Universal Control for StudioLive® Mixers

Software Reference Manual

PreSonus® www.presonus.com

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1 Introduction

Universal Control 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, as well as a library, allowing you to easily manage your presets and scenes.

For StudioLive Series III and AI-series console mixers, Universal Control 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 Universal Control and vice versa.

For StudioLive Series III rackmount mixers and StudioLive AI-series RM and RML mixers, Universal Control provides software-only control. The StudioLive CS18AI hardware controller for StudioLive AI-series RM/RML mixers can be used in conjunction with Universal Control.

Universal Control will run on macOS, Windows, and Windows Touch computers, as well as Android devices and iPads, affording flexible control options for any mix situation.

To use Universal Control, you must do one of two things:

- Connect your StudioLive, computer, Android 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 Universal Control while recording and playing back audio through Capture™, Studio One Pro®, or a third-party DAW of your choice.

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

1.1 About This Manual

We suggest that you use this manual to familiarize yourself with Universal Control before trying to use it to control your mixer. This guide assumes that you have followed the networking procedures outlined in the Networking for StudioLive Remote Control Guide. Please refer to the Using Your StudioLive as an Audio Interface with Universal Control Reference Guide for installation instructions.

Throughout this manual, you will find ***Power User Tips***. These tips provide useful hints on how to best use Universal Control and take advantage of unique workflow functions and features.

For the most part, StudioLive Series III and AI-series console and rack mixers behave identically. 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.** All StudioLive Series III console and rack mixers.
- **StudioLive Series III console mixers.** StudioLive 64S, StudioLive 32S, StudioLive 32SX, StudioLive 32SC, StudioLive 32, StudioLive 24, and StudioLive 16
- **StudioLive Series III rack mixers.** StudioLive 16R, StudioLive 24R, and StudioLive 32R
- **StudioLive AI-Series mixers.** All StudioLive AI-series console and rack mixers.
- **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

1.2 Companion Manuals

This guide explains the functions and basic routing features of the audio interface onboard your StudioLive mixer. The following companion guides are also available:

1.2.1 Hardware Manuals

- **StudioLive Series III Console Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive Series III console mixer (StudioLive 64S, StudioLive 32S, StudioLive 32SX, StudioLive 32SC, StudioLive 32, StudioLive 24, and StudioLive 16).
- **StudioLive Series III Rackmount Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive Series III rackmount mixer (StudioLive 32R, StudioLive 24R, StudioLive 16R).
- **StudioLive AI-Series Console Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive AI-Series console mixer (StudioLive 32.4.2AI, StudioLive 24.4.2AI, StudioLive 16.4.2AI).
- **StudioLive AI-Series Rackmount Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive AI-Series rackmount mixer (StudioLive RM/RML32, StudioLive RM/RML16).

1.2.2 Software Manuals

- **Capture Reference Manual.** Included with StudioLive mixers is Capture, a digital-audio multitrack-recording application designed to make recording quick and easy.
- **Networking for StudioLive Remote Control.** This guide will assist you in creating a LAN network to remote control your StudioLive from a computer, tablet, or mobile device.
- **QMix-UC Reference Manual.** This guide describes the features and functions of QMix-UC with every StudioLive mixer model. QMix-UC lets up to 16 users remotely control the Aux Mixes on your StudioLive using their smartphone.
- **Studio One Integration Reference Manual.** Studio One Artist is included with every StudioLive mixer. In addition to being a powerful DAW, Studio One provides unique routing and integration features. This manual will help you get the most from your StudioLive mixer when used with Studio One or Studio One Artist.

1.2.3 Additional Resources

- **StudioLive Series III AVB Networking Guide.** This manual covers advanced AVB audio networking configuration for the StudioLive Series III mixers.
- **StudioLive Series III HUI for ProTools DAW Control Addendum.** StudioLive Series III console mixers can control Avid ProTools® using HUI emulation.
- **StudioLive Series III MCU for Logic DAW Control Addendum.** StudioLive Series III console mixers can control Apple Logic® using Mackie Control Universal
- **StudioLive Series III Stage box Mode Addendum.** The StudioLive Series III rackmount mixers can be used as advanced stageboxes for StudioLive Series III console mixers.
- **StudioLive Series III Studio One DAW Control Addendum.** StudioLive Series III console mixers can be used to control Studio One and Studio One Artist.

1.3 Technical Support

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

PreSonus has a plethora of resources available online, as well as technical support if you come across an issue.

Before requesting technical support, please check the PreSonus Knowledge Base for solutions to commonly asked questions. We have many informational resources available where you're likely to find a solution to any issues you're experiencing—no registration, ticket submission, or wait time required!

For Technical Support, click onto the "Support" tab inside your MyPreSonus account. From here, you can create a new ticket and view both open and closed support tickets. Support for all PreSonus hardware and software products is provided via email. Note that your product must be registered to receive support.

For video Studio One Pro tutorials and product specific guides, visit the PreSonus YouTube Channel.

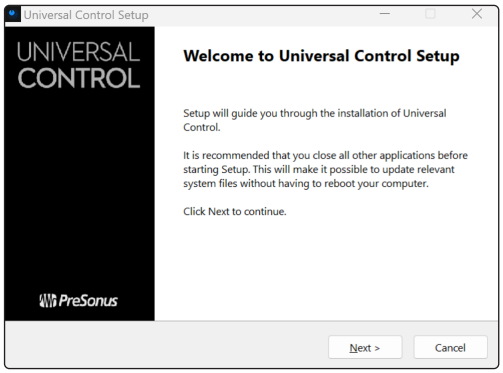
Note: PreSonus does not provide support for computer hardware, iOS hardware, Android devices, wireless networks, operating systems, and non-PreSonus hardware and software, and it may be necessary to contact the manufacturer of these products for technical support.

2 Installation and Setup

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.



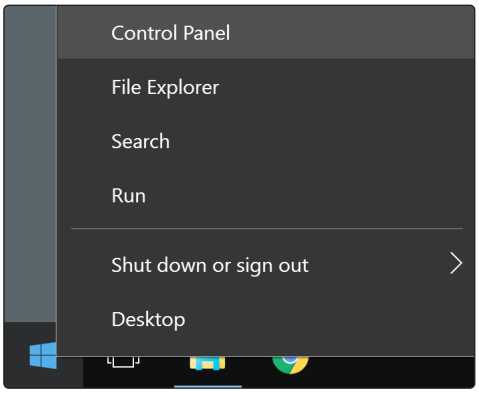
Click “Finish” to automatically restart your PC. Once your computer has rebooted, connect the StudioLive. When the Found New Hardware wizard launches, follow the “Recommended” steps.

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

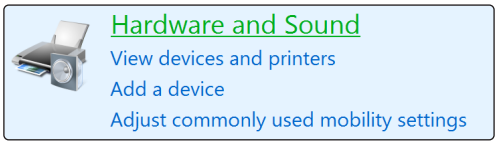
2.1.1 Using the StudioLive for System Sound on Windows

You can configure your StudioLive mixer as the audio interface for computer system audio (for YouTube playback, Skype, etc.) from the System Preferences menu.

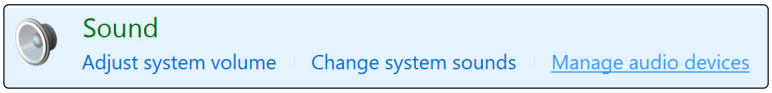
1. Open the Windows Control Panel.



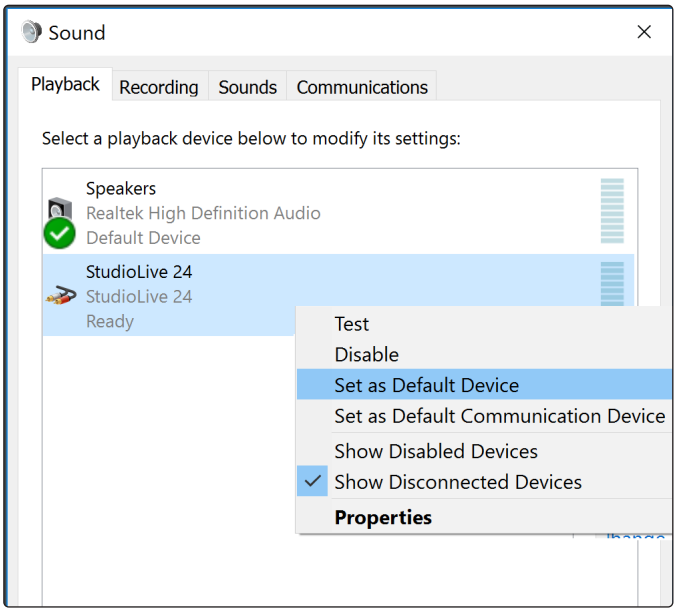
2. Click or Tap on Hardware and Sound.



3. Click or Tap on the Manage Audio Devices link under Sound.



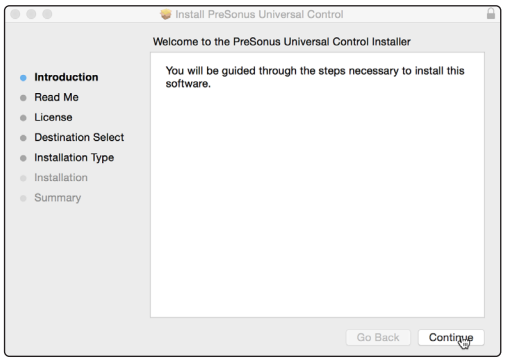
4. Right-click on your StudioLive mixer and set it as the Default Device for your computer.



2.2 Installation for macOS

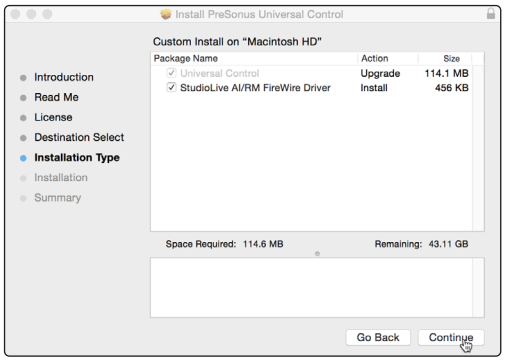
The Universal Control installer will take you through each step of the installation process. Please read each message carefully, and be especially careful that you do not connect your StudioLive too soon.

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

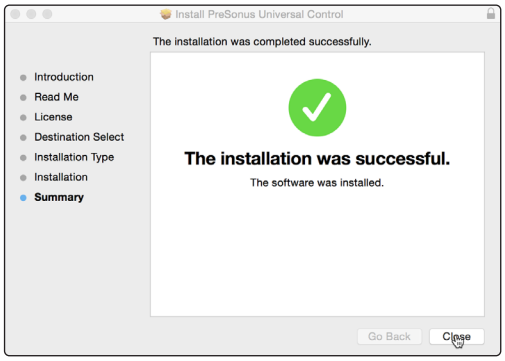


You will be asked which installation type you would like to perform. You can either install just the Universal Control application or both the Universal Control application and the StudioLive AI-series FireWire Driver. If you are only going to network your computer to your mixer, you do not need to install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



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.



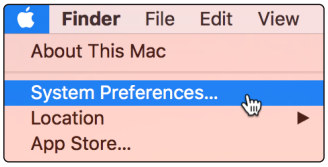
Once the installation is completed, you will find the Universal Control program in your Applications folder. It is recommended that you place this in your Dock.

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

2.2.1 Using the StudioLive for System Sound

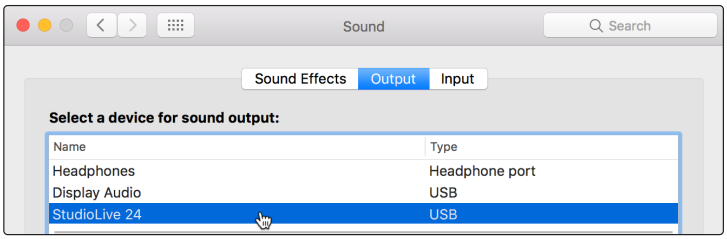
You can configure your StudioLive mixer as the audio interface for computer system audio (for iTunes playback, Skype, etc.) from the System Preferences menu.

1. Open System Preferences.

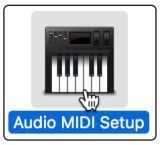


2. Open your System Sound Preferences.

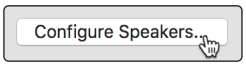
3. Select your StudioLive mixer from the Outputs list. If you would like to use your StudioLive mixer for System input as well, select it from the Inputs tab as well.



By default, your System sound will come back to Digital Returns 1 and 2. If you would like to change this, you can do so from Audio MIDI Setup.



4. To change the output, click on the Configure Speakers button and select the output pair you would prefer to use.



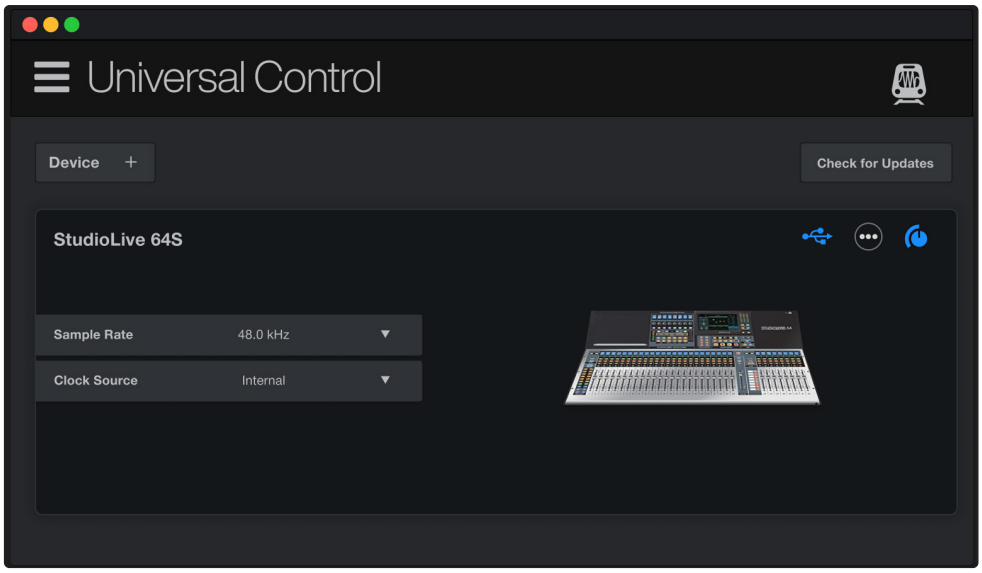
3 Universal Control Overview

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.

Note: The following section does not cover every feature of the Launcher page. You'll notice the "Device" and "Check for Firmware" buttons above your product card. The process of checking for firmware updates from the Launcher page is detailed in **Chapter 4**, while **Chapter 5** covers the Offline Editor. Additionally, more information about Metro (the train icon located at the top right of the Launcher page) can be found in **Chapter 15**.

3.1 The Launch Window

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



After connecting your product to your computer, a product card will appear within the Launcher page. From this product card, you can adjust various parameters and review important information specific to your device, including:

- **Sample Rate.** Changes the sample rate.
- **StudioLive Series III.** The sample rate can be set to 44.1 or 48 kHz.
- **StudioLive AI-series.** The sample rate can be set to 44.1, 48, 88.2, or 96 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 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.

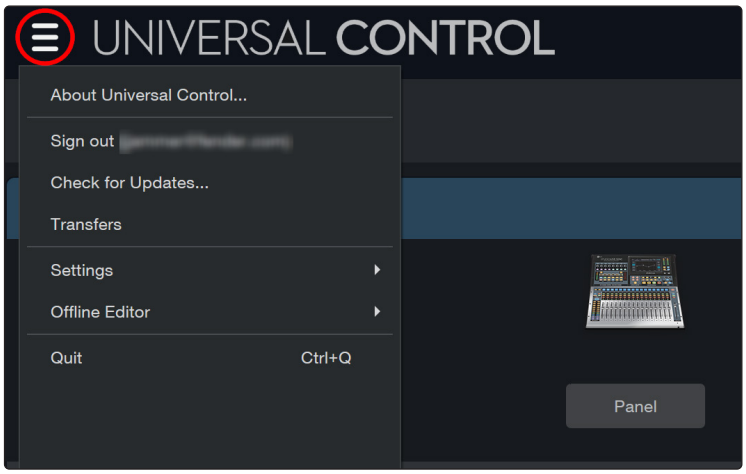
  Note: *StudioLive Series III mixers have a fixed sample rate of 48 kHz.*
- **Clock Source.** Displays the current Clock Source (Internal, SDIF, or ADAT). This can be changed in the StudioLive Settings menu within Universal Control.
- **Block Size.** From this menu, you can set the buffer size from 32 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.

- **Input Format.** Details your device's Input channels and bitrate.
- **Output Format.** Details your device's output channels and bitrate.
- **Serial Number.** Displays your product serial number.

3.2 The "More" Menu

Clicking onto the three bar icon located at the top left corner of the Launcher Page will open the "More" context menu.

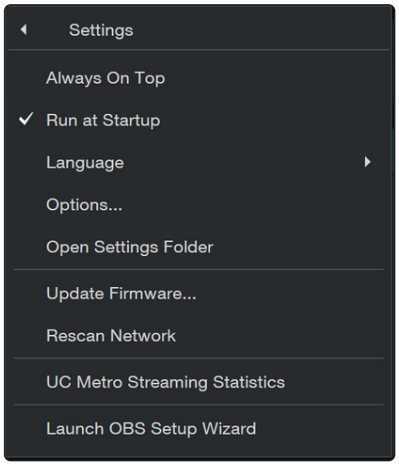


From the "More" menu, you have the following options:

- **About Universal Control...** Displays information about copyright, the PreSonus team, and all of the Supported PreSonus Devices.
- **Sign Out.** To sign out of your Universal Control account, click here.
- **Check for Updates.** Connects to MyPreSonus and checks for the most recent version of Universal Control. If the installed app/driver version is older than the current version, you will be presented with an update dialog.
- **Transfers.** Displays recent downloads from your My.PreSonus user account.
- **Settings.** Opens the Settings dropdown menu (see below).
- **Quit.** Quits the Universal Control application and all hardware control windows.

3.2.1 Settings Menu

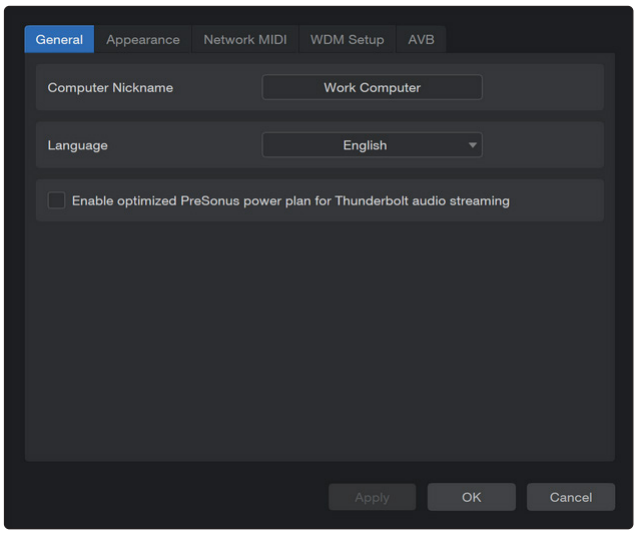
Settings Menu. Provides customization options to personalize your Universal Control experience.



- **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.
- **Language.** Sets language and appearance options (see below).
- **Options...** Sets language and appearance options (see below).
- **Open Settings Folder.** Opens the MacOS or Windows Settings folder for review.
- **Update Firmware...** Checks for product firmware updates, and if an update is available, the update will be initiated. *If you would like to update firmware from multiple PreSonus devices at once,* ***Chapter 4***.
- **Rescan Network.** Scans the network and local transport bus (USB or FireWire) for all supported PreSonus products.
- **UC Metro Streaming Statistics.** While a connection is present, clicking this option will display useful information about the connection such as stream health, stream latency, will show whether record and playback signals are present, etc. These parameters can help in troubleshooting some network and connection issues for UC Metro. *For more information about Metro,* ***check out Chapter 15.***
- **Launch OBS Setup Wizard.** This Setup Wizard helps Revelator product customers set up and control OBS streaming software with their Revelator family audio interfaces. **Note:** The OBS Setup Wizard will only recognize and work with Revelator family products.

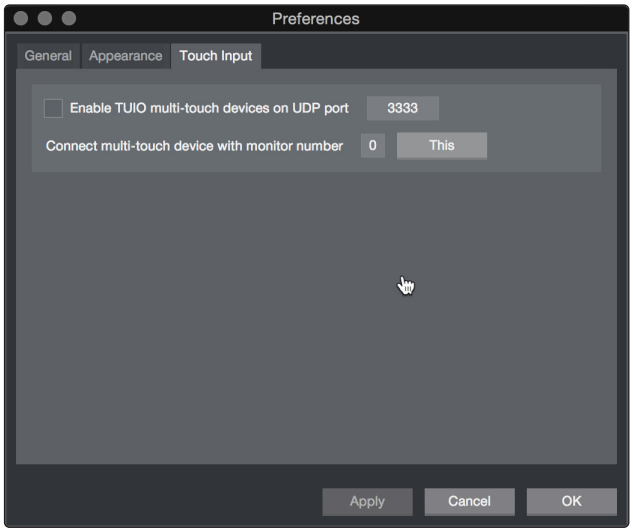
3.2.2 Options Window



From the “Options...” window, you can change language, appearance, MIDI, WDM, and AVB setups:

- **General.** Here you can set your computer nickname and language preference for Universal Control. You can also enable the optimized PreSonus power plan for Thunderbolt audio streaming.
- **Appearance.** Allows you to choose between Dark or Light mode.
- **Network MIDI.** From this tab, you can enable network devices you would like to use on your computer via MIDI.
- **WDM Setup.** From this tab, you can map/unmap WDM channels to your device channels.
- **AVB.** From this tab, you can configure your AVB network settings.

3.2.3 TUIO Setup (macOS)



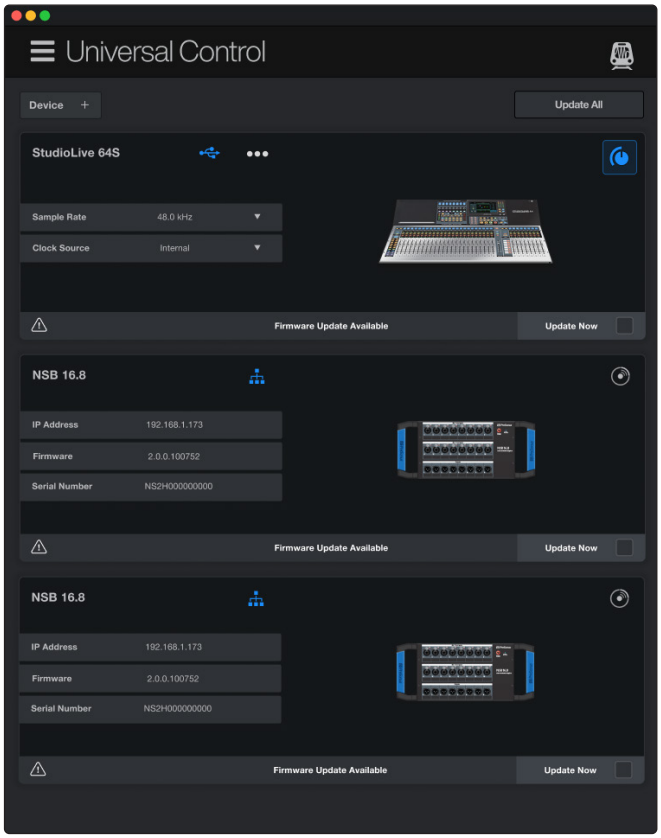
TUIO allows multi-touch displays to connect to macOS. If you would like to use a multi-touch display with your Apple computer, check the box next to “Enable TUIO.”

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.

4 Updating Firmware

PreSonus is committed to constant product improvement. As such, firmware updates for your mixer and associated networking products will periodically be available. Universal Control 4.5 and later provides the ability to update multiple products at the same time or just a select few.



4.1 Compatible PreSonus Products

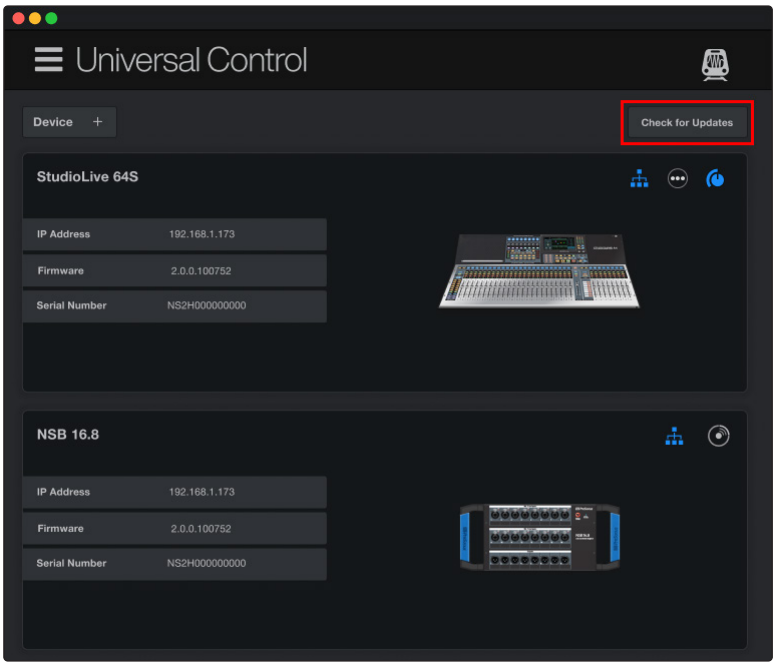
Network updates are available for all StudioLive Series III Ecosystem products. By clicking “update firmware,” either individually or as part of the batch firmware update, the following products will have the correct firmware files downloaded from MyPreSonus automatically if you’re computer is connected to the Internet:

- StudioLive Series III Mixers:
  - StudioLive 16
  - StudioLive 24
  - StudioLive 32
  - StudioLive 32SC
  - StudioLive 32SX
  - StudioLive 32S
  - StudioLive 64S
  - StudioLive 16R
  - StudioLive 24R
  - StudioLive 32R
- NSB-series Stage Boxes:
  - NSB 8.8
  - NSB 16.8
  - NSB 32.16
- EarMix 16M
- AVBD-16
- SW5E

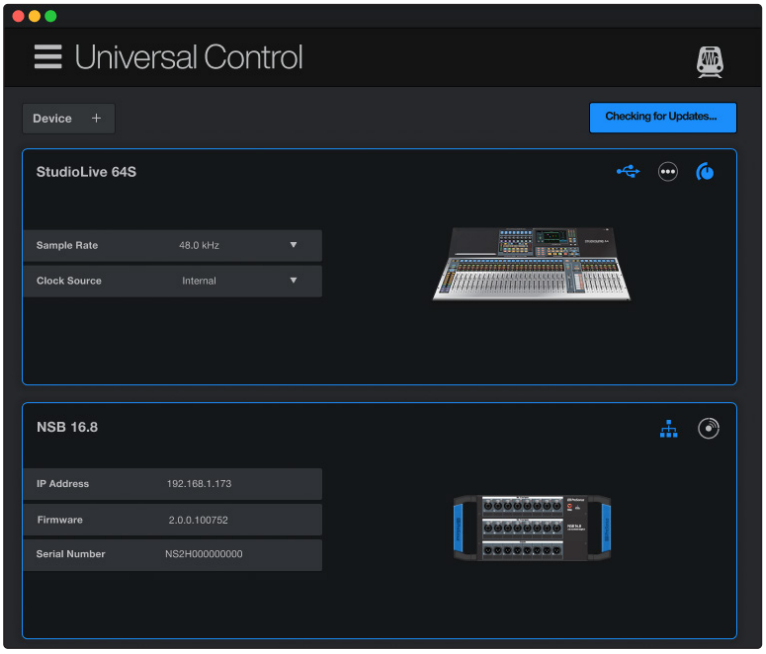
If your computer is not connected to the Internet, you can log into your MyPreSonus account and download individual firmware files manually.

4.2 Updating Firmware Online

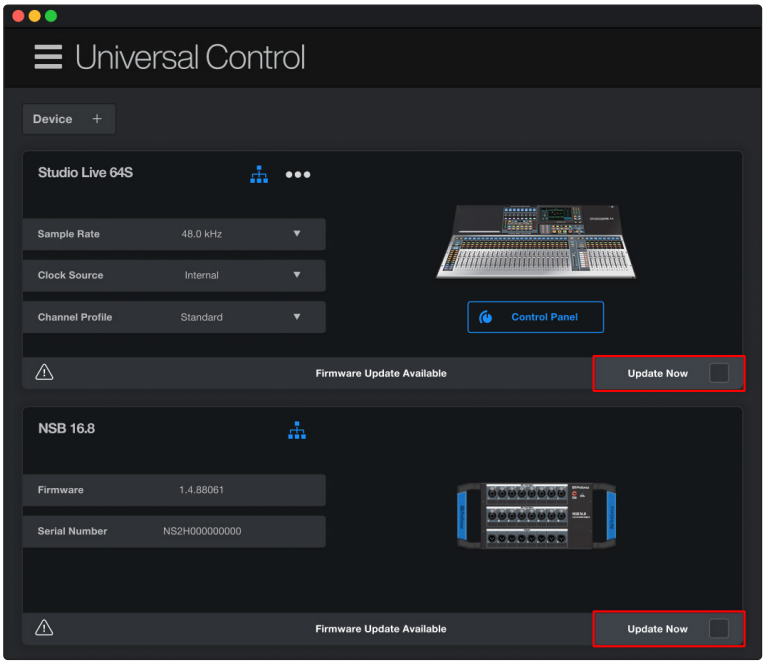
1. Click the “check for updates” button in the top right corner of the launcher window. Clicking this will initiate the Universal Control network scan, checking each product for potential firmware updates:



2. Pressing the “Check for Updates” button when Universal Control has access to a valid Internet connection will download firmware updates directly from the PreSonus Server. While firmware is being downloaded, the “Check for Updates” button will change to “Checking for Updates”:

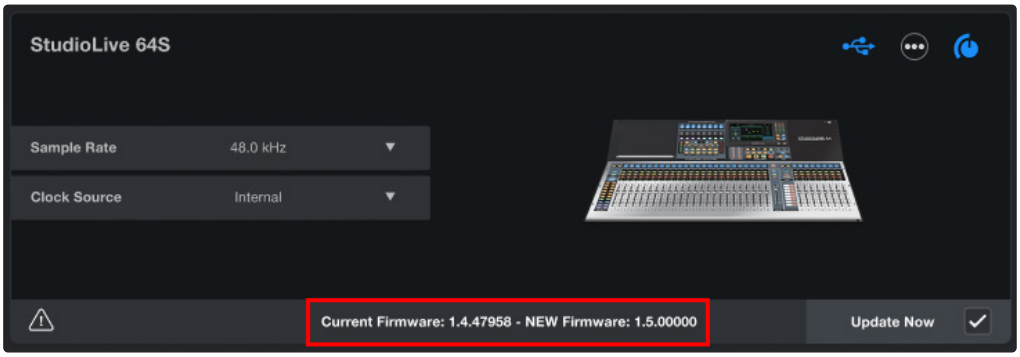


3. After this process is complete, checkboxes will appear next to the devices that have firmware updates available:



- The Firmware Update icon ⚠ indicates a new firmware update is available.
- The batch select checkbox will not be displayed if a single StudioLive Series III product is the only hardware connected to Universal Control; in this case, just the "Update Now" button will be on the Product Card.

