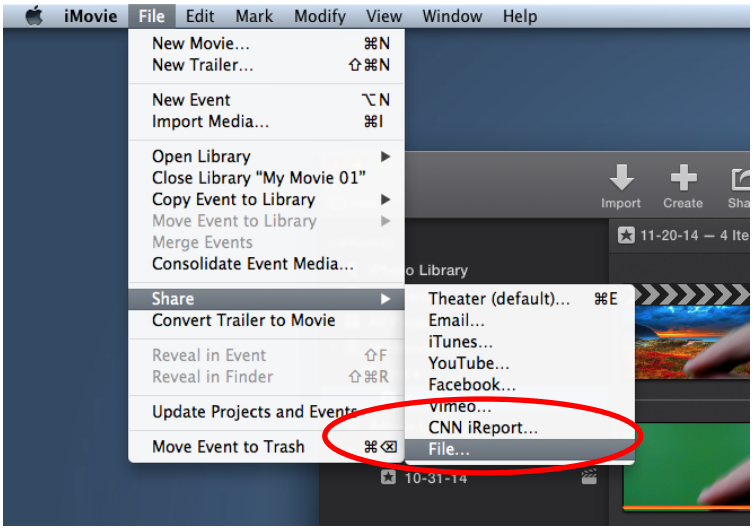


This will create a new library for the work files.

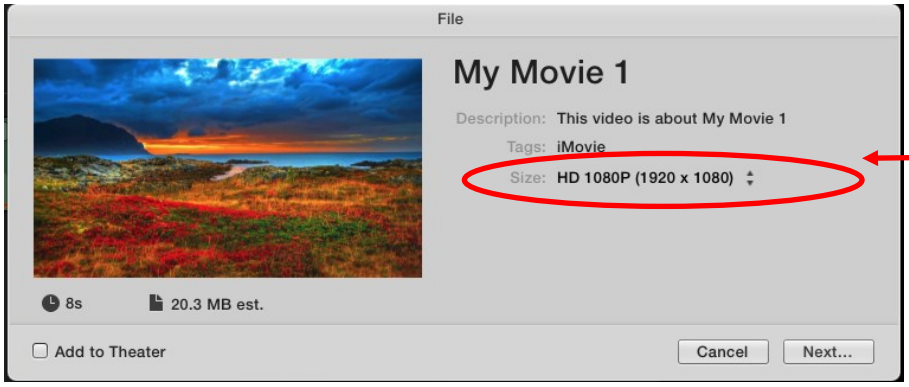


Drag your project from right side to the dated folder in your new library to copy the project over.

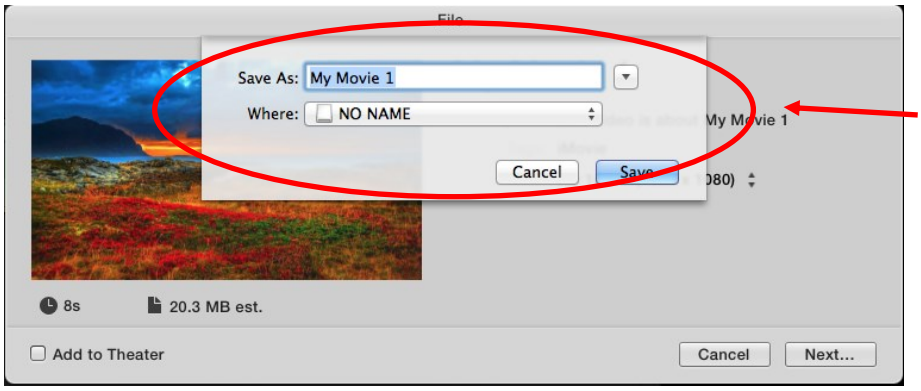
Exporting Video Files



To export a finished video in a viewable format, from the **"FILE"** menu, select **"SHARE"** and click **"FILE"**



Adjust the video resolution/ size if desired.



Name your file and select a destination to export to. You can choose the desk-top and drag all your files to your USB drive at the end of your session, or save directly to your USB drive.