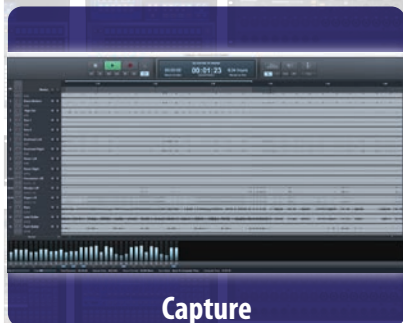
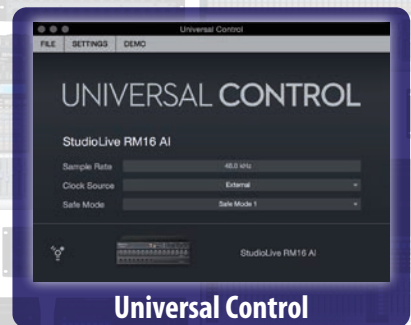


# StudioLive™ Software

## Library Reference Manual

Universal Control with UC Surface | QMix™-UC  
for iOS® and Android™ | Capture™ 2  
Studio One® Artist



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## 1 Overview

### 1.1 Introduction



StudioLive™ Series III and AI-series mixers come with a powerful software library that includes Capture™ and Studio One® Artist. In addition, PreSonus UC Surface editor/librarian/remote-control software for macOS® and Windows® is a free download from the PreSonus Web site. Smart Measurement Technology™ is also provided for StudioLive AI-series mixers. For all StudioLive mixers, PreSonus also offers UC Surface software for iPad® and Windows Touch devices as well as QMix™ UC aux-mix control software for iOS and Android devices; both are free downloads.

Whether you want to remote-control your StudioLive from an iPad, provide your musicians with the ability to control their own monitor mixes from their mobile devices, record a live show with just one mouse click, mix your next hit album, or any combination of the above, your StudioLive mixer and its companion software applications provide you with a complete suite of tools.

We encourage you to contact us with questions or comments regarding this product. PreSonus Audio Electronics is committed to constant product improvement, and we value your suggestions highly. We believe the best way to achieve our goal of constant product improvement is by listening to the real experts: our valued customers. We appreciate the support you have shown us through the purchase of this product.

## 1.2 About This Manual

We suggest that you use this manual to familiarize yourself with the features and correct connection procedures for your StudioLive Software Library before trying to connect your StudioLive to your computer, iPad, or mobile device. This will help you avoid problems during installation and setup.

Throughout this manual you will find Power User Tips. These tips provide useful hints on how to best use the StudioLive Software Library and take advantage of unique workflow functions and features.

For the most part, StudioLive Series III and AI-series console and RM/RML mixers behave identically in every piece of software in the StudioLive Software Library. Because of fundamental architectural differences, some functionality is not available in every series and style of mixer. When these differences occur, it will be noted as follows:

- StudioLive Series III mixers: StudioLive 16 and StudioLive 32
- StudioLive AI-Series mixers: 16.4.2AI, 24.4.2AI, 32.4.2AI, RM16AI, RM32AI, RML16AI, RML32AI
- StudioLive AI-Series console mixers: 16.4.2AI, 24.4.2AI, and 32.4.2AI
- StudioLive AI-Series RM/RML mixers: RM16AI, RM32AI, RML16AI, and RML32AI

## 1.3 Technical Support

Many technical issues can arise when using a standard computer as a digital audio workstation (DAW) and when networking wireless devices. PreSonus can only provide support for issues that directly relate to the StudioLive mixer, UC Surface, QMix-UC, Capture, and Studio One.

PreSonus does not provide support for computer hardware, iOS hardware, Android devices, wireless networks, operating systems, and non-PreSonus hardware and software, and it may be necessary to contact the manufacturer of these products for technical support.

Please check our Web site ([www.presonus.com](http://www.presonus.com)) regularly for software information and updates, firmware updates, and support documentation for frequently asked questions.

Online technical support is available at <http://support.presonus.com>, as well as from your <http://my.presonus.com> account.

Advanced troubleshooting guides can be found at [support.presonus.com/forums](http://support.presonus.com/forums).

## 1.4 Summary StudioLive Software Library Features

### 1.4.1 UC Surface

With battle-ready PreSonus® UC Surface multi-touch control software, every control you need to mix a show is under your fingertips exactly when you need it. UC Surface maintains the same workflow with Windows, Mac, and iPad for control of the StudioLive™ Series III and AI-series mixers.

- Battle-ready interface designed for mixing live sound
- Complete control of every StudioLive Series III and AI-series mixers on the network
- Multiplatform and Network Support
- Touch-ready interface
- Windows 8 multi-touch compatible for large touchscreen mixing
- Complete overview of all input and outputs
- Meter Bridge scroll bar
- Mix Select buttons with activity meters
- Master faders accessible at all times

- Contextual-based navigation for quick, intuitive access to all mixing functions: Fat Channel, graphic EQ, effects, channels
- Flex Fader control over selected mix
- Quickly audition presets on the fly and edit them before loading
- Filter DCAs (StudioLive Series III and RM/RML mixers)
- Unlimited groups
- Channel Type icons for quick identification
- Complete control of Fat Channel processing

#### 1.4.2 QMix™ UC for iPhone®, iPod touch®, and Android devices

QMix-UC provides performers with wireless control over their monitor (aux) mixes onstage and in the recording studio from their mobile devices.

- Provides wireless control over StudioLive Series III and AI-series digital mixers.
- Remote-control aux mixes on any StudioLive on the same network.
- Using the Wheel of Me, control the levels of all of the user's channels simultaneously, with one simple control.
- Create four channel groups to easily manage large monitor mixes.
- Set permissions on your StudioLive mixer so that QMix-UC only controls a specified aux mix.
- Available free from the Apple App Store and Google Play.

#### 1.4.3 Capture

Included with StudioLive is Capture, a digital-audio multitrack-recording application designed to make recording quick and easy. Perfect for live recording and for mixing your audio in real time to a stereo audio file, Capture was designed to interface perfectly with StudioLive-series mixers, allowing instant setup and recording.

Capture allows you to record every input channel on your StudioLive mixer plus a single stereo mix with the click of a single button.

- Multitrack recording application: record every input channel plus the Main mix from your StudioLive mixer
- One-click recording with Record Now button
- Pre-record captures audio up to a minute before you press Record
- Auto-Save at user-definable intervals
- Automatic session and file recovery if the power fails
- Sessions store metadata, enabling automatic session naming
- Soundcheck mode makes it simple to virtually soundcheck using previously recorded material
- Session Lock feature prevents accidental keyboard access
- Essential editing suite (copy, cut, paste, splice, resize)
- Big Meter mode turns your monitor into a gigantic meter bridge
- Stereo Playback mode—use Capture with any computer sound card
- Peak LED-style meter bridge with clip indicators
- Marker placement and recall
- Marker List with Quick Locate
- Export between markers
- Full transport control
- Import/export individual WAV, AIFF, or OpenTL
- Compatible with macOS® and Windows®

#### 1.4.4 Studio One Artist

All PreSonus audio interfaces include PreSonus Studio One Artist recording software, which comes with over 6 GB of plug-ins, loops, and samples, giving you everything you need for music recording and production. The Studio One Artist Quick Start Guide is located in **Section 8** of this manual. You will find a complete user manual inside the Studio One Artist Help menu.

- Unlimited track count, inserts, sends, and plug-in instantiations
- 20 high-quality PreSonus Native Effects™ plug-ins, in eight categories: amp modeling (Ampire XT), delay (Analog Delay, Beat Delay), distortion (RedLight Dist™), dynamics processing (Channel Strip, Compressor, Gate, Expander, Limiter, Tricomp™), equalizer (Channel Strip, Pro EQ), modulation (Autofilter, Chorus, Flange, Phaser, X-Trem), reverb (Mixverb™, Room Reverb), and utility (Binaural Pan, Mixtool, Phase Meter, Spectrum Meter, Tuner)
- Four high-quality PreSonus virtual instruments, including: Presence™ sample player, Impact™ drum machine, SampleOne™ sampler, and Mojito analog-modeled subtractive synthesizer
- Over 6 GB of loops, samples, and instruments
- Open Capture files natively
- Innovative and intuitive MIDI mapping
- Powerful drag-and-drop functionality for faster workflow
- macOS® and Windows® compatible
- Customize your Studio One Artist installation with Studio One Add-ons
- Discounted upgrade to Studio One Pro right from within Studio One Artist



## 2 Connecting to a Computer

The Universal Control installer includes the ASIO/WDM (Windows) and Core Audio (macOS) drivers for StudioLive mixers, as well as the UC Surface application. We made this installer as simple and easy to follow as possible, and it will take you through each step of the installation process. Please read each message carefully to ensure Universal Control, the StudioLive driver and UC Surface are properly installed. In particular, be careful not to connect your StudioLive to the computer too soon.

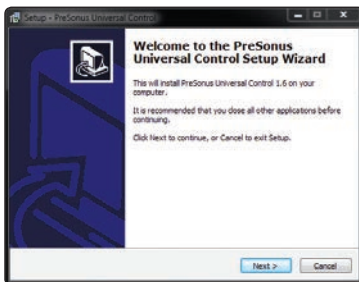
Please visit [www.presonus.com](http://www.presonus.com) for the latest system requirements and an updated list of compatible hardware. It is also recommend that you check your recording software's system requirements.

**Power User Tip:** *As part of our commitment to the quality of our products, PreSonus continually updates its product drivers and software. The latest version of your entire StudioLive Software Library can be downloaded directly from your My PreSonus account as soon as you register your StudioLive mixer. My PreSonus is also your portal to support, the PreSonus Shop, and more.*

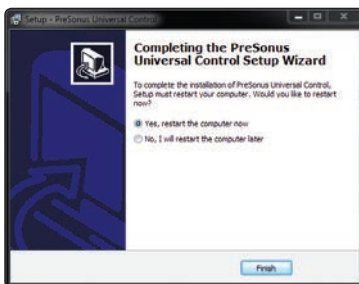
*The speed of your processor, amount of RAM, and capacity, size, and speed of your hard drives will greatly affect the overall performance of your recording system. A faster processor and more RAM can reduce signal latency (delay) and improve overall performance.*

### 2.1 Installation for Windows

Before beginning the Universal Control installation setup, please quit all applications, including antivirus software, and disconnect the StudioLive from your computer.



Follow the onscreen instructions to complete the installation. When the installer has finished, it will prompt you to reboot your computer.



Click "Finish" to automatically restart your PC. Once your computer has rebooted, connect the StudioLive. When the Found New Hardware wizard launches, follow the "Recommended" steps.

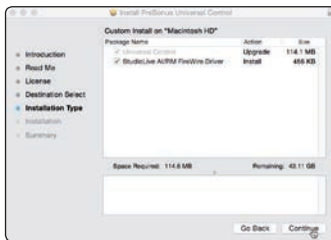
Your StudioLive is now synced to your computer and ready to use!

## 2.2 Installation for macOS

The UC Surface installer will take you through each step of the installation process. Please read each message carefully, and be especially careful that you do not connect your StudioLive too soon.

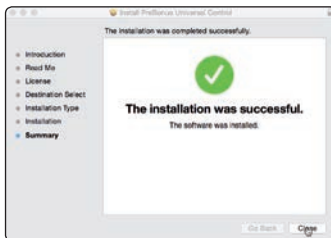


1. After launching the installer, you will be directed to the Welcome screen. Click “Continue” and follow the onscreen instructions.



2. You will be asked which installation type you would like to perform. You can either install just the Universal Control application or both the Universal Control application and the StudioLive AI-series FireWire Driver. If you are only going to network your computer to your mixer, you do not need to install the driver.

*Whether you are connecting your StudioLive Series III mixer to your computer via USB or a LAN network, you do not need to install the FireWire driver.*



3. When the installation is completed, you will be prompted to reboot your computer. After your Mac has restarted, connect your StudioLive with the appropriate transport cable and power it on.

4. Once the installation is completed, you will find the UC Surface program in your Applications folder. It is recommended that you place this in your Dock.

You are now ready to use your StudioLive with your computer!

## 2.3 Using the StudioLive as an Audio Interface

The StudioLive mixers feature a built-in audio interface that can be used with any application that supports Core Audio or ASIO and can also be used as a WDM device for a Windows computer.

Any input and bus with a Select button, and, on some models the Solo bus, tape input, and talkback mic, can be recorded. **Please review Section 2.5** of this manual for more information on which audio streams are available for recording and playback.

**Note:** StudioLive AI-series mixers use the same driver as the PreSonus FireStudio family of interfaces and StudioLive 24.4.2 and 16.4.2 mixers. Its driver is displayed as “PreSonus FireStudio” in all driver-selection menus.

**Power User Tip:** If your StudioLive will not connect to the computer, verify that the USB (Series III) or FireWire 800 (AI-series) cable is properly connected to the StudioLive and to your computer and disconnect all unnecessary peripheral devices on the same transport bus.

## 2.4 Using the StudioLive with Popular Audio Applications

Below are basic driver-setup instructions for several popular audio applications. Complete setup instructions for PreSonus Studio One Artist and a brief tutorial on its features are located in **Section 8** of this manual. If your audio application is not listed in this section, please consult your application's user documentation for information on selecting an audio device driver.

### Steinberg Cubase 4+

1. Launch Cubase.
2. Go to Devices | Device Setup.
3. Select "VST Audio System" from the Devices column in the Device Setup.
4. Select StudioLive 32, StudioLive 16, or PreSonus FireStudio from the ASIO Driver dropdown list.
5. Click "Switch" to begin using the StudioLive Driver.
6. Once you have successfully changed the driver, go to Devices | VST Connections to enable your input and output buses.

### Ableton Live 5+

1. Launch Ableton Live.
2. Go to Options | Preferences | Audio.
3. Choose Driver Type: ASIO | Audio Device: StudioLive 32, StudioLive 16, or PreSonus FireStudio
4. Go to Input Config : Enable and select the desired Input channels.
5. Go to Output Config : Enable and select the desired Output channels.
6. You may now select the StudioLive's inputs and outputs for each track created in Live.

### Apple Logic Pro/Express 7+:

1. Launch Logic Pro/Express.
2. Go to Logic | Preferences | Audio.
3. Click on the Devices Tab.
4. On the Core Audio tab, check Enabled.
5. Select StudioLive 32, StudioLive 16, or PreSonus FireStudio from the device menu.
6. You will be asked if you'd like to relaunch Logic. Click "try (re)launch."
7. Your StudioLive features custom I/O labels for faster work flow. To enable these labels for use in Logic, go to Options | Audio | I/O Labels.
8. The second column in the pop-up window will be named "Provided by Driver:" Activate each of these labels for your StudioLive. When you are done, close this window.
9. You are now ready to use your StudioLive.

### Avid Pro Tools 9+

1. Launch Pro Tools.
2. Got to Setup | Hardware and select StudioLive 32, StudioLive 16, or PreSonus FireStudio from the Peripherals list. Click OK.
3. Go to Setup | Playback Engine and select StudioLive 32, StudioLive 16, or PreSonus FireStudio from the menu at the top of the window. Click OK.

### Cakewalk Sonar 6+

1. Launch Sonar.
2. Go to Options | Audio... and click on the Advanced tab.
3. Change the Driver Mode to "ASIO."
4. Click the "OK" button.
5. Restart Sonar.
6. Go to Options | Audio... and click on the Drivers tab.
7. Highlight all input and output drivers beginning with "StudioLive 32", "StudioLive 16", or "PreSonus FireStudio"
8. Go to Options | Audio... and click on the General tab.
9. Set the Playback Timing Master to "StudioLive 32 ... Channel 1", "StudioLive 16 ... Channel 1", or "PreSonus FireStudio ... Channel 1"
10. Set the Recording Timing Master to "StudioLive 32 ... Channel 1", "StudioLive 16 ... Channel 1", or "PreSonus FireStudio ... Channel 1"

## 2.5 Digital Sends and Returns

When using the StudioLive as an audio interface, it is important to understand the terms "digital send" and "digital return." Because the audio interface in the StudioLive is completely integrated with the other functions of the mixer, the digital (FireWire or USB) I/O is designed to work as an independent bus. You can route (send) signals from other buses to the digital transport bus, and its output (return) signal is hard-coded to designated mixer channels.

The StudioLive 32 and StudioLive 16 have has 34 available sends and 34 returns.

The StudioLive RM/RML32AI and RM/RML16AI have 52 available sends and 34 returns.

The StudioLive 32.4.2AI has 48 available sends and 34 returns.

The StudioLive 24.4.2AI has 40 available sends and 26 returns.

The StudioLive 16.4.2AI has 32 available sends and 18 returns.

### 2.5.1 Channel Digital Sends

Every Digital Send is hard-coded to be sent pre-fader from the input channels of the StudioLive. These sends can be pre- or post-Fat Channel EQ and dynamics.

To record the EQ and dynamics processing on any channel, simply enable the Post button in the Digital Out section. It will illuminate, indicating that the Fat Channel signal path is being routed to the Digital Send. If this mode is not enabled, the signal sent will be post-trim and post-analog insert (if applicable).



Figure 1: StudioLive AI-series console

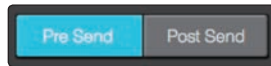


Figure 2: UC Surface

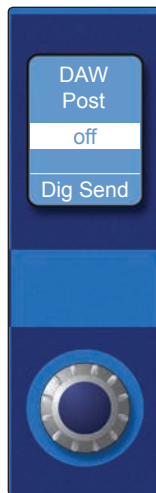


Figure 3: StudioLive Series III

For StudioLive Series III mixers, there is an additional pair of Digital Sends dedicated to record the Main bus. StudioLive AI-series mixers have 16 auxiliary sends that can be freely routed, *see next section*.

### 2.5.2 Auxiliary Digital Sends (StudioLive AI-series)

StudioLive AI-series mixers feature additional Digital Sends that can be routed in stereo pairs from the Aux routing tab in the Settings page of UC Surface. Any combination of eight of the following stereo inputs and buses can be selected:

- Main Mix Left / Right
- Subgroups
- Aux Mixes
- FX Send Mixes
- Stereo Aux Returns (console mixers only)
- Tape Input Left/Right
- Talkback Left/Right (console mixers only)
- Solo Left/Right

**Power User Tip:** Note that either channel of the stereo pair can still be accessed on a mono track in your host application; only the routing must be assigned as a stereo pair. For instance, if you have a backing-vocal group routed to Subgroup 1 and a guitar group routed to Subgroup 2, you would create two mono tracks in your recording application. The track whose input is assigned to Subgroup 1 will record the backing-vocal group, and the track whose input is assigned to Subgroup 2 will record the guitar group. If, however, you have a stereo drum group assigned to Subgroups 3-4, you can create a stereo track in your recording application and assign its input to Subgroups 3 and 4.

*The obvious exception to this principle is the Talkback Mic input. In this instance, the same signal will be printed on both sides of the send. In your recording software, you can create a mono track and assign it to either side of the stereo Digital Send to which it is routed. Both Digital Sends receive the same mono signal from the talkback mic preamp.*

*Section 5.7.2 discusses how to select the sources for these auxiliary stereo Digital Sends.*

### 2.5.3 Digital Returns

Each StudioLive input is hard-coded to receive its respective digital return. The DAW Outputs in your recording application route these playback streams to their respective channels on the StudioLive (that is, the software's Output 1 always goes to StudioLive Channel 1 digital return and so on). Once you route a track in your recording application to play through one of these outputs, it will always be accessible on its channel by simply pressing the Digital Return button.

**Power User Tip:** *It is important to think of your digital returns and your analog inputs in the same way. When a digital return is engaged, it replaces the analog input in the mix. You can process it in the Fat Channel, include it in Aux mixes, and send it to an FX mix. It is also important to note that the analog input is still available to be recorded, or processed with a plug-in, in your DAW host application even if the digital return is engaged.*



Figure 1: StudioLive AI-series console



Figure 2: StudioLive Series III



Figure 3: UC Surface

### 2.5.4 Main Digital Return

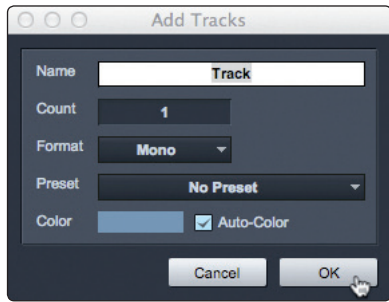
To provide the most flexible mixing environment, PreSonus has provided a stereo Main Digital Return to free the channels returns to be patched directly to their corresponding channels on your StudioLive mixer. In this way, you can monitor the main output from your recording application without using two channels on your StudioLive, leaving the other channels available to be routed to the Fat Channel or for inserting a plug-in on a live instrument.

- These digital returns are selectable as the tape return source on both the StudioLive series III and StudioLive AI-series console mixers.
- These digital returns are available as dedicated channels in each mix on StudioLive RM/RML mixers.

## 2.6 Using Plug-In Effects as Inserts

Digital Transport streaming on your StudioLive is continuously bidirectional. This means that the StudioLive is always sending signals from the analog inputs to the direct Digital Sends on all input channels, as well as from the auxiliary inputs and buses assigned to the second bank of Digital Sends (StudioLive AI-series mixers). At the same time, the StudioLive is receiving signals back from the digital returns. Because the digital returns always come back to their respective StudioLive channels, you can quickly insert a plug-in from your recording application into any channel strip and monitor it in real time.

In this example, we will insert the Beat Delay plug-in from PreSonus Studio One onto Channel 4 of the StudioLive.

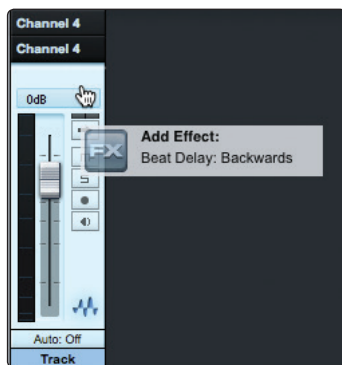


1. To begin, create a mono audio track in Studio One.

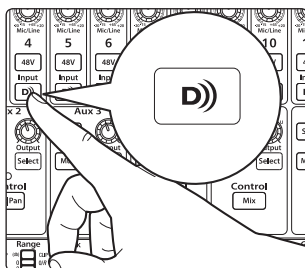


2. Assign its input to Channel 4 and its output to Output 4.

(Several DAW applications, including Apple Logic, do not offer mono output buses. If this is the case, you must route the output stream to, for example, Channels 3-4 and pan the channel all the way to the right so that it will only be sent to Output 4. *Please consult your software's user manual for specific instructions.*)

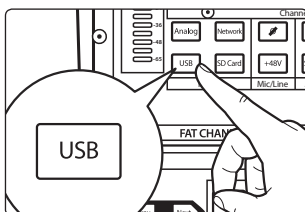


3. Once you have the routing set up in Studio One, drag-and-drop the Beat Delay plug-in onto your track and record-enable it. Software monitoring will be enabled automatically.



4. Enable the Digital Return on Channel 4 of your StudioLive. You can now monitor the analog signal from Channel 4 on your StudioLive with your inserted effect (in this case, Beat Delay).

**Power User Tip:** When using plug-ins as inserts, it is very important that you set as low a buffer size on your computer as possible without creating performance issues. For most new computers, this won't be an issue. A buffer size of 128 or less will provide low enough latency for most plug-in types; however, dynamics and EQ plug-ins and performance plug-ins such as amp-modelers may require lower latency settings. *See Section 4.1 for more information on buffer size settings.*



**Please note:** setting the buffer size too low on older or slower computers, or on a computer that has not been properly optimized, may result in poor performance. Always be sure to test the limits of your system before attempting CPU-intensive tasks in mission-critical situations.



## 3 Networking Your Remote Devices

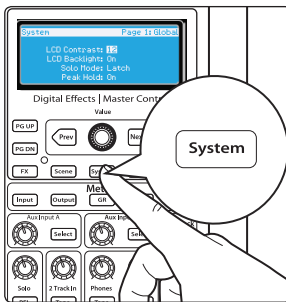
StudioLive Series III and AI-series mixers can be directly connected to a standard LAN network, allowing you to remote control them using UC Surface or QMix-UC.

**Power User Tip:** Network connections occasionally require troubleshooting, especially when a lot of wireless networks are in use. Because of this, it is always a good idea to get your networked devices and StudioLive happily communicating before the pressure is on, and you have a singer trying to dial in a monitor mix while you're trying to mic the drum kit. So while the guitarist is flirting with the bartender, take a quick moment to get your iPad, iPhone, computer, and StudioLive talking.

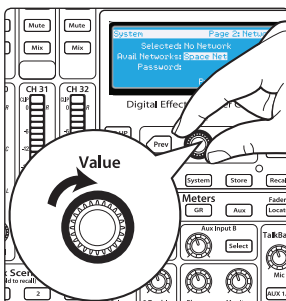
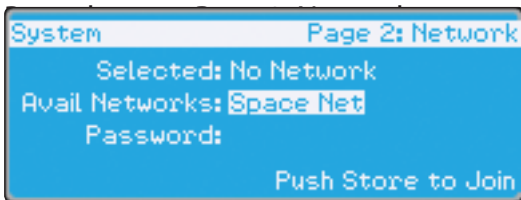
### 3.1 Networking your StudioLive AI Console Mixer

This section will guide you through connecting your StudioLive AI-series console mixer to a LAN network. Networking instructions for StudioLive Series III and RM/RML mixers can be found in their respective Hardware Manuals.

StudioLive AI-series console mixers provide you with two choices of connecting to a wireless router. You can either connect it directly to the router using an Ethernet cable, or connect it wirelessly using the included USB Wi-Fi adapter. It is important to mention that the StudioLive AI-series console mixer does not support hot-swapping the Wi-Fi adapter. It must be connected when you boot up your mixer to use it. Also, the included adapter is the only LAN adapter supported for use with the StudioLive AI-series console mixer. If a direct Ethernet connection to a network connection is available, the Wi-Fi adapter will not scan for additional networks.

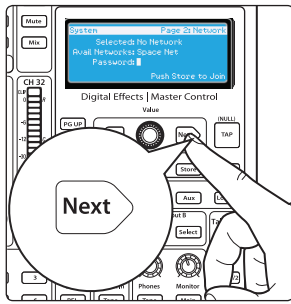


1. Press the System button on your StudioLive to open the System menu.



2. Use the Value Encoder to scroll through the available networks. If you are connecting your StudioLive directly to your Wi-Fi router with an Ethernet cable, you will only see one Network.





3. If your network has a password (recommended), press Next to navigate to the Password field and use the Value encoder and Next button to enter the password. Please Note: the StudioLive only supports WPA and WPA2 security.



4. When you are done, press the Store button to connect to the network. Every time you turn on your StudioLive AI-series console mixer, it will look for this network and attempt to connect to it.

## 3.2 Connecting your Computer to your Network

### Windows 7+

1. Click on the network icon in the notification area to open the Connect to Network Control Panel.
2. Select the same wireless network that you saved on your StudioLive AI-series console mixer.
3. Enter the password.
4. Click Connect.

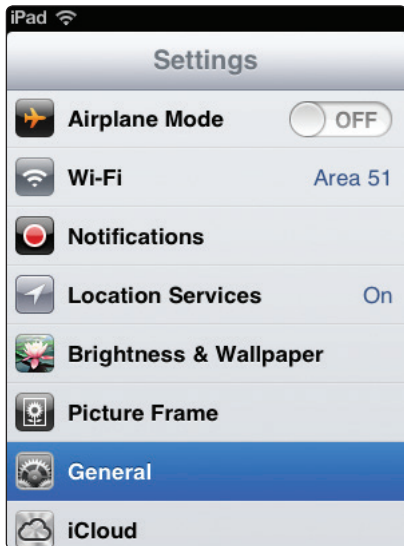
### macOS 10.8 and later

1. On the Menu bar click on the Wireless Status icon.
2. From the pull-down menu select the same wireless network that you saved on your StudioLive AI-series console mixer.
3. Enter the password.
4. Click Join.

## 3.3 Connecting your iPad to your Network



1. Tap on the Settings icon in your iPad.

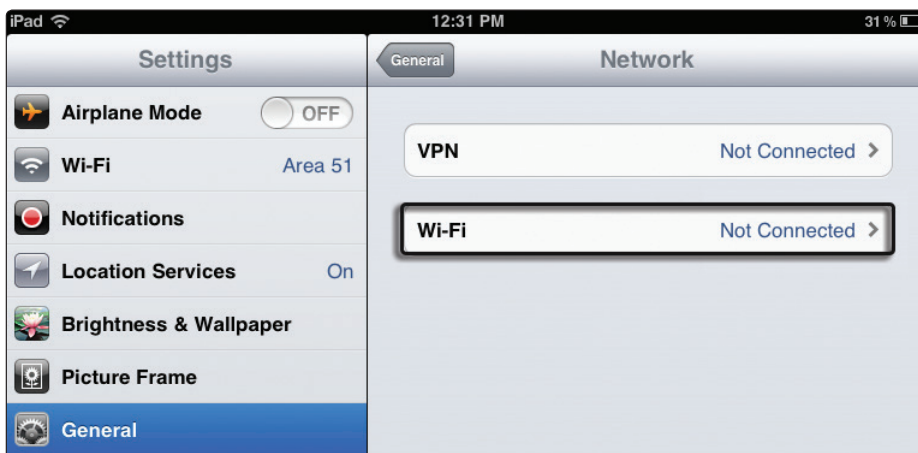


2. Tap on "General."

3. Tap on "Network."



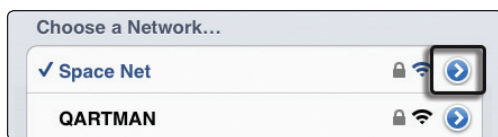
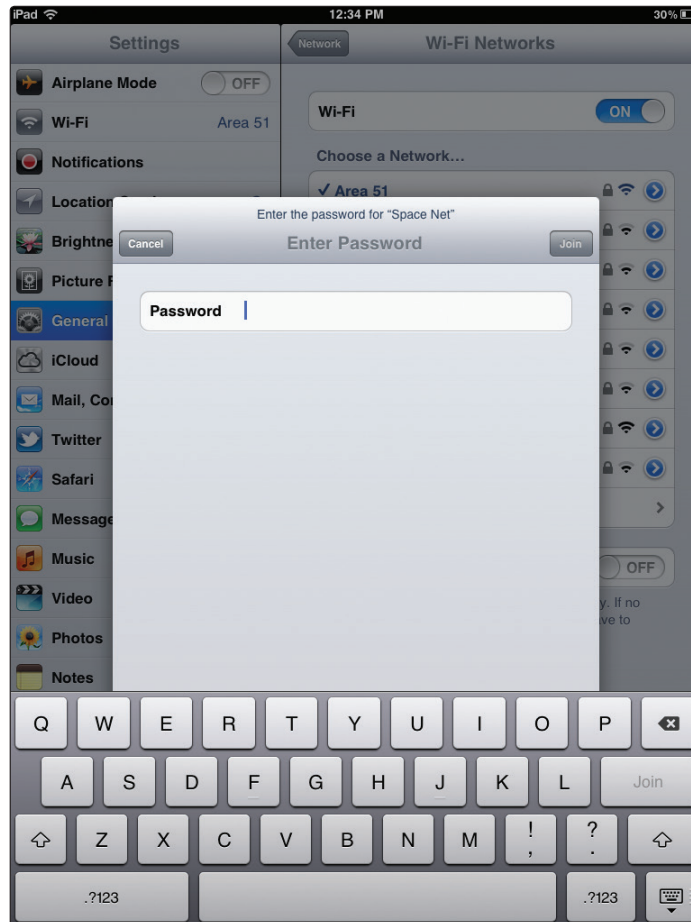
4. Tap on "Wi-Fi."



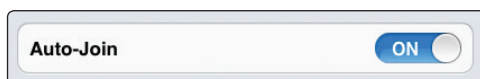


5. Under “Choose a Network,” find the same network you saved on your StudioLive from the list. Tap the network to select it.

6. Enter the password when prompted and tap Join.



7. Tap on the menu arrow to the right of the desired network's name to open its network settings.



8. Turn Auto-Join to “On.” You are now ready to launch StudioLive Remote-AI and mix on the go!

### 3.4 Connecting your iPhone/iPod touch to your Network



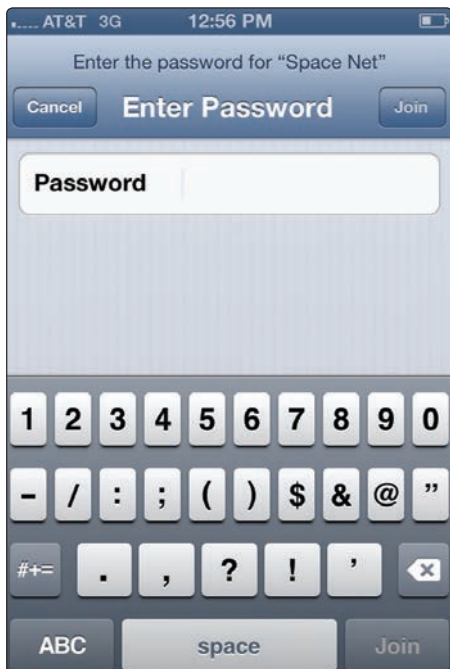
1. Tap on the Settings icon in your iPhone/iPod touch.



2. Tap on "Wi-Fi" making sure it is set to "On."



3. Under "Choose a Network," select the same network you saved on your StudioLive from the list.



4. Tap on the network to select it.

5. Enter the password when prompted and tap Join.

**Important:** You must connect your computer and iOS devices to the same network as your StudioLive AI-series console mixer each time you plan on remote-controlling your StudioLive with UC Surface, or QMix-UC.

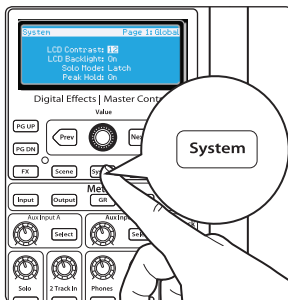
### 3.5 Setting Device Permissions (StudioLive AI Console mixers)

Controlling your StudioLive remotely with UC Surface for iPad or QMix-UC for mobile devices allows you to move about the venue freely. However, it can also put the full power of the StudioLive in multiple hands—some more adept than others. Therefore, your StudioLive enables you to limit each iOS device's access to the mixer features by setting permissions.

Once a mobile device is connected to your wireless network and has launched UC Surface or QMix-UC, the device will be displayed in the Remote Devices list on the System Menu on your StudioLive. Each device will be listed using its device name so you can easily identify which device is which.

Once you have connected and configured your devices, the same permissions will be set for that device every time you connect it. Complete information about UC Surface and QMix-UC can be found in **Sections 4 through 6**.

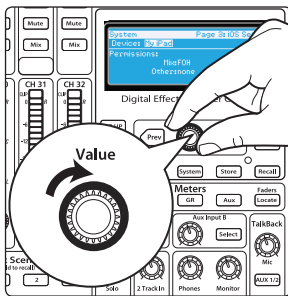
1. Press the System button on your StudioLive to launch the System menu.



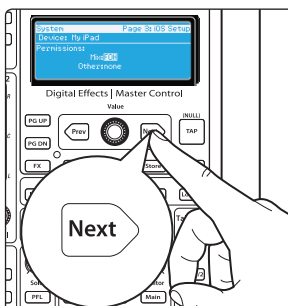
2. Page down to navigate to Page 3: iOS Setup.



3. Use the Value encoder to scroll through the list of available iOS devices.



4. When you find the device for which you'd like set permissions, use the Next button to navigate to the first permissions field. Use the Value encoder to set the device permission.



### 3.5.1 UC Surface Permissions



When setting permissions for UC Surface users, you will choose between giving full access to all UC Surface functions or providing limited access to just a few aux-mix functions. In most cases, one iPad will be configured as front-of-house (FOH), and the others will be configured as aux mixes.

**Mix Permissions.** Sets the level of functionality in UC Surface.

- **None.** UC Surface on the select iPad will not be able to control your StudioLive AI-series console mixer
- **FOH.** Enables all UC Surface functions.
- **All Auxes.** UC Surface will only control the channel send levels for all aux mixes.
- **Individual Aux Mixes.** UC Surface will only control the channel send levels for the specified aux mix.

**Other Permissions.** Choose between Ch Rename or None. Ch Rename allows UC Surface users to remotely change the channel and bus scribble-strip labels. These changes are also reflected in UC Surface, QMix-UC, and on the Channel Info page on the StudioLive AI-series console mixer.

### 3.5.2 QMix-UC Permissions



When setting permissions for QMix-UC users, you will choose between providing full access to all aux mixes, providing access to only a single aux mix, and limiting the user to just the Wheel of Me functions.

**Mix Permissions.** Sets the level of functionality in QMix-UC.

- **None.** QMix-UC on the select iPhone/iPod Touch will not be able to control your StudioLive mixer.
- **All Auxes.** QMix-UC will control the channel send levels for all aux mixes.
- **Individual Aux Mixes.** QMix-UC will only control the channel send levels for the specified aux mix.

**Other Permissions.** Choose between Wheel Only or None. Wheel Only disables the Aux Mix page in QMix-UC. When this is enabled, the user will only be able to use the Wheel of Me on the single aux to which you've provided access. When Wheel Only is enabled, you can only give access to one aux mix.

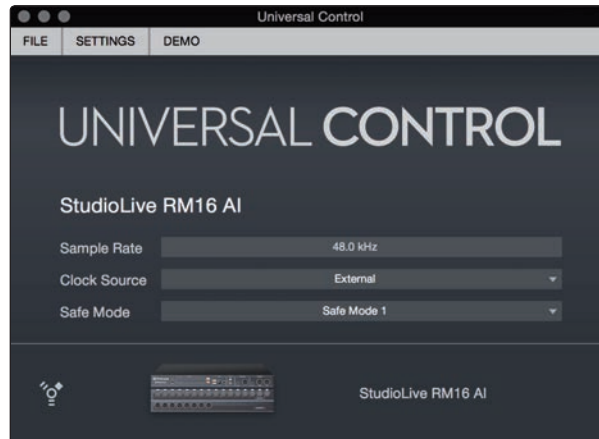
## 4 Universal Control



Universal Control is a powerful hardware management application for all PreSonus® interface products. It allows you to manage any PreSonus interface product connected to your computer or your computer's network.

### 4.1 Universal Control Launch Window

When Universal Control is launched, you will see the Launch Window. From this window, you can manage all the Core Audio and ASIO driver settings.



**Sample Rate.** Changes the sample rate.

You can set the sample rate to 44.1 or 48 kHz. A higher sample rate will increase the fidelity of the recording but will increase the file size and the amount of system resources necessary to process the audio.

When connected to a StudioLive® AI-series mixer, 88.2 and 96 kHz operation is also available. When 88.2 or 96 kHz is selected, your StudioLive AI-series mixer will enter HD mode, and the following functions will be disabled:

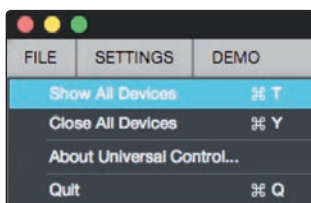
- **Output Bus Fat Channel Processing.** Fat Channel processing on the Main, Aux, Subgroup, and FX buses.
- **FX B and FX D Buses and Processors.** Both the bus and processor will be disabled.
- **Cascading.** Mixers in HD mode cannot be cascaded.
- **AVB Audio.** AVB Audio is not available at these higher sample rates.

*Note: StudioLive Series III mixers have a fixed sample rate of 48 kHz.*

**Block Size.** Sets the buffer size.

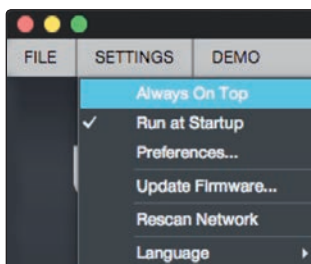
From this menu, you can set the buffer size from 32 to 4,096 samples (macOS®), or 64 to 8,192 samples (Windows®). Lowering the buffer size will lower latency; however, this will also increase performance demands on your computer. In general, you will want to set the buffer size as low as your system can safely support. If you begin to hear pops, clicks, or distortion in your audio path, try raising the buffer size.

*A Note for StudioLive Series III users on Windows: When adjusting the block size, the Safe mode will automatically change to provide the best performance.*



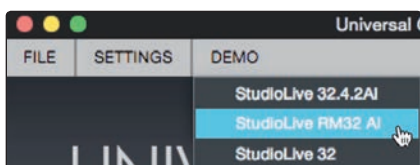
**File Menu.** Manages devices connected to Universal Control.

- **Show All Devices.** Launches all control windows for all supported devices connected to your computer's network or host transport (USB or FireWire).
- **Close All Devices.** Closes all open control windows.
- **About Universal Control.** Displays version and build date information.
- **Quit.** Quits the Universal Control application and all hardware control windows.



**Settings Menu.** Provide customization options to personalize your Universal Control experience.

- **Always on Top.** Keeps the Universal Control Launch window on top whether it is the currently active application or not.
- **Run at Startup.** Launches Universal Control automatically when your computer boots.
- **Preferences.** Sets language and appearance options (see below).
- **Rescan Network.** Scans the network and local transport bus (USB or FireWire) for all supported PreSonus products.
- **Language.** Sets the language (English, French, German, Korean, Simplified Chinese, or Spanish).



**Demo.** Allows you to launch a virtual connection to a StudioLive 32.4.2AI, StudioLive RM32AI or StudioLive 32 mixer.





**Preferences.** Sets language and appearance options.

- **General.** Sets the language preference for Universal Control and UC Surface.
- **Appearance.** Allows you to adjust the overall brightness of UC Surface. Choose between Default, Light, and Bright.



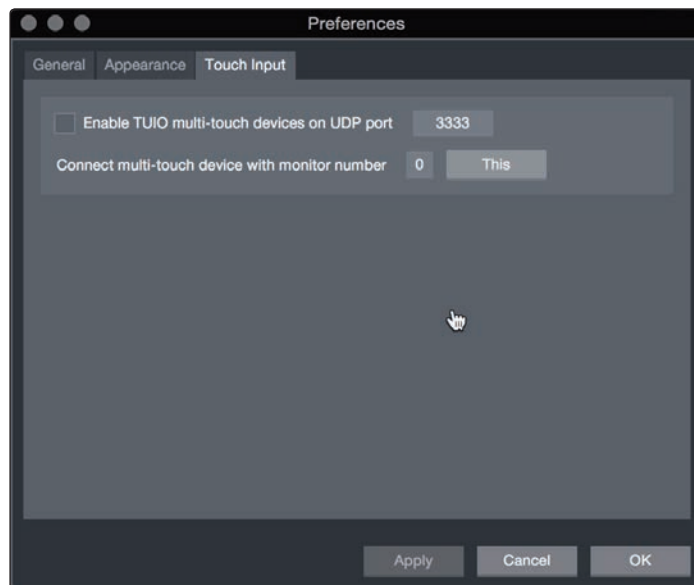
Default

Light

Bright

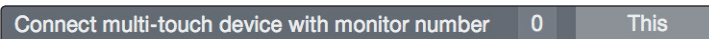
- **Touch Input.** Provides options to connect TUIO devices on macOS. See *Section 4.2* for example setup instructions.

## 4.2 TUIO Setup (macOS)



TUIO allows multi-touch displays to connect to macOS. If you would like to use a multi-touch display with your Apple computer, check the box next to “Enable TUIO.”

Once enabled, you must set the UDP port to match the value set by your multi-touch display’s driver. By default, the UDP port is set to 3333. This is the most common value and it is unlikely that you will need to change this value.



If you are using a multi-touch display with one or more displays, you must identify which one will be sending multi-touch control to Universal Control. To set this, simply drag the Universal Control Preferences dialog to your multi-touch display and click or tap the “This” button. This will set the monitor value to the correct number.

## 5 UC Surface Mix Control Software

UC Surface is a powerful software application that provides control of channel, subgroup, aux, and bus levels; Fat Channel parameters; aux mixes; effects; and graphic EQs. It also provides a visual overview of your StudioLive settings so that you can see, adjust, and organize them. UC Surface also includes a librarian, allowing you to easily manage your presets and scenes.

For StudioLive AI-series and Series III console mixers, UC Surface provides bidirectional control that allows you to remote-control mixing functions that are also available from their respective hardware control surfaces. Since control is bidirectional, fader moves and parameter changes made on the StudioLive mixing surface are reflected in UC Surface and vice versa.

For StudioLive AI-series RM and RML mixers, UC Surface provides both software-only control and remote mixing when connected to a StudioLive CS18AI.

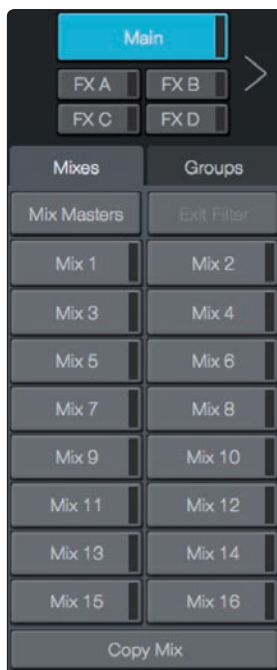
UC Surface will run on macOS, Windows, Windows Touch, or iPad® devices, affording flexible control options for any mix situation.

To use UC Surface, you must do one of two things:

- Connect your StudioLive, computer, Windows Touch device, or iPad to the same wireless network. This option will allow you to use any or all of these devices to remote control your StudioLive mixer anywhere in the venue
- Connect and sync your StudioLive to your computer using your computer's host transport (USB, FireWire s800, or Thunderbolt). This option allows you to use UC Surface while recording and playing back audio through Capture™, Studio One®, or a third-party DAW of your choice.

**Note:** StudioLive AI-series mixers support the use of the Apple Thunderbolt to FireWire adapter.

### 5.1 UC Surface Mix Controls



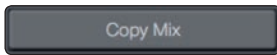
#### Mix Select

The Mix Select buttons allow you to choose the mix you'd like to control (Auxes, Mains, Subgroups). In addition, UC Surface provides a mix for each of the effects buses. The returns for these effects are available in each mix to customize the amount of reverb and delay.

The Mix Selection button for every mix is visible only when the Mixes tab is active.

### Copy Mix

Copying the current mix allows you to quickly set up multiple mixes.



1. To copy a mix to any other mix, press the Copy Mix button.



2. Click on the desired destination mix(es).



3. Click Paste to paste the mix or click Cancel to stop the operation.

### Flex Fader

The fader immediately to the left of the Mix Select buttons controls the output level of the currently selected mix.

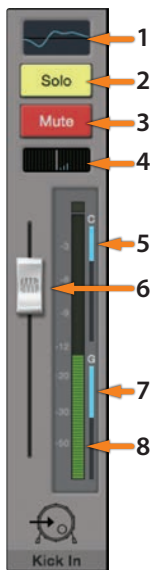


### Main Fader

The fader(s) to the right of the Mix Select buttons always control(s) the Main mix level. When connected to StudioLive AI-series RM and RML mixers, a mono bus fader will also be visible.



### 5.1.1 Channel Controls



1. **Fat Channel Select.** Opens the Fat Channel controls for the channel/mix. This microview displays an overview of the EQ curve you set in the Fat Channel. See *Section 5.2* for more information about the Fat Channel section and its functions.
2. **Solo Button.** Turns soloing on and off.
3. **Mute Button.** Turns muting on and off.
4. **Pan Controls.** The Pan control sets the channel's relative position in the left/right stereo mix. When a pair of channels is stereo linked, the Pan control sets the spread of the channels in the left/right stereo mix.
5. **Compressor Gain Reduction Meter.** This meter displays the amount of gain reduction being applied by the current compressor setting.  
*Note: This meter is not available for StudioLive AI-series console mixers.*
6. **Channel Fader.** Controls the Overall Level of the Channel. Unity gain (0 dB) is denoted by a "U."
7. **Gate Gain Reduction Meter.** This meter displays the amount of gain reduction being applied by the current gate setting.  
*Note: This meter is not available for StudioLive AI-series console mixers.*
8. **Level Meter.** Displays the prefader level of each channel.

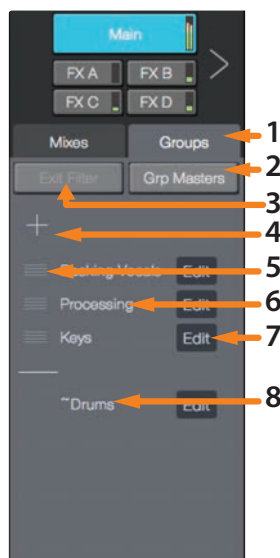
### 5.1.2 Filter DCAs (StudioLive Series III and RM/RML mixers only)

Professional mixing consoles have addressed the problem of managing complex mixes with population groups that reduce the channels you're viewing at one time and DCAs that control the overall level of a group of channels.

We've combined the best aspects of these solutions with Filter DCAs. A Filter DCA can contain any combination of the available input channels and effects returns, and you can create as many Filter DCA groups as you need. You can even include the same channel in multiple Filter DCAs so you can manage mixes in multiple ways. Each group is given a master level control so you can control the overall level of the group while maintaining each channel's relative balance in the mix. In this way, for example, you can create a single fader to control every drum in a monitor mix and maintain the relative level of the drum mix that you created.

Once selected, a Filter DCA group stays active until exited regardless of which mix is selected. This allows you to adjust the group independently across different mixes. You can also flip between groups on the fly to change the view of a selected mix.

*Note: Filter DCAs are not available for StudioLive AI-series console mixers.*



1. **Groups Tab.** Opens Filter DCA list.
2. **Group Masters.** Displays only the Master fader for every Filter DCA.
3. **Exit Filter.** The Exit Filter button will be visible as soon as a Filter DCA is selected. In this way, you can exit the Filter DCA and view all the channels in your mix.
4. **Add New.** Creates new Filter DCA.
5. **Reorder.** Moves Filter DCA up or down in the list.
6. **User-Created Filter DCA List.** Displays all user-created Filter DCAs.
7. **Edit Filter DCA.** Opens Edit mode options (Rename, Add/Remove Channels, Delete).
8. **Auto-Created Filter DCA List.** Displays system-generated Filter DCAs.

### 5.1.2.1 Creating, Editing, and Deleting Filter DCAs

There are two ways a Filter DCA group can be created.

#### Auto-created Filter DCA Groups

When a channel is assigned a Channel Type, UC Surface automatically creates a Filter DCA group based on that information. For example, when you define a channel type within in the Drums category for any channel in your mix, a Drums group will be added to the Filter DCAs. Auto Filter DCA groups are displayed in the bottom part the Filter DCA group list with a “~” in front of their names. These Filter DCAs can be hidden from the System Preferences page. See **Section 5.7.1**.

#### User-created Filter DCA Groups

You can create new Filter DCA groups from scratch or by editing an existing Auto Filter DCA group. Any number of channels can be added to a group, and you can create as many groups as you wish. User-created groups are always shown at the top of the Filter DCA group list above the automatically generated groups.

To add a new Filter DCA group:

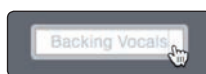


1. Click/tap the Group tab in the Mixer Selection area.

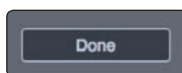


2. Click/tap the “+” (plus sign) button. This will add a new Filter DCA. By default, it will be in Edit mode to allow adding channels to the group.

3. You’ll notice all the channel strips in the mixer are darkened. Click or tap on the channels you’d like to add to your Filter DCA.



4. You can customize the name of your new Filter DCA by clicking or tapping on the default name (New Filter DCA).



5. Click or tap on the Done button when you are finished editing.

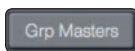
#### Editing and Deleting Filter DCAs

Filter DCAs can be edited or deleted at any time by clicking or tapping the Edit (#7) button in the list view.

#### Managing Filter DCAs

You can reorder the Filter DCA list by clicking or tapping on the Reorder (#5) button to the left of it and then clicking or tapping the Reorder button next to the position to which you would like it to move.

### 5.1.2.2 Group Masters



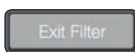
The Group Masters button allows you to view only the Master fader for every Filter DCA. Soloing or muting a group master will solo or mute all the channels in its group.

**Power User Tip:** The Group Masters view can be a great way for musicians to manage their own mix. For example, they can manage the drums as an entire group, their vocal mix, the overall band mix, etc., rather than managing individual channels.

#### Spill Group



While the Group Masters are active, you will see the Spill Group button on top of each master fader. Clicking or tapping this button will spill the group, allowing you to see all the channels in the group and adjust their level, pan, or Fat Channel settings. While in Spill Group, the Flex fader will control the master level of the group regardless of which mix you select.



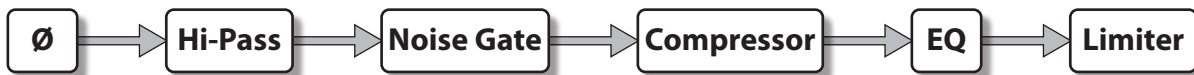
To close this view, click or tap on the Exit Filter button.

## 5.2 Fat Channel Controls

Every input and bus on your StudioLive mixer is equipped with Fat Channel dynamics processing and filtering. The revolutionary Fat Channel is the heart of the StudioLive. The Fat Channel makes dynamics, routing, and panning for every input and output on the StudioLive available at the touch of a Select button.

The Fat Channel's processing section consists of five parts: High-Pass Filter, Noise Gate, Compressor, Limiter, and parametric EQ. Each can be turned on or off and controlled separately. This processing is global across all mixes.

The signal flows as follows:



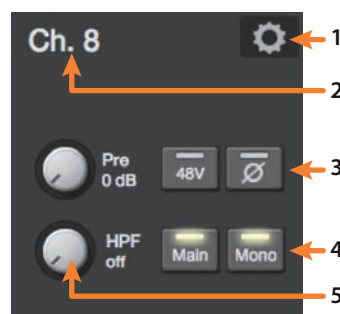
**Note:** For StudioLive AI-series mixers, when HD mode (88.2 or 96 kHz sample rate) is active, Fat Channel processing is disabled on all output buses.

StudioLive Series III mixers allow you to swap the positions of the Compressor and EQ stages of the Fat Channel.

**Power User Tip:** Placing the compressor before the EQ allows you to make dramatic changes to the EQ settings without needing to alter the compressor setting. However, if you place the EQ before the compressor, you can better control different frequencies, achieving a more natural response.

### 5.2.1 Input Controls

When an input channel is selected, the following controls will be available at the far left of the Fat Channel:



1. **Channel Settings.** Opens Channel Settings view.
2. **Channel Name.** To give each channel a custom name, simply click on the default name to open a text field.

3. **Preamp Controls.** For all input channels, phantom power and polarity control are available from the Fat Channel. Because StudioLive Series III and RM/RML mixers are equipped with digitally controlled XMAX preamps, a trim control is available for these mixers only.

***Power User Tip:** The Polarity control inverts the polarity of the selected channel's preamp signal by 180°. The Polarity button can be used to correct audio signals that are out of phase relative to each other, which causes frequency cancellation and reinforcement. When recording with more than one open microphone, you may need to invert the polarity to combat phase cancellation between microphones.*

4. **Bus Assign.** These controls vary depending on the type of StudioLive mixer you have connected to UC Surface:
  - **StudioLive AI-series consoles.** Main Mix, Subgroups 1-4
  - **StudioLive AI-series RM/RML mixers.** Main Mix, Mono
  - **StudioLive Series III consoles.** Main Mix, Subgroups 1-4

***Note:** StudioLive RM-series and Series III mixers offer flexible mix functionality that allows you to make any mix function as an aux bus or subgroup. Please see Section 5.2.3.1 for channel routing to a flex subgroup*

5. **High-Pass Filter.** Sets the High-Pass Filter Frequency Threshold for the Selected Channel or Output Bus. The filter's threshold can be set from 24 Hz to 1 kHz. When the meter is set to its lowest point, the filter is off. The high-pass filter is available on all input channels and on auxiliary and FX output buses only.

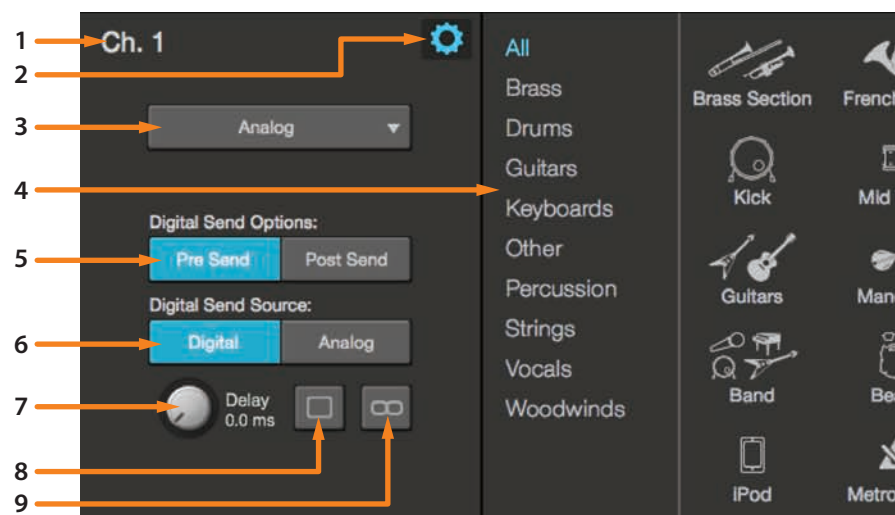
***Power User Tip:** A high-pass filter attenuates all frequencies below the set threshold. Use the Fat Channel high-pass filter to remove unwanted low frequencies from your source signal, rather than trying to EQ them out.*

## 5.2.2 Channel Settings



When a channel is selected, the Settings icon for that channel is visible in the left side of the Fat Channel.

After pressing the Settings icon, the following controls will be available at the far left of the Fat Channel:

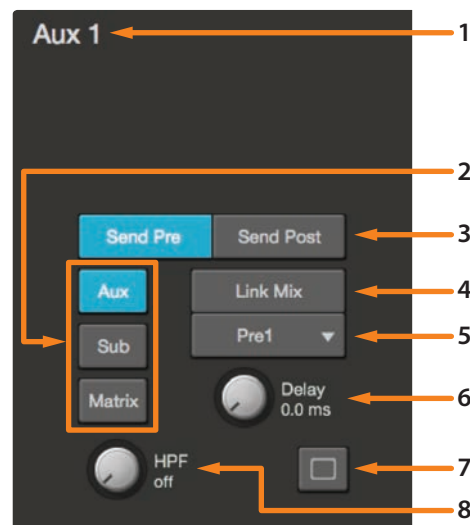


1. **Channel Name.** Click or touch to edit the channel name.
2. **Exit.** Click or touch to exit the Channel Settings view.
3. **Input Source.** This drop-down menu allows you to select the source for the current channel. The following options are available:
  - StudioLive AI consoles: Analog or FireWire
  - StudioLive RM-series: Analog, FireWire, or Network
  - StudioLive Series III: Analog, Network, USB, or SD Card

4. **Apply a Channel Type and Icon.** Clicking on the Channel Type button lets you apply a category and icon for your channel. Channels in the same category will automatically be placed into the same Filter DCA Group (*See Section 5.1.2 for details*).
5. **Set Pre- / Post-Processing Send.** Select Pre- or Post-Fat Channel processing for digital sends for each channel.
6. **Digital Send Source (StudioLive Series III only).** This allows you to select source input of the digital send for each channel.
7. **Input Delay (StudioLive Series III only).** Use this control to delay the input signal up to 85 ms. See the StudioLive Series III Owner's Manual for more information on input delay.
8. **Color.** Click or touch to set a custom color for the current channel.  
*Power User Tip.* Creating colors for different channel types is a great way to visually group channels, allowing you to quickly identify a channel by type (drums, guitars, vocals, etc.)
9. **Stereo Linking.** Links the current channel to the adjacent channel to create a stereo pair.

### 5.2.3 Mix Detail

When a mix is selected, the following controls will be available at the far left of the Fat Channel:



1. **Mix Name.** To give each mix a custom name, simply click on the default name to open a text field.
2. **Bus Type (Series III and RM-series mixers only).** StudioLive Series III and AI-series RM/RML mixers' feature FlexMixes that can be configured as aux mixes, subgroups, or matrix mixes (Series III only). Use these buttons to select the bus type. See *Section 5.2.3.1* for information on routing channels to FlexMix subgroups.
3. **Network Send Position (Series III only).** Mix outputs can be sent to the audio network pre- or post-fader. The post-fader option includes all GEQ and output delay settings.
4. **Link Mix.** Links the selected mix to the one adjacent to create a stereo bus.



5. **Aux Send Position.** By default, all aux buses are set to Pre 1. This places the send of every input channel to each aux bus before the fader, limiter, EQ, and compressor, but after the Polarity switch, high-pass filter, and gate.

The four internal effects buses are set to Pre 2 by default, which routes each of the input channels after all Fat Channel dynamics and EQ but prefader.

From this menu, you can choose between three send positions for each Aux and FX mix:

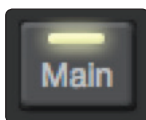
- **Pre 1:** Sends each channel to the aux bus after the polarity invert, high-pass filter, and gate.
- **Pre 2:** Sends each channel to the aux bus after all Fat Channel processing (polarity invert, high-pass filter, gate, compressor, EQ, and limiter) but before the fader.
- **Post:** Sends each channel to the aux bus after all Fat Channel processing (polarity invert, high-pass filter, gate, compressor, EQ, and limiter) and after the fader.

***Power User Tip:** Use the Pre 2 position for headphone and in-ear mixes to give your performers a polished “studio” sound. This setting should be avoided for floor wedges, as compression can cause feedback problems.*

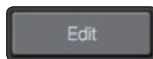
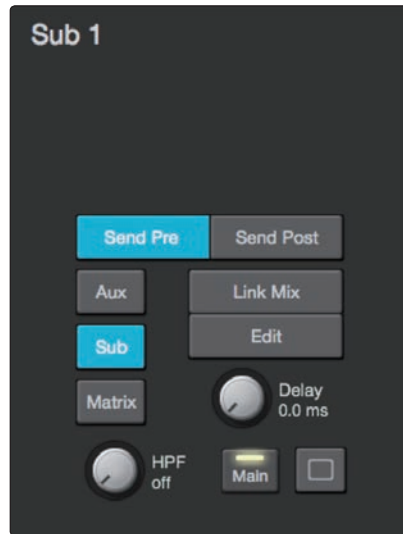
6. **Output Delay.** On StudioLive AI-series console mixers, output delay is provided on each of the four subgroups. On StudioLive RM/RML mixers, this delay is on the last four physical mix outputs. On StudioLive Series III mixers, output delay is provided for every mix output.
7. **Color.** Click or touch to set a custom color for the current output bus.
8. **High-Pass Filter.** Sets the High-Pass Filter Frequency Threshold for the Selected Channel or Output Bus. The filter’s threshold can be set from 24 Hz to 1 kHz. When the meter is set to its lowest point, the filter is off. The high-pass filter is available on all input channels and on auxiliary and FX output buses only.

***Power User Tip:** A high-pass filter attenuates all frequencies below the set threshold. Use the Fat Channel high-pass filter to remove unwanted low frequencies from your source signal, rather than trying to EQ them out*

**Bus Assign.** When a subgroup is selected, the Main and Mono (RM-series only) bus assigns will be available.



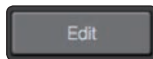
5.2.3.1 FlexMix Subgroup Routing



When a FlexMix subgroup is selected, you will find the Edit button in the Mix Detail area of the Fat Channel. Clicking this button will allow you to route input channels to this subgroup.

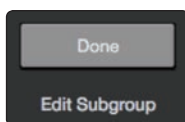


1. Click the Fat Channel microview on the Flex Fader for the subgroup you'd like to edit.



2. Click the Edit button in the Mix Detail area of the Fat Channel.

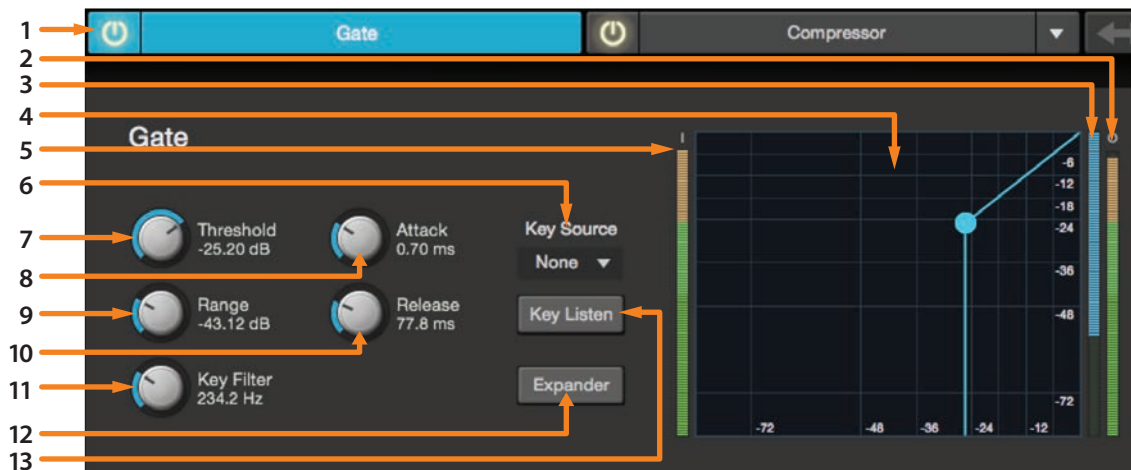
3. Click on the channels you would like assigned to the subgroup. The channel will highlight as it's selected, indicating that it's been routed to the subgroup.



4. Click the Done button when you've assigned the desired channels.

### 5.2.4 Noise Gate

To view the controls for the Noise Gate, click on the Gate tab.



**Note:** For RM-series mixers, the Noise Gate is not available on the Main and Mono buses.

1. **Gate On/Off Button.** Engages/disengages the gate for the selected channel.
2. **Output Meter (Series III only).** Displays the post-Gate output signal.
3. **Gain Reduction Meter (Series III only).** Displays the amount of gain reduction being applied to the signal by the gate.
4. **Gate Graph.** This graph shows the point at which the gate threshold affects the signal. You can either use this graph to adjust the threshold or the dedicated threshold control (#3).
5. **Input Meter (Series III only).** Displays the input signal to the Gate.
6. **Key Source (Series III only).** Sets the trigger source for the gate's Key Filter. See the StudioLive Series III Owner's Manual for more information on sidechaining.
7. **Gate Threshold.** Sets the level at which the gate opens. Essentially, all signals above the threshold setting are passed through unaffected, whereas signals below the threshold setting are reduced in level by the amount set by the range control. You can set the threshold from 0 to -56 dB.
8. **Gate Attack.** Sets the rate at which the gate opens on the selected channel or output. A fast attack rate is crucial for percussive instruments. Slow-rising signals such as vocals and bass guitar require a slower attack; with these signals, a faster attack can cause an audible click. All gates have the ability to click when opening but a properly set gate will never click. You can set the attack time from 0.2 to 150 ms.
9. **Gate Range.** Sets the amount of gain reduction that the gate will produce. The range can be set from 0 to -86 dB. Note: Range control is not available when using the Expander.
10. **Gate Release.** Sets the rate at which the gate for the selected channel closes. Gate-release times should typically be set so that the natural decay of the instrument or vocal being gated is not affected. Shorter release times help to clean up the noise in a signal but may cause "chattering" with percussive instruments. Longer release times usually eliminate chattering and should be set by listening carefully for the most natural release of the signal. The release time can be set from 0.05 to 2 seconds.

- Gate Key Filter.** Sets the frequency at which the gate will open. Setting a specific frequency, in addition to a specific decibel level, provides more sonic shaping. The Key Filter can be triggered by the selected channel or bus's signal or by side-chaining a channel and using its signal as the source.

*Power User Tip: A properly set key filter on a gate can greatly improve the overall sound quality of a mix. For example, if you are inserting a gate on a snare-drum mic, you may get enough bleed from the kick drum to open the gate. This is where a key filter can come in handy. By setting the key filter to remove some of those low frequencies, the gate won't be as apt to open for the kick drum.*

- Gate Expander Button.** StudioLive mixers allow you to choose between an expander and a noise gate for each channel or output. By default, the Expander button will be enabled.

*Power User Tip: In practice, expanders and noise gates are used almost identically. The main difference is that an expander is smoother and more gradual, so that it is easier to set the attack and release times correctly.*

- Key Listen.** Enable to listen to the signal being used to trigger the gate.

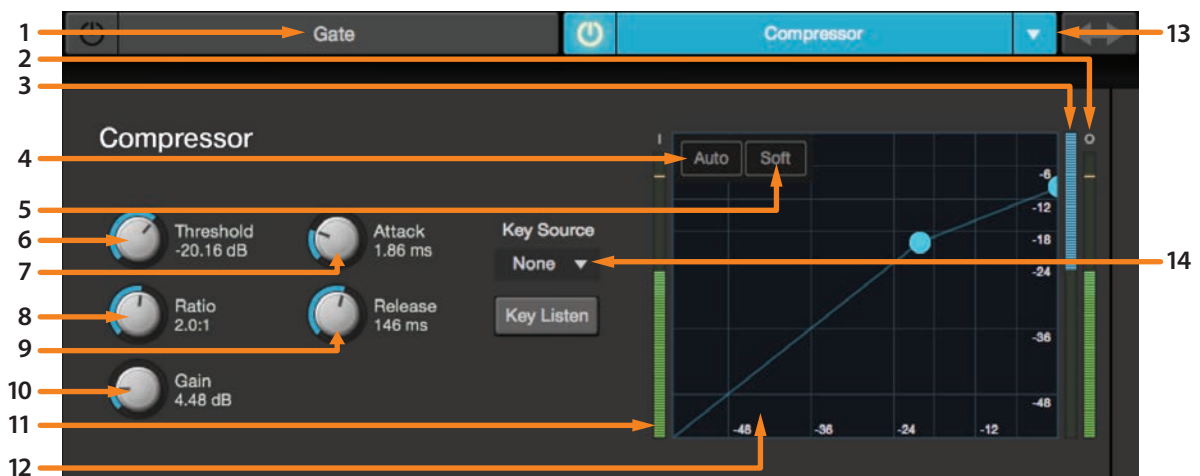
### A Quick Note About Key Filter Sidechaining

As previously mentioned, the key filter can be sidechained to another channel. Sidechaining has many uses. You can use a sidechained key filter to tighten up a rhythm section by sidechaining the kick drum channel to the bass channel and setting the gate to open at the frequency of the kick drum. This, combined with a fast attack and release, will make your rhythm section more cohesive. Increase the release time to loosen the feel. Please note that while sidechaining the kick drum to the bass channel can tighten up a good rhythm section and make them sound even better, it will not correct timing issues and will actually exaggerate them if your bass player and drummer aren't in the pocket.

Another great use for a sidechain is as an effect in electronic music production. Try sidechaining a drum loop to a sustained source, like pads or strings. By doing this, every time a drum hit triggers the key filter, your sustained source will be heard. Between hits, this source will be silenced. Playing with the attack and release will transform this effect from a rhythmic pulse all the way to a chopped-up stutter.

### 5.2.5 Compressor

To view the controls for the Compressor, click on the Compressor tab.

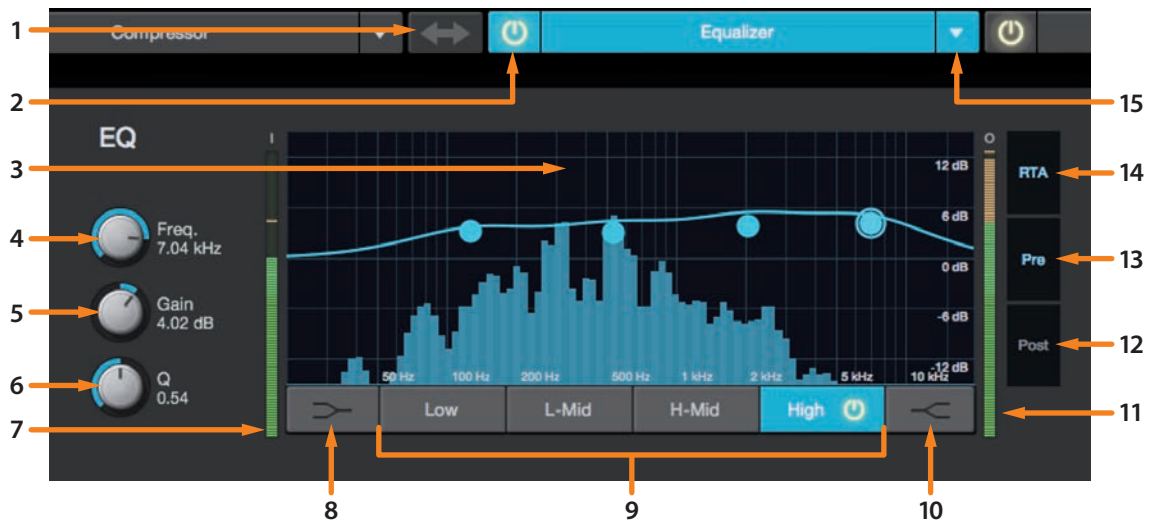


- Compressor On/Off.** Turns the Compressor On and Off for the selected channel.
- Output Meter (Series III only).** Displays the post-Compressor output signal.
- Gain Reduction Meter (Series III only).** Displays the amount of gain reduction being applied to the signal by the compressor.

4. **Auto Mode Button.** When Auto mode is active, the Attack and Release controls become inoperative, and a preprogrammed attack and release curve is used. In this mode, the attack is set to 10 ms, and the release is set to 150 ms. All other compressor parameters can still be adjusted manually.
5. **Soft Knee Toggle Button.** Engages Soft-Knee Compression. In normal operating mode, the compressor is set for hard-knee compression, meaning that the gain reduction applied to the signal occurs as soon as the signal exceeds the threshold. When the Soft Knee button is engaged, the onset of gain reduction occurs gradually after the signal has exceeded the threshold.
6. **Compressor Threshold.** Sets the compressor threshold for the selected channel or output bus. When the signal's amplitude (level) exceeds the threshold setting, the compressor engages. The threshold can be set from -56 to 0 dB.
7. **Compressor Attack.** Sets the compressor attack for the selected channel. Attack sets the speed at which the compressor acts on the input signal. A slow attack time (fully clockwise) allows the beginning component of a signal (commonly referred to as the initial transient) to pass through, uncompressed, whereas a fast attack time (fully counterclockwise) triggers compression immediately when a signal exceeds the threshold. You can set the attack from 0.2 to 150 milliseconds.
8. **Ratio.** Sets the compression ratio (or slope) for the selected channel or output bus. The ratio sets the compression slope, which is a function of the output level versus the input level. For example, if you have the ratio set to 2:1, any signal levels above the threshold setting will be compressed at a ratio of 2:1. This means that for every 2 dB of level increase above the threshold, the compressor's output will only increase 1 dB. The ratio can be set from 1:1 to 14:1.
9. **Compressor Release.** Sets the compressor release for the selected channel or output bus. Release sets the length of time the compressor takes to return the gain reduction back to zero (no gain reduction) after crossing below the compression threshold. Release can be set from 40 to 1,000 milliseconds.  
*Power User Tip: Very short release times can produce a choppy or "jittery" sound, especially when compressing instruments that have a lot of low-frequency components, such as bass guitar. Very long release times can result in an overcompressed, or "squashed," sound. All ranges of release can be useful, however, and you should experiment to become familiar with different sonic possibilities.*
10. **Compressor Makeup Gain.** Sets the amount of makeup gain for the selected channel or output bus. When compressing a signal, gain reduction usually results in an overall attenuation of level. The gain control allows you to restore this loss in level and readjust the volume to the pre-compression level (if desired). You can adjust Makeup Gain from 0 dB (no gain adjustment) to +28 dB.
11. **Input Meter (Series III only).** Displays the input signal to the compressor.
12. **Compressor Graph.** This graph shows the point at which the compressor threshold affects the signal. You can use this graph to adjust the threshold or use the dedicated Threshold control (#4).
13. **Compressor Type (Series III only).** This drop-down menu allows you to select the compressor type for the current channel.
14. **Key Source (Series III only) and Key Listen.** Sets the Key Source for the Compressor and allows you to monitor it.

### 5.2.5 Equalizer

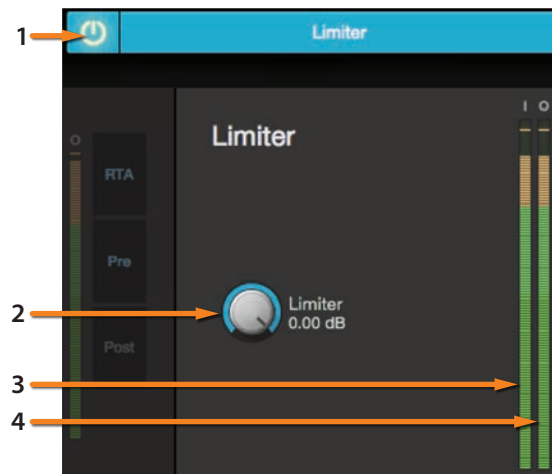
To view the controls for the parametric EQ, click on the Equalizer tab.



1. **EQ > Compressor.** This button moves the EQ before the Compressor.
  2. **Equalizer On/Off.** Turns the EQ on or off for the selected channel.
  3. **EQ Graph.** This graph shows overall EQ curve.
  4. **EQ Frequency.** Adjusts the center frequency of each band.
  5. **EQ Gain.** Sets level of the center frequency from -15 to +15 dB.
  6. **Q.** Sets the Q for each band. The Q is the ratio of the center frequency to the bandwidth. When the center frequency is constant, the bandwidth is inversely proportional to the Q, so as you raise the Q, you narrow the bandwidth.
  7. **Input Meter (Series III only).** Displays the pre-Fat Channel input signal.
  8. **Low Shelf EQ On/Off.** Enabling the Low Shelf button turns the Low band into a shelving EQ. A low shelving EQ is like a bass-control knob on a stereo. In this mode, the Center Frequency control selects the shelving frequency.
  9. **EQ Band Select.** Opens the controls for the selected EQ band.
  10. **High Shelf EQ On/Off.** Enabling the High Shelf button turns the High band into a shelving EQ. A high shelving EQ is like a treble-control knob on a stereo. In this mode, the Center Frequency control selects the shelving frequency.
  11. **Output Meter (Series III only).** Displays the post-EQ output signal.
  12. **Post (Series III only).** Enables the RTA to displays the post-Fat Channel signal.
  13. **Pre (Series III only).** Enables the RTA to display the pre-Fat Channel signal.
  14. **RTA (Series III only).** Turns on the RTA in the EQ graph.
- Note: StudioLive AI-series mixers feature the SMAART RTA and Spectrograph tools. Please see Section 5.3.1 for more information.*
15. **EQ Type (Series III only).** This drop down menu allows you to select the EQ type for the current channel.

### 5.2.6 Limiter

To view the controls for the limiter, click on the Limiter tab.



1. **Limiter On/Off.** Turns on the limiter for the selected input channel. The ratio is  $\infty:1$ .
2. **Limiter Threshold.** Sets the threshold of the limiter for the selected channel. When the signal's amplitude (level) exceeds the threshold setting, the limiter is engaged. The threshold can be set from -56 to 0 dB.
3. **Input Meter (Series III only).** Displays the input signal to the limiter.
4. **Output Meter (Series III only).** Displays the outputs signal to the limiter.

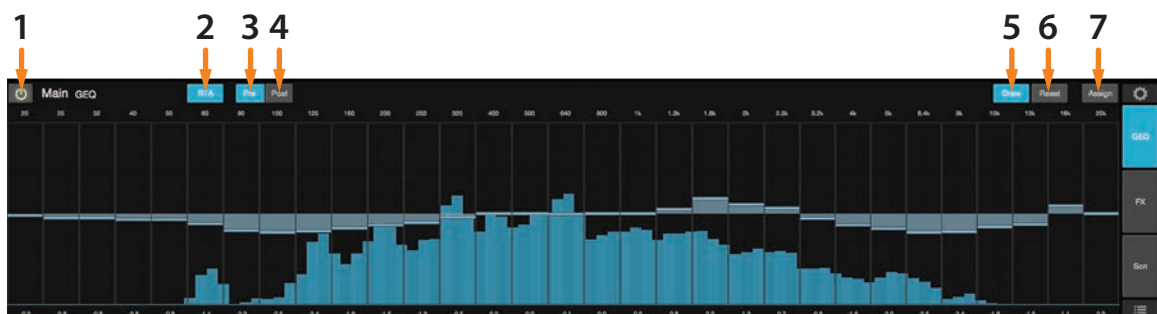
### 5.3 Graphic EQ



To the left of the Fat Channel, you will find the GEQ button. This opens up the graphic EQ for that bus.

- StudioLive Series III mixers provide eight graphic EQs that can be assigned to any output bus.
- StudioLive AI-series RM/RML mixers provide a graphic EQ for the Main bus and the first 14 aux buses.
- StudioLive AI-series console mixers provide a graphic EQ for every aux bus plus the mains.

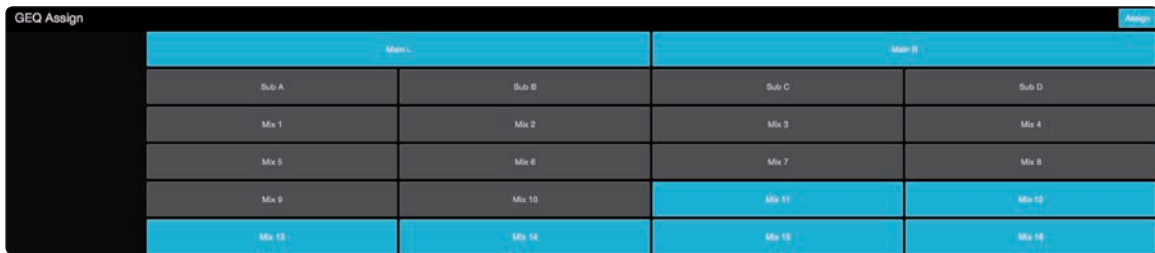
In general, graphic EQ settings are created prior to a live show and are not adjusted after that. However, minor adjustments sometimes must be made later. UC Surface makes this quick and easy.



1. **GEQ On/Off.** By default, all graphic EQs are disabled. To enable any GEQ, simply click on this button.
2. **RTA (Series III only).** Enables RTA view from within the Graphic EQ graph.
3. **Pre (Series III only).** Displays the Pre-GEQ signal in the RTA.

4. **Post (Series III only).** Displays the Post-GEQ signal in the RTA.
 

*Note: Smart Spectra Tools are available for StudioLive AI-series mixers from with the Graphic EQ. See Section 5.3.1 for details.*
5. **Draw GEQ.** Enabling the Draw function will allow you to draw a GEQ curve with your finger or mouse rather than adjusting each band individually.
6. **Reset GEQ.** To zero out all curve settings on any graphic EQ, click on the Reset GEQ button. This will return all band gains to 0 dB.
7. **Assign (Series III only).** Opens the Graphic EQ assign view:



When the Assign view is open, you can reassign Graphic EQs to different FlexMixes and buses.

### 5.3.1 Enabling Smart Analysis (StudioLive AI-series only)

Both the GEQ and Fat Channel EQ provide Smart Spectra™ analysis when connected to a StudioLive AI-series mixer (16.4.2AI, 24.4.2AI, 32.4.2AI, RM16AI, RM32AI, RML16AI, and RML32AI). Smart Spectra was developed by Rational Acoustics to power Smart's Spectrum Measurement Engines and includes an RTA and a spectrograph.

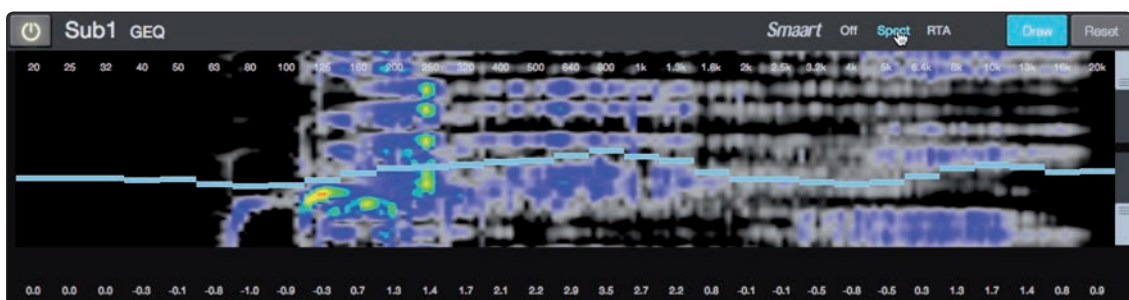
By default, Smart® analysis is disabled. While Smart is disabled, you have control over which bus is routed to the second to last pair of auxiliary FireWire inputs.

Clicking on the Spectrograph or RTA buttons will start Smart, and UC Surface will take control over these FireWire auxiliary inputs.

For more information on the Auxiliary Inputs Router, *please see Section 5.7.2.*

*Note: Smart analysis requires use of the StudioLive AI-series' onboard audio interface. It is not available without a FireWire or FireWire-to-Thunderbolt connection between your mixer and your computer. UC Surface's integrated Smart modules do not support StudioLive Series III consoles.*

#### 5.3.1.1 Time-Frequency Spectrograph



Clicking on the Spectrograph button (from the Fat Channel EQ or GEQ tab) will launch the Time-Frequency Spectrograph. This spectrograph provides a three-dimensional view of your audio in which x = frequency, y = time, and color = decibel level.

Any signal below the lower dynamic-range threshold is black. Any signal above the top dynamic-range threshold is white. Within the dynamic range, colors go from blue to green to red, with blue indicating the quietest and red the loudest.



Many audio signals that are encountered in the field are highly dynamic. Musical signals, speech, and even environmental noise contain significant changes in spectral content as a function of time. The spectrograph can be thought of as a record of multiple RTA measurements taken over time, with color representing amplitude.

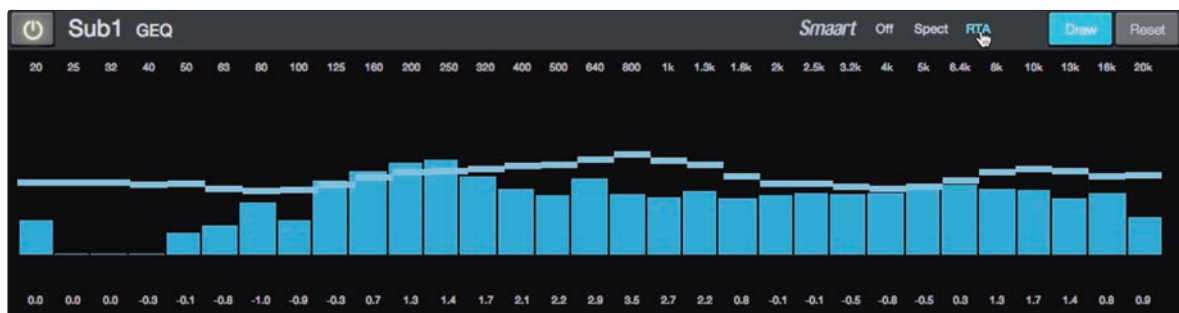
Using this function, the spectral content of the input signal is recorded as it changes in time. This allows you to view and analyze time-varying trends in the input signal.

As a troubleshooting tool, the spectrograph is useful for finding spectral “defects” in a system or acoustical environment. Certain audio signals or acoustical events contain specific traits that can be easily detected due to their distinct time/frequency signature—specifically, highly tonal sounds such as AC line noise in an electrical signal chain or the presence of electro-acoustical feedback.

### Dynamic Range

UC Surface provides dynamic-range sliders that set the maximum and minimum volume thresholds for the spectrograph.

#### 5.3.1.2 RTA



Clicking on the RTA button (from the Fat Channel EQ or GEQ tab) will launch a real-time analyzer in which  $x = \text{frequency}$  and  $y = \text{amplitude}$ . An RTA provides a close visual representation of what you are hearing. It provides a view of the long-term spectrum of the signal, such as the one-third-octave spectrum long-term average of a musical performance.

### Averaging

While the RTA is engaged, you can adjust its averaging speed. When using music in test measurements, it is often necessary to average the data over a brief amount of time. This is because most musical signals do not have energy at all frequencies all of the time.

Averaging is a mathematical process that takes multiple data samples and performs division to acquire a statistically more accurate calculation of the response. That’s a technical way of saying that it slows down the “real-time” of a real-time analyzer.

#### 5.3.1.3 Using the Smart Spectrograph to Ring Out Monitors

The spectrograph shows frequency data over time, so a constant frequency, such as feedback, results in a straight line in the spectrograph. In a feedback loop, a portion of the signal from the speaker returns to the microphone, resulting in a buildup of energy that creates squealing, screeching feedback. “Ringing out” is a process of attenuating the frequencies that are feeding back to maximize gain before feedback in your floor monitors.

1. With the mic input gain at an appropriate level, bring the aux-send level up on the mic channel you wish to ring out.

**Power User Tip:** *If you are using one console for stage monitors and another console for front-of-house, set the mic input gain on the front-of-house console. Do not “gain up” the mic signal on the monitor mixer for the sake of getting more volume out of a stage monitor, as you can do that in other places (Mix level for individual channels, Aux Out level for global control, etc.). Gain staging is very important in order to have a feedback-free show.*

2. Select the graphic EQ for the aux output of the stage monitor you are ringing out.
3. Enable the spectrograph.
4. Slowly bring the aux output level up until you hear (and see) feedback.

**Note:** Ringing out stage monitors will produce feedback. If you are not careful, you can produce a lot of feedback. Do not make sudden gain boosts; go slowly and carefully to avoid causing any damage to speakers and ears.

5. Feedback will show up as a solid line on the spectrograph and as a line peak on the RTA. Use the dynamic threshold to adjust how bright, and at what input level, the frequency information plots.
6. Lower the GEQ fader for the offending frequency in 3 dB increments to attenuate it out of your stage monitor.

**Power User Tip:** Bring back the level on the GEQ slider to the point just before feedback so you don't take out too much frequency content and sacrifice overall timbre. Because the speaker is pointed at the mic, stage-monitor feedback typically occurs in the higher frequencies, which also is where intelligibility comes from. Maximizing your intelligibility and gain structure results in clearer-sounding monitors.

You can apply this process to the main system, as well. This is especially useful with applications requiring lavalier or podium mics. These types of microphones are typically omnidirectional condensers and are very prone to feedback.

In a main system, feedback is typically in the mid to low range. The frequencies that are regenerating and creating a feedback loop are those frequencies that are wrapping around the main system due to the loss of directional control of lower frequencies.

When you are ringing out a system, and more than two or three feedback loops are happening simultaneously, you have reached the level where stability can no longer be achieved. Try bringing down the overall output level or find a physical solution, such as moving the speaker or microphone.

#### 5.3.1.4 Using the Smart RTA While Mixing

The RTA and spectrograph have useful applications beyond recognizing feedback spikes. The ability to analyze frequency content—specifically, being able to visualize the exact frequencies you are hearing in order to home in on problem areas—makes the RTA a secret weapon for many a mix engineer. The Smart Spectra tools also lend themselves very well to ear training and give you confidence that you are choosing the right frequencies when making adjustments.

Because the RTA/spectrograph is analyzing the bus signal digitally, room and speaker anomalies are taken out of the equation. This provides a pure measurement of your mix because you are measuring what is happening inside your StudioLive.

A spectrograph shows the broadband information of a signal, making it easy to view the fundamental frequency of a source, as well as its harmonic structure. The RTA provides a view of amplitude and frequency content over a specified plane. With the spectrograph, you can view what is happening in your signal now, at the same time you are viewing what happened moments before. In contrast, there is no history information for the RTA: Once an event happens, it goes away.

**Power User Tip:** Both the RTA and Spectrograph views are useful in understanding what the spectral content of an instrument is when creating space for that instrument in a mix. How you use these tools to achieve an objective is a matter of your subjective, or creative, goals. Trust your ears and use the Spectra tools to verify what you are hearing.

For example, let's say you are mixing a particularly edgy-sounding lead guitar that is competing with the male vocal and distracting from the overall good tone of the instrument. By using the RTA in the Fat Channel, you can quickly identify the offending frequency by looking for spikes in the RTA. This saves time and frustration by taking some of the guesswork out of equalization.

**Power User Tip:** It should be noted that neither a spectrograph nor an RTA can be used as a substitute for careful listening. While these tools provide a great visual analysis of your mix, critical listening must always be your main guide.

## 5.4 Adding Effects

Your StudioLive mixer is equipped with four internal effects processors each with a dedicated mix bus. For StudioLive AI-series mixers, the FXA and FXB processors are dedicated to reverb. The processors for FXC and FXD are dedicated to delay effects. StudioLive Series III mixers have four freely assignable processors. The effects returns for all four effects buses can be routed to any mix.



Creating an effects mix is just like creating a monitor mix: Simply click on the effects mix and select and set the level for each channel to which you would like to apply reverb or delay.

Effects returns for each processor are available at the end of the input channels in each mix.

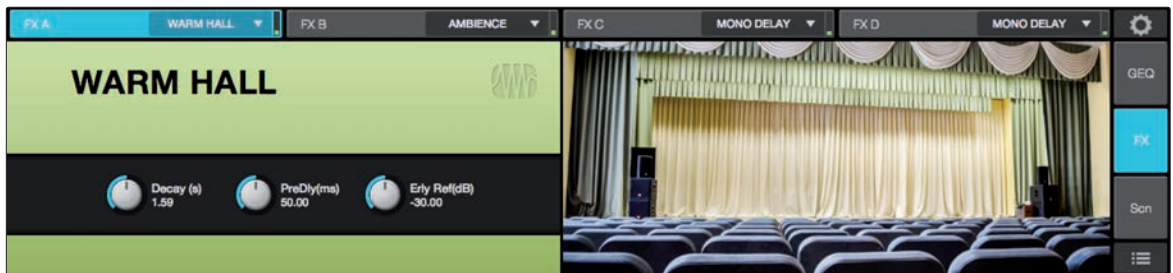
### 5.4.1 Editing Effects



To access the effects library for each processor and make adjustments to effects parameters, click on the FX View button on the left side of the Fat Channel.



Across the top of the window, you see each of the effects buses and the current selected effects type for each bus. To edit any effect, simply click on its bus.



This will open the effects editor. From here, you can change the effects type, adjust parameters, and load presets.

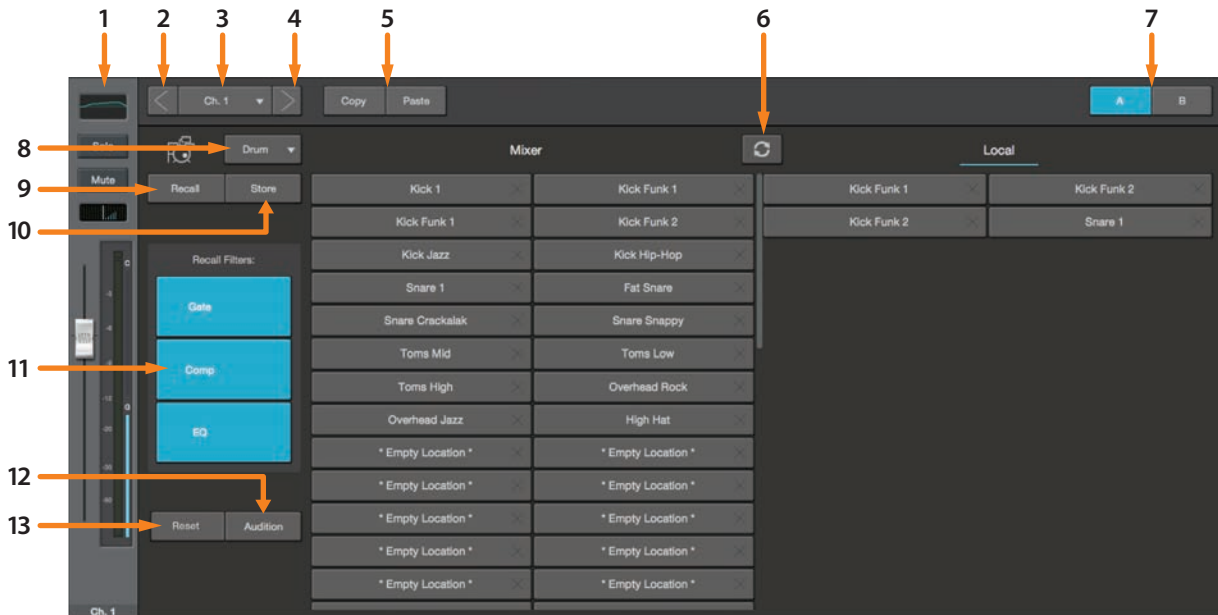
## 5.5 Scenes and Presets



The presets button in UC Surface is a contextual function that follows the currently selected mode: Fat Channel presets, GEQ presets, FX presets, or Mix Scene.

### 5.5.1 Fat Channel Presets

While the Fat Channel is active, this button launches the Fat Channel presets menu. To close the menu and reopen the mixer view, simply click the button again.



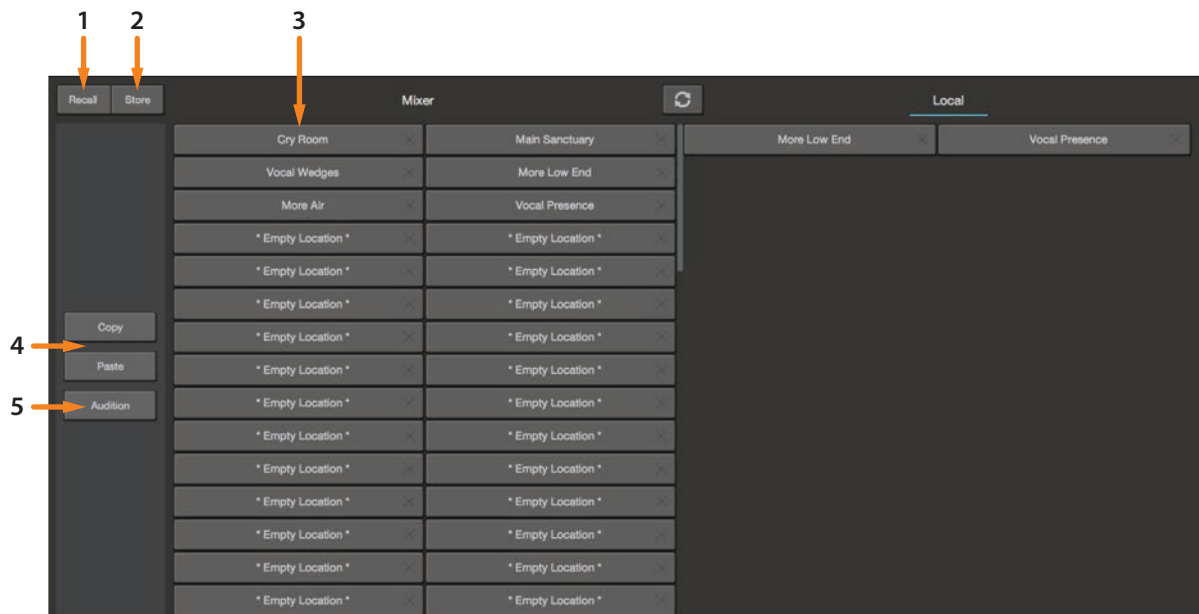
1. **Current Channel.** The Channel controls for the currently selected channel are available at the left of the Preset Manager.
2. **Previous Channel.** Selects the previous channel.
3. **Channel Selection.** Displays the currently selected channel. The preset manager will automatically load and store presets to and from this channel. Click on this menu to select a new channel to manage.
4. **Next Channel.** Selects the next channel.
5. **Copy/Paste.** To copy the Fat Channel settings to another channel, simply click on Copy, select the channel you'd like to load the settings to from the Channel Select menu, and click Paste.
6. **Preset Manager.** Displays presets that are stored locally on the device running UC Surface and presets stored locally on the mixer. *See Section 5.5.5* for more information.
7. **Fat Channel A/B.** StudioLive mixers let you create two complete Fat Channel settings and compare the two. In this way, you can experiment with a new sound without having to struggle to re-create your old standby, and after several minutes of careful adjustment, you can verify that a new Fat Channel setting is better than it was before you started tweaking.
8. **Preset Category.** Filters the preset list based on the selected category.
9. **Load.** Loads the current preset to the selected channel.
10. **Save.** Creates a Fat Channel preset from the currently selected channel's settings.
11. **Preset Filters.** Filters a Fat Channel preset by module (Gate, Compressor/Limiter, EQ). To load any of these preset components, just click on its button.

12. **Audition.** When the Audition button is engaged, each preset will nondestructively load into your channel, using the currently enabled filters. This lets you try out a preset before loading it and overwriting the current settings. You can make changes to this preset in real time. To load the settings you've auditioned, click the Load button.
13. **Reset.** Restores the Fat Channel to its default settings. The Preset Load filters can be used to configure which settings will be reset.

### 5.5.2 GEQ Presets



While the GEQ View button is active, the Preset button launches the GEQ Presets menu. To close the menu and reopen the mixer view, simply click the button again.

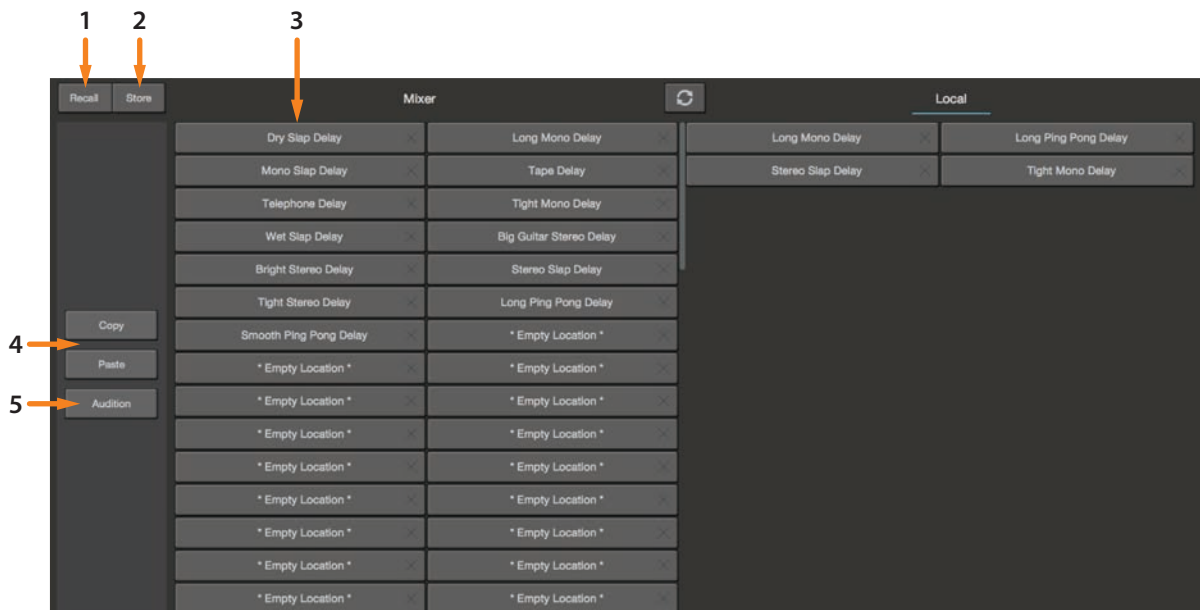


1. **Recall.** Loads the current preset to the selected bus.
2. **Store.** Creates a GEQ preset from the currently selected bus GEQ's settings.
3. **Preset Manager.** Displays presets that are stored locally on the device running UC Surface and presets stored locally on the mixer. *See Section 5.5.5* for more information.
4. **Copy/Paste.** To copy the effects settings to another bus's GEQ, simply click on Copy; from the GEQ Bus Select menu, select the bus to which you'd like to load the settings; and click Paste.
5. **Audition.** When the Audition button is engaged, each preset will nondestructively load into the currently selected effects bus. This lets you try out a preset before loading it and overwriting the current settings. You can make changes to this preset in real time. To load the preset you've auditioned, click the Load button.

### 5.5.3 FX Presets



While the FX View button is active, the Preset button launches the FX Presets menu. To close the menu and reopen the mixer view, simply click the button again.



1. **Recall.** Loads the current preset to the selected channel.
2. **Store.** Creates an effects preset from the currently selected effects bus settings.
3. **Preset Manager.** Displays presets that are stored locally on the device running UC Surface and presets stored locally on the mixer. See Section 5.5.5 for more information.
4. **Copy/Paste.** To copy the effects settings to another effects bus, simply click on Copy; from the banner at the top of the window, select the bus to which you'd like to load the settings; and click Paste.
5. **Audition.** When the Audition button is engaged, each preset will nondestructively load into the currently selected effects bus. This lets you try out a preset before loading it and overwriting the current settings. You can make changes to this preset in real time. To load the settings, you've auditioned, click the Load button.

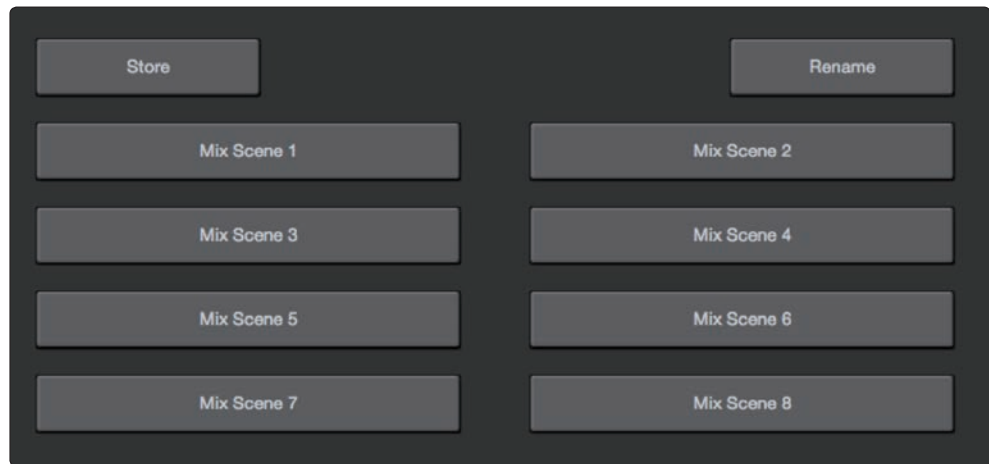
### 5.5.4 Mix Scenes



UC Surface allows you to create and store a library of scenes. A scene is like a snapshot of your mix: It stores each Fat Channel parameter for every analog input, as well as each fader's position, the aux and effects mixes, channel mutes and solos, etc.

#### Quick Scenes

The Quick Scene buttons in the Scene view allow you to create a scene without storing it to permanent memory and giving it a name. This is especially useful when mixing multiple bands that you might not ever mix again.

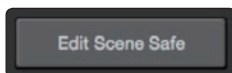


UC Surface provide the following Quick Scene controls:

**Store.** To create a Quick Scene, click or tap the Store button. All the Quick Scene buttons will flash. Click on the Quick Scene to which you'd like to store the current mixer settings.

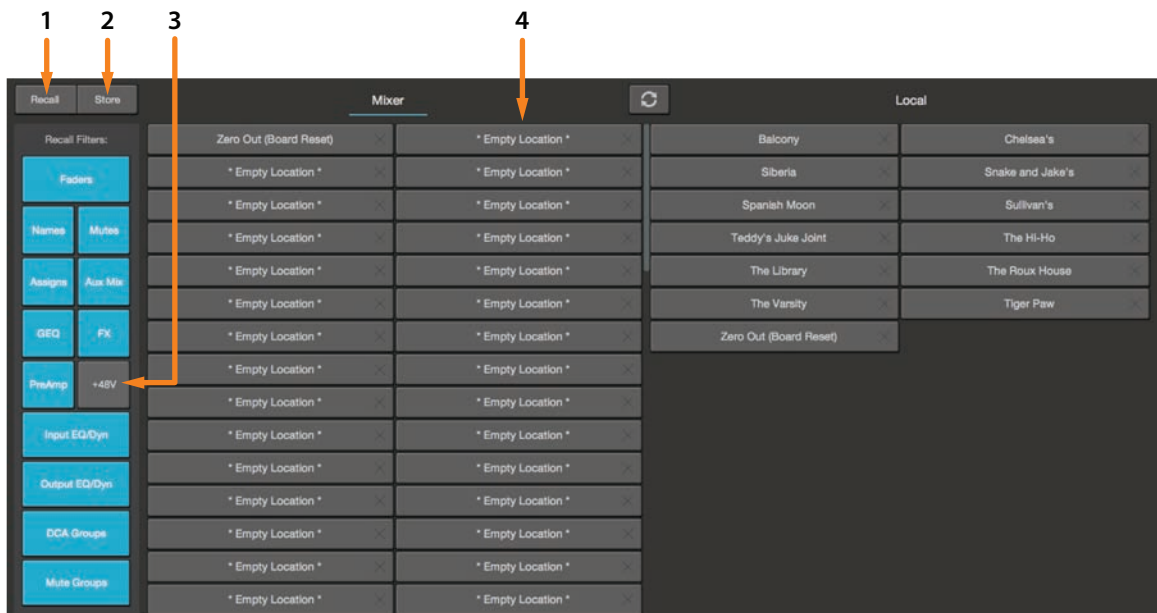
**Quick Scenes 1-8.** Loads the stored Quick Scene. This will override all the current settings on the mixer based on the Scene filters (discussed shortly).

StudioLive Series III mixers will also have the option to edit the Scene Safe filters. More information on this feature can be found in the StudioLive Series III Owner's Manual.





To store a scene in permanent memory, either on your mixer or locally on your computer, press the Preset button while the Scene view is active. This will open your Scene library. Press the button again to close it.

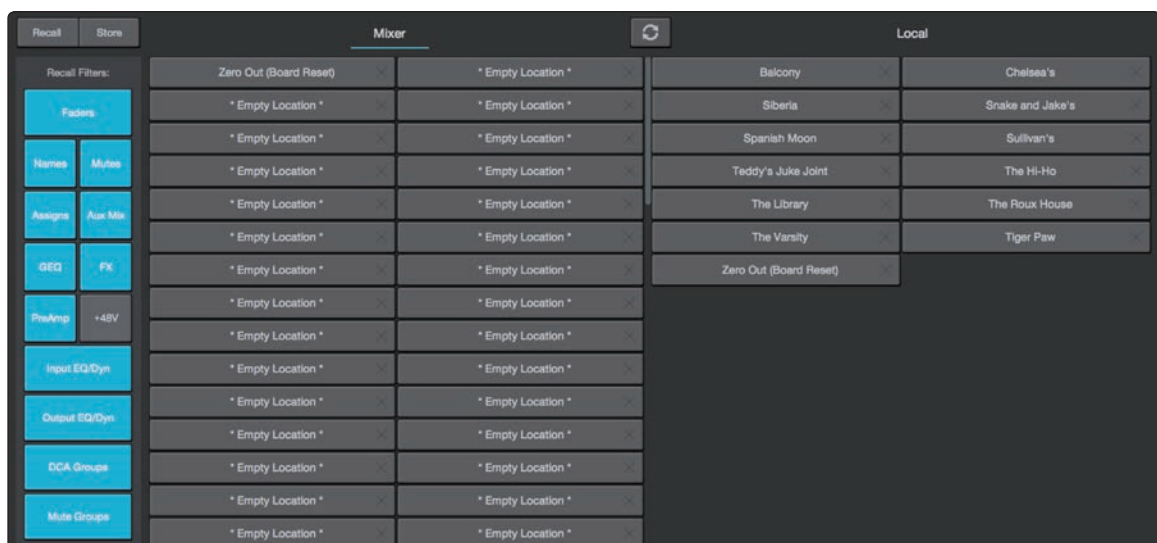


1. **Recall.** Click on this button to load the currently selected scene.
2. **Store.** Click on this button to create a new scene from the current mixer settings.
3. **Scene filters.** UC Surface mix scenes store the settings of the entire mixer. You can choose to load the entire scene or filter various portions of it.
4. **Scene Manager.** Displays scenes that are stored locally on the device running UC Surface and scenes stored locally on the mixer. *See Section 5.5.5* for more information.

### 5.5.5 Preset and Scene Management

Presets and scenes can be stored locally on your StudioLive mixer or locally on your computer and copied between the two.

#### Syncing the Mixer Library



Presets and Scenes stored in the mixer library can be copied to the device running UC Surface either individually or you can sync the entire preset library.





To sync every preset or scene, click or touch the Sync all button.

You can copy individual presets and scenes to and from your mixer's memory by simply dragging dropping them between the Mixer and Local sections of the Library Management area.

## 5.6 Quick Panel Functions

The Quick Panel provides easy access to the following functions: Talkback, Mute Groups, Fader Locate (StudioLive AI-series console mixers), FX Bus mutes, and Tap Tempo.



To open or close the Quick Panel, click on the arrow in the lower right hand corner of the screen.

### 5.6.1 Talkback

The Talkback feature lets you communicate with the performers and audience. The talkback level is individually controllable from each mix. You will find the level control after the input and playback channels.



Click on the Talkback button to enable the Talk function on your StudioLive mixer.

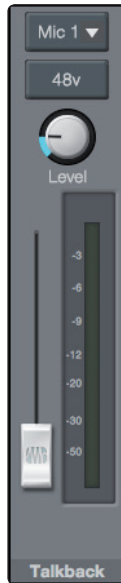
To select the destination for your Talkback routing, click or tap the mix to select it. For StudioLive AI-series console mixers, the mixes will be arranged in the same groups as the physical buttons on your mixer.

The Select buttons for the mixes that have Talkback routed to them will turn red to indicate that Talkback is active.

### 5.6.1.1 Selecting the Talkback Source (StudioLive RM/RML)

Any channel on your StudioLive RM/RML mixer can be designated as the talkback source. To select a talkback source, select the talkback channel in any mix.

You will be able to select the input you'd like to use, control the preamp level, and enable phantom power. If your RM-series mixer is connected via AVB to a StudioLive console mixer, you can also choose the console mixer's dedicated talkback input by selecting "AVB TB" from this menu.



### 5.6.2 Mute Groups

A mute group allows you to mute and unmute multiple channels and buses with the press of a single button. With the eight mute groups in UC Surface, you could, for example, assign the drum mics to Mute Group 1, the instrumentalists to Mute Group 2, the background vocalists to Mute Group 3, all the aux buses to Mute Group 4, all four FX buses to Mute Group 5, and every channel on the mixer to Mute Group 6, and so on. In this way, you can quickly mute multiple channels at once.



Click on the Mute button in the Quick Panel to view the mute groups.



UC Surface provides the following mute group controls:

**All On.** Mutes all channels and buses. The All On Group is a preconfigured mute group that includes every channel and bus with a Mute button.

**All Off.** Clears all mutes. When the All Off Button is pressed, any channel or bus that has been muted will be unmuted.

**Mute Group 1-8.** Engages/disengages assigned mute groups. When any of the Mute Group buttons is pressed, the assigned group of channels or buses will be muted/unmuted.

**Save.** To create a mute group, click or tap the Save button. All the Mute Group buttons will flash. Click on the mute group to which you'd like to store the current mute settings.

**Power User Tip:** Both the mute groups and All On only add mutes to your mix and remove the same mutes they added. Mute groups will not clear mutes that were active prior to the mute group being engaged. (i.e., if a mute is engaged when its mute group or All On are enabled, it will still be engaged when you disable the mute group or All On.) The exception to this rule is the All Off button. This button will clear any mute that is currently enabled and will deactivate any mute group that is active, including All On.

### 5.6.3 Fader Locate (StudioLive AI-series console mixers only)

StudioLive AI-series console mixers are not equipped with motorized faders. So when you remote control your mixer from UC Surface, the main mix you see in UC Surface and hear in your front-of-house speakers will not match the mix you see on the physical faders.



The Fader Locate button provides a visual representation of where your physical faders are, relative to the virtual faders in UC Surface. Moving a fader on your StudioLive AI-series console mixer will not affect the mix until it intersects with the current position of the virtual fader.

### 5.6.4 FX Mutes



These buttons mute their respective effects buses.

## 5.7 The Settings Page

The Settings page allows you to customize your StudioLive mixer and UC Surface, allowing you to create a flexible mix system for your application. From the settings page you can:

- Customize the look and feel of UC Surface
- Configure your FireWire Aux Inputs routing (StudioLive AI-series mixers)
- Back up your entire mixer
- Enable Smart Wizards (StudioLive AI-series mixers)
- Configure your network settings



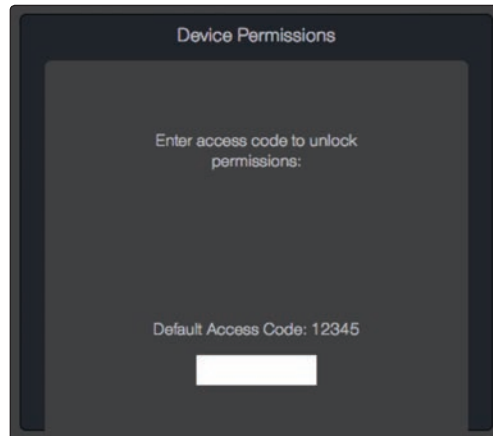
To open the Configuration Settings page, click on the Settings button in the upper right hand corner of UC Surface.

### 5.7.1. Device Settings Tab

The Device Settings tab allows you to customize your StudioLive experience in UC Surface and manage your remote mobile devices.

#### 5.7.1.1 Device Permissions

Controlling your StudioLive remotely with UC Surface or QMix-UC for mobile devices allows you to move about the venue freely. However, it can also put the full power of the StudioLive in multiple hands— some more adept than others. Therefore, your StudioLive enables you to limit each wireless device's access to the mixer features by setting permissions.



Once a device is connected to your wireless network and has launched UC Surface or QMix-UC, the device will be displayed in the Device Permissions list. Each device will be listed using its device name so you can easily identify which device is which.

Once you have connected and configured a device, the same permissions will be set for that device every time you connect it. Complete information about QMix-UC can be found in [Section 6](#).

When setting permissions for UC Surface users, you will choose between giving full access to all mix functions or providing limited access to just a few aux-mix functions. In most cases, one iPad will be configured as front-of-house (FOH), and the others will be configured as aux mixes.

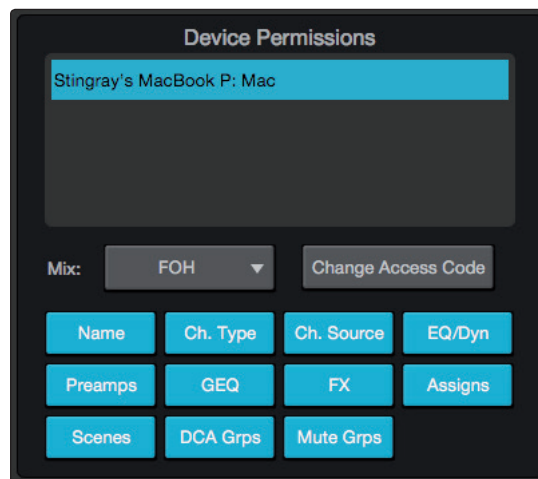
**UC Surface Mix Permissions.** Sets the level of functionality in UC Surface.

- **None.** The selected device will not be able to control your StudioLive mixer.
- **FOH.** Enables all UC Surface functions for the selected device.
- **All Auxes.** The selected device will only control the channel send levels for all aux mixes.
- **Aux 1...** UC Surface will only control the channel send levels for the specified aux mix.
- **Other Permissions.** Choose between Ch Rename or None. Ch Rename allows UC Surface users to remotely change the channel and bus scribble-strip labels. These changes are also reflected in UC Surface, QMix-UC, and on the Channel Info page on the StudioLive AI console mixer.
- **Change Access Code.** This button allows you to set a custom access code for each UC Surface device so that once permissions have been set, they cannot be changed locally on the device without the correct access code. By default, the access code is 12345.

When setting permissions for QMix-UC users, you will choose between providing full access to all aux mixes, providing access to only a single aux mix, and limiting the user to just the Wheel of Me functions.

**QMix-UC Permissions.** Sets the level of functionality in QMix-UC.

- **None.** The selected device will not be able to control your StudioLive mixer.
- **All Auxes.** QMix-UC will control the channel send levels for all aux mixes.
- **Aux 1...** QMix-UC will only control the channel send levels for the specified aux mix.
- **Other Permissions.** Choose between Wheel Only or None. Wheel Only disables the Aux Mix page in QMix-UC. When this is enabled, the user will only be able to use the Wheel of Me on the single aux to which you've provided access. When Wheel Only is enabled, you can only give access to one aux mix.



StudioLive Series III mixers provide an added permissions layer that allows you to make different functions available or inaccessible per device.

### 5.7.1.2 Firmware



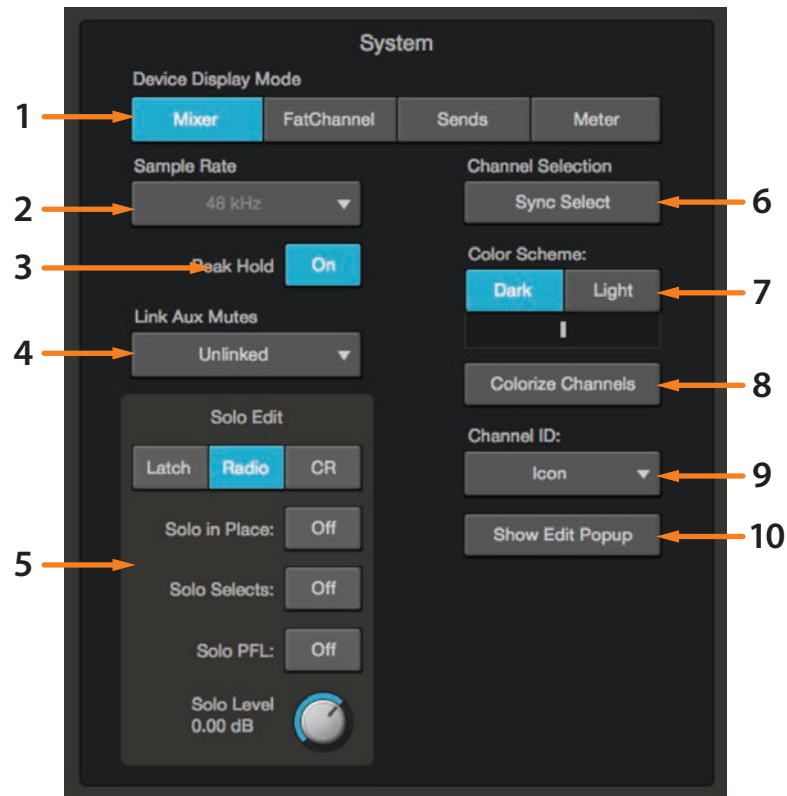
UC Surface allows you to view the currently installed firmware version on your StudioLive mixer as well as the version of UC Surface you are running.

When connected both the Internet and to a StudioLive mixer, UC Surface can check for the latest firmware version and update your mixer's firmware by clicking on the Check Firmware Update button.

### 5.7.1.3 System Settings

The System Settings area allows you to customize your StudioLive mixer. The functions displayed on this page will vary depending on what type of StudioLive mixer you have connect to UC Surface. This section will describe the functions available for each mixer type.

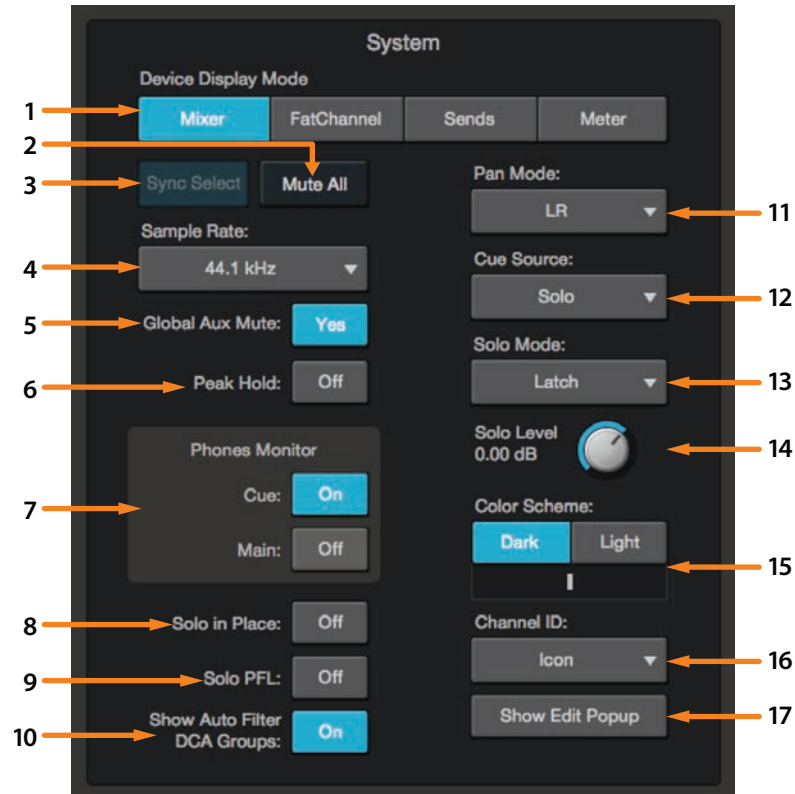
#### StudioLive Series III



1. **Device Display Mode.** Selects the viewing mode for UC Surface:
  - **Mixer.** While in Mixer Display mode, you have access to every function, making it great for remote mixing.
  - **Fat Channel.** Fat Channel Display mode is designed to function as a second screen for your mixer. In this display mode, all the Fat Channel features for each channel will be displayed rather than every function on the mixer. You can select a different channel to view either from your mixer or from the meter bridge in UC Surface.
  - **Sends.** Aux Sends mode provides two display options. While on inputs, UC Surface will display all the bus sends for the selected channel. While on outputs, UC Surface will display all the channels for a selected bus as well as the bus master. Use the meter bridge to select a different channel or bus.
2. **Sample Rate.** Displays the sample rate for your mixer.
3. **Peak Hold.** Sets the type of metering. StudioLive mixers offer both Peak and Peak Hold metering. To view the Peak Hold, simply enable this preference.
4. **Link Aux Mutes.** Sets the operation mode for linking mute buttons between channels and aux sends. *See StudioLive Series III Owner's Manual* for more information.
5. **Solo Edit.** Provides customizable controls for the solo bus. *See StudioLive Series III Owner's Manual* for more information.
6. **Sync Select.** Syncs channel selection between the mixer and across all devices running UC Surface.

7. **Color Scheme.** Luminosity presets and slider control to compensate for environmental light interference.
8. **Colorize Channels.** Custom colors shade the entire channel strip, rather than just the channel label.
9. **Channel ID.** Choose between Icon only or Icon with channel number.
10. **Show Edit Popup.** Presents a large display of parameter value for each function.

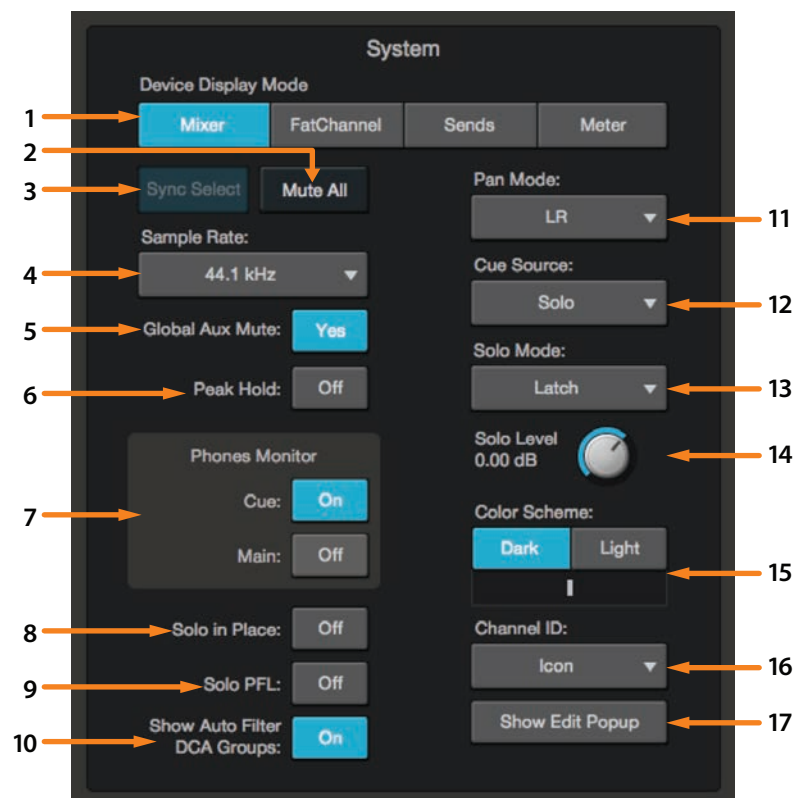
### StudioLive RM-Series



1. **Device Display Mode.** Selects the viewing mode for UC Surface:
  - **Mixer.** While in Mixer Display mode, you have access to every function, making it great for remote mixing.
  - **Fat Channel.** Fat Channel Display mode is designed to function as a second screen for your mixer. In this display mode, all the Fat Channel features for each channel will be displayed rather than every function on the mixer. You can select a different channel to view either from your mixer or from the meter bridge in UC Surface.
  - **Sends.** Aux Sends mode provides two display options. While on inputs, UC Surface will display all the bus sends for the selected channel. While on outputs, UC Surface will display all the channels for a selected bus as well as the bus master. Use the meter bridge to select a different channel or bus.
  - **Meter.** Meter mode displays all the channel meters and mutes for every input channel and output bus.
2. **Mute All.** Mutes every input and output.
3. **Sync Select.** Syncs channel selection between the mixer and across all devices running UC Surface.
4. **Sample Rate.** Sets the sample rate for your mixer.
5. **Global Aux Mute.** Controls channel mutes per mix. Setting Global Aux Mute to "No" will allow you to mute your channels per mix on RM-series mixers.

6. **Peak Hold.** Sets the type of metering. StudioLive mixers offer both Peak and Peak Hold metering. To view the Peak Hold, simply enable this preference.
7. **Phones Monitor.** Sets source for the headphone output.
8. **Solo in Place.** Enables/disables destructive solo.
9. **Solo PFL.** Enables/disables PFL soloing.
10. **Show/Hide Auto Groups.** Shows/hides Auto Filter DCAs. When categories are applied, UC Surface automatically creates a Filter DCA group based on each category. To hide these groups, simply turn off this preference.
11. **Pan Mode.** Sets the main bus output type as stereo L/R or as LCR (Left-Center-Right).
12. **Cue Source.** Sets the audio source for the cue mix.
13. **Solo Mode.** Sets the solo behavior:
  - **Latch.** Multiple channels and buses can be soloed at the same time.
  - **Radio.** Only one channel or bus can be soloed at a time.
  - **CR.** Soloing any channel will patch the Solo bus to the Monitor bus.
14. **Solo Level Control.** Adjusts the overall level of the solo bus.
15. **Color Scheme.** Luminosity presets and slider control to compensate for environmental light interference.
16. **Channel ID.** Choose between Icon only or Icon with channel number.
17. **Show Edit Popup.** Presents a large display of parameter value for each function

### StudioLive AI-Series Consoles



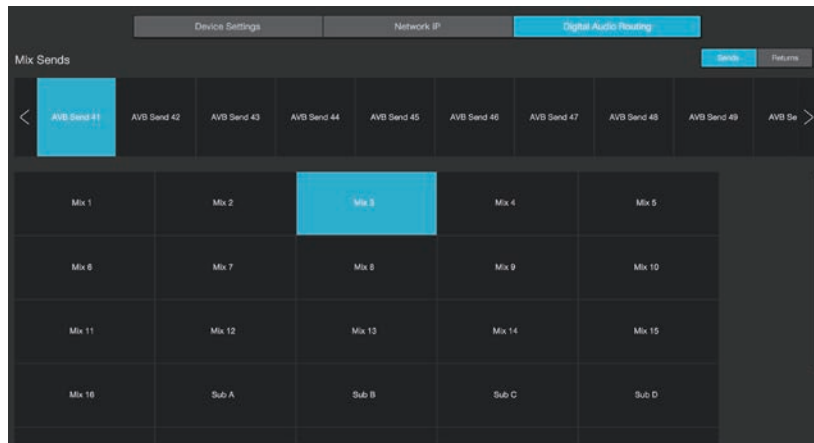
1. **Device Display Mode.** Selects the viewing mode for UC Surface:
  - **Mixer.** While in Mixer Display mode, you have access to every function, making it great for remote mixing.



- **Fat Channel.** Fat Channel Display mode is designed to function as a second screen for your mixer. In this display mode, all the Fat Channel features for each channel will be displayed rather than every function on the mixer. You can select a different channel to view either from your mixer or from the meter bridge in UC Surface.
  - **Sends.** Aux Sends mode provides two display options. While on inputs, UC Surface will display all the bus sends for the selected channel. While on outputs, UC Surface will display all the channels for a selected bus as well as the bus master. Use the meter bridge to select a different channel or bus.
  - **Meter.** Meter mode displays all the channel meters and mutes for every input channel and output bus.
2. **Sync Select.** Syncs channel selection between the mixer and across all devices running UC Surface.
  3. **Sample Rate.** Sets the sample rate for your mixer.
  4. **Global Aux Mute.** Controls channel mutes per mix. Setting Global Aux Mute to “No” will allow you to mute your channels per mix on RM-series mixers.
  5. **Peak Hold.** Sets the type of metering. StudioLive mixers offer both Peak and Peak Hold metering. To view the Peak Hold, simply enable this preference.
  6. **Phones Monitor.** Sets source for the headphone and Control Room outputs.
  7. **Solo in Place.** Enables/disables destructive solo.
  8. **Default Fader Locate.** Enables Fader Locate mode if a fader movement is made from UC Surface.
  9. **Solo Mode.** Sets the solo behavior:
    - **Latch.** Multiple channels and buses can be soloed at the same time.
    - **Radio.** Only one channel or bus can be soloed at a time.
    - **CR.** Soloing any channel will patch the Solo bus to the Monitor bus.
  10. **Color Scheme.** Luminosity presets and slider control to compensate for environmental light interference.
  11. **Channel ID.** Choose between Icon only or Icon with channel number.
  12. **Show Edit Popup.** Presents a large display of parameter value for each function

## 5.7.2 Audio Routing

### 5.7.2.1 Digital Audio Routing Tab (Series III)



This screen lets you route any of the 16 FlexMix outputs as well as the 4 Subgroups, Main L/R, Solo L/R, and FX Sends A-D to any one of the last 16 AVB Network sends. Press the arrow buttons to either side of the list to scroll through the list, and click or touch the Mix Output and desired AVB Send to make the routing.

From here, you can also route any of the last 16 AVB Network Returns to any of 16 FlexMix outputs as well as the 4 Subgroups, Main L/R, Solo L/R, and FX Sends A-D. Press the arrow buttons to either side of the list to scroll through the list, and click or touch the Mix Output and desired AVB Send to make the routing.

### 5.7.2.2 Aux Routing Tab (AI-series)

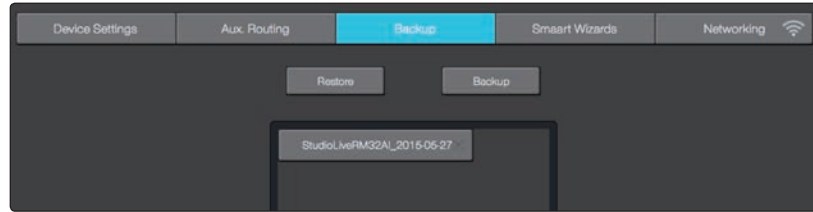


In addition to the 32/24/16 input channels, the StudioLive AI-series mixers allow you to route a number of other buses and other inputs. This is done via the Aux Router tab. To route these additional digital sends, simply patch them to a stereo pair of auxiliary inputs of your choice. Remember, all of these buses and inputs are automatically set to send their signals post-Fat Channel dynamics and post-EQ (where applicable). The inputs and buses selected in the Auxiliary Input Router will be displayed in your recording application, along with the name of their routing.

The Aux Router also allows you to designate a specific bus to the S/PDIF output and enables you to select which stereo pair will be recorded on the auxiliary stereo track in Capture.

As previously mentioned, if Smaart Spectra tools are engaged, UC Surface will take control of the second-to-last pair of auxiliary inputs. When Smaart has control, these inputs will be grayed out.

### 5.7.3. Backup Tab (StudioLive AI-series)



The Backup tab displays any backup logs that have been created in UC Surface. The Backup tab allows you to create complete, time-stamped snapshots of your StudioLive. This can be especially useful when completing a project that may need to be revisited in the future.

To create a backup, simply click on the Backup button.

To restore any backup file, select it and click the Restore button.

### 5.7.4 Networking Tab

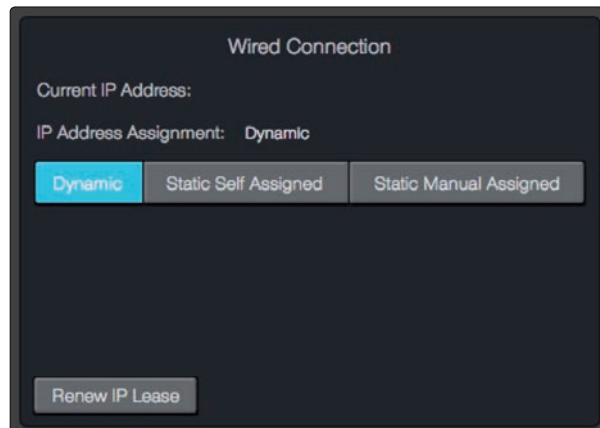


The Networking tab in UC Surface allows you to manage the network settings for your StudioLive mixer.

StudioLive AI-series mixers will have additional options to manage wireless LAN settings and cascading options.

#### 5.7.4.1 Wired Connection

When hardwired to a LAN network via Ethernet, there are three types of IP configuration schemes available from within UC Surface. Configuring your IP address allows you customize how your StudioLive mixer will present itself to other devices on the network. In most cases, you will use the default Dynamic IP mode setting.



**Dynamic Mode.** This is the default setting for StudioLive mixers and is the most common way you will use your mixer on a network. In Dynamic IP mode, the mixer is assigned an IP address by a DHCP server. Because of this, Dynamic IP mode requires that your StudioLive be connected to a network that also has a router connected.

In this mode, your mixer will request an IP address from the DHCP server when it is powered on. The DHCP server will then answers and assign the mixer a unique IP address. The mixer will continue to send and wait for an answer to its DHCP requests.

**Static Self-Assigned Mode.** When two network devices are directly connected to each other or a switch, rather than to a network router, they cannot have their IP addresses assigned dynamically. In this case, the devices must be able to self-assign their own IP addresses.

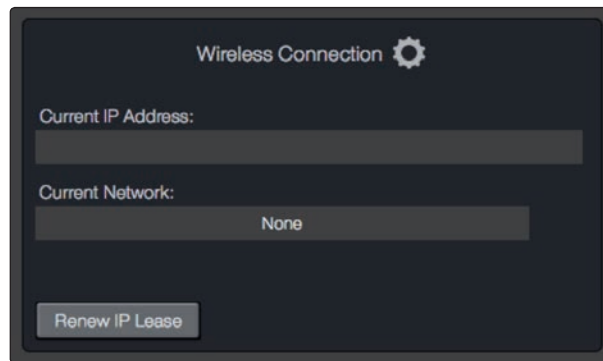
The most common direct Ethernet connection scenario is while using a StudioLive AI console mixer with a StudioLive RM/RML mixer in Stagebox mode or to connect your Windows Touch computer directly to your StudioLive mixer to run UC Surface wired, rather than wirelessly.

In this mode the mixer will automatically assign itself an IP address in the 169.254.0.0/16 range, allowing connection with other devices in the same IP address range.

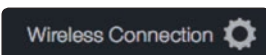
**Static Manual Mode.** This mode is typically reserved for more complex networking installations or situations that otherwise require setting static IP addresses. In this mode, you can manually assign an IP address, subnet mask, and gateway. If you're not sure how to manually configure static IP address assignments, please consult your IT administrator before attempting to configure your StudioLive mixer in Static Manual IP Address mode. Unless you have a specific need for static IP address assignment, most users would be advised to use Dynamic mode and let IP addressing be handled automatically by your router/network DHCP server.

***Power User Tip:** Network modes are not intended to be changed on the fly. To ensure proper network configuration and connection, always power cycle your StudioLive mixer after changing its IP assignment mode.*

#### 5.7.4.2 Wireless Connection (StudioLive AI-series only)



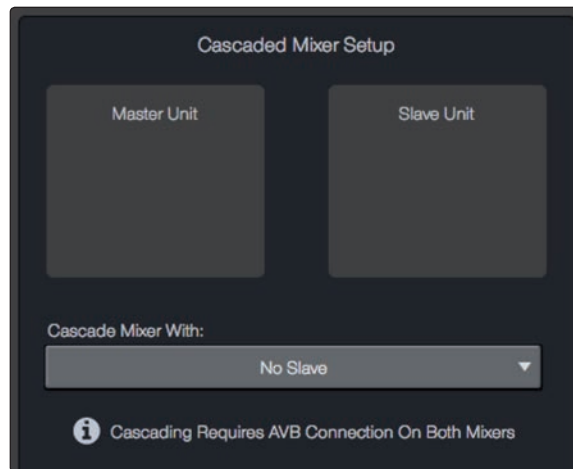
When using the wireless LAN adapter with your StudioLive AI-series mixer, this section will display both your mixer's current IP address and the wireless network to which your mixer is currently connected.



By default, your StudioLive AI-series mixer is set to connect to a wireless network named "studiolive" with a password of "studiolive." To change the wireless network to which your StudioLive AI-series mixer, click on the Wireless Settings button.

### 5.7.4.3 Cascading Mixers (StudioLive RM/RML mixers)

There are a few different ways to use cascaded RML-series mixers. For all configurations you'll need to connect the mixers via Ethernet using a compatible AVB switch. Refer to our Knowledge Base for the most current list of compatible AVB switches.



In the Cascading Mixer Setup section of the Network tab, select from the drop-down list the mixer you'd like to be Channels 33-64.

**Note:** Establishing the cascaded connection may take several seconds. When complete, you'll see each mixer displayed in the Master and Slave unit spaces.

You're now cascaded and using the mixers as a single 64-channel mixer. The tab at the top of the screen for the slave mixer will go away and when looking at the mixer view in UC Surface, you will see 64-channels. Channels 1-32 will reside on the master mixer, and Channels 33-64 will reside on the slave.

To remove the cascade, select None from the "Cascade with mixer" drop-down list.

If you're using a StudioLive CS18AI, select either mixer from the drop-down list in the UCNET screen, and you'll have control of both mixers as a single 64-channel system.

## 5.8 Smart System Check Wizards (StudioLive AI-series only)

When connected to a StudioLive AI-series mixer (16.4.2AI, 24.4.2AI, 32.4.2AI, RM16AI, RM32AI, RML16AI, RML32AI), UC Surface includes three System Check Wizards to provide you with the ability to view the frequency response of the venue; quickly calculate and set delay system timing; and verify output connectivity.

**Note:** Smart System Check Wizards are not available with StudioLive Series III consoles.

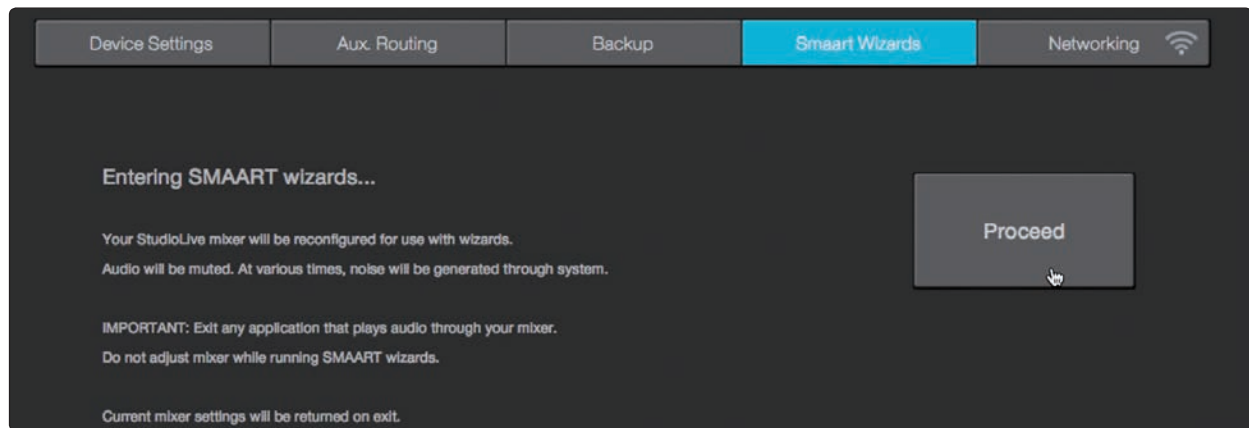
Traditionally, in professional sound reinforcement, the mixing console is there to mix, and the system processor is there to align and tune the speaker system. When functioning and set correctly, the system processor is invisible to everyone but the System Engineer. For the first time, the tools used to tune and align speaker systems are built into the mixing console itself and accessible to any engineer who wants to improve their PA's sound and get the most out of their PA system.

For all but the most seasoned professional sound technician, this is a new extra step in the process of setting up for a show. For most FOH engineers, getting a good mix is a big victory. But imagine being able to recreate that same killer mix night after night, show after show. Once the system has also been optimized for the environment it is in, any FOH engineer working on it will achieve that big victory without so much work. This is why system alignment is a standard procedure in professional level sound reinforcement. Again, this solution is not typically achieved from the mixing console, but built into the system design itself. The Smart System Check Wizards in UC Surface merge these two worlds.

Clicking on the Smart Wizards tab in the Settings page will launch Smart System Check mode. While in this mode you can launch any of the following wizards:

- **SRA: Smart Room Analysis** generates a frequency-response trace and overlays it on the parametric EQ in UC Surface so you can adjust your system to get rid of unwanted anomalies in the room.
- **SSD: Smart System Delay** calculates and sets the correct amount of delay time between two full-range systems.
- **SOC: Smart Output Check** verifies that your system outputs are routed correctly and are passing signal.

To run any of the Smart System Check Wizards, UC Surface will need to take over your mixer. When you first click on the Smart Wizards, you will see a warning to this effect.



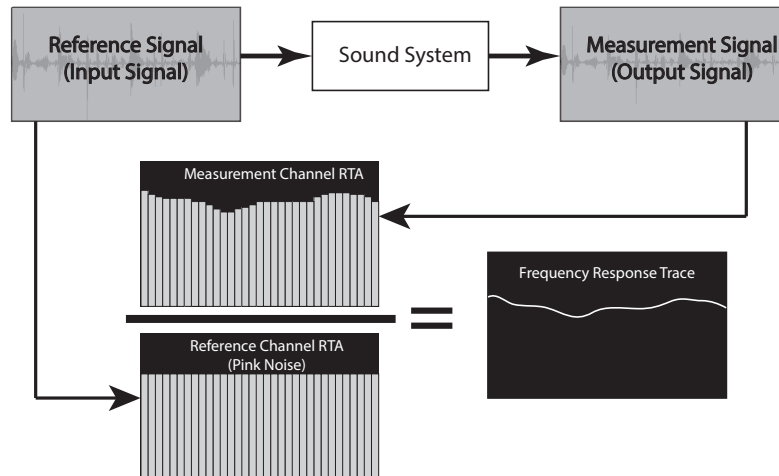
Clicking on the “Proceed” button will launch the Wizard select window and you will no longer have control over your mixer. You can exit the Wizards and regain control at any point simply by clicking on one of the other tabs or closing the Settings Page.

**Note:** To run the SRA and SSD wizards, you will need to connect a measurement microphone to your StudioLive’s Talkback input. You’ll also need a mic stand and a long enough cable to place the mic in front of your speakers.

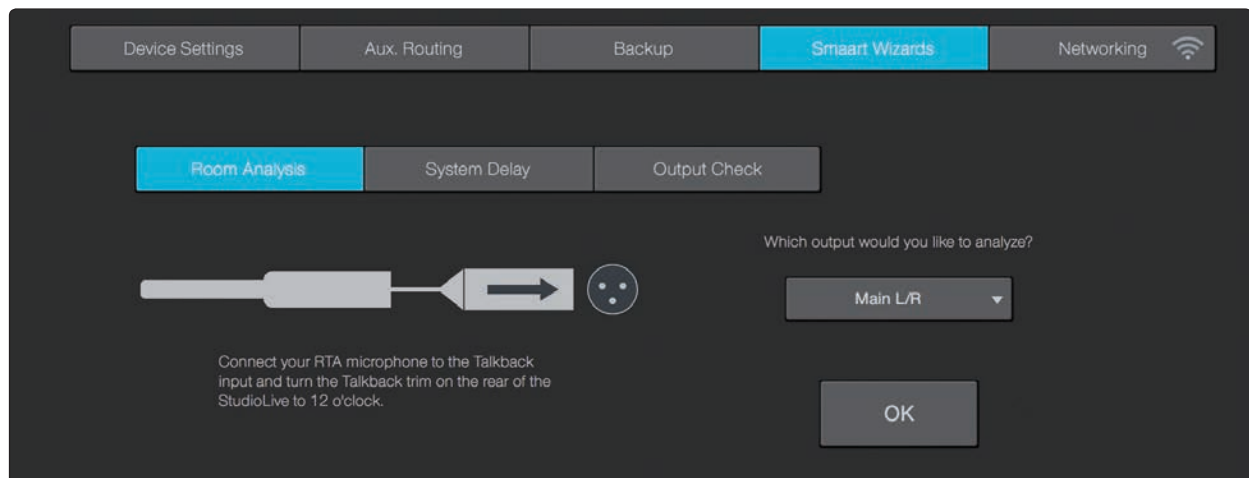
*A measurement microphone is special type of condenser microphone that is designed to provide an accurate reproduction of a room’s sound characteristics for use with audio-analysis tools, such as RTAs and spectrographs. Measurement microphones typically have an omnidirectional polar pattern and deliver a very flat frequency response between a low end of 5 Hz to 30 Hz and a high end of 15 to 30 kHz. While measurement microphones can be quite expensive, most affordable models will do the job nicely when paired with the Smart System Check Wizards. PreSonus offers the budget-priced PRM1 Precision Measurement Microphone for this purpose.*

### 5.8.1 Smart Room Analysis Wizard

The SRA Wizard is an automated process that will guide you through the steps of acquiring a frequency-response trace for your audio system. A frequency-response trace is the plotted result (frequency and amplitude) of the system measurement. This measurement is calculated using Rational Acoustics' transfer function, which is a set of proprietary algorithms that compare the signal from a measurement mic to computer-generated pink noise.



To launch the Room Analysis wizard, click on the Room Analysis tab and follow the onscreen instructions. Click OK to start the wizard.



Next you will be asked to pick the type of analysis you would like to do. Basic Analysis requires you to take a single measurement of your system. When analysis is complete, the wizard will continue to output pink noise through your system while you EQ, allowing you to view the effects of your filters in real-time.

Advanced Analysis requires you to take three separate measurements and will generate a more accurate frequency-response trace of your system by averaging the measurements together. Once the trace has been generated, this wizard will not continue to analyze your system. To view the effects of your filters, you must run the wizard again. Skip to the next part of this section for more information on Advanced Analysis.

*Note: StudioLive RM/RML users must first select a talkback input from the talkback channel. Once selected, this will be the input source targeted by the Smart Room Analysis Wizard.*

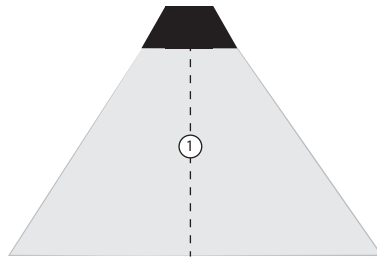
### Basic Analysis Mic Placement

Place your microphone on-axis in front of the speaker you want to analyze. If you are analyzing a stereo bus, place your microphone on-axis in front of the Left speaker. *See Section 5.8.4* for tips in choosing the best primary mic position.

### Advanced Analysis Mic Placement

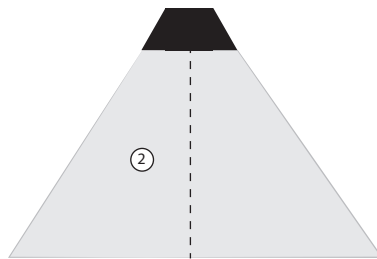
As previously mentions, you will analyze your speaker from three different positions. For the first analysis, place your microphone on-axis in front of the speaker you want to analyze. If you are analyzing a stereo bus, place your microphone on-axis in front of the Left speaker. *See Section 5.8.4* for tips in choosing the best primary mic position.

#### On-Axis

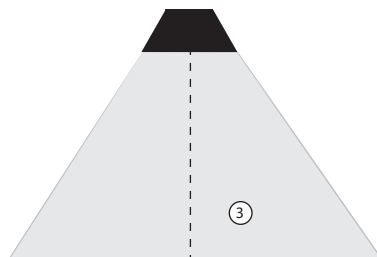


The next two measurements will be taken off-axis. Place your microphone off-axis in front of the same speaker. *See Section 5.8.4* for tips in choosing the best secondary and tertiary mic positions:

#### Off-Axis A



#### Off-Axis B



**Power User Tip:** In most cases, you will want to EQ the left and right side of a stereo system the same. This is why the SRA wizard asks you to measure the left side of your system only and linked buses are displayed as such. If you are in an unusual situation where you need to separately EQ each side (say, you are using a different model 15-inch speaker on the left side than you are on the right side), connect your system to a pair of subgroup outputs and do not link them.

## 5.8.2 Smart System Delay Wizard

Using multiple sets of speakers in a live performance can make a huge difference in the quality of the sound. Rather than relying on a pair of front-of-house speakers to fill the entire room, you can create listening zones throughout the room so that your front-of-house system only needs to be loud enough to cover the front of the room. This allows you to lower the level, give the front row listeners' ears a break, and get better fidelity from your speakers. Sounds great, right?

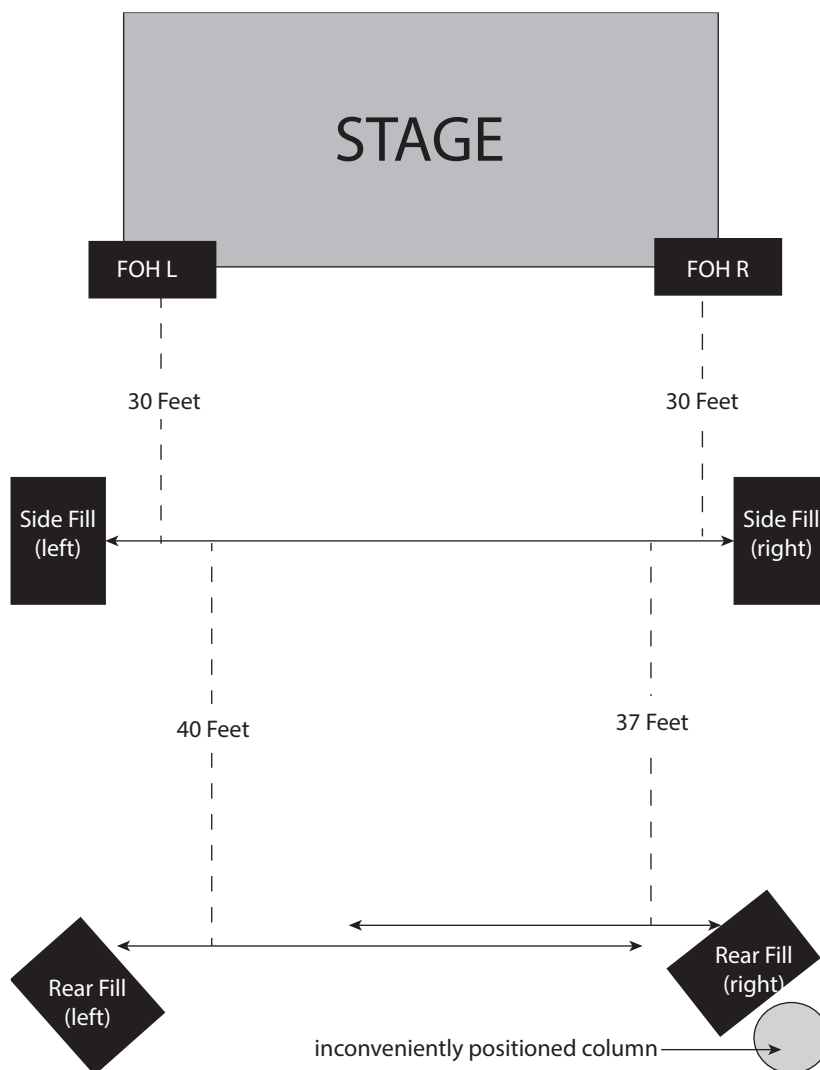
However, it's not as easy as just bringing an extra pair of speakers. Any additional sets of speakers will need to be delayed; otherwise the audience will perceive



that the sound is coming from the walls, rather than from the stage. Even worse, since electricity travels much faster than sound, listeners in the rear of the room are likely to hear the sound coming from the nearest set of speakers before they hear the sound from stage, which can dampen the attack and intelligibility of the sound and create an unpleasant phasing effect. To compensate, you need to delay the signal going to the additional sets of speakers.

Sound travels at a rate of 1,130 feet per second, providing that the temperature, humidity, and air pressure are all “normal.” Therefore, it takes 1 ms for sound to travel 1.1 feet. But what if you’re setting up for an outdoor show in, say, Baton Rouge, Louisiana, in August, when the temperature and humidity are unpleasantly far above “normal”? Your calculations might be a little off, unless you happen to be a whiz at calculating the effect of barometric and atmospheric pressure on sound waves.

The SSD wizard is an automated process that calculates and sets the correct delay time between two full-range systems. The purpose of this wizard is to set the delay time for a secondary system that is being fed from one or more subgroups. No calculators, slide rules, or finger-counting are necessary!



In the example, you see three sets of speakers: main front-of-house, sidefills for the middle of the room, and rear fills for the back. As a general rule, you should set the delay on a satellite system based on its distance from the next closest system to the mains. In this case, you’ll set the delay on the sidefills based on their distance from the main front-of-house system and the delay for the rear fills based on their distance from the sidefills.

When using the SSD wizard for the above system, you would run the wizard four times. The first time, you’d use the main front-of-house left for the main system and the left sidefill for the delay system. The second

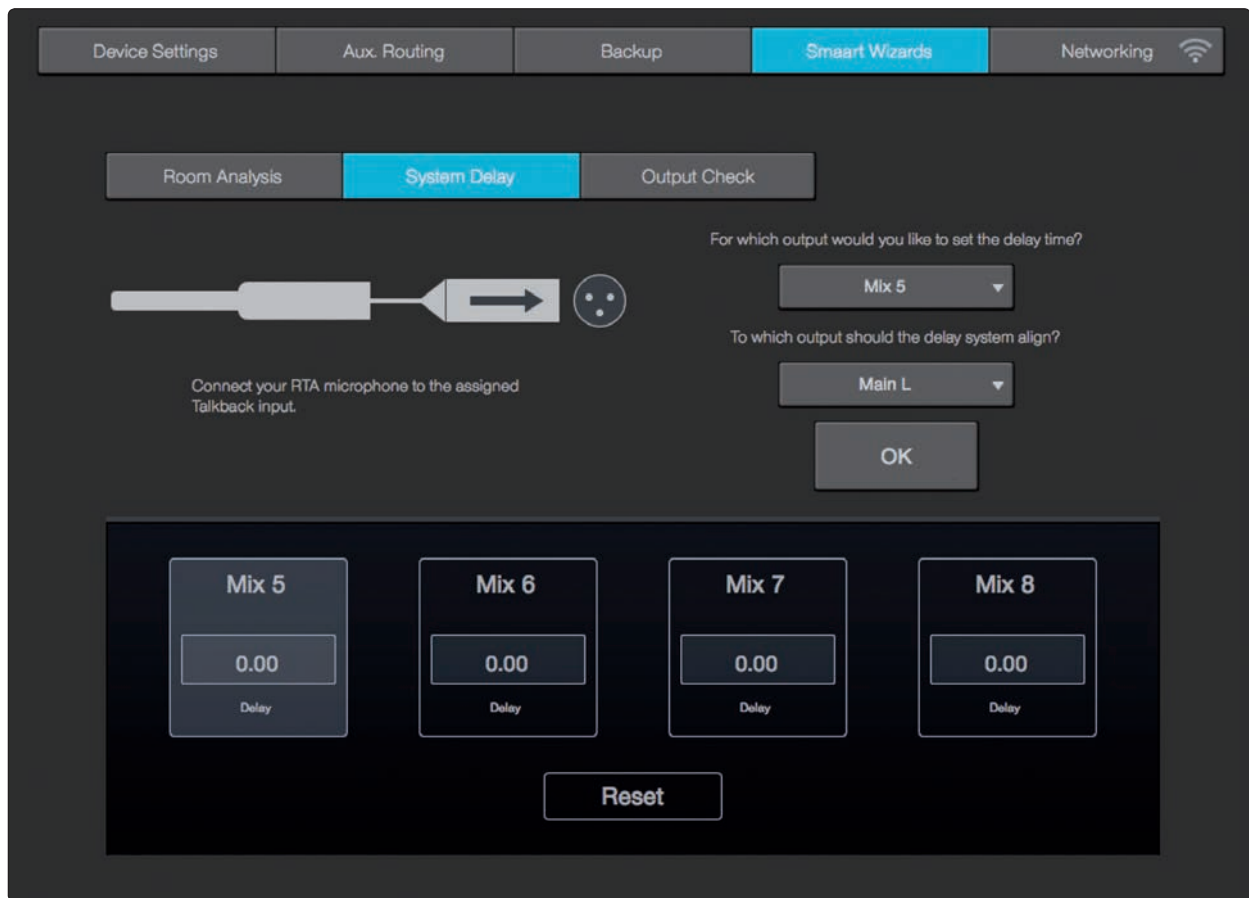
time, you will use the left sidefill as the main system and the left rear-fill for the delay system. Then repeat the procedure for the right side.

**Note:** it is important that you set the delay on the first satellite pair **before** you set the delay on the subsequent satellite pair.

**Power User Tip:** Because rooms often have inconveniently placed architectural features—fire exits, tables, and so on—the left and right side of a system with satellites will rarely be equidistant on both sides of the system. Because of this, you need to run the wizard for each side of a stereo system, starting at the front and working your way to the back.

**Please note:** the SSD wizard is not designed to analyze systems that include a subwoofer. Temporarily disconnect or disable your subwoofer before beginning analysis.

### System Delay Wizard

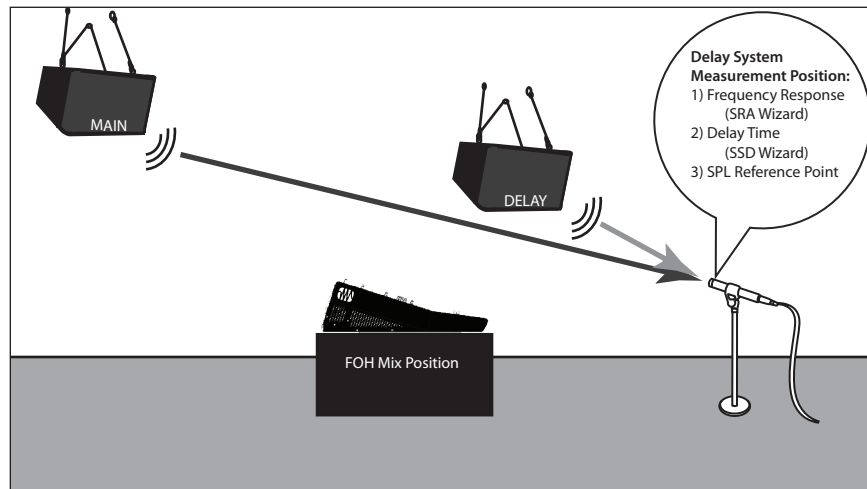


To launch the System Delay Wizard, click on the System Delay tab and select the speaker output you want to delay. From the bottom pull-down menu, select the speaker output to which you'd like to align. This can be your main outputs or any of the subgroup outputs, even if the subgroup outputs have been delayed. Click OK to start the wizard and follow the onscreen instructions.

**Note:** StudioLive RM/RML users must first select a talkback input from the talkback channel. Once selected, this will be the input source targeted by the Smart System Delay Wizard.

Once you have positioned and delayed your satellite system, you will want to match the output levels of the main and delay systems. To do this, use an SPL meter to match the output of the main and delay systems at the delay-system measurement position. This means that if you are standing 20 ft from the left side of the main system and 30 ft from the left side of the delay system, and the output of the main system is 85 dB, the output of the delay system should also be 85 dB.

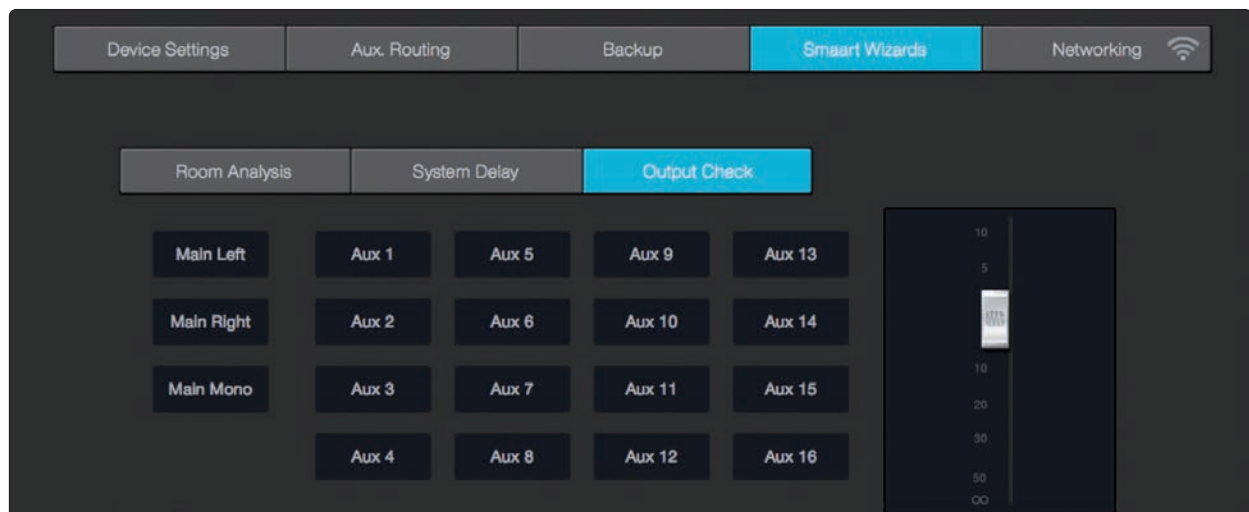
**Note:** For delay times between 0 and 50 ms, the delay will be set to the nearest 0.5 ms; between 51 and 100 ms, the delay will be set to the nearest 1 ms; and between 102 and 300 ms, the delay time will be set to the nearest 2 ms.



### 5.8.3 Smart Output Check Wizard

It's five minutes before a show, and suddenly the drummer says there's nothing coming out of his monitor. Or you do a friend a favor and run sound at her club because she has the flu, and you show up not knowing which aux is connected to what monitor or which sub is controlling what sidefill. The Smart Output Check wizard was designed to make these problems disappear like magic!

By momentarily taking over the routing and volume control of an output and patching pink noise to it, the Smart Output Check wizard lets you quickly discover which speaker is connected where and helps you quickly get to the root of a routing problem. In the case of the drummer with silent monitor, if he hears pink noise, you can save yourself ten minutes of frantic cable tracing only to discover the output level was inadvertently turned down on his aux mix.



Click on the Output Check tab to use the Smart Output Check wizard. You will be shown buttons for all outputs on your StudioLive. Click on an output's button, and pink noise will fade in for three seconds. You can click on the button again to stop it. To adjust the pink noise, use the fader on the right side of the page.

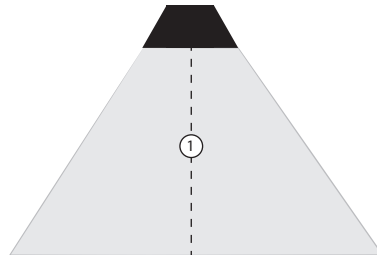
### 5.8.4 Mic Position

The SRA and SSD wizards do all of the calculations and complex routing through the StudioLive for you. Two very important decisions are up to you: Where to place the mic and, in the case of the SRA wizard, what to do with the frequency-response trace. Improper mic placement can create "problems" in your trace that actually don't exist in your sound system.

### Primary Mic Position

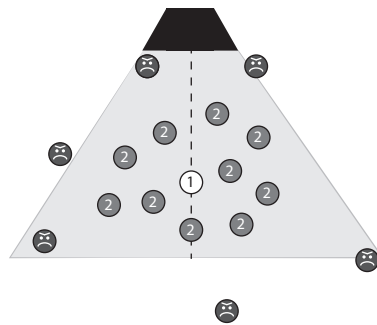
This is the main reference point for a speaker and can be used as a single, “representative” position if you’re short on time or patience and just want to get a “gut check” of your system.

Your goal in setting the primary mic position is to find a point that puts the microphone in the center (on axis) of a speaker’s throw, within the listening area. In other words, you want to put the microphone smack dab in the middle of where your speaker sounds its best.

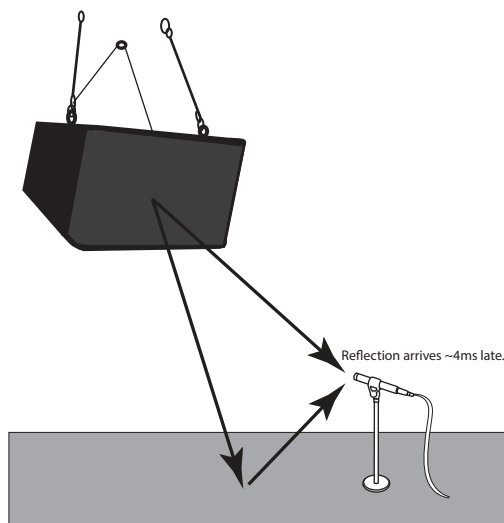


### Secondary Mic Position

You will use two different secondary positions in a multi-point measurement. These can be on- or off-axis measurements of a speaker within the listening area. This will allow the SRA wizard to create an average frequency response of your sound system. Avoid using locations outside the core coverage area of your system or on the edges. The graphic below displays some good secondary measurement positions relative to the primary position, as well as some positions that would be more problematic than useful. With any mic position, avoid creating position-related anomalies.

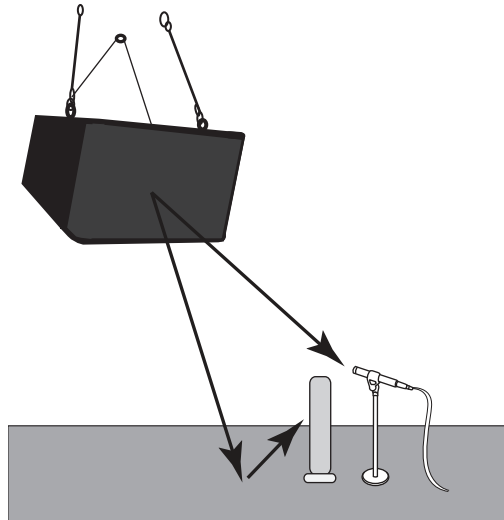


**A word of caution about ground bounce:** Ground reflections become an issue when a speaker is flown and angled down. The proper mic position, in this case, will also catch the reflection of the signal off the floor.

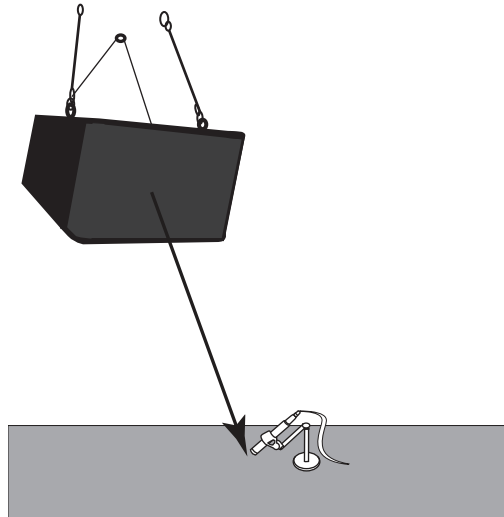


In this case, you can choose from three options:

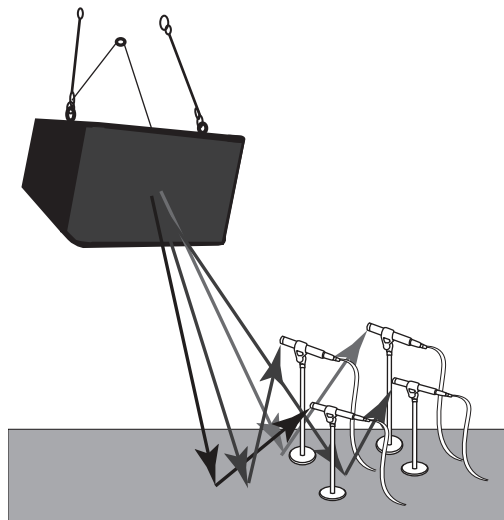
- Block the reflection with a baffle that is large enough to be effective above 100 Hz (so at least 5' by 5').



- Do a ground-plane measurement.



- Do a multi-point measurement. Enough measurement positions will randomize the effect of the floor bounce.



### 5.8.5 System Alignment Rules

The visual result of a sound-system test can be a powerful tool; however, like any powerful tool, you must be responsible about how you wield it. Here are few basic principles to follow:

**Solve the problem at its source.** The closer to the source, the more effective the solution will be. If your kick drum lacks punch in the mix, take a look at the kick-drum channel's EQ and dynamics processing. Is the kick drum properly tuned? Are you boosting the attack of the kick beater enough and at the right frequency? Is your compressor's attack too long?

**Use the right tool.** The system EQ is the last in a long line of possible solutions to frequency problems. Once you have fully assessed the problem, you can choose the right tool. Check the acoustic space, choice of equipment, and system design first. Obviously, you don't always have control over the acoustic design or treatment (or lack thereof) of a room, and your wallet might determine your choice of speakers more than your needs do, but usually you have some control over your sound system's design.

Can you raise the speakers to mitigate some of the harsher reflections? What about widening the stereo field?

After you've ruled out physical solutions to a sound problem, move on to level and delay. Can you simply lower the level of your subwoofer to kill some of the boom in the room? Can you delay your front-of-house speakers by a few milliseconds so that they're in alignment with the guitar cabinets blaring from stage?

If you can't find a physical solution and can't mitigate the issue with level and delay control, it's time to employ the system EQ.

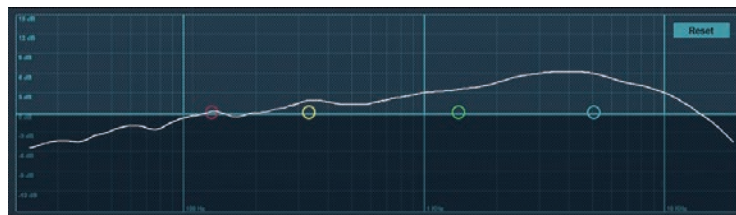
**A frequency-response trace is not a video game.** Your goal is to fix your system and make it sound the best it can, not create an EQ curve that is an exact inversion of the frequency-response trace. Mix with your ears, not your eyes.

**An analyzer is a tool; you are the carpenter.** You decide where to measure your speakers. You decide what the resulting data means. You decide what (if anything) to do about it.

### 5.8.6 Using the Trace: Spotting the Trend

As discussed in the previous section, many factors can affect the response of a sound system: the room, system configuration, electronics, wiring, and more. Part of understanding what you see is knowing what you should not be seeing—or at least having a basic idea of what to expect. After all, you are trying to sculpt the EQ curve of the system into something that compliments that sound system's frequency response.

For example, a small system without a subwoofer can't reproduce much energy below 50 Hz. In fact, this frequency cutoff could be even higher, depending on the size of the speaker, its factory tuning, porting, etc. This means that if you are analyzing a system that is comprised of two 2-way, 12" powered speakers, you should expect your frequency-response trace to drop off around 50 Hz or so (depending on the frequency response of your speakers). Because of this, boosting low frequencies in this type of system wouldn't achieve much and may introduce more problems than it would solve.



**Power User Tip:** A subwoofer can significantly change the frequency response of a full-range system. A 3-way system with a subwoofer will be 6 to 18 dB hotter below 80 to 100 Hz than a 3-way system without a subwoofer. Keep this in mind when viewing your trace.

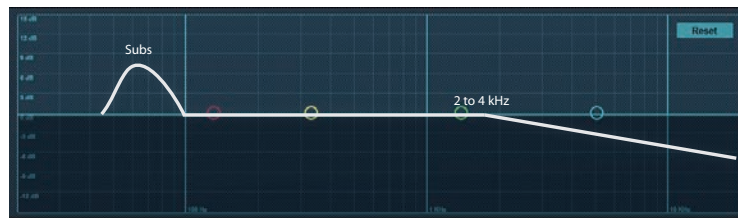
Different types of live performances make different demands of a PA system. A classical concert has very different needs from a rock concert. Just as you wouldn't mix an evening of Bach quartets the same as an evening of thrash metal, you don't want to tune your PA system the same for both types of events.

A classical concert doesn't need an exaggerate subwoofer output. The audience and performer expect and want a natural reproduction of the music. In contrast, systems that are tuned for a rock show will use subwoofers essentially as an effect. This is how they achieve those pummeling kick and toms and huge bass guitar sound: the system is pre-tuned with more bass response.

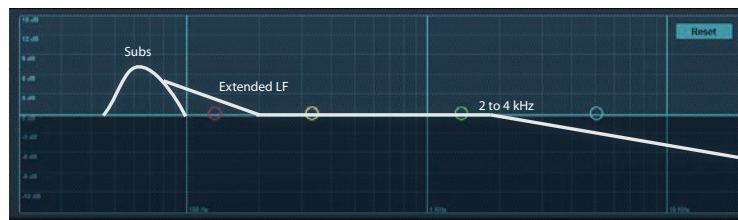
In other words, you can stack the deck to be assured of a big FOH mix win. In system alignment, this deck stacking is called "trends." Every genre and performance type requires a different type of trend. The sole objective of a system EQ is to smooth out the sound system by creating a uniform slope that the system follows. This will give your system a more uniform sound and performance, as well as better clarity, because your system has been pre-EQ'd to meet the needs of the concert.

Below are some examples of trends for various applications:

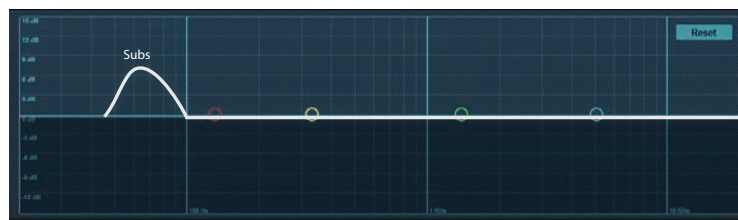
### Music Concert



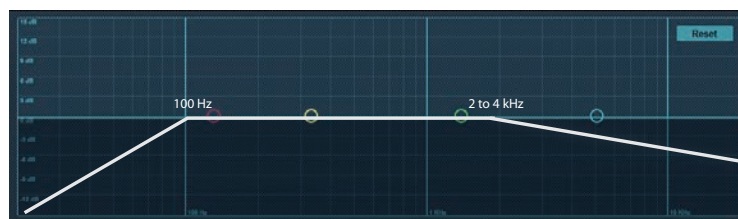
### Rock Concert



### Music Playback/Reproduction



### Speech Intelligibility



**Power User Tip:** The amplitudes depicted in the trend examples shown here are guidelines: examples of very general slopes required for different applications. The desired value will be different for every gig, and it is ultimately up to you to decide what is required for your show, based on what type of artist is performing and what kind of sound system you are using. While making a trace follow these trends is recommended, in real-world applications, this might not always be possible. Being able to compromise and work with what you have often requires a certain amount of creativity and artistry on the part of the system engineer.

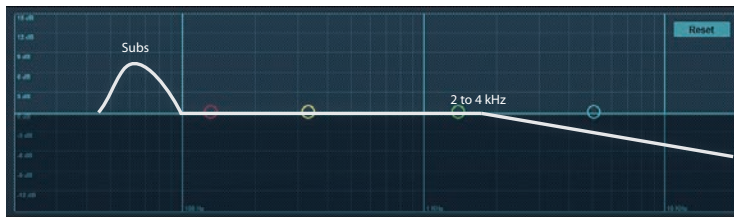
### 5.8.6.1 Spotting the Trend: Real World Example

Let's take a look at the following frequency-response trace. In this example we can see a few peaks that don't go along with our application; for our purposes, let's make that a music concert.

Our goal is to get from this:

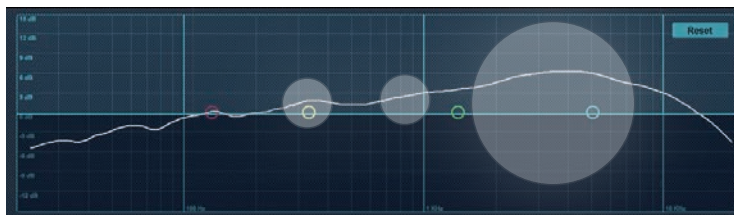


to this:



...all the while keeping in mind that we cannot alter the speaker's frequency-response curve, even if we would like to.

Looking at our trace, it's easy to spot a few problem areas. There's a bump at 300 Hz that could be smoothed out a bit. Another bump at 750 Hz could stand some flattening, and a big rise at 1 kHz to 10 kHz is going to make our system shrill at higher volumes.

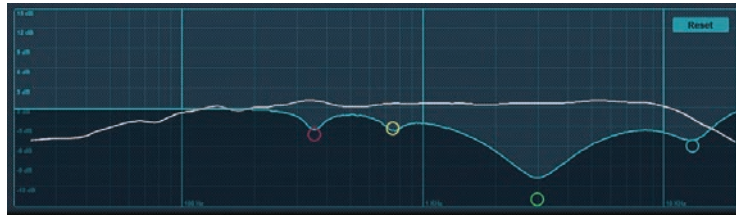


What about all the other bumps and dips? Remember: The frequency-response trace is not a video game. You don't need to put a filter on every bump or dip in your trace when a few carefully placed filters will achieve a much better result. This is also why the wizard overlays the trace on your parametric EQ.

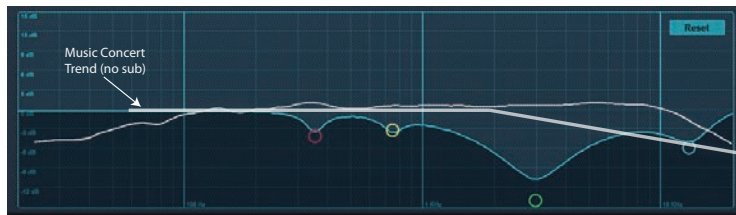
A parametric EQ is an ideal tool to shape your system's frequency-response trace into a trend that will complement your application. With a parametric EQ, you have the ability to process large areas of bandwidth, with minimal electronic smearing to the signal. This also frees up your graphic EQ for aesthetic adjustments or fine-tuning.



So, let's apply the following EQ setting and take a look at the resulting frequency-response trace:



As you can see, just four filters made a big difference, and now our system's frequency-response trace follows the general Music Concert trend that we needed.



**Power User Tip:** Spotting the trend and knowing what to do with it are experiential skills that get better over time. Because of this, you may try using the trends in the previous section as practice tools. Shoot your room with the SRA wizard and try to EQ it for speech intelligibility, then play an audio book or a recording of your favorite inspirational speech through your system. Turn the EQ on and off while listening. Did you make the system better? Try the same experiment using the Rock Concert trend and play your favorite live album through your system this time. Over time, you'll begin to see what really constitutes a problem and what can be overlooked. You don't need to have access to a live venue to do this. Set your speakers up in your garage, or living room, or both and try to see the differences in the rooms.

## 6 QMix-UC for Mobile Devices

QMix-UC for iOS (iPhone and iPod touch) and Android™ puts each musician's monitor (aux) mix in their own hands. With QMix-UC, you can adjust each StudioLive channel's aux-send level to taste and can create up to four groups of channels that you simultaneously control with the amazing Wheel of Me. All you need is a wireless router and a mobile iOS or Android device, and you're ready to take control of your own destiny.

**Note:** Please visit [www.presonus.com](http://www.presonus.com) for a list of supported Android devices.

Mobile iOS and Android devices offer two viewing options: Landscape and Portrait.



These two orientations open different windows. When you hold your mobile device in Landscape view, the Aux Mix window will open. When you hold your mobile device in Portrait view, the Wheel of Me and Group Masters windows will be visible.



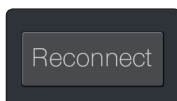
To launch QMix-UC, tap on the QMix-UC icon on your mobile device. When you launch QMix-UC, you will be taken to the Start page.



On the Start page, you will see a list of every StudioLive Series III and AI-series mixer on the network. You can also view QMix-UC using Demo Mixer simulations. These offline simulations enable you to practice your finger control away from your StudioLive.

**Note:** Classic StudioLive mixers (16.0.2, 16.4.2, 24.4.2, and 32.4.2) provide monitor mix control with the free QMix application.

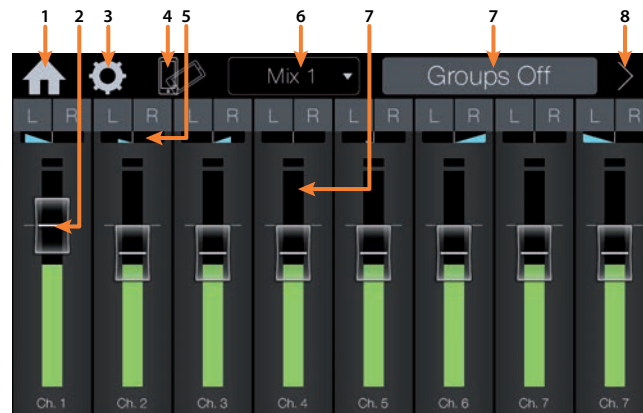
To connect to your mixer, tap on the StudioLive device icon to open QMix-UC and control the mixer from your mobile device.



Tapping the Reconnect button will automatically scan the network for the last StudioLive mixer to which QMix-UC was connected.

## 6.1 Aux Mix Page

The Aux Mix page shows the send level for each channel on each aux to which your device has access. It corresponds directly to the aux mixes on your StudioLive and has been streamlined to show only the send levels. To open the Aux Mix page, simply hold your mobile device in Landscape view:



1. **Home.** Returns to the Start page and the available device list.
2. **Channel Send Levels.** Sets the Channel Send Levels to the Selected Aux Bus. To adjust the send levels for any channel, tap anywhere in the channel's level control and move your finger up or down while maintaining constant contact with the screen.  
*Power User Tip: The aux sends support off-axis movement. Once you have touched a send-level control to select it, you can slide your finger anywhere in the screen and make an up/down movement to control the send level.*
3. **Settings.** Opens the Settings menu. (See Section 6.3.)
4. **Lock Orientation.** Enabling the Lock Orientation button will lock your mobile device in Landscape view. While this button is enabled, you cannot open the Wheel of Me. Locking the view will also remove the Start page button. Until this option is disabled, QMix-UC will launch in this view when connected to the current mixer.  
*Power User Tip: If QMix-UC doesn't change pages when you change your mobile device's orientation, make sure that Lock Orientation is not enabled.*
5. **Channel Pan.** When a stereo mix is selected, you find pan modules above each channel to control the channel's relative pan position in the mix.
6. **Aux Mix Select.** Displays channel send levels to Aux bus. To navigate right or left, touch anywhere in the Aux tabs and swipe your finger to the left or right. Swiping left scrolls the screen to the left. Swiping right scrolls the screen to the right.  
*Note: Your device's access to aux mixes is determined from your StudioLive mixer. If you only have access to one aux mix, verify your device's permissions in UC Surface or in the System menu on your mixer.*
7. **Channel Meter.** Displays the channel's current signal level. Use this meter to determine if a particular channel has signal and to see how hot a signal is before you set the send level.
8. **Groups.** QMix-UC allows you to create four groups of channels for easier mix management. This button enables / disables this functionality. See Section 6.1.1.
9. **Edit Groups.** Tap this button to view the four groups and add channels to each. See Section 6.1.1.

### 6.1.1 Channel Grouping

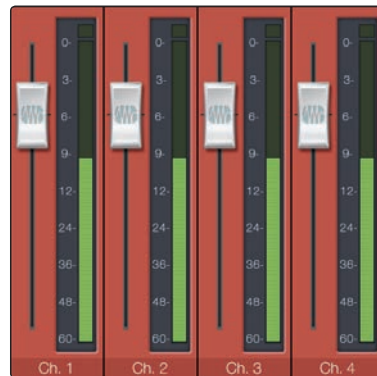
Channel grouping is a great way to easily manage your mix. Creating a group will let you organize groups of channels and manage the overall volume of the entire group without changing the relative level of each channel in the group. For instance, you can create a group of all your drum channels so that once you dial in just the right drum mix, you can turn your drums up or down with one fader instead of twelve.



1. To create a group (or four), tap on the arrow next to the Groups button.
2. This will reveal the Group Edit buttons.



3. Tap on the Group Edit button to add or remove channels.
4. Tap on the channels you'd like to add to your group. As you select channels, their color will change to match the currently selected group's color.



5. When you done editing groups, tap the arrow again to hide the group editor.
6. Once you have created groups, you will be able to globally enable/disable them using the Groups On / Off button.



To manage your Group masters, flip your mobile device to Portrait mode and swipe to the third screen. This will open the Group Masters view and allow you to control the overall level of each group in your mix.

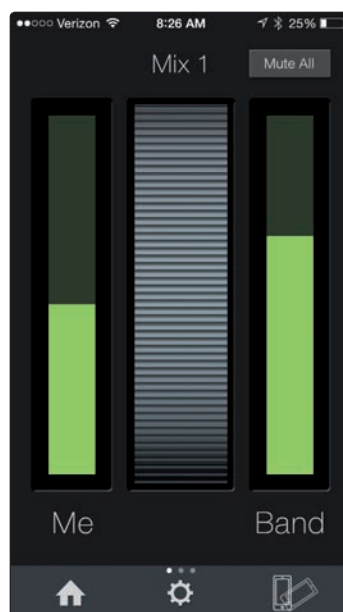


To rename a group and give it a customized label, tap on the default name (Group 1, Group 2, etc.). This will open the keyboard and allow you to name the group masters.

## 6.2 Wheel of Me

QMix-UC's Wheel of Me provides you with an easy and effective way to control all of the channels that contain your voice and instruments. To open the Wheel of Me, turn your mobile device to the Portrait view. The Wheel of Me will open for the currently selected aux mix, so if you have Aux Mix 3 selected on the Aux Mix page, Aux Mix 3 will still be selected when you open the Wheel of Me.

To begin, set up your monitor mix using the Aux Mix page in QMix-UC, UC Surface, or your StudioLive. Once you have your monitor mix dialed in to taste, you simply need to identify which channels are yours. After this, the Wheel of Me will control the volume of all your channels as a group, preserving the volume of each channel relative to the others.



To select your “Me” channels, swipe to the left.



From the Me page, you can identify which channels are yours in any aux mix. For example, if you sing backup vocals and play bass, you probably want to hear more of those channels, so you would identify those channels as “Me.” As a bass player, you might also want the kick-drum level to increase in proportion to your bass, in which case identify that channel as “Me” as well.

Once you’ve identified these channels as Me channels, the Wheel of Me will increase or decrease the level of these channels concurrently, allowing you to create a DCA group of your most critical channels in your monitor mix.

To return to the Wheel of Me, swipe to the right.

The Wheel of Me increases or decreases the level of your Me channels as a mix relative to the rest of the channels (the Band). If you increase the level of your Me channels beyond the top level, rather than further raising the Me level, the Band channels will decrease in volume, producing the illusion of “even more me.”

On either side of the Wheel of Me, you will find Me and Band mix indicators. These level displays show the balance between the Me channels and the Band channels. The Band channels consist of any channels not identified as Me channels. These indicators will adjust automatically as you move the Wheel of Me up or down.

**Power User Tip:** The Band indicator will not show a level until you create an aux mix on the Aux Mix page. The Me indicator won’t show a level until at least one channel is selected on the Me Channels page. If all channels in the aux mix are selected on the Me Channels page, level will only be shown in the Me indicator, and no level will be shown in the Band indicator.



**Lock Orientation.** Enabling the Lock Orientation button will lock your mobile device in Portrait view. While this button is enabled, you cannot open the Aux Mix page. Locking the view will also remove the Start Page button. Until this option is disabled, QMix-UC will launch in this view connected to the current mixer.

**Power User Tip:** *If QMix-UC doesn't change pages when you change your mobile device's orientation, make sure that Lock Orientation is not enabled.*

## 6.3 Settings Page

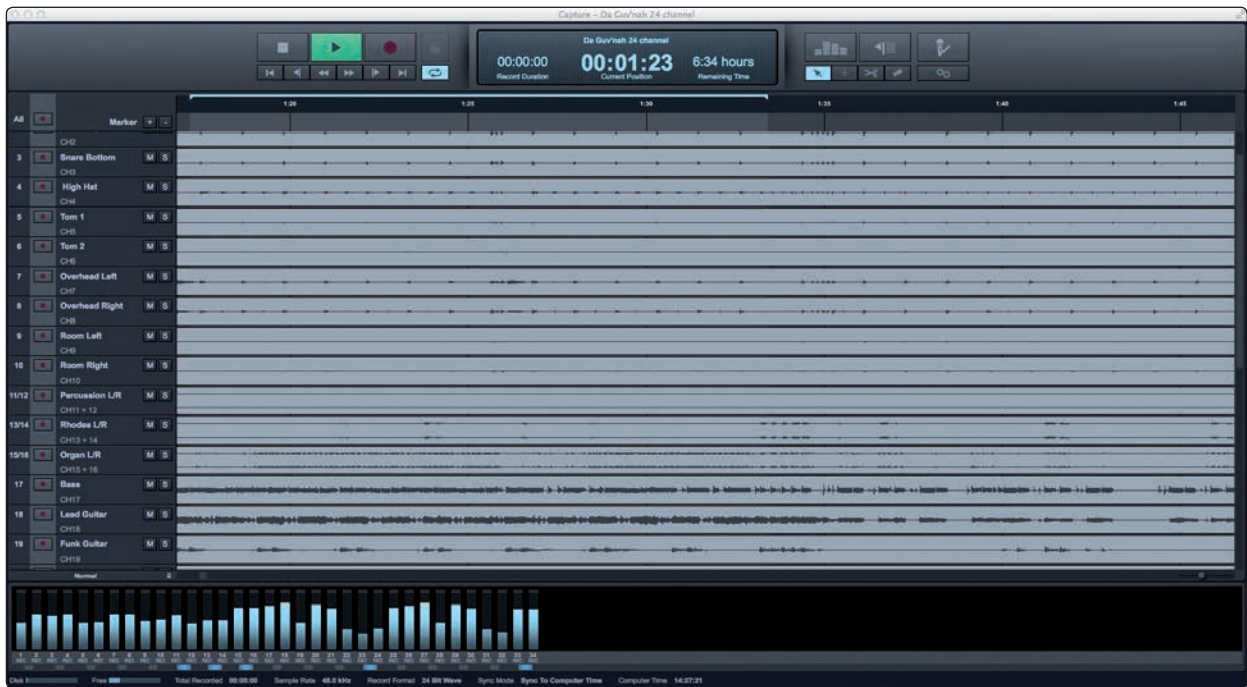


To open the Settings page, tap on the Settings button on the Aux Mix page or Wheel of Me page. From the Settings page, you can customize QMix-UC scrolling and create custom names for each channel and aux mix.

**Scroll by Page.** Turning this option off will allow you to scroll one channel at a time, offering more granular control.

**Peak Hold Metering.** When Peak Hold Metering is enabled, each meter in QMix-UC will continue to display the most recent signal peak.

# 7 Capture



PreSonus® Capture™ is a multitrack digital-audio recording application designed to make recording with StudioLive™ mixers quick and easy. With the look and feel of a digital multitrack hard-disk recorder, it is instantly familiar. It uses the same high-quality audio engine as PreSonus' groundbreaking Studio One® DAW, and its Session files can be opened directly in Studio One—no conversion or exporting required.

Capture 2 was designed exclusively for StudioLive-series mixers, allowing instant setup and recording directly from the mixer, with no configuration. Just launch Capture 2 and click Record Now. At the end of the show, click Stop, save the file, and you're done!

## 7.1 Installation Instructions

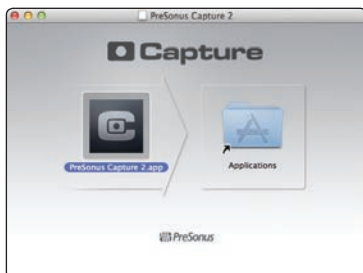
### 7.1.1 macOS

Installing Capture on macOS machines is as simple as drag-and-drop.

1. Double-click on the Capture .dmg file.



2. Drag the Capture 2 icon to the Applications folder shortcut.







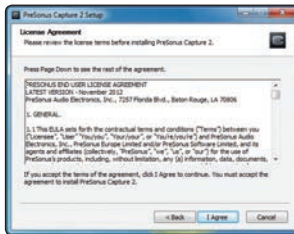
3. Once Capture has been copied to your hard drive, it is ready to use. Simply open your Application folder and double-click on the Capture 2 icon.

## 7.1.2 Windows

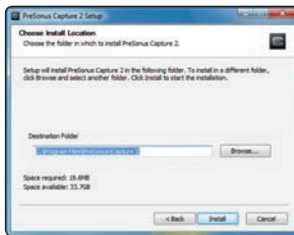
The Windows installer for Capture was designed with easy-to-follow onscreen instructions to make the installation process quick and simple.



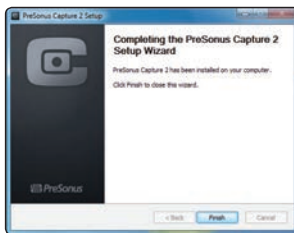
1. When you launch the Capture.exe file, a Welcome Screen will launch. If you haven't already done so, close all other open applications before clicking "Next."



2. Before Capture can be installed on your computer, you must first agree to the licensing terms. Click "I agree."



3. By default, Capture will install in the Program Files folder on your computer. It is highly recommended that you do not change this default location. Click "Install."

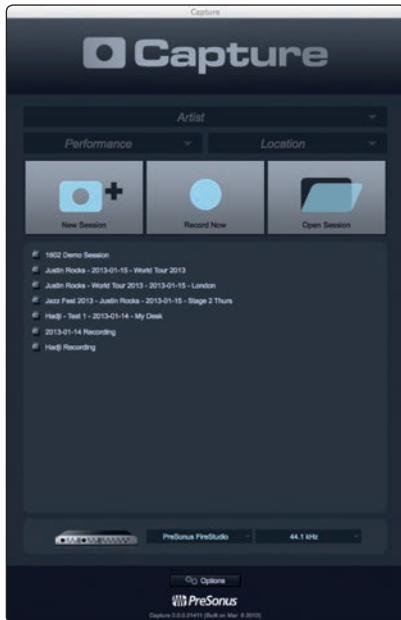


4. Once Capture has been successfully installed on your computer, you can click "Finish" to exit the install wizard. You're ready to start recording!

## 7.2 Start Page

You will be taken to the Start page when Capture is launched. The Start page allows you to create a new Session, open a Session stored on your computer, view recent Sessions, and verify that your StudioLive is properly communicating with its driver. In addition, you can begin recording instantly by just clicking the Record Now button.

### 7.2.1 Tagging and Organizing a Session

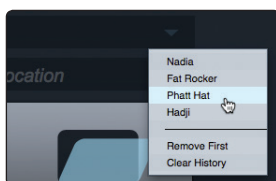


At the top of the Start page, you will find the three Name Scheme fields: Artist, Performance, and Location. By entering information into each of these fields, your Session will be automatically named with this information, in this order, and tagged with the same helpful metadata.

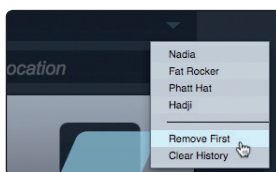
These tags also help to keep your files organized. Rather than throwing every Session into a single folder, all tagged Sessions will automatically be put into an organized folder hierarchy. By default, Capture 2 inserts the date of performance and creates subfolders. These options can be changed in the Options menu, *see Section 7.2.5* for details.

By default, the folder tree is Artist/Performance/Location. This structure is useful for regularly gigging bands that want to archive performances (e.g., Artist: PreSonus All Stars, Performance: Winter Tour 2013, Location: Baton Rouge – Manship Theatre). However, Capture 2 doesn't limit you to this folder structure. You can change the folder hierarchy from the Options menu. Here are other available Name Schemes:

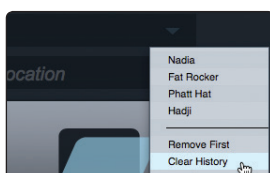
- **Location/Artist/Performance.** This Name Scheme is especially useful for venue owners who are archiving the performances on their stage (e.g., Location: Manship Theatre/PreSonus All Stars/Winter Tour 2013).
- **Location/Performance/Artist.** Use this Name Scheme when recording an entire festival (e.g., PreSonuSphere/Stage 1/PreSonus All Stars).



As you archive your performances, Capture stores a history of the names you have entered into each field. To use a name again, simply click on the pull-down menu for that field and select it from the list.

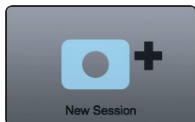


To clear the currently selected name from the list, select Remove First from the pull-down menu.



To remove every name in the list, select Clear History. Once the history has been cleared, it cannot be undone, so be certain before you choose this option.

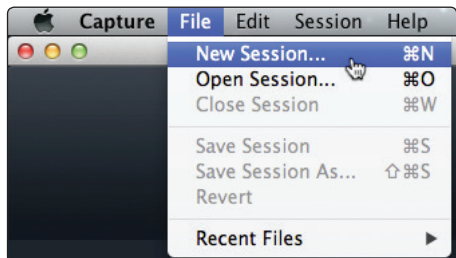
## 7.2.2 Creating a Session



Below the Name Scheme fields, you will find the New Session button. Click on the New Session button to create an empty Session.

**Power User Tip:** A Session is a Capture file in which you record, arrange, and edit your audio files. Session files should not be confused with audio files. Think of a Capture Session as you would a StudioLive scene. It is a snapshot of which audio files were recorded and how they were edited.

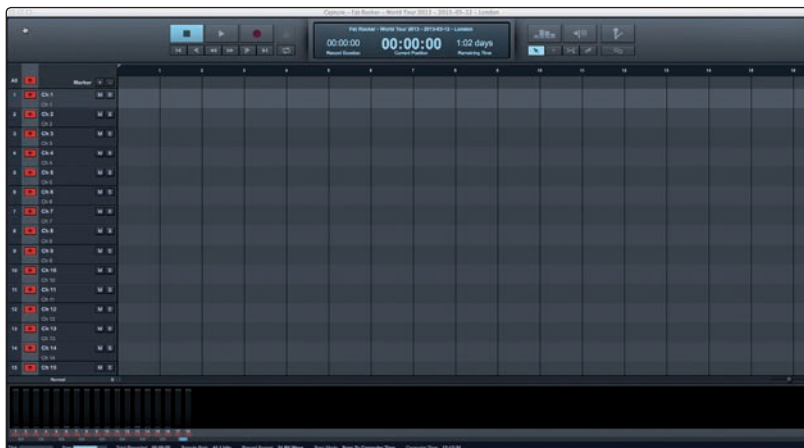
You can also create a new Session by doing one of the following:



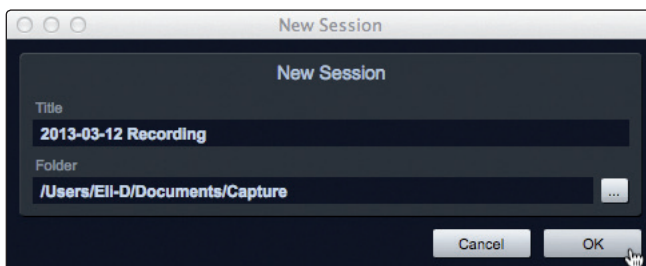
1. Navigate to File/New Session.

2. Press [Ctrl]/[Cmd]+N on the keyboard.

If you have filled in the Name Scheme fields, your new Session will launch automatically.



If you have not filled in these fields, a setup menu will open.

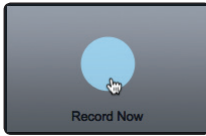


- **Session Title.** This will be the title of your Session and will be the Session filename, as well as the name of the new folder that contains all data related to your Session.
- **Session Folder.** This is where new Sessions and all related data will be saved. The Session location can be chosen each time you create a Session. By default, the new Session location will be the Capture folder in your Documents folder.



You can choose a different file location by clicking on the Browse button and browsing to a new location. The last known save location will appear as the default the next time you create a new Session.

**Power User Tip:** The Name Scheme fields have been added to Capture to help keep your Sessions organized and to make your archived library of live performances more easily searchable. Because of this, we highly recommend that you always take a moment to fill in these fields.

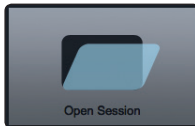


**Record Now!** Clicking the Record Now button on the Start page will launch a new Session, arm all tracks for recording, and begin recording immediately. If you do not have any of the Name Scheme fields customized, your Session will be labeled with today's date.

### 7.2.3 Open a Session

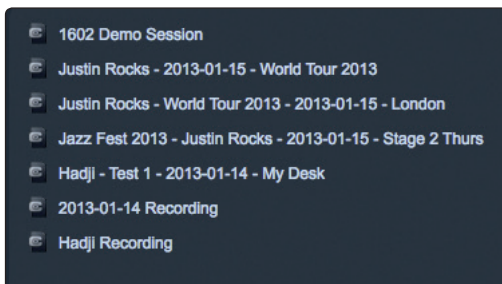
The Capture Start page provides two different ways to quickly open previous Sessions.

#### Open Session Button



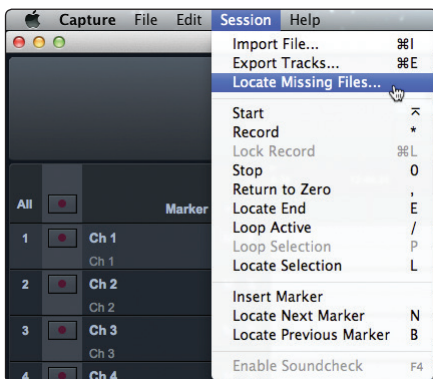
Clicking on the Open Session button will open a browser that will allow you to browse for, and open, an existing Session.

#### Recent Files List



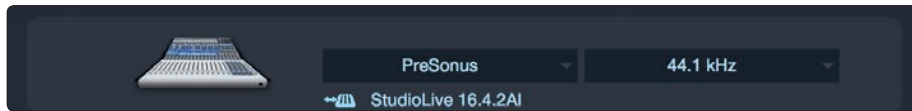
Located below the Open Session button, you will find the Recent Files list. This list includes links to the most recently opened documents. Click on any of these links to quickly open the Session.

#### Locate Missing Files



In the event that the Session you open is missing audio files, Capture will help you find them. Use Session>Locate Missing Files to search your computer for lost resources.

### 7.2.4 Audio Device and Sample Rate

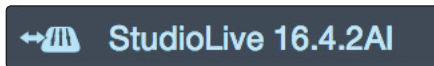


Capture was created for use with PreSonus StudioLive-series mixers and fully functions only with that device. The Audio Device menu displays the currently selected audio driver. When a StudioLive is connected, you should select “PreSonus” from the Audio Device list.

If the currently selected audio device has exactly two outputs (as with the built-in audio card in a Mac), Capture goes into Stereo mode. While in Stereo mode, Capture connects all tracks to the stereo output and adjusts the volume of the output automatically to account for stereo summing. Stereo mode enables you to listen to Sessions while away from your StudioLive. Unless the StudioLive’s driver is selected, you cannot create a new Session or record new audio.

The Sample Rate menu displays the currently configured sample rate. To change the sample rate, open Universal Control. (See **Section 4** for details.)

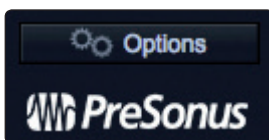
#### 7.2.4.1 Remote Controlling StudioLive Mixers



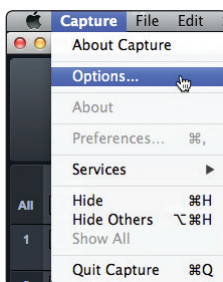
Capture can remotely control the following functions on your StudioLive Mixer: digital returns, scene load, and scene recall. In order for these functions to be available, you must have Universal Control running in the background. Regardless of how many mixers are on the network, Capture will automatically sync with the StudioLive mixer that is connected to the computer via its digital transport (FireWire or USB).

Clicking on the synced mixer link will open a list of every available mixer on the network. In general, you will not have to change this setting, unless you want to disable mixer sync. This can also be done by clicking on the synced mixer link.

### 7.2.5 Options Menu

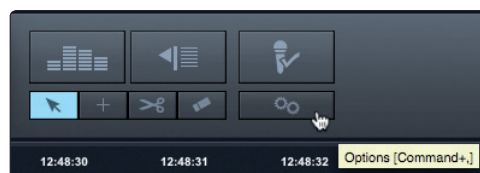


The Options button can be found just above the bottom of the Start page. This launches the Options menu.



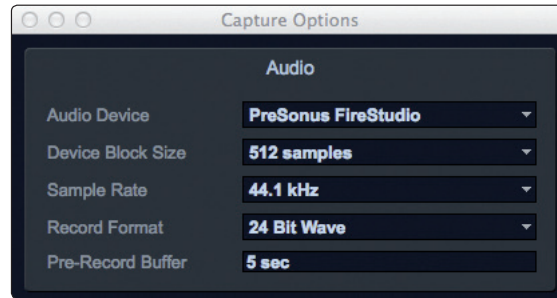
This menu can also be accessed from Capture>Options.

It can also be accessed by clicking on the Options button on the Session page.



The Options menu provides all the tools necessary to configure your Session preferences.

## Audio Options



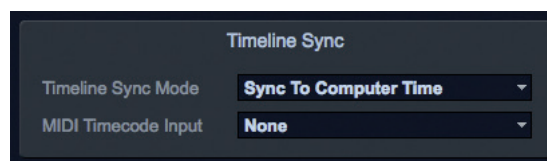
- **Audio Device.** At the top of the Audio Options, you will find the Audio Device menu. This is the same menu that is on the Start page. *See Section 7.2.4 for information.*
- **Device Block Size.** This displays the buffer size. In general, the higher the buffer size is set, the more stable your recording environment will be.
- **Sample Rate.** The Sample Rate menu is also found on the Start page. *See Section 7.2.4 for information.*
- **Record Format.** The Record Format menu allows you to choose the bit-depth of the recorded audio. You can select 16-bit WAV, 24-bit WAV, or 32-bit floating-point WAV.

*Power User Tip: The higher the bit-depth of your audio, the better its resolution, and the bigger the resulting file size will be. In general, we recommend recording at 24-bit.*

- **Pre-Record.** Capture allows you to set a Pre-Record buffer. This buffer starts recording audio before you click the Record button so you won't miss the beginning of a performance. The Pre-Record buffer time is user-selectable, between five seconds and one minute.

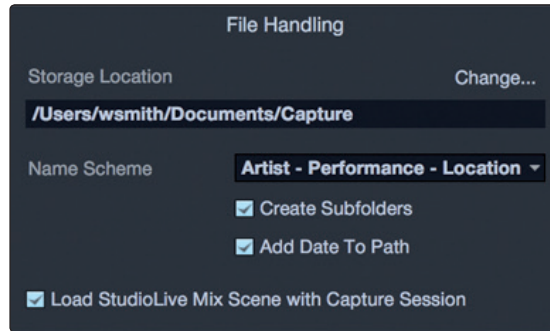
*Power User Tip: The higher the Pre-Record buffer is set, the more RAM Capture will require. For example, a 32-track recording with a Pre-Record buffer of 1 minute will require approximately 800 MB more RAM than the same recording set with a buffer of 5 seconds. While this will not cause problems on modern systems that are equipped with copious amounts of RAM, it is highly recommended that the Pre-Record buffer be set as low as possible on systems with the minimum amount of required RAM (2 GB).*

## Timeline Sync Options



- **Timeline Sync Mode.** Capture features a Timeline Sync mode. This allows you to align the timeline in your recording Session to the time of day or to sync it to an external MIDI Time Code signal. This will also affect the timestamp information, which is written into the audio files.
  - **No sync.** The timeline will start at 0 and will display the length of your recording (in minutes and seconds only). This option is useful when you only want to track the length of your recording.
  - **Sync to computer time.** The timeline ruler will start at the exact time of day the recording began. This option is useful when recording multiple performances over the course of a day (e.g., at a festival stage).
  - **Sync to MTC.** Capture will align the timeline to incoming MIDI Time Code. This option is useful when recording audio for a live video.
- **MIDI Time Code Input.** To use the Sync to MTC option, you must provide Capture with an input for the source time code. You can select that source from this menu.

## File Handling Options



As discussed in *Section 7.2.1*, Capture provides an assortment of useful tools to organize and label Capture Sessions.

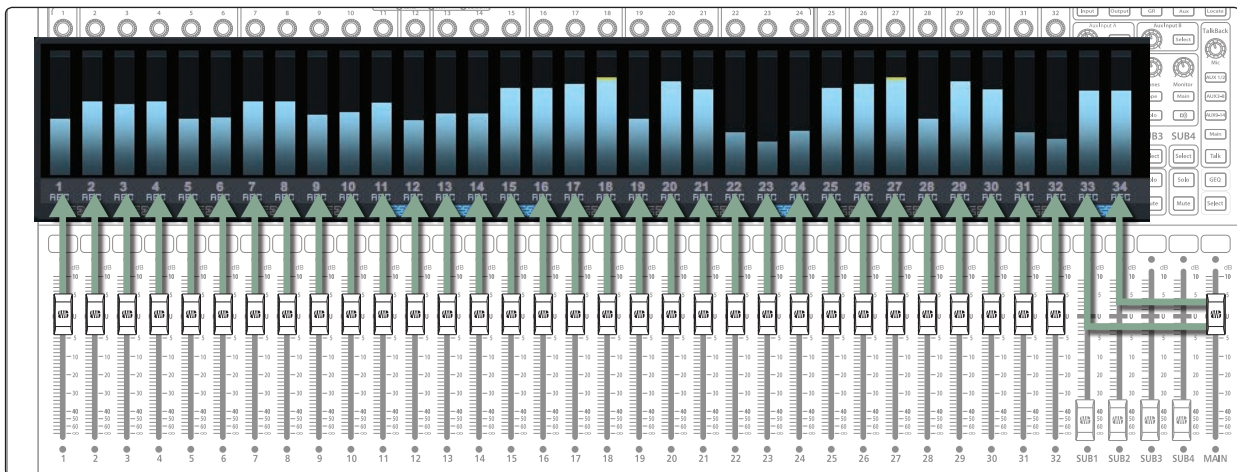
- **Storage Location.** By default, all Capture Sessions are stored in the Capture subfolder in your Documents folder. You can set a new default location by clicking on the “Change...” link. This will launch a browser window, allowing you to find a new location for your Capture Sessions.
- **Name Scheme.** *Section 7.2.1* discusses the various options for naming and organizing your files. This option enables you to select the order in which your files are categorized.
- **Create Subfolders.** Clicking the Create Subfolders options will create a folder for each of the three naming conventions: Artist, Performance, and Location. If this box is not checked, your Session and the resulting audio files will still be labeled using these tags but a folder hierarchy will not be created. This box is enabled by default.
- **Add Date to Path.** By default, Capture automatically adds the date of the Session to the Session name. You can remove the date by unchecking this option.
- **Load StudioLive Mix Scene with Capture Session.** Your StudioLive’s current settings are stored with your Capture session. Checking this box will allow you to recall these settings when you load a Capture session in Capture or Studio One.

### 7.3 The Session Page

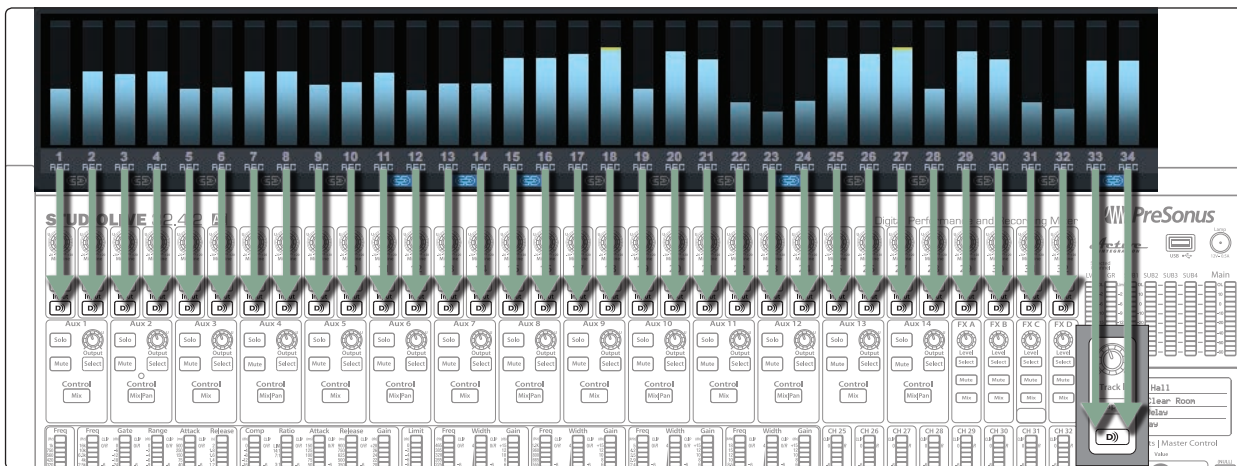
Capture features a single-window user interface so you don't need to manage multiple windows and views. When a new Session is created, or an existing Session is opened, you will be taken to the Session page. This page contains all of the necessary tools to record and edit multitrack audio.

Capture takes full advantage of the StudioLive's bidirectional digital transport bus and hardwired configuration. When you launch Capture, a recording track is created for each input channel on your StudioLive. That track, in turn, is automatically patched to the corresponding digital return on your StudioLive mixer for playback. The following diagrams show this one-to-one relationship.

#### Capture 2 Recording Routing



#### Capture 2 Playback Routing



There is no need to set up audio inputs and outputs in Capture, as the software automatically detects which StudioLive model is connected and auto-configures for it. Each input from the StudioLive mixer is represented with a mono input track in the Track column of the Session and has a corresponding level meter in the meter bridge.

An additional stereo track will also be added to the Session for recording the Main Mix. For StudioLive Series III mixers, this is fixed as the last pair of USB sends. For StudioLive AI-series mixers, this track will record the first pair of auxiliary inputs (Inputs 33-34/25-26/17-18).



It is possible to process each StudioLive mixer input channel with the Fat Channel before the input signal is routed to Capture. To do this, engage the Post button in the Fat Channel for each channel in your StudioLive mixer. This routes the signal post-EQ and post-dynamics processing.



Figure 1: StudioLive AI-series console

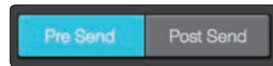


Figure 2: UC Surface

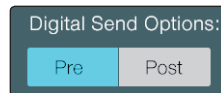
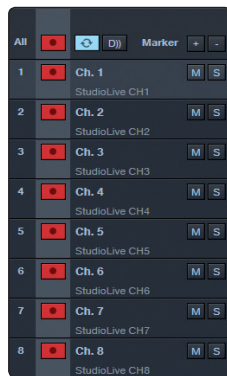


Figure 3: StudioLive Series III

### 7.3.1 Track Column



Along the left side of the Session page, you will find the Track column. The Track column contains a dedicated audio track for each audio input into Capture from the StudioLive mixer, including a stereo track to record any of the auxiliary digital sends (see Section 2.5.4), and provides the following essential functions:

#### Track Naming.



To name a track, double-click on the default name to open a text-edit box. Enter the name you would like to use and hit Enter.

There are several benefits to giving each track in your Session a name. First, it allows you to know at a glance what is being recording where. Second, if you name your tracks before you begin recording, the audio file recorded on your named track will be given the same name. So, for example, instead of a bass line being recorded as Track 15, it would be recorded as Bass.

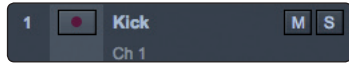
**Power User Tip:** As with UC Surface and Studio One, you can press the Tab key to move to the next track's name field.

#### Arm All.



In the upper left-hand corner, you will find the Arm All button. Click this button to arm (enable) all inputs for recording.

**Track Controls.**



Each track in the Track column features the same controls.

**Record Arm Button.** Next to each track number is the Record Arm button. When this button is active, Capture is ready to record audio that is routed to the track.

*Power User Tip:* The track number to the left of each track in the list corresponds directly to the same channel number on your StudioLive mixer.

**Track Mute.** Each track features a Mute button. This mutes the track during playback.

**Track Solo.** Each track features a Solo button. This will solo the track and mute all other tracks during playback (similar to the SIP function on the StudioLive).

**Sync Names.**



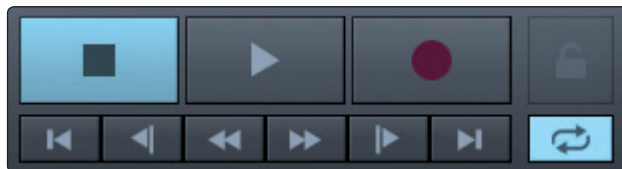
When Capture is synced to a StudioLive mixer as described in **Section 7.2.4.1**, you will find both the Sync Names buttons. This is enabled by default and it synchronizes the names for each track in Capture with the channel names on your StudioLive.

**Digital Returns.**



When you are ready to play back audio from Capture through your StudioLive mixer, click on the Digital Returns button. This will remotely engage every digital return on your StudioLive.

**7.3.2 Transport**



The Transport is located in the top left corner of the Session page. It contains all the functions you need to navigate through your Session.



**Stop.** Stops playback.



**Play.** Starts playback at the current playback-cursor position.



**Record.** Starts recording at the current playback-cursor position.



**Session Lock.** The Record Lock button prevents the recording from accidentally being stopped by an errant press of the space bar. Session Lock is automatically enabled when Capture starts recording. It can be defeated by simply clicking on it.

*Power User Tip:* Markers can still be edited and dropped while Session Lock is enabled.



**Return to Zero.** Returns the playback cursor to the beginning of the Session.



**Previous Marker.** Jumps the playback cursor to the previous marker.



**Rewind.** Rewinds as long as this button is enabled.



**Fast Forward.** Fast-forwards as long as this button is enabled.



**Next Marker.** Jumps the playback cursor to the next marker.



**Go To End.** Jumps the playback cursor to the end of the recorded audio.



**Loop.** Engages/disengages Loop mode. *See Section 7.3.6.6* for more information.

## 7.3.3 Time Display



The Time Display provides you with critical information about your recording.

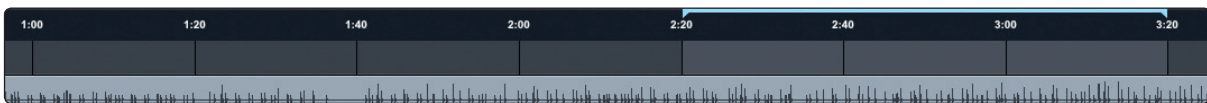
**Session Name.** Displays the name of the current Session.

**Record Duration.** Displays how long the current Session has been recording.

**Cursor Time.** Displays the current timeline position of the playback cursor.

**Remaining Time.** Displays the remaining time that can be recorded, based on the size of the available storage left on the hard drive to which you are recording.

## 7.3.4 Timeline Ruler



At the top of the Session Editor, you will find the Timeline Ruler. This displays time increments in seconds.

As mentioned in *Section 7.2.5*, you can set the Timeline Ruler to sync to your computer's clock or to an external MIDI Time Code source.

## 7.3.5 Navigating the Session

## Zooming

You can zoom in and out of your Session, with respect to time, in the Session Edit window, so that you can look at the entire length of the Session or just view a small region of time to make accurate edits. You can also zoom in and out with respect to the size of the audio files in your Session.

To zoom, do one of the following:



- To zoom in or out, click-and-drag left or right on the Horizontal Zoom scroll bar in the lower right-hand corner of the Edit window.
- Press [Ctrl]/[Cmd]+[+] on the keyboard to zoom in slightly. Press [Ctrl]/[Cmd]+[-] on the keyboard to zoom out slightly.
- Click inside the Timeline Ruler at any point in time and drag down or up to zoom in or out.
- In the lower left-hand corner of the Edit window, you will find the vertical-zoom controls. These controls increase or decrease the height of the tracks and audio files.



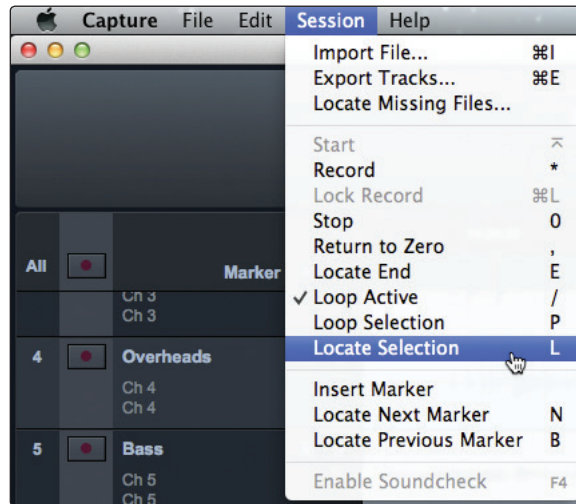
### Scrolling



To scroll left and right through time in your Session, click-and-drag the horizontal scroll bar near the bottom of the Edit window.

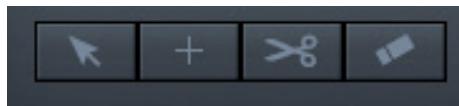
You can also scroll through your Session by clicking and dragging the Timeline Ruler left or right.

### Locate Selection



To jump the playback cursor to the beginning of any audio event, press L on the keyboard or select Session>Locate Selection.

## 7.3.6 Editing Tools



In the upper right corner, you will see four editing-tool buttons. These tools will determine the function of your mouse during editing.

**Power User Tip:** *The audio-editing process can be unforgiving. Small inaccuracies when splitting, moving, or performing other actions on recorded audio can lead to unwanted results. As simple as it may seem, the act of listening while editing is often overlooked. For instance, when sizing the edges of a vocal part to remove unwanted sounds between words, it is tempting to make the edits based on the visual representation of the waveform. While this may work sometimes, it is much better to listen as you size the events to be sure you are not removing any critical part of the vocals. Listening to your edits as you make them will save time and frustration in nearly every case.*

### 7.3.6.1 Arrow Tool



This is the default tool for access to most functions. Click on the Arrow tool button or press [number 1] on the keyboard to select the Arrow tool.

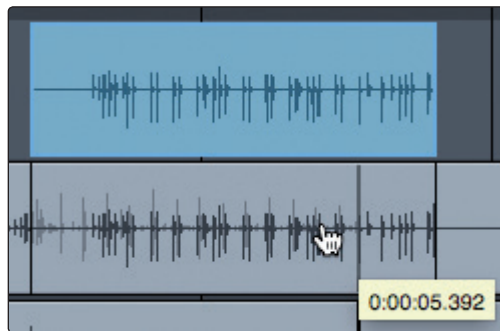
The Arrow tool can be used for the following purposes:

#### Move an Event.

To move an audio event using the Arrow tool, click anywhere on the event and drag left, right, up, or down. Dragging the event left or right will move the event backward or forward in time. When dragging an event left or right beyond the viewable arrangement, hold [Space Bar] on the keyboard to speed up the scrolling.

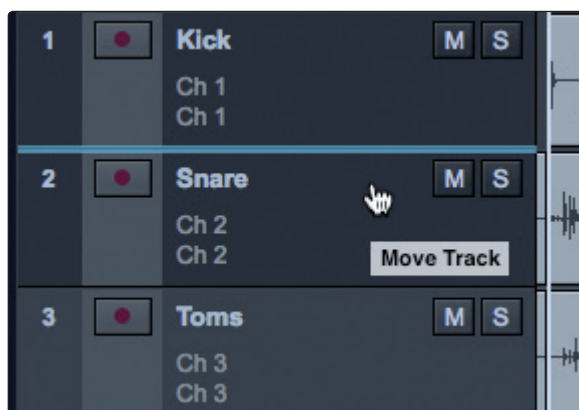


Dragging the event up or down will move the event to another track. When dragging an event from one track to another (up or down), the position of the event will be constrained within an automatic snapping range to make it easy to keep the event at the same time position. To defeat this snapping, hold Shift while dragging the event up or down.



#### Rearrange Tracks.

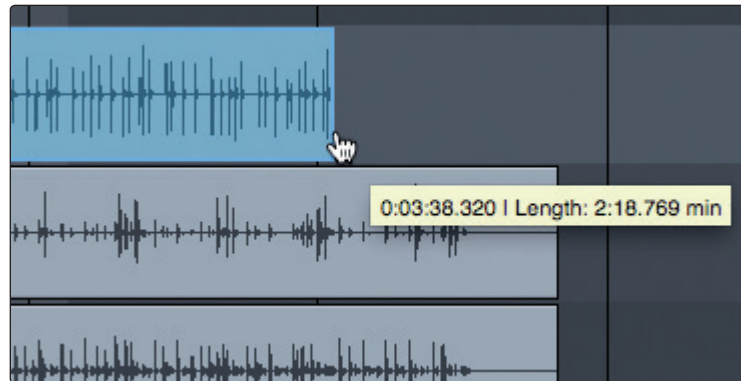
To rearrange tracks using the Arrow tool, click on the track you want to move and drag up or down in the Tracks list. You will notice a blue line following your mouse. When you drop the track, it will be inserted where the blue line is located.



### Size an Event.

Events can be thought of as windows into audio files and musical performances, where what you see is what you hear. You can resize events to make them shorter or longer so that only a portion of the audio or musical data is seen and heard.

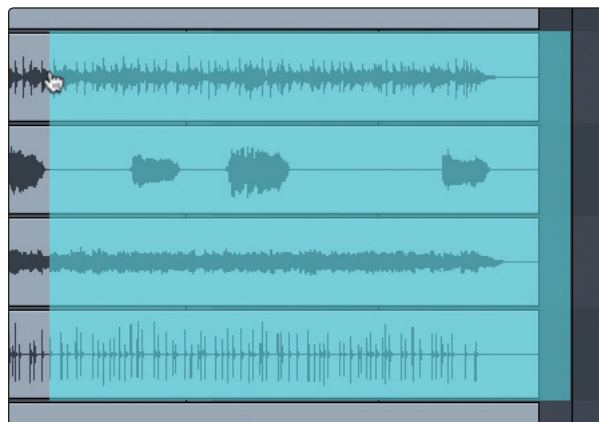
To size any event using the Arrow tool, float the mouse to the left or right edge of the event to reveal the Sizing tool. When this tool appears, click-and-drag left or right to size the event. Events can be sized and resized nondestructively any number of times.



### Select Multiple Events.

Multiple events can be selected in order to edit them all at once, with a single action. To select multiple events with the Arrow tool, do one of the following:

- Click outside of the range of an event and then drag over any other events; a gray box will be drawn while you drag over the target-selection area. Release the mouse button once the box is drawn over all of the events you wish to edit, and these events will be selected for editing.

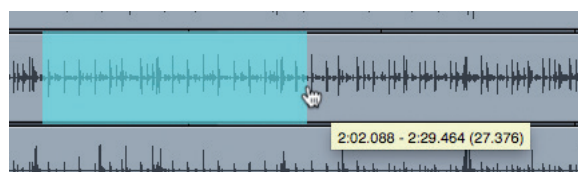


- Click on any event; then, while holding [Shift] on the keyboard, click on any other events to select them. This allows you to select multiple events that are not in close proximity to each other. All selected events can then be edited at once.

#### 7.3.6.2 Range Tool



The Range tool is used to select a range, or area, within events. Click on the Range tool button or press [number 2] on the keyboard to select the Range tool.



To select a range within an event, using the Range tool, click-and-drag over the area to be selected; a gray box will be drawn over the target selection area. Release

the mouse button when the box is drawn over the range of the events you wish to select. The range you have selected is now treated as a single, consolidated event.

The Range tool can be useful in several ways:

- You can use the Range tool to select the content of several audio events across multiple tracks for a specific portion of a song (say, an amazing drum groove) and then use the Arrow tool to move that section of audio to another section of a song (say, to replace a drum groove).
- Another common use of the Range tool is to quickly select and delete a range of audio within an event, rather than using the Split tool to make two splits, then select and delete the section with the Arrow tool.

**Power User Tip:** When you float the mouse cursor over a selected range, the Arrow tool will temporarily appear. This makes it easy to quickly select and edit a range of events.

To select multiple, discontinuous ranges across any event, on any track, hold the [Shift] key while using the Range tool. Continue to hold [Shift] and use the Arrow tool to select whole events. For instance, when using the Arrow tool, if you press and hold [Ctrl], you get the Range tool. Press and hold [Ctrl] and [Shift] to select multiple ranges, then continue to hold [Shift] but release [Ctrl]; now you have the Arrow tool and can select whole events. All of your selections will remain selected.

Selected ranges can be sized by floating the Range tool at the left/right edge of the selection. You also can split a selected range at the left and right edges of the selection by choosing Split Range from the Edit menu or by pressing [Ctrl]/[Cmd]+[Alt]+[X] after selecting a range.

### 7.3.6.3 Split Tool



Using the Split tool, single events can be split into multiple events. Click on the Split Tool button or press [number 3] on the keyboard to select the Split tool.

With the Split tool selected, a vertical and horizontal line will be drawn near the current mouse-cursor position. The vertical line indicates the exact time position of the Split tool, while the horizontal line underscores the track on which the event to be split resides. The Split tool is directly affected by the current Snap settings.

Click on any event with the Split tool to split the event at that position. By splitting a single event, you create two events that can be edited independently. If multiple events are selected across multiple tracks, the Split tool will affect all of the selected events in the same way.

It is also possible to split selected events at the timeline cursor, without using the Split tool, by pressing [Alt]+[X] on the keyboard.

### 7.3.6.4 Eraser Tool



The Eraser tool is used to delete an event. Click on the Eraser Tool button or press [number 4] on the keyboard to select the Eraser tool. To delete any event using the Eraser tool, simply click on the event. The Eraser tool is unaffected by the current selection and will only affect the event that is directly clicked on.

However, if you click on a selected element with the Eraser tool, all currently selected elements will be erased.

### 7.3.6.5 Common Editing Actions

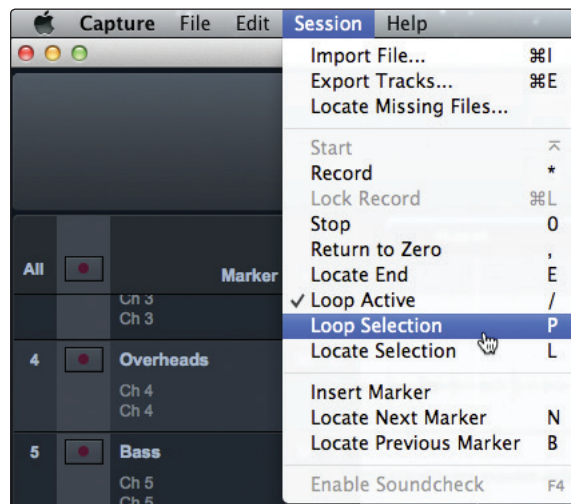
Like most software applications, Capture supports basic cut, copy, and paste actions. Once you've selected an event, or a range of events, you can perform these actions as follows:

- **Cut:** Press [Ctrl]/[Cmd]+X on the keyboard to cut the current selection or select Edit>Cut.
- **Copy:** Press [Ctrl]/[Cmd]+C on the keyboard to copy the current selection or select Edit>Copy.
- **Paste:** Once a selection is cut or copied, press [Ctrl]/[Cmd]+V on the keyboard to paste the selection or select Edit>Paste. The selection will be pasted to the current playback-cursor position, or to the beginning of the track from which the selection originated if the playback cursor is not currently set anywhere.

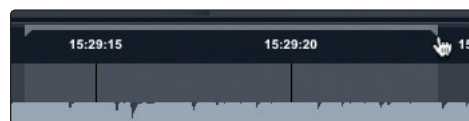
### 7.3.6.6 Looping

To loop the playback of any range of your Capture Session, do one of the following:

- **Loop Selection.** Select an event with the Arrow tool or select a range with the Range tool. Go to Session>Loop Selection or press P on your keyboard. This will create a loop the exact length of the selected audio event. The range will be indicated by a bar drawn in the timeline, with flags at both ends.



- **Custom Loop Range.** To create a custom loop range, mouse over the gray line above the timeline ruler. Notice that your cursor changes to a Pencil tool, and you can draw your loop range.



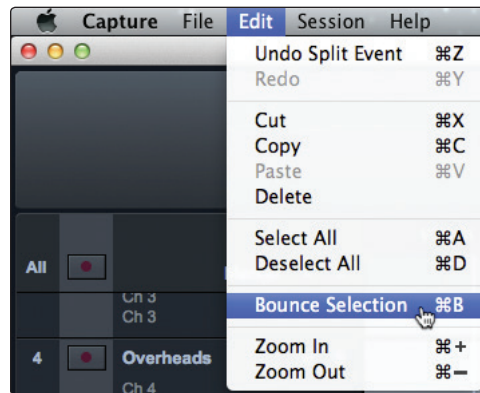
Once your loop range is set, you can click on the Loop button in the transport, or press [L] or [/] on the keyboard, to engage Loop mode.

**Please Note:** Engaging Record in the transport will disable Loop mode and will begin recording at the current playback-cursor position. It is not possible to engage Loop while recording.

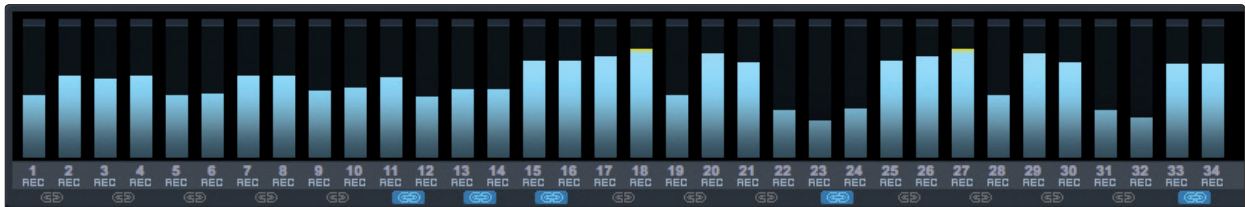


### 7.3.6.7 Bounce Selection

Once you have edited an audio file, you may wish to create a new audio file that includes all of your edits. To do this, use the Range tool to select the events you would like to merge as described in [Section 7.3.6.2](#) and press [Ctrl]/[Cmd]+[B] on the keyboard or go to Edit>Bounce Selection.

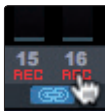


### 7.3.7 Meter Bridge



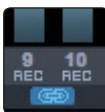
Capture provides input and output metering when a track is being recorded or played back. These peak-style meters at the bottom of the Session page feature clip indicators for each input into Capture from the StudioLive mixer.

#### Record Arm.



Below each meter, you will find another Record Arm button. This button provides the same functionality as the Record Arm button in the Track column. [See Section 7.3.1](#) for more information.

#### Link Button.

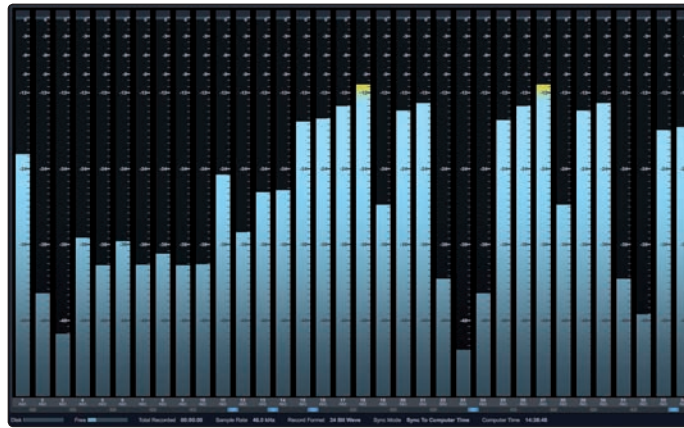


Between each meter you will find a Link button. When this button is active, Capture will record that track as a stereo-interleaved file. By default, the routable bus pair is link-enabled.

#### Big Meter Mode.



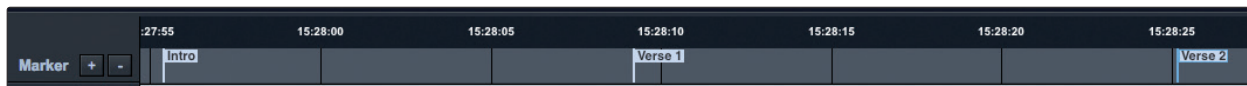
The Big Meter Mode button is located in the upper right corner of the Session page, above the editing tools.



When this button is engaged, the lower three-quarters of the Session page will display detailed metering for every track. While in this mode, the Marker Lane, transport, mode buttons, and editing tools will still be visible.

### 7.3.8 Markers and the Marker List

#### The Marker Lane.

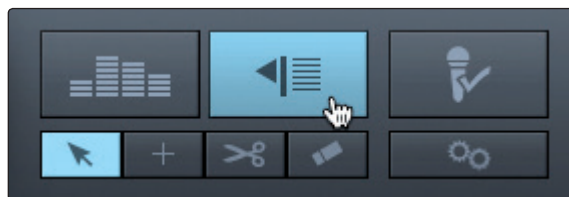


The Marker Lane is located just below the Timeline Ruler. It displays any markers you have created.

In Capture, the Marker Lane is used to place markers at desired places in the timeline, after which navigation to the markers is easy. Markers are also helpful when exporting your Session to individual mixes or for editing in another recording application.

**Power User Tip:** We highly recommend that markers be inserted during the recording of a live performance, as the markers will make the rest of the production process much easier.

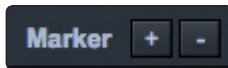
#### The Marker List.



The Marker List button is located above the editing tools on the right side of the Session page. Clicking on the button will open the Marker List, which provides an overview of every marker in your Session and offers an easier way to quickly name markers and move them around your Session.

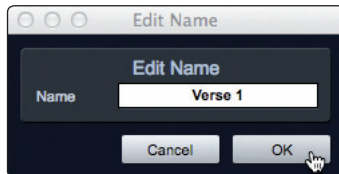
### 7.3.8.1 Inserting, Naming, Deleting, and Moving Markers

#### Marker Lane.



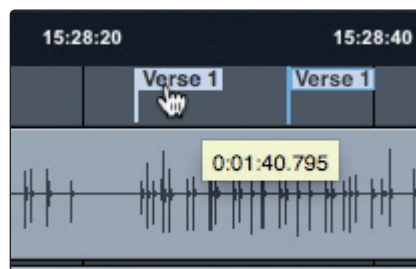
**Adding/Deleting Markers.** At the top of the Track column, you will see the Add/Remove Marker buttons. To insert a new marker into the Marker Lane, with playback running or stopped, click on the Add Marker (+) button, or press [Insert] on the keyboard. Each new marker will be numbered sequentially by default (#1, #2, #3...).

Select a marker and click on the Remove Marker (-) button to remove the marker.



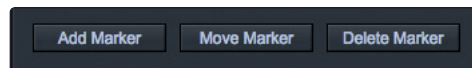
**Naming Markers.** To rename a marker, double-click on the marker in the Marker Lane, type in a new name, and then press [Enter] on the keyboard.

**Moving Markers.** To move a marker, click on it in the Marker Lane and drag it to the desired location.



#### Marker List.

At the bottom of the Marker List, you will find three buttons.



**Adding Markers.** Click on Add Marker to add a marker at the current playback-cursor position.

Markers		
Loc #	Time	Name
1	15:28:23	Verse 1
2	15:28:43	1st Chorus

When a Marker is added to the Marker List, the Name field automatically becomes editable. Enter a new name and hit Enter. This name can be edited later by double-clicking on it.

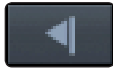
**Moving Markers.** Clicking on the Move Marker button will move the currently selected marker in the Marker List to the current playback position in the timeline.

**Deleting Markers.** To remove a marker, select it in the Marker List and click on the Delete Marker button.

### 7.3.8.2 Navigating Markers

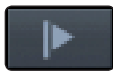
It is possible to quickly jump the playback cursor between markers in the Marker Lane. Jumping to markers during playback allows quick comparisons between different sections of your Session.

To navigate to a previous marker, do one of the following:



- Click on the Previous Marker button in the transport.
- Press [B] on the keyboard, to jump to the previous marker.

To navigate to the next marker, do one of the following:



- Click on the Next Marker button in the transport.
- Press [N] on the keyboard, to jump to the next marker.

To jump to any marker in your Session, open the Marker List and click on the Location field. The playback cursor will jump to this location in the timeline.

Markers		
Loc #	Time	Name
1	15:28:23	Verse 1
2	15:28:43	1st Chorus
3	15:29:35	Verse 2

## 7.4 Recording a Session in Capture

**Setting Input Levels.** Setting the proper input level is critical to making a good live mix and a good recording. The basic idea is to set the input gain on the StudioLive mixer as high as possible without overloading the input. Overloading the input will cause clipping (digital distortion), which is particularly unpleasant and will ruin the recording. This damage cannot be undone in software. There is a clip indicator for each input on the StudioLive mixer for this purpose.

If an input channel is not clipping on your StudioLive mixer, you can be sure that it will not clip in Capture. *Refer to your StudioLive Hardware Owner's Manual* for the proper level-setting procedure.

You will monitor live audio input on the StudioLive mixer; there is no separate monitoring capability within Capture. *Please refer to your StudioLive Hardware Owner's Manual* for information on creating monitor mixes.

The Auxiliary Stereo Track in Capture is a stereo track intended to be used to record a stereo mix from your StudioLive. This mix can be recorded while recording the individual input channels so that a mix is available immediately after a live show, or you can use this track to route your final studio mixes through the StudioLive.

**Arming Tracks.** To record to an audio track, the track must be record-enabled, or "armed." Capture 2 provides two Record Enable buttons for each input: one on the track and on the meter bridge. Once an audio track is record enabled, you are ready to record audio to that track.



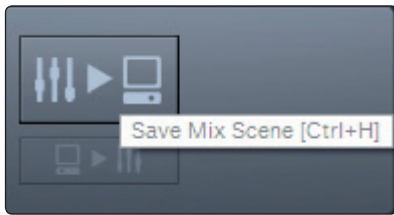
**Hit Record.** To activate recording, click on the Record button in the transport. The Record button will turn red, and the Play button will turn green. The playback cursor will start to scroll from left to right from its current position, and new audio events will be recorded to record-enabled tracks.



Recording will continue until you manually stop it by clicking on the Stop button in the Transport or by pressing [Spacebar] on the keyboard.



When you press Record, the Session automatically locks. This prevents you from accidentally stopping recording Session. You must disable Session Lock before you can stop recording.



**Save Mix Scene.** To save your StudioLive mix scene with your Capture session, click on the Save Mix Scene button. This will store the current state of your StudioLive mixer with your Capture session. Your StudioLive mixer must be synced to Capture to activate this feature.

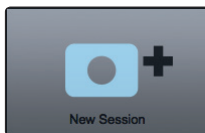


**Load Mix Scene.** To load the StudioLive mix scene that is stored with your Capture session, click on the Load Mix Scene button. This will load the stored scene using the Recalling Filters that are enabled on your mixer. Your StudioLive mixer must be synced to Capture to activate this feature.

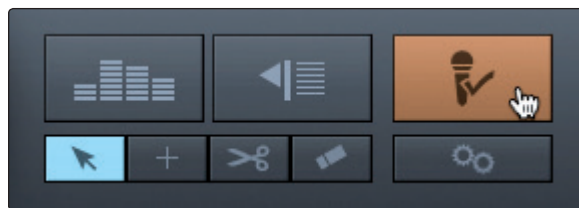
## 7.5 Virtual Soundcheck

We've all been there. The drummer is stuck in traffic. The guitarist is stuck at work. And you're stuck at front-of-house (FOH) with a hyped up lead singer and bass player and no way to dial in a front-of-house mix, let alone set up the singer's in-ear mix.

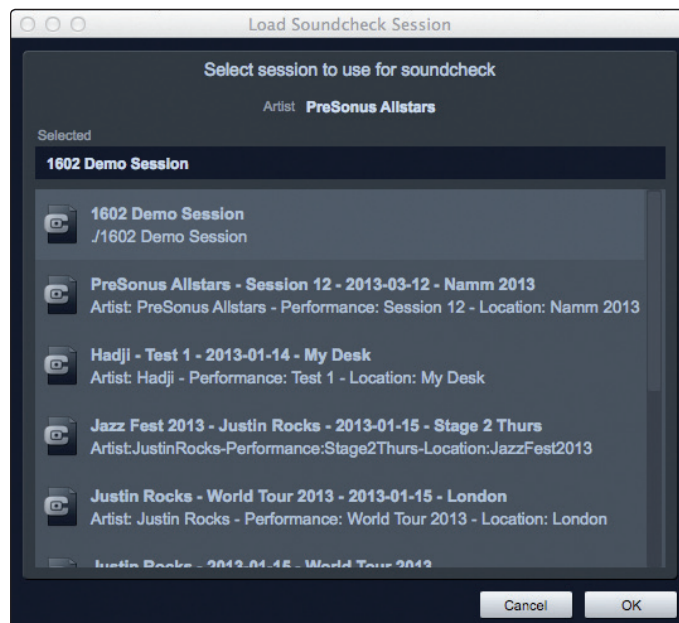
**Don't panic!** With Capture's Virtual Soundcheck mode, dialing a good rough mix without the band—or with half the band missing—is quick and simple.



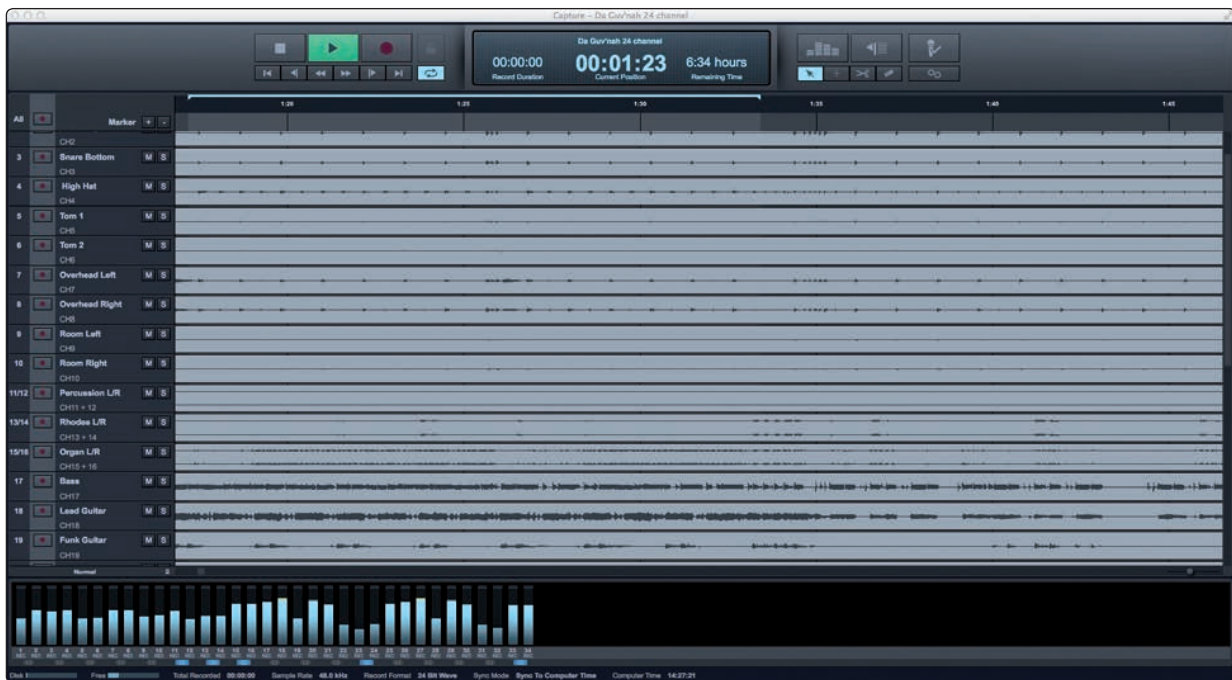
1. To begin, create a new Session, preferably metatagged with the Artist, Performance, and Location information.
2. From your empty Session, click on the Soundcheck Mode button in the upper right hand corner of the Session page.



3. Capture will automatically search your computer for Sessions and will open a list from which you can choose a Session to use for Virtual Soundcheck.



4. Select the Session you would like to use and click “OK.”
5. The saved Capture Session will open. If your StudioLive was synced to Capture when the recording was made, you will have the option to load your StudioLive mix scene at the same time.



6. If your StudioLive mixer is synced to Capture, all the digital returns on your mixer will automatically engage.
7. Press Play in Capture and dial in your mix.
8. When you have finished setting up your mix, click the Virtual Soundcheck Mode button again to exit. This will remove the audio from the session and disengage all the digital returns on your StudioLive, leaving the track labels in both Capture and on your mixer.



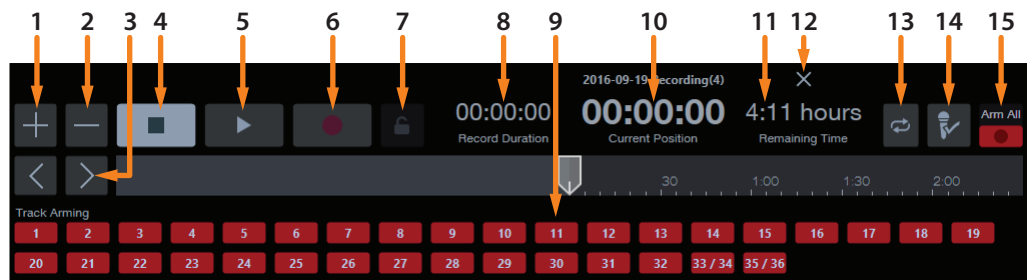
## 7.6 Remote Controlling Capture from UC Surface



When your StudioLive mixer is connected via its digital transport (FireWire or USB) to your computer and Universal Control, a Capture button will appear in the UC Surface Quick Access Panel once your StudioLive is synced to Capture.



Selecting this button will show Capture controls in the Fat Channel area of UC Surface. From within UC Surface, you can create a new Capture session, load a previously recording session, add markers, arm tracks for recording, and perform a virtual soundcheck.



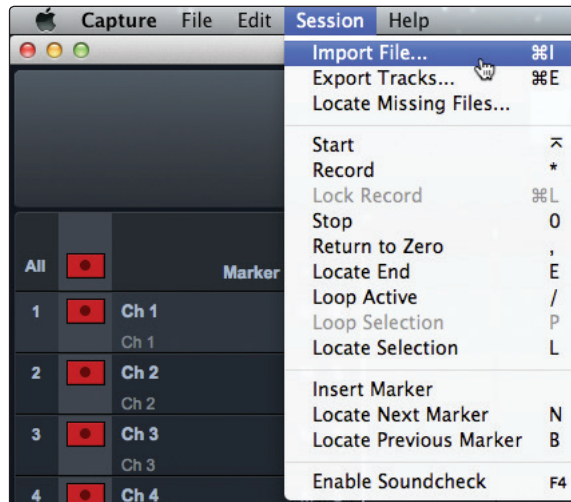
1. **Add Marker**
2. **Delete Marker**
3. **Next/Prev Marker Navigation**
4. **Stop**
5. **Play**
6. **Record**
7. **Session Lock**
8. **Recording Length**
9. **Individual Track Arm**
10. **Curser Position**
11. **Disk Time**
12. **Close Session**
13. **Loop**
14. **Virtual Soundcheck**
15. **Arm All**

## 7.7 Importing and Exporting Audio Files

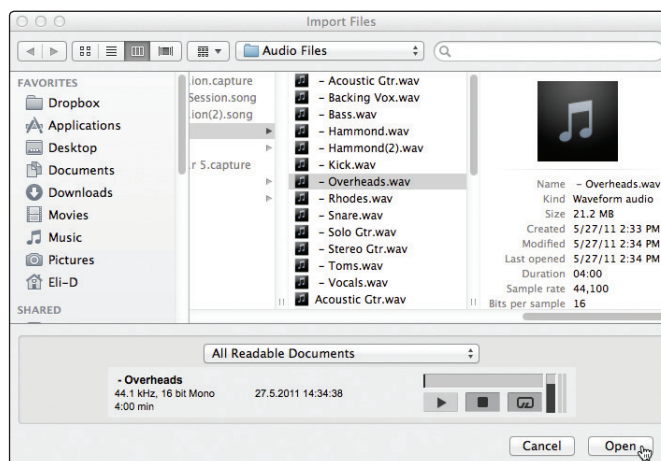
### 7.7.1 Importing Audio Files into Capture

It is possible to import WAV and AIFF audio files into your Session.

1. To import an audio file, select Import Audio File from the Session menu, or [Ctrl]/[Cmd]+I on the keyboard, to open the Import File menu.

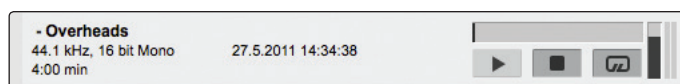


2. Browse to the desired file and click on it to select it.



3. Click on Open to import the file into your Session.
4. An audio event for the imported file will be created and placed on the currently selected track in your Session, at the current playback-cursor position.

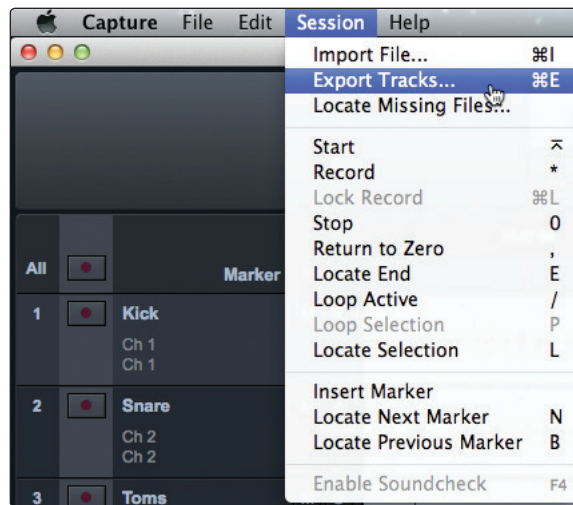
**Power User Tip:** When browsing for files in the Import File menu, it is possible to listen to the audio files as you are browsing in the Preview Player. Click the Play button in the Preview Player to play the currently selected audio file. Click the Stop button to stop playback. Click the Loop button to loop the playback of the currently selected audio file.





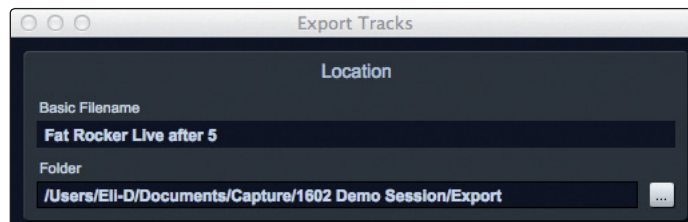
### 7.7.2 Export Audio Files

To export audio from your Session in Capture 2, navigate to Session/Export Tracks, or press [Ctrl]/[Cmd]+E on the keyboard to open the Export to Tracks menu.



#### Location.

In the top section of the Export Tracks menu, select a location and name for the audio file.

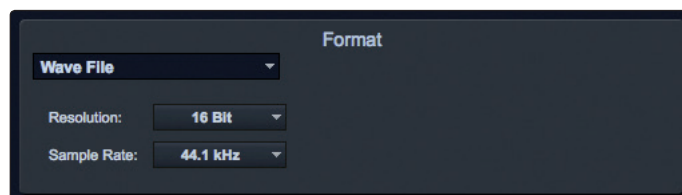


Click on the Browse button to choose a file location.

Double-click on the filename, type in a new name, and then press Enter to choose a name for the file. Each file that is exported will begin with the filename you enter, followed by the name of the track from which it was exported and the first marker of the marker pair (if applicable). Examples: "French Quarter Fest 2012 – Kick" or "French Quarter Fest 2012 – Kick – Chorus."

#### Format.

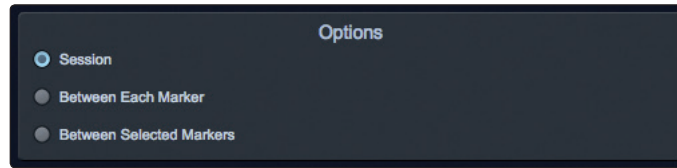
In the middle section of the Export Tracks menu, select the format of the mixdown audio file. Choose from WAV or AIFF, and then choose the desired resolution and sample rate.



If you wish to put your audio on a standard audio CD, the format should be a WAV file with 16-bit resolution and a 44.1 kHz sample rate.

**Options.**

The bottom section of the Export Tracks menu has several options that will affect how files are created:



- **Export Session** will export the entire range of your Session to the furthest point in time that any audio event on a track extends.
- **Export Between Each Marker** will export separate files for each range between the markers in the Marker Lane.
- **Export Between Selected Markers** will export audio files between the ranges of any two selected markers in the Marker Lane.

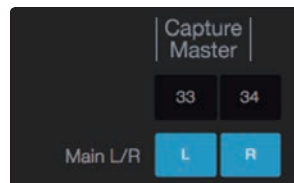
**7.8 Mixing Your Capture Sessions**

**7.8.1 Creating a Mix in Capture**

You can't mix directly in Capture; instead, you mix with the StudioLive. The individual outputs of each audio track in Capture are hardwired to the digital returns for each corresponding input channel on the StudioLive mixer. With the digital returns engaged for each input channel on your StudioLive mixer, the output of your multitrack Capture Session is routed to your StudioLive mixer channels, where it can be mixed just like any other audio input.

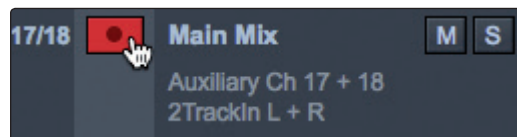
The process of creating a mix with Capture and the StudioLive mixer is quite simple. Play back your recorded tracks through the StudioLive and record the main output of the StudioLive to the Auxiliary Stereo Track in Capture. The process works as follows:

1. StudioLive AI-series mixers: In UC Surface, select "Main L/R" for Auxiliary Inputs 33-34/25-26/17-18. *StudioLive Series III users, proceed to next step.*



2. Disable Record Arm for all audio-input tracks in Capture and engage the digital returns for all input channels on the StudioLive mixer by clicking on the global digital return button.

3. In Capture, select the Main Mix Stereo Track.



4. Bring the playback-cursor position to the beginning of the Session by clicking the Return to Zero button in the transport.



5. Activate recording by clicking on the Record button in the transport; the playback cursor will begin to move from left to right, and audio will play through each input on the StudioLive mixer. The Main Mix Stereo Track in Capture will record a new audio event, which is the main mix from the StudioLive mixer.

The new audio event that has been recorded from the StudioLive mixer will be stored as a stereo WAV file at the sample rate to which the StudioLive mixer is set.

### 7.8.2 Exporting Your Final Mix to an Audio File

The most common physical medium on which recordings are published is the audio CD. In order to put your final mix on an audio CD, the mix file must be a 16-bit, 44.1 kHz WAV file. Once you have recorded your final mix to the Main Mix Stereo track in Capture, it is recommended you export the audio from the Main Mix Stereo track to an audio file for this purpose. *See Section 7.7.2* for details on Exporting Audio Tracks in Capture.

Once the correct audio file for your mix has been exported, you may use any CD-burning application (including PreSonus Studio One Professional) to put that mix on a recordable audio CD.

### 7.8.3 Mixing a Capture Session in Studio One

Many users want to use Capture strictly as a track-recording tool and will mix and sweeten the recorded tracks later in a DAW. PreSonus has included a copy of Studio One Artist with your StudioLive for this purpose. Capture sessions can be opened in both Studio One Artist and Studio One Pro. All markers, edits, track names, etc., will be preserved, and no further effort is required. If you've stored a StudioLive mix scene with your Capture session, Studio One will recall fader and pan values, as well as Fat Channel settings. Simply launch Studio One and open your Capture Session. *See Section 8* for more details.

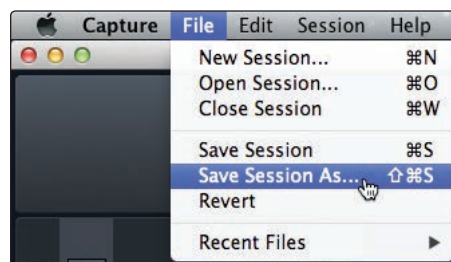
### 7.8.4 Mixing a Capture Session in a Different Recording Application

For users who wish to mix their Capture Session in a DAW other than Studio One, there are several ways in which to import your Capture Session.

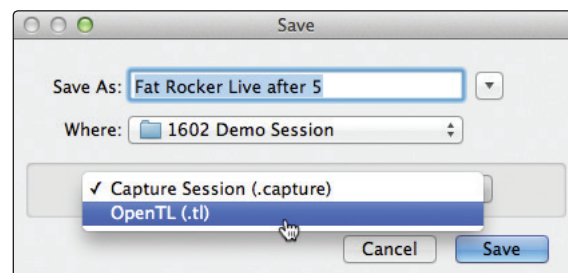
#### Save a Capture Session as OpenTL

Many audio-recording programs can open OpenTL (Open Track List) files. An OpenTL file provides a reference for all of the audio tracks and audio events, with their corresponding positions, in a Capture Session, so that another audio program can reconstruct your Session automatically. This makes it possible for you to open your Capture Session and work as you normally do in your favorite recording application.

To save an OpenTL version of your Session, select Save Session As in the File menu of Capture.



Name the file as usual, and choose OpenTL (\*.tl) in the Save As Type selection box.



Click on Save to save your Session as an OpenTL document and confirm the command by clicking Yes in the confirmation window. This file will be placed by default in your Session folder and will not overwrite the original Capture Session file. Note that the OpenTL format will not save your markers.

### Import Capture Session Audio Files Directly

Some audio-editing applications (such as digital audio workstations, or DAWs) do not support the OpenTL format, which makes the options somewhat limited when importing Sessions created in other programs. In this case, you must manually import the audio events from your Capture Session into the audio-editing application, using whatever means possible in that program. Refer to the documentation of your software for more information on this process.

Note that in some cases, you may have more than one audio event on a given track, as opposed to a single continuous audio event, or you may have audio events that do not have the same start position. In either case, it is highly recommended that you first export the audio for each track before attempting to import into an audio-editing program, as described in the Export Audio Files portion of this section.

Be sure to select the Export Tracks option in the Export Audio File menu, as shown, so that the result of the process will be a single continuous audio file for each track in the Session.

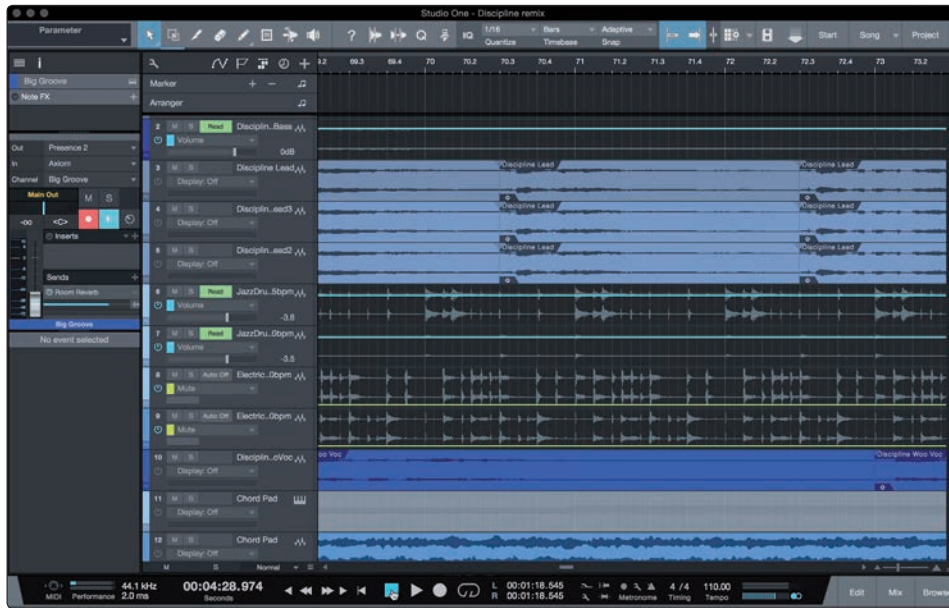
Once you have single, continuous audio files for each track, directly importing the files into an audio editor is much easier. All that is required to reconstruct your Capture Session is to align each file at the same start time. For complete information on exporting tracks from Capture, *please review Section 7.6.2.*

## 7.9 Capture Key Commands

Action	Key Command
<b>File Menu</b>	
New Session	Cntrl/Cmd+N
Open Session	Cntrl/Cmd+O
Close Session	Cntrl/Cmd+W
Save Session	Cntrl/Cmd+S
Save Session As	Cntrl/Cmd+Shift+S
Quit	Cntrl/Cmd+Q
<b>Edit Menu</b>	
Undo	Cntrl/Cmd+Z
Redo	Cntrl/Cmd+Y
Cut	Cntrl/Cmd+X
Copy	Cntrl/Cmd+C
Paste	Cntrl/Cmd+V
Delete	Del
Select All	Cntrl/Cmd+A
Deselect All	Cntrl/Cmd+D
Bounce Selection	Cntrl/Cmd+B
Zoom In	Cntrl/Cmd + or E
Zoom Out	Cntrl/Cmd - or W
Zoom Full	F
<b>Session Menu</b>	
Import File	Command+I
Export Tracks	Command+E
Toggle Start/Stop	Space Bar
Record	NumPad *
Stop	0
Return to Zero	,
Go to End	E
Loop Active	/
Loop Selection	P
Locate Selection	L
Insert Marker	Ins, I
Insert Named Marker	Shift+Ins, Shift+I
Locate Next Marker	N
Locate Previous Marker	B
Enable Sound Check	F4
<b>Tools</b>	
Select Arrow Tool	1
Select Range Tool	2
Select Split Tool	3
Select Eraser Tool	4
<b>Views</b>	
Options	Cntrl/Cmd+[+]
Big Meters	F2
Marker List	F3
Enable Soundcheck	F4

Action	Key Command
<b>Transport</b>	
Toggle Start/Stop	Space Bar
Start	Enter
Record	NumPad *
Stop	NumPad 0
Return to Zero	NumPad
Record Lock	Cntrl/Cmd+L
<b>Navigation</b>	
Focus Next	Tab
Focus Previous	Shift+Tab
Left	Left Arrow
Extend Selection Left	Shift+Left Arrow
Extend Selection Left Add	Cntrl/Cmd+Shift+Left Arrow
Skip Left	Cntrl/Cmd+Left Arrow
Right	Right Arrow
Extend Selection Right	Shift+Right Arrow
Extend Selection Right Add	Cntrl/Cmd+Shift+Right Arrow
Skip Right	Cntrl/Cmd+Right Arrow
Up	Up Arrow
Extend Selection Up	Shift+Up Arrow
Extend Selection Up Add	Cntrl/Cmd+Shift+Up Arrow
Skip Up	Cntrl/Cmd+Up Arrow
Down	Down Arrow
Extend Selection Down	Shift+Down Arrow
Extend Selection Down Add	Cntrl/Cmd+Shift+Down Arrow
Skip Down	Cntrl/Cmd+Down Arrow
Page Up	Page Up
Extend Selection Page Up	Shift+Page Up
Extend Selection Page Up Add	Cntrl/Cmd+Shift+Page Up
Skip Page Up	Cntrl/Cmd+Page Up
Page Down	Page Down
Extend Selection Page Down	Shift+Page Down
Extend Selection Page Down Add	Cntrl/Cmd+Shift+Page Down
Skip Page Down	Cntrl/Cmd+Page Down
Start	Home
Extend Selection Start	Shift+Home
Extend Selection Start Add	Cntrl/Cmd+Shift+Home
Skip Start	Cntrl/Cmd+Home
End	End
Extend Selection End	Shift+End
Extend Selection End Add	Cntrl/Cmd+Shift+End
Skip End	Cntrl/Cmd+End

## 8 Studio One Artist Quick Start



All PreSonus professional recording products come with Studio One Artist recording and production software. Whether you are about to record your first album or your fiftieth, Studio One Artist provides you with all of the tools necessary to capture and mix a great performance.

**Power User Tip:** As a valued PreSonus customer, you are eligible for a discount upgrade to Studio One Professional. For more details on the Studio One upgrade program for PreSonus customers, please visit <http://www.presonus.com/products/Studio-One/get-studio-one>.

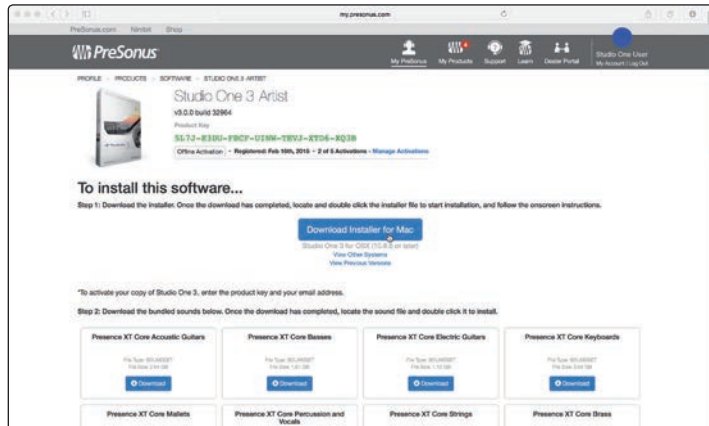
**Note:** StudioLive 32 customers receive Studio One Professional with their mixer. This section covers basic set-up and installation for the features and functions that are common to both Studio One Professional and Studio One Artist.

### 8.1 Installation and Authorization

Once you have installed the drivers for your audio interface and connected it to your computer, you can use the included PreSonus Studio One Artist music-production software to begin recording, mixing, and producing your music. To install Studio One Artist, log into your My PreSonus account and register your interface. Your product key for Studio One Artist will automatically be registered to your My PreSonus account with your hardware registration.

**Downloading and running the Studio One installer.**

To install Studio One Artist, download the Studio One Artist installer from your My PreSonus account to the computer on which you will use it.



- **Windows users:** Launch the Studio One Artist installer and follow the onscreen instructions.
- **Mac users:** Drag the Studio One Artist application into the Applications folder on your Mac hard drive.

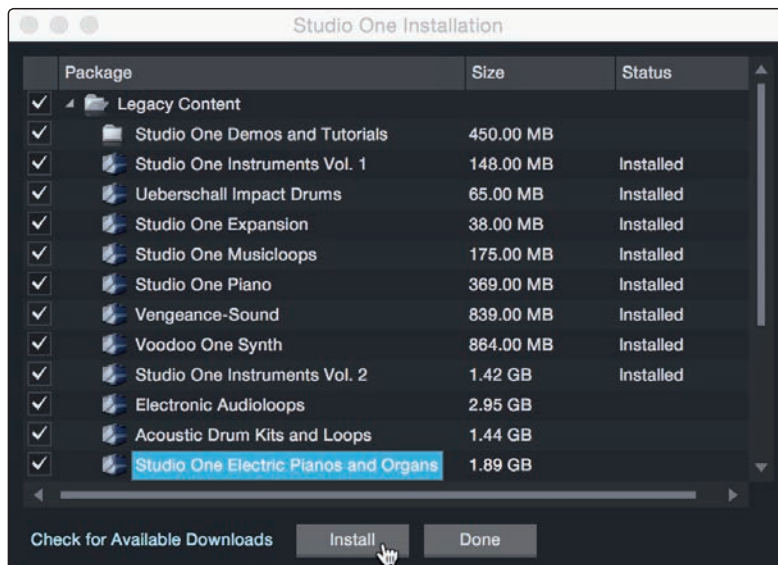
**Authorizing Studio One**

When Studio One is launched for the first time on your computer, it will communicate with your My PreSonus account and verify your registration. To ensure a seamless authorization process, make sure to download your installer to the computer on which you will be using it and be sure that your computer is connected to the Internet when you launch the application for the first time.

**Installing bundled content for Studio One Artist.**

Studio One Artist comes bundled with an array of demo and tutorial materials, instruments, loops, and samples. The Studio One Artist bundle includes all that you need to begin producing music.

The first time you launch Studio One Artist, you will be prompted to install its companion content. Select the content you wish to add and click “Install.” The content will automatically begin to download and install from your My PreSonus user account.



**Power User Tip:** You may be prompted to enter your My PreSonus user account information. Clicking “Remember Credentials” will allow you to have immediate access to any content you purchase from the PreSonus Marketplace.

## 8.2 Setting Up Studio One

Studio One Artist was designed to work with PreSonus interfaces and provides unique interoperability and simplified setup. When Studio One Artist is launched, by default you will be taken to the Start page. On this page, you will find document-management and device-configuration controls, as well as a customizable artist profile, a news feed, and links to demos and tutorials from PreSonus. If you have an Internet connection on your computer, these links will be updated as new tutorials become available on the PreSonus Web site.

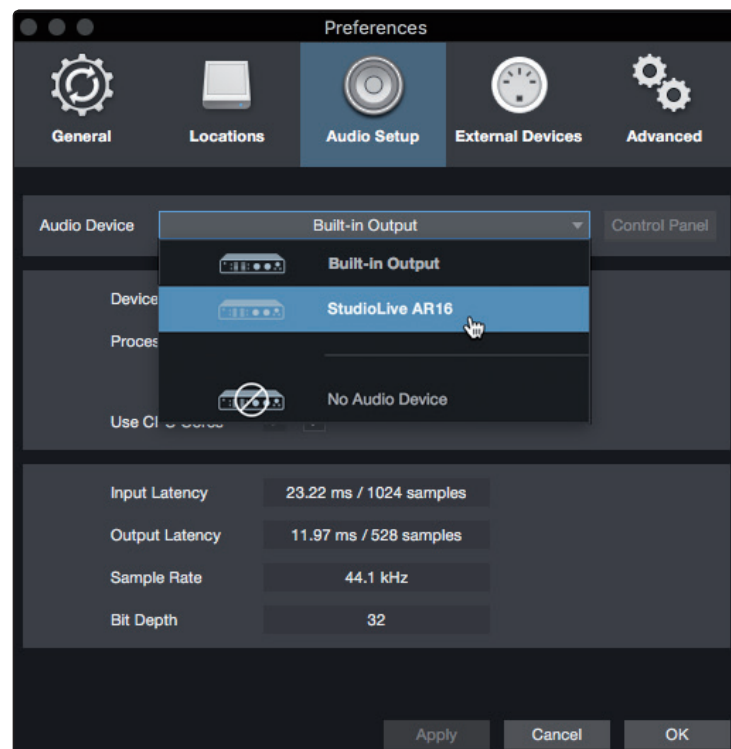
Complete information on all aspects of Studio One Artist is available in the Reference Manual PDF located within Studio One. The information in this tutorial covers only the basic aspects of Studio One Artist and is intended to get you set up and recording as quickly as possible.

### 8.2.1 Configuring Audio Devices

1. In the middle of the Start page, you will see the Setup area. Studio One Artist automatically scans your system for all available drivers and selects a driver. By default, it will choose a PreSonus driver if one is available.



2. If you do not see your device listed on the Start page when you launch Studio One, click on the Configure Audio Devices link in the Setup area to open the Options window.





In the Options window, click on the Audio Setup tab and select your device driver from the pull-down.

## 8.2.2 Configuring MIDI Devices

From the External Devices window in Studio One Artist, you can configure your MIDI keyboard controller, sound modules, and control surfaces. This section will guide you through setting up your MIDI keyboard controller and sound modules. Please consult the Reference Manual located within Studio One for complete setup instructions for other MIDI devices.

If you are using a third-party MIDI interface or USB MIDI-controller keyboard, you must install any required drivers for these devices before beginning this section. Please consult the documentation that came with your MIDI hardware for complete installation instructions.

*If you do not have any MIDI devices, please skip to **Section 8.4**.*

### Setting up an external MIDI keyboard controller from the Start page.

A MIDI keyboard controller is a hardware device that is generally used for playing and controlling other MIDI devices, virtual instruments, and software parameters. In Studio One Artist, these devices are referred to as Keyboards, and they must be configured before they are available for use. In some cases, your MIDI keyboard controller is also used as a tone generator. Studio One Artist views the controller and tone-generation functions as two different devices; a MIDI keyboard controller and a sound module. The MIDI controls (keyboard, knobs, faders, etc.) will be set up as a Keyboard. The sound modules will be set up as an Instrument.

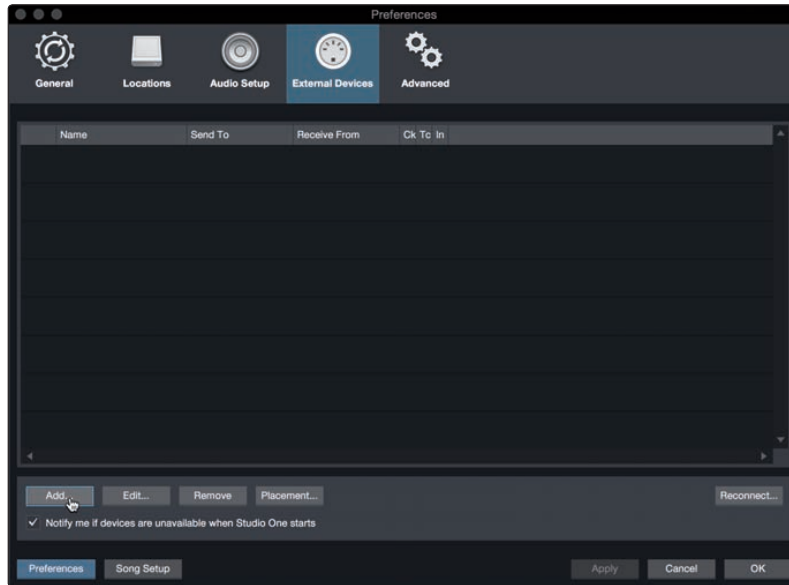
You can set up your external MIDI devices from the Setup area in the Start page. Before setting up a new Song for recording, take a moment to configure external devices.

Make sure you have connected the MIDI Out of your external MIDI controller to a MIDI In on your PreSonus audio interface (if available) or other MIDI interface. If you are using a USB MIDI controller, connect it to your computer and power it on.

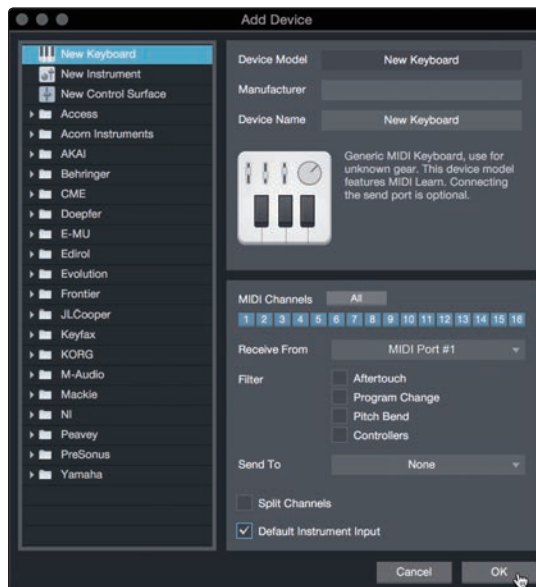
1. Click on the Configure External Devices link in the Setup area on the Start page to launch the External Devices window.



- Click the Add button. This will launch the Add Device window.



- From the menu on the left, select your MIDI controller from the list of manufacturers and models. If you do not see your MIDI controller listed, select New Keyboard. At this point, you can customize the name of your keyboard by entering the manufacturer and device names.



- You must specify which MIDI channels will be used to communicate with this keyboard. For most purposes, you should select all MIDI channels. If you are unsure of which MIDI channels to choose, select all 16.
- Studio One allows you to filter out specific control functions. If you would like Studio One to ignore Aftertouch, Pitch Bend, Program Change, or All CC messages, enable filtering for any or all of these messages.
- In the Receive From drop-down menu, select the MIDI interface input from which Studio One Artist will receive MIDI data (that is, the MIDI port to which your keyboard is connected).

***Power User Tip:** In the Send To drop-down menu, select the MIDI interface output from which your Studio One Artist will send MIDI data to your keyboard. If your keyboard controller doesn't need to receive MIDI data from Studio One, you can leave this unselected.*

7. If this is the only keyboard that you will use to control your external synthesizers and virtual instruments, you should check the box next to Default Instrument Input. This will automatically assign your keyboard to control all MIDI devices in Studio One Artist.
8. Click OK.

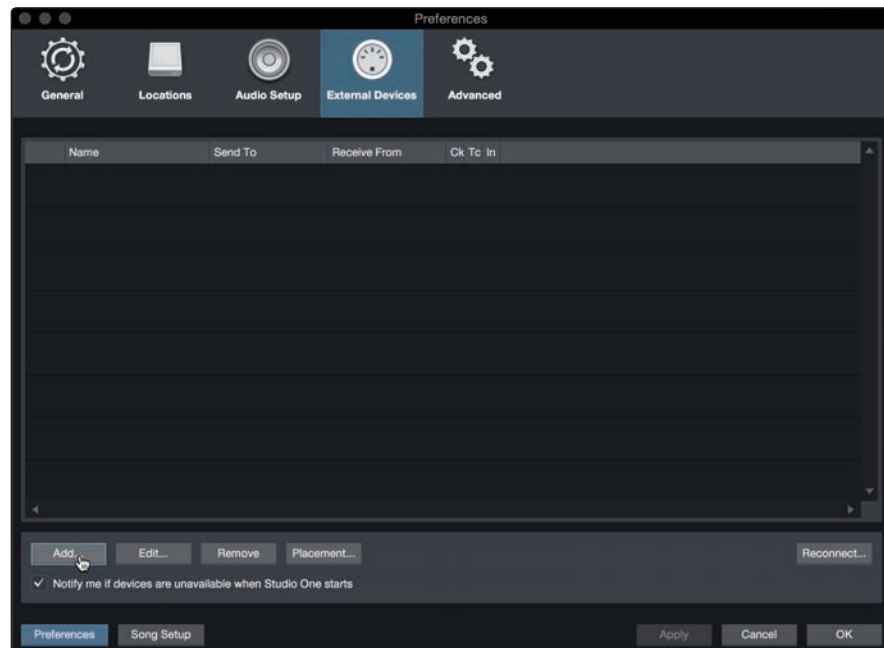
If you have a sound module that you'd like to connect, leave the External Devices window open and proceed to the next part of this section. If not, you can close the window and skip to the next section.

### Setting up an external MIDI sound module from the Start page.

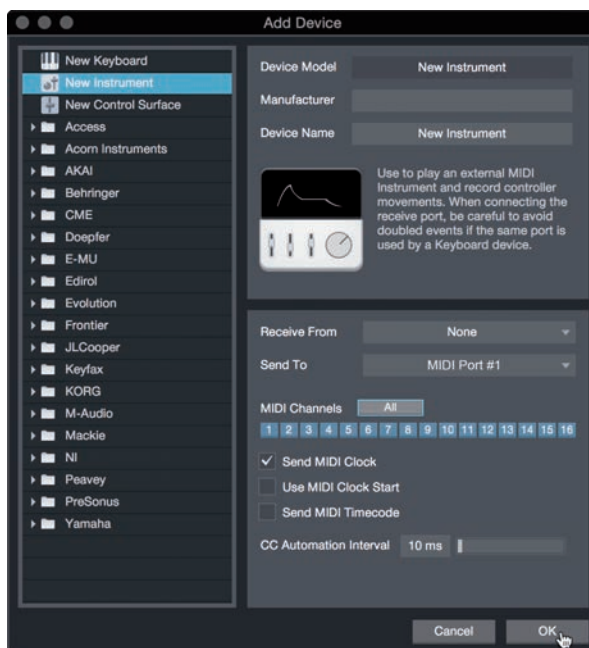
MIDI instrument controllers (keyboards, MIDI guitars, etc.) send musical information in the form of MIDI data to tone modules and virtual instruments, which respond by generating sound, as instructed. Tone modules can be standalone sound devices or can be integrated into a MIDI instrument, such as a keyboard synthesizer. Studio One Artist refers to all tone generators as Instruments. Once you have set up your MIDI keyboard controller, take a moment to configure your sound module.

Make sure you have connected the MIDI In of your external sound module to the MIDI Out of your MIDI interface.

1. In the External Devices window, click the Add button.



2. Select your device in the menu on the left. If your device is not listed, select New Instrument. At this point you can customize the name of your keyboard by entering the manufacturer and device names.



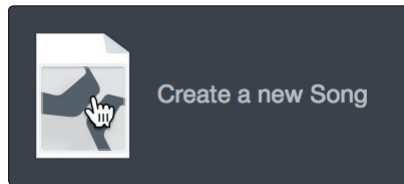
3. Specify which MIDI channels will be used to communicate with this sound module. For most purposes, you should select all MIDI channels. If you are unsure of which MIDI channels to select, we suggest you select all 16.
4. In the Send To menu, select the MIDI interface output from which Studio One Artist will send MIDI data to your sound module. Click OK and close the External Devices window. You are now ready to start recording in Studio One Artist.

The rest of this Quick Start Guide will go over how to set up a Song and will discuss some general workflow tips for navigating through the Studio One Artist environment.

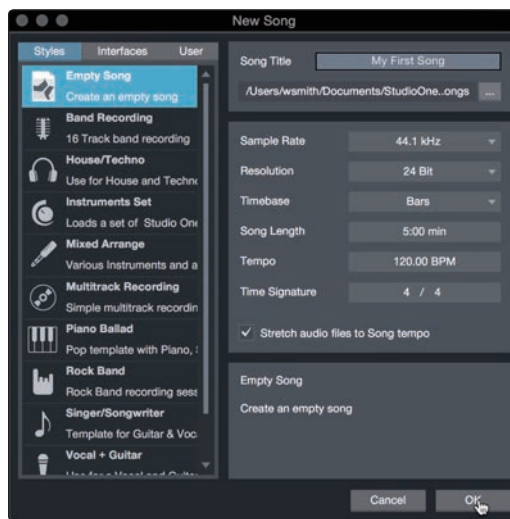
### 8.3 Creating a New Song

Now that you've configured your audio and MIDI devices, let's create a new Song. We'll start by setting up your default audio I/O.

1. From the Start page, select Create a New Song.



2. In the New Song window, name your Song and choose the directory in which you'd like it saved. From the Interfaces tab, you can select custom templates for your StudioLive mixer that will set all configuration and I/O settings for you. The rest of section will describe creating a Song from an empty session.

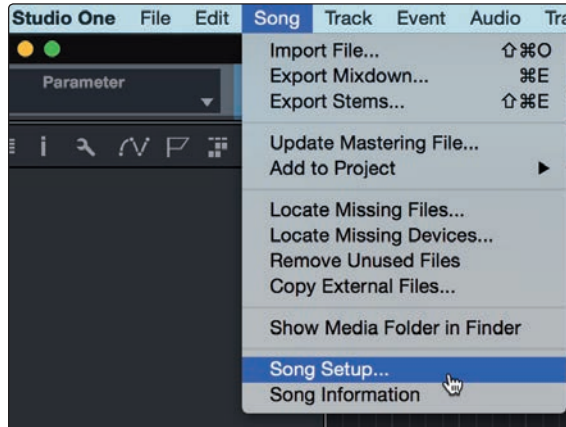


3. Select Empty Song from the Templates list. At this point, you should give your Song a name and select your preferred sample rate and bit depth for recording and playback. You can also set the length of your Song and the type of time format you would like the timeline to follow (notation bars, seconds, samples, or frames). Click the OK button when you are finished.

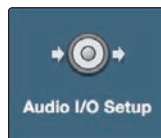
**Power User Tip:** If you plan to import loops into your Song, make sure that the *Stretch Audio Files to Song Tempo* option is selected. This will automatically import loops at the correct BPM.

### 8.3.1 Configuring Your I/O

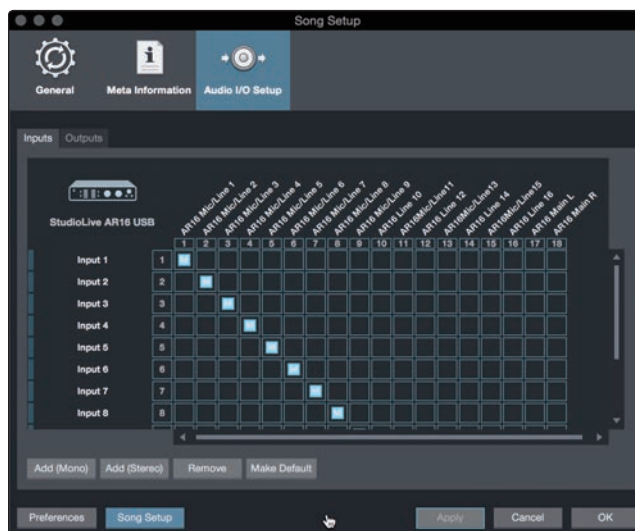
1. Click on Song | Song Setup to set your sample rate and resolution and configure your audio I/O.



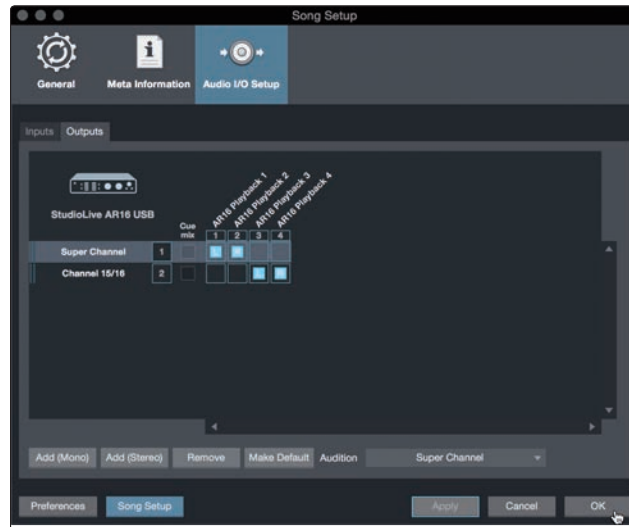
2. Click on the Audio I/O Setup tab.



3. From the Inputs tab, you can enable any or all of the inputs on your StudioLive mixer that you'd like to have available. We recommend that you create a mono input for each of the inputs on your interface. If you plan on recording in stereo, you should also create a few stereo inputs. You can give each input a custom name by simply clicking on the default name. Press the TAB key to edit the next name.



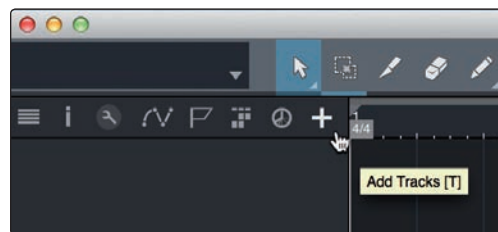
- Click on the Outputs tabs to enable any or all of the outputs on your StudioLive Mixer. In the lower right corner, you will see the Audition select menu. This allows you to choose the output from which you will audition audio files prior to importing them into Studio One Artist. In general, you will want this to be the main output bus. You can give each output a custom name by simply clicking on the default name. Press the TAB key to edit the next name.



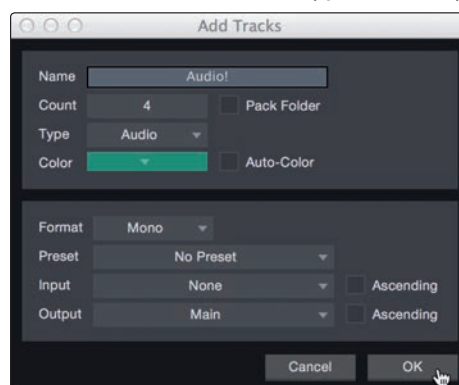
**Power User Tip:** If you would like this I/O configuration to be the same every time you open Studio One, click the Make Default button.

### 8.3.2 Creating Audio and MIDI Tracks

- In the upper left corner of the Arrange window, you will notice several buttons. The button furthest to the right is the Add Tracks button. Click on this button to open the Add Tracks window.



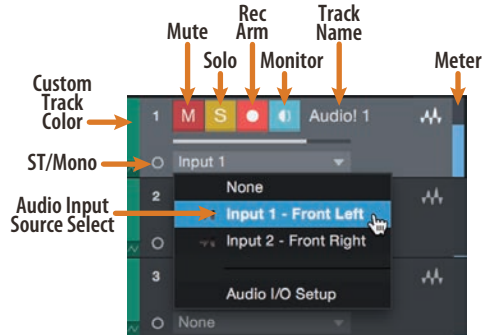
- In the Add Tracks window, you can customize the track name and color, add a preset rack of effects, and set the physical source for the input and output of your audio tracks. Most important, you can select the number and type of tracks you'd like to create.



- Audio.** Use this track type to record and playback audio files.
- Instrument.** Use this track to record and playback MIDI data to control external MIDI devices or Virtual Instrument plug-ins.

- **Automation.** This track type lets you create automated parameter controls for your session.
- **Folder.** This track helps you to manage your session as well as to quickly edit multiple tracks at once.

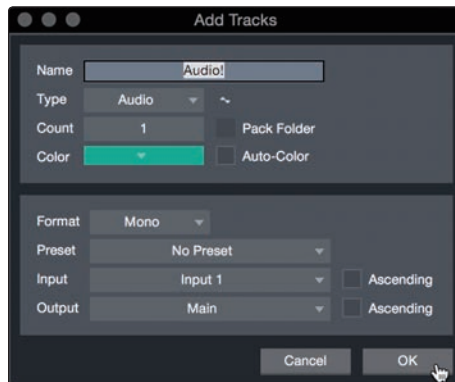
**Power User Tip:** If you would like to add an audio track for each of the available inputs, simply go to Track | Add Tracks for All Inputs.



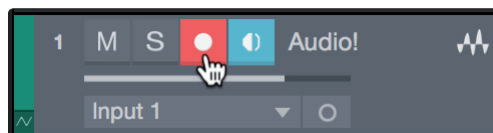
**Note:** MIDI tracks are nearly identical to Audio tracks. The Input Source list for MIDI tracks lists available external MIDI devices as well as any virtual instruments that have been added to the Song.

### 8.3.3 Recording an Audio Track

1. To begin recording, create an audio track from the Add Tracks window, set its input to Input 1 on your StudioLive mixer, and connect a microphone to the same input.



2. Select Record Enable on the track. Turn up the Input 1 level on your mixer while speaking/singing into the microphone. You should see the input meter in Studio One Artist react to the input. Adjust the gain so the input level is near its maximum without clipping (distorting).



You are now ready to start recording. For complete instructions, please consult the Studio One Reference manual located in Help | Studio One Reference Manual.

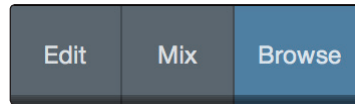


### 8.3.4 Adding Virtual Instruments and Effects

You can add plug-ins and instruments to your Song by dragging-and-dropping them from the browser. You can also drag an effect or group of effects from one channel to another, drag in customized effects chains, and instantly load your favorite virtual-instrument preset without ever scrolling through a menu.

#### Opening the browser.

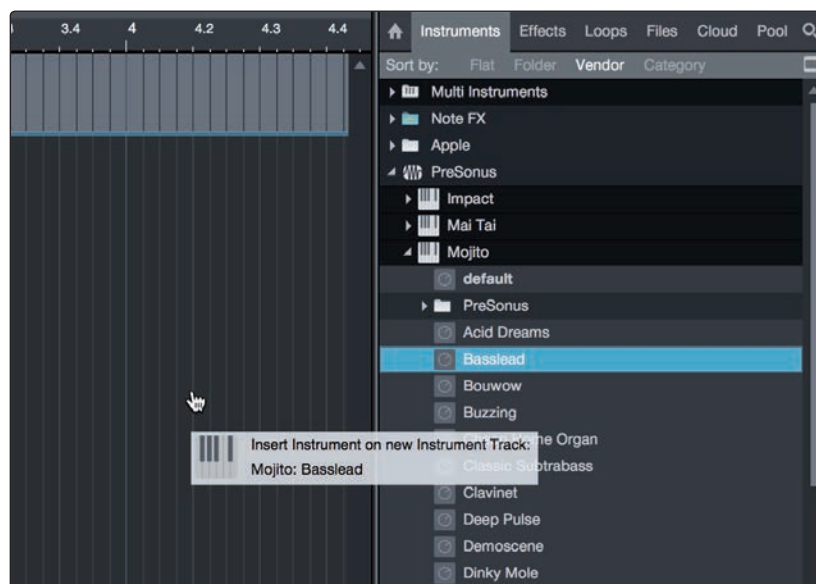
In the lower right corner of the Arrange window are three buttons:



- The Edit button opens and closes the audio and MIDI editors.
- The Mix button opens and closes the Mixer window.
- The Browse button opens the browser, which displays all of the available virtual instruments, plug-in effects, audio files, and MIDI files, as well as the pool of audio files loaded into the current session.

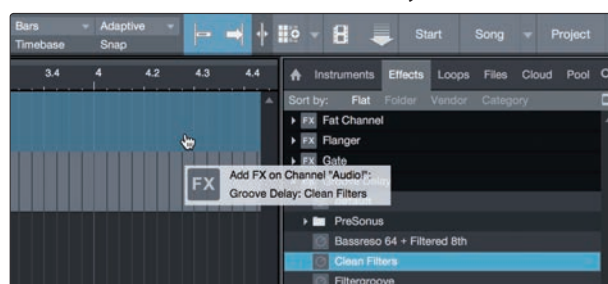
#### Drag-and-drop virtual instruments.

To add a virtual instrument to your session, open the browser and click on the Instrument button. Select the instrument or one of its patches from the instrument browser and drag it into the Arrange view. Studio One Artist will automatically create a new track and load the instrument as the input.



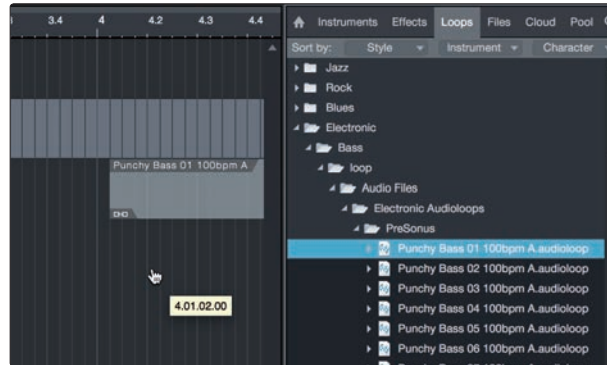
#### Drag-and-drop effects.

To add a plug-in effect to a track, click the Effects button in the browser and select the plug-in or one of its presets in the effects browser. Drag-and-drop the selection over the track to which you would like to add the effect.

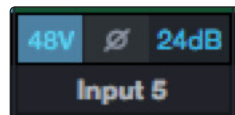


### 8.4.3 Drag-and-Drop Audio and MIDI Files

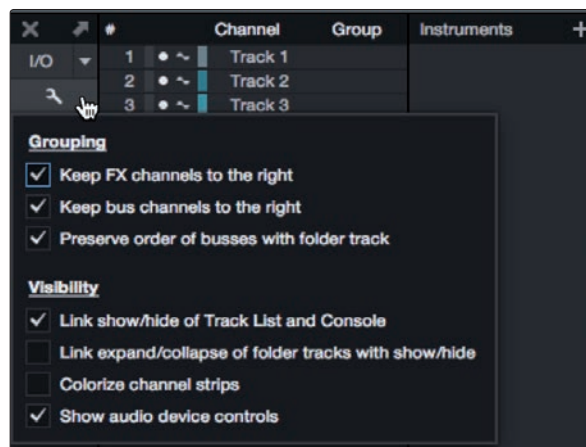
Audio and MIDI files can be quickly located, auditioned, and imported into your Song by dragging them from the file browser into the Arrange view. If you drag the file to an empty space, a new track will be created with that file placed at the position to which you dragged it. If you drag the file to an existing track, the file will be placed as a new part on the track.



### 8.4.4 Preamp Controls (StudioLive Series III and RM/RML mixers)



As soon as you set an analog StudioLive Series III or RM/RML mixer input as the input source for a track in Studio One, you'll find its preamp controls in the Studio One mixer.



You can choose to hide the preamp controls for your StudioLive Series III and RM/RML from the Console Options menu. Simply uncheck the box next to "Show audio device controls."

### 8.4.5 Mixing Capture Sessions

If your Capture Session has a StudioLive mix scene saved with it, your Studio One mixer will load the scene into its console, complete with all your Fat Channel settings, fader levels, FX sends, mutes, solos, pan settings, and bus assignments. This allows you to mix your Capture sessions with the same Fat Channel settings you used live, even when you're away from your StudioLive mixer. Studio One will create four FX buses and preserve any channel sends to them; however you will need to drag and drop your favorite reverb and delay plug-ins on these buses as there are no Native versions of the StudioLive reverb and delay engines. For linked channels, Studio One will also load the Binaural Pan plugin to maintain the width control provided by your StudioLive mixer for stereo channels.

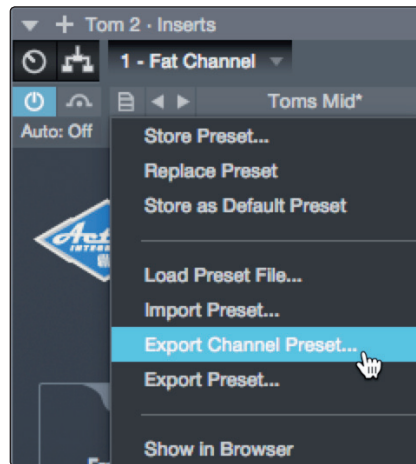


Built into Studio One 2.6 and later is a Native Effects™ plug-in version of the StudioLive Fat Channel. This plug-in provides exact versions of the signal processors in the StudioLive Fat Channel. This is a regular Studio One Native Effects plug-in and works even if your StudioLive mixer is not connected to your computer.

**Power User Tip:** Studio One Fat Channel plug-in presets are fully compatible with your UC Surface Fat Channel preset files. Any presets saved to your computer from UC Surface will automatically load in Studio One on launch and be available for use.



Fat Channel plug-in presets created in Studio One can be exported to UC Surface by selecting Export Channel Preset from the plug-in header menu. These presets can then be loaded onto your StudioLive mixer from UC Surface.



## Added bonus: PreSonus' previously Top Secret recipe for...

# Jambalaya

### Ingredients:

- 5 lbs link andouille sausage
- 3 lbs boneless chicken
- 2 lbs ground beef
- 3 lbs onions (yellow or purple)
- 2 stalks of celery
- 1 lb bell peppers (green or red)
- 1 batch green onions
- 3 lbs rice
- Tony Chachere's Cajun Seasoning
- 1 bottle chicken stock concentrate (or 3 cubes chicken bullion)
- 1 can Rotel tomatoes with chilies, diced (regular hot)
- Tabasco sauce

### Cooking Instructions:

1. In a 16 qt. pot or larger, slice link sausage and pan-fry until brown.
2. Add ground beef and brown.
3. Do not remove from pot Add diced onions, celery, and bell peppers, 1 can Rotel Original diced tomatoes with chilies, 3 oz concentrate chicken stock, ½ teaspoon of Cajun seasoning, 1 teaspoon of Tabasco hot sauce (or more...maybe lots more).
4. Cook until onions are translucent.
5. Add chicken and cook until it turns white.
6. Add diced green onions, 1 tsp. salt, ½ gallon water and bring to a boil.
7. Add rice and bring to a boil. Cook on high for 8 minutes, covered, stirring every 2 minutes
8. Cook covered on low for 10 minutes, stirring only once.
9. Turn off and let sit for 30 minutes.
10. Serve and enjoy!

**Serves 20**

# StudioLive™ Software Library Reference Manual

Universal Control with UC Surface | QMix™-UC  
for iOS® and Android™ | Capture™ 2  
Studio One® Artist