4. Once a checkbox is selected, the "Firmware Updates Available" message will change to: "Current Firmware: X.x.x | New Firmware: X.x.x." If a firmware file has been selected while offline, this box will be checked by default:

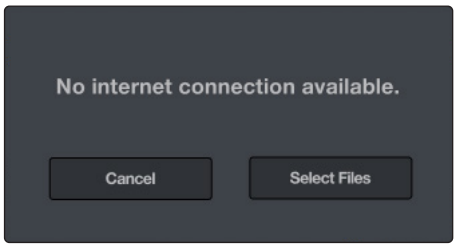


5. Click the "Update All" button if you would like to automatically update all the devices that have new firmware updates available.

4.2.1 Updating Firmware Offline (No Internet Available)

If no Internet connection is available, you will receive the following message: "No Internet connection available."

In this case, you will need to visit My.PreSonus.com and log into your MyPreSonus account on a computer that is connected to the Internet and download the firmware files to an external storage device. Once the files have been manually transferred to the computer connected to your StudioLive ecosystem products, you can proceed with the firmware update process as described below.



Within the popup window, you can pick from the following options:

- **Cancel.** Cancels the update and returns Universal Control to normal operation.
- **Select Files.** Selecting this option opens a file browser. Multiple firmware files can be selected, but only one firmware file for each model type can be chosen. If more than one firmware file is available in the chosen location, you will be presented with a “Select All Available” option.

  Note: *If duplicate files for the same product model are available, you will be prompted to select the desired file.*

After firmware is selected, you’ll be presented with the following options:

- **Update.** Initiates the firmware update download. By default, any product with a firmware file selected will auto-select in the next step. You can manually deselect files before updating, if desired.
- **Cancel.** Cancels the update and returns Universal Control to normal operation.

5 Offline Editor

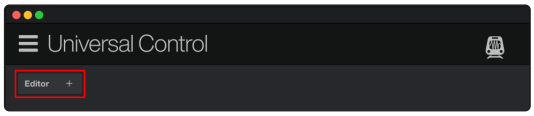
The Offline Editor allows you to create and edit projects when not in front of your mixer! With the Offline Editor, you have full access to routing, mixing, and creating projects/scenes from Universal Control without requiring connection from your computer to your mixer (either wired or wireless). This will usually include setting up channel names and routing, but it may also include changes to processing.

This feature proves especially helpful for sound engineers who'd like to set up a scene before arriving at the venue. Alternatively, the Offline Editor is also helpful for Engineers who need to make changes based on observations from a previous performance. Being able to pull up a scene when not connected to the mixer saves a lot of time and effort, allowing you to make improvements any time, whether at home, on a bus, or in a hotel.

The following sections detail how to access and use the StudioLive Offline Editor.

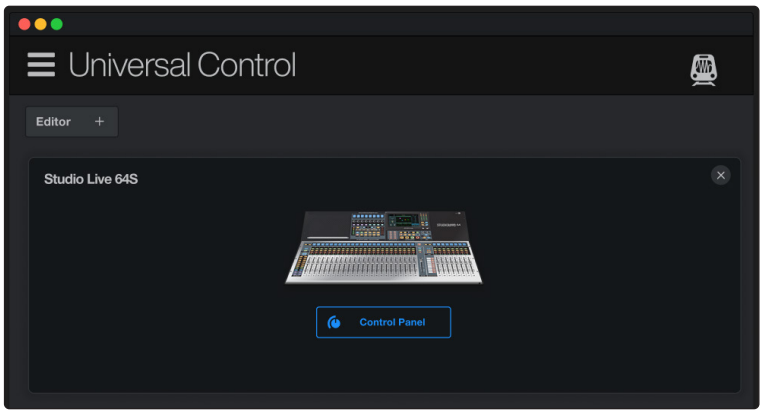
5.1 Opening the StudioLive Offline Editor

From the Universal Control launch window, click on the "Editor" button to access the Editor menu:



From the Offline Editor context menu, choose your model of StudioLIve Series III mixer.

After selection, the UC Launch Window will display a virtual instance of the selected mixer with a product card that denotes it is a virtual offline instance:



Clicking on the virtual mixer product card will open the Universal Control Offline Editor window:

5.2 Using the StudioLive Offline Editor

Upon first opening the Offline Editor, Universal Control will display the default factory settings within the virtual mixer. This means that faders will initially be set at zero, effects will start out disabled, and channels will start off completely untouched.

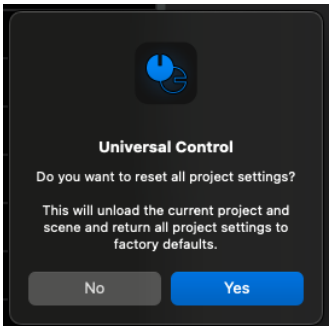
Please refer to the sections below for more information about saving, loading, and transferring scenes from the Offline Editor.

5.2.1 Saving and Loading with the Offline Editor

Although the mixer will be in a default state when you initially boot up the Offline Editor, subsequent launches of the same scene will open with the last state loaded (including fader position, chosen panning, etc.). You can reset the virtual mixer to the default state in the scenes page if desired, just as you would with a real mixer.

The process of saving and loading is exactly the same as discussed in ***Chapter 11***. When saved, your Project files will be saved to the same scenes library folder that is viewed on the local computer when connected to a mixer.

Note: *Pressing the mixer reset button and loading a Project for Scene, and closing the Universal Control Offline Editor control panel without first saving the current Project or Scene will trigger a warning dialog:*

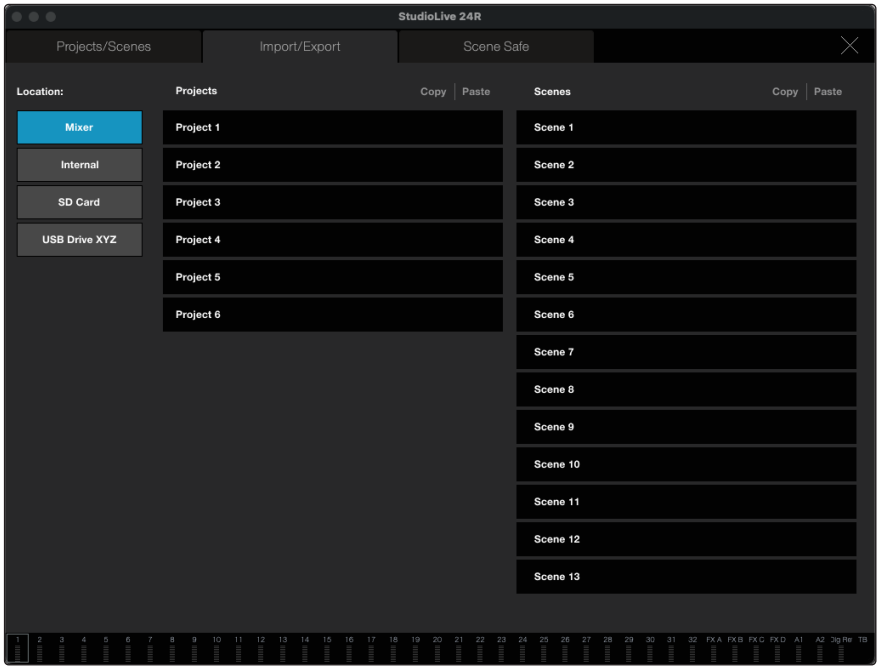


If you'd like to save your current Project/Scene, press "Cancel" and save as you normally would. Otherwise, press "Reset" if you'd like to leave the current Project/Scene without saving.

5.2.2 Transferring Scenes from One Project to Another

From the Transfer page, you have the ability to view all Scenes that are stored within a particular Project. You can transfer any Scene to a different Project.

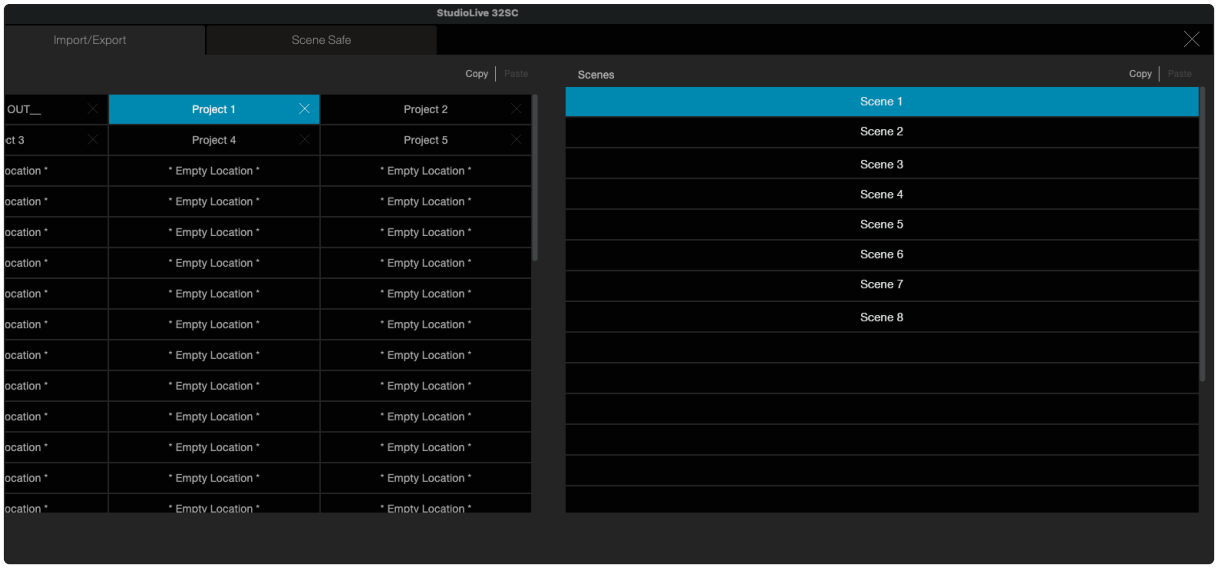
To do so, simply select the Scene you would like to transfer, press "Copy," click onto the Project folder you would like to paste the Scene into, and press "Paste."



Note: *You can only transfer Scenes from Projects stored locally on your computer to Projects stored on your mixer.*

5.2.3 Transferring StudioLive Series III projects via SD cards

Additionally, StudioLive Series III Projects and their included scenes can be transferred via SD cards while using the Universal Control (on or offline) or from the Scenes menu on your StudioLive console.



Transferring from the Mixer to an SD Card

1. To transfer a Project from one mixer to another, insert a formatted SD Card and launch the Scenes menu by pressing the Scenes button.
2. Tap on the Transfer Project tab.
3. Select the desired Project from the Mixer list on the left side of the screen.
4. Press the “>” button to save the Project on the SD Card.
5. You can also transfer every Project on the mixer to an SD Card by pressing the “>>” button.

Transferring from an SD Card to the Mixer

1. To transfer a saved Project from an SD Card, select the desired Project from the SD Card list on the right side of the screen.
2. Press the “<” button to save the Project on the mixer.
3. You can also transfer every Project on the SD Card by pressing the “<<” button.
4. *For more information about SD recording with your StudioLive mixer,* ***check out Chapter 14.***

6 Mix Controls

Universal Control provides a single window interface that allows you to quickly view every mix. The following section breaks the mixer window down per section.

6.1 Selecting Your Mix

The Mix Select buttons allow you to choose the mix you'd like to control (Auxes, Mains, Subgroups). In addition, Universal Control 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.

Flex Fader

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

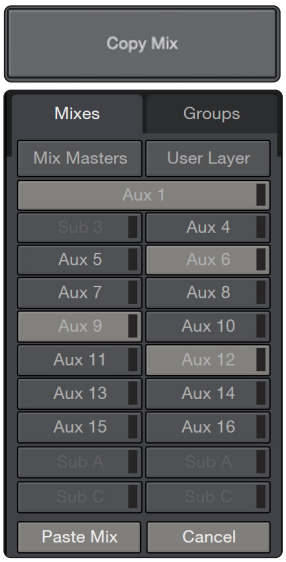
Main Fader

The fader(s) to the right of the Mix Select buttons always control(s) the Main mix level.

- **StudioLive 64S.** When connected to a StudioLive 64S, three faders will be visible. The Mono and Main faders control the output level of their respective buses, while the Master fader is a grouped level control for both.
- **StudioLive AI-series RM/RML.** When connected to StudioLive AI-series RM and RML mixers, a mono bus fader will also be visible.

6.2 Copy Mix

Copying the current mix allows you to quickly set up multiple mixes based on the settings you've already completed.



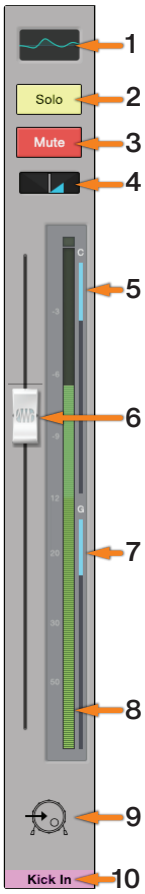
To copy a mix to any other mix, press the Copy Mix button.

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

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

6.3 Input Channel Controls

6.3.1 Channel Strip



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 **Chapter 7** 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.

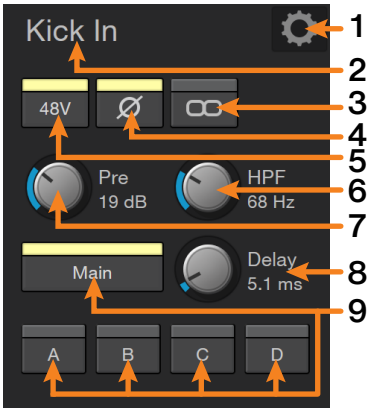
   ***Note:** This meter is not available for StudioLive AI-series console mixers.*
6. **Channel Fader.** Controls the Overall Level of the Channel. Unity gain (0 dB) is denoted by a "U."
7. **Gate Gain Reduction Meter.** This meter displays the amount of gain reduction being applied by the current gate setting.

   ***Note:** This meter is not available for StudioLive AI-series console mixers.*

   Level Meter. *Displays the prefader level of each channel.*
8. **Channel Icon.** Icons can be added to each channel to provide a quick visual cue of which instrument is associated with which channel. This is set from the Channel Settings window. *See **Section 6.3.3**.*
9. **Channel Name and Color.** Each channel can be given a custom name and custom color for its Select button. This is set from the Channel Settings window. *See **Section 6.3.3**.*

6.3.2 Channel Detail

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. ***See Section 6.3.3 for details***.
2. **Channel Name.** To give each channel a custom name, simply click on the default name to open a text field. Press the Tab key to move to the channel to the left.
3. **Link.** Enables/disables stereo link. When a pair of channels is stereo linked, a toggle control is provided to the left of the Channel Settings button so that you can toggle between the left and right channel to access the preamp controls for each.

4. **Polarity.** This button will illuminate when polarity is inverted on the current channel.

   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.*
5. **Phantom Power.** Enables/disables phantom power for the currently selected channel.
6. **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.*
7. **Mic Preamp Trim.** A trim control is provided for all input channels to adjust the gain of your digitally controlled XMAX preamps.

   Note: *This control is not available for StudioLive AI-series console mixers as these mixers are not equipped with digitally recallable mic preamps.*
8. **Input Delay (StudioLive Series III mixers only).** Sets the alignment delay for the currently selected channel. For more information on using an Input Delay, ***please review the StudioLive Series III Owners Manual***.
9. **Fixed Bus Assigns.** Use these buttons to assign the current channel to the fixed buses on your StudioLive Mixer as follows:
   - **StudioLive 64S:** Main Mono/Center
   - **StudioLive Series III mixers (32-channel models):** Main Mix, Subgroups A-D
   - **StudioLive AI-series consoles:** Main Mix, Subgroups 1-4
   - **StudioLive AI-series RM/RML mixers:** Main Mix, Mono

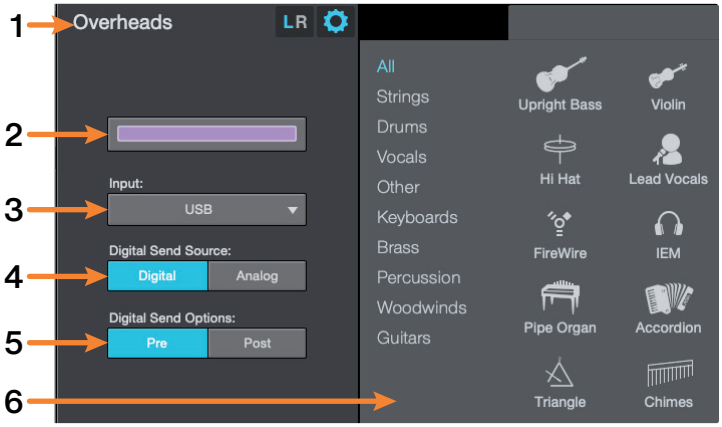
   Please see ***Section 6.4.2*** *for channel routing to a FlexMix subgroup.*

   Note: *StudioLive RM-series and Series III mixers offer flexible mix functionality that allows you to make any FlexMix function as an aux bus or subgroup.*

6.3.3 Channel Settings

When a channel is selected, the Settings icon for that channel is visible in the left side of the Fat Channel.Press this button to access key channel settings. To return to the channel input controls, simply press the button again.

While active, the following controls will be available at the far left of the Fat Channel:



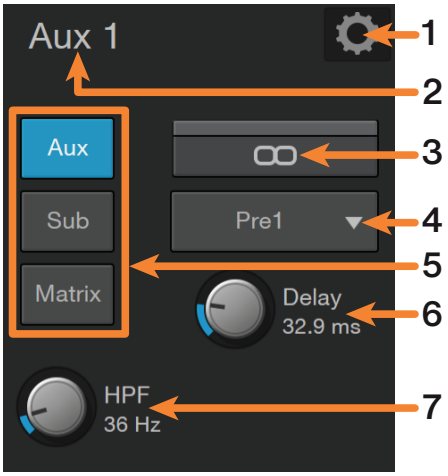
1. **Channel Name.** Click or touch to edit the channel name.
2. **Color.** Click or touch to set a custom color for the current channel.

   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.). You can choose to color the entire channel strip or just the channel name. See* ***Section 13.2*** *for details.*
3. **Input Source.** This drop-down menu allows you to select the source for the current channel. The following options are available:
   - **StudioLive Series III:** Analog, Network, USB, or SD Card
   - **StudioLive AI consoles:** Analog or FireWire
   - **StudioLive RM-series:** Analog, FireWire, or Network
4. **Set Pre- / Post-Processing Send.** Select Pre- or Post-Fat Channel processing for digital sends for each channel.
5. **Digital Send Source (StudioLive Series III only).** This allows you to select source input of the digital send for each channel.
6. **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 6.5*** *for details).*

6.4 Mix Detail

6.4.1 Aux and Matrix Mix Detail

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



1. **Mix Settings.** Opens the Mix Settings View.
2. **Mix Name.** To give each mix a custom name, simply click on the default name to open a text field. Press TAB to advance to the next mix.

3. **Stereo Link.** Creates a stereo bus with the adjacent FlexMix. Like channels, mixes can only be linked in odd/even pairs.
4. **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:

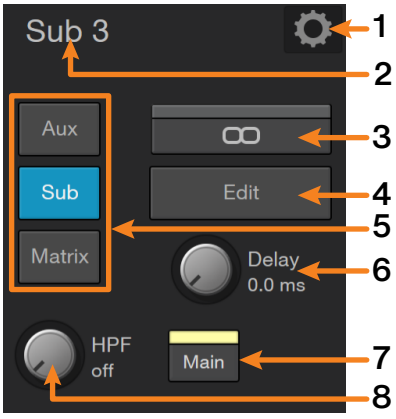
   - **Pre 1:** Sends each channel to the aux bus after the polarity invert, high-pass filter, and gate.
   - **Pre 2:** Sends each channel to the aux bus after all Fat Channel processing (polarity invert, high-pass filter, gate, compressor, EQ, and limiter) but before the fader.
   - **Post:** Sends each 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.*
5. **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 6.4.2*** *for information on routing channels to FlexMix subgroups.*
6. ***Output Delay (StudioLive Series III only).*** Sets the alignment delay for the current FlexMix. For more information on using output delays, ***please review the StudioLive Series III Owners Manual.***
7. **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*

6.4.2 Subgroup Mix Detail

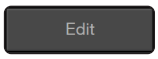
When a FlexMix is selected and configured as a Subgroup, the following controls will be available at the far left of the Fat Channel:



1. **Mix Settings.** Opens Mix Settings view.
2. **Mix Name.** Click or tap on the default name to open a text field to customize the mix name.
3. **Stereo Link.** Click or tap to create a stereo subgroup with the adjacent FlexMix.
4. **Subgroup Edit.** Click or tap to add or remove channels from the subgroup.
5. **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.
6. **Output Delay (StudioLive Series III only).** Sets the alignment delay for the current FlexMix. For more information on using output delays, ***please review the StudioLive Series III Owners Manual.***
7. **Route to Main.** Click or tap to route the subgroup to the Main bus. StudioLive 64S users will also find a Mono assign for the Mono/Center 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.

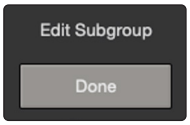
   Power User Tip: *A high-pass filter attenuates all frequencies below the set threshold. Use the Fat Channel high-pass filter to remove unwanted low frequencies from your source signal, rather than trying to EQ them out*



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 on the channels you would like assigned to the subgroup. The channel will highlight as it is selected, indicating that it has been routed to the subgroup.

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



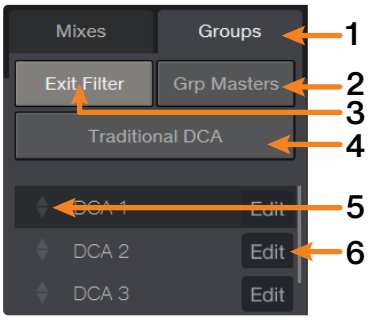
6.5 Filter DCAs

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 up to 24 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. **Traditional DCA.** When controlling the master level of a DCA Group, the faders for the channels assigned to that group will move to more accurately provide a visual indication of the actual level of each channel in the group. This feature can be defeated by enabling "Traditional DCA" mode. When Traditional DCA mode is active, moving the master fader will not cause the faders in the group to move, allowing you to maintain a clear visual indication of the relative mix levels.
5. **Reorder.** Moves Filter DCA up or down in the list.
6. **Edit Filter DCA.** Opens Edit mode options (Rename, Add/Remove Channels, Delete).

6.5.1 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, Universal Control 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.
- **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.

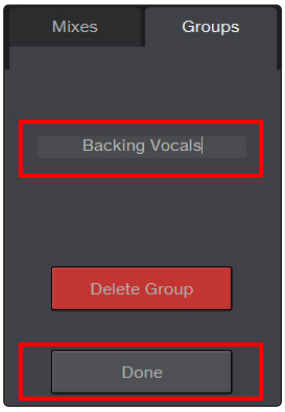
To create a new Filter DCA group:

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

2. Select the Filter DCA you would like use and then click/tap the Edit button to enter Edit mode. From here you can add and remove channels as necessary.

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.

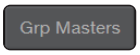
Editing and Deleting Filter DCAs

Filter DCAs can be edited or deleted at any time by clicking or tapping the Edit (#6) 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.

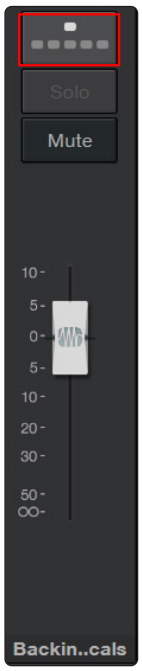
6.5.2 Group Masters



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.

7 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:

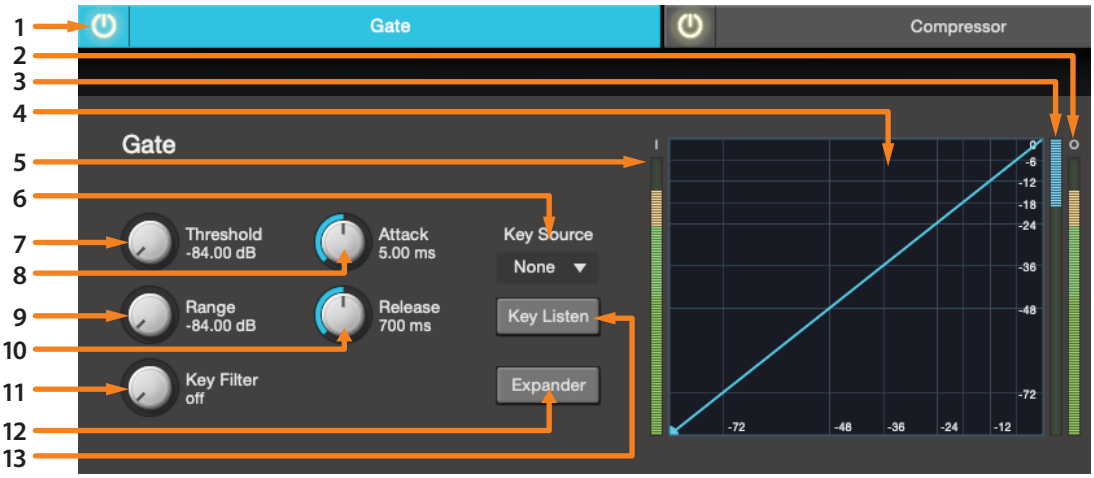
Note: *For StudioLive AI-series mixers, when HD mode (88.2 or 96 kHz sample rate) is active, Fat Channel processing is disabled on all output buses.*

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.*

7.1 Noise Gate

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



Note: *The Noise Gate is available on the input channels only.*

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 (#7).
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 -84 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 0.02 to 500 ms.
9. **Gate Range.** Sets the amount of gain reduction that the gate will produce. The range can be set from 0 to -84 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.
11. **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.*
12. **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.*
13. **Key Listen.** Enable to listen to the signal being used to trigger the gate.

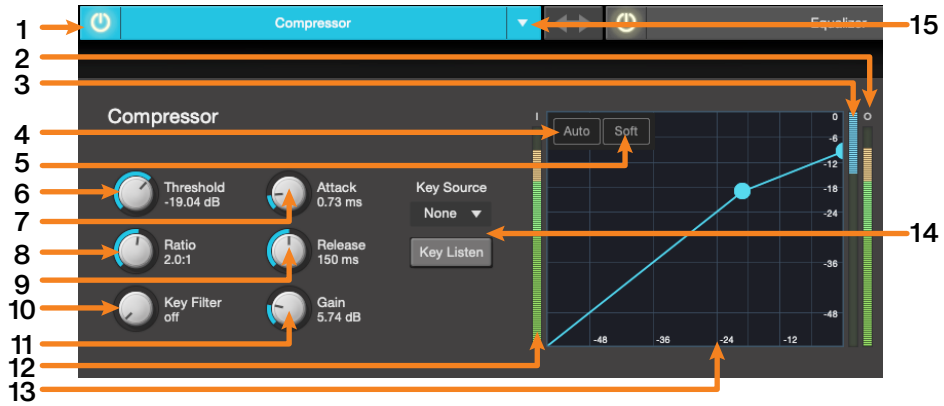
7.1.1 Key Filter Sidechaining

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.

7.2 Compressor

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



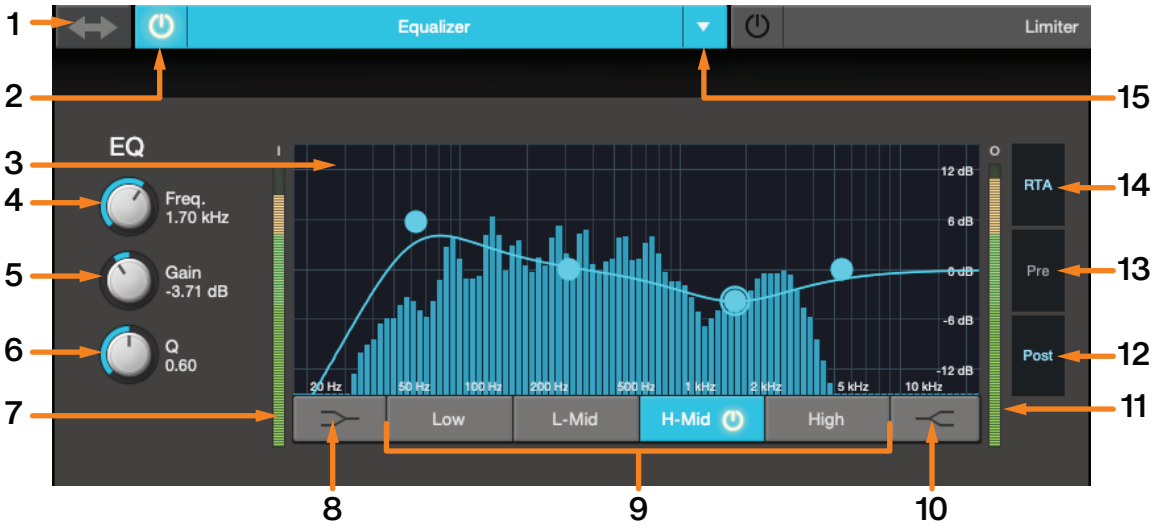
1. **Compressor On/Off.** Turns the Compressor On and Off for the selected channel.
2. **Output Meter (Series III only).** Displays the post-Compressor output signal.
3. **Gain Reduction Meter (Series III only).** Displays the amount of gain reduction being applied to the signal by the compressor.
4. **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 16.8.1 and finally Limiter.
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 2.5 to 900 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. **Key Filter.** Sets the frequency at which the compressor will engage. The compressor will still process the entire frequency range, but it is only engaged when the specified frequency is present.
11. **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.
12. **Input Meter (Series III only).** Displays the input signal to the compressor.
13. **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 (#6).
14. **Key Source (Series III only) and Key Listen.** Sets the Key Source for the Compressor and allows you to monitor it.
15. **Compressor Type (Series III only).** This drop-down menu allows you to select the compressor type for the current channel.

7.3 Equalizer

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



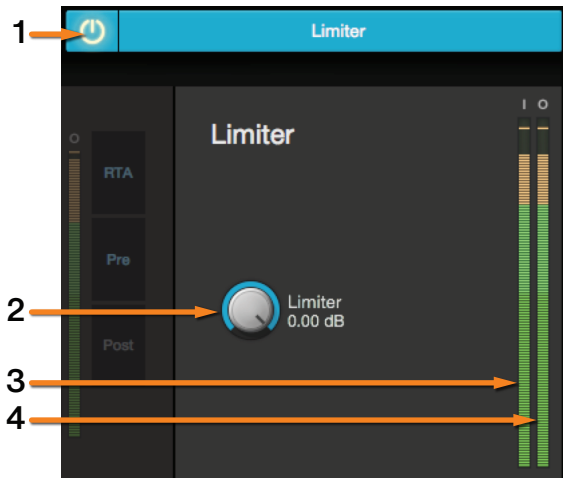
1. **EQ > Compressor.** This button moves the EQ before the Compressor.
2. **Equalizer On/Off.** Turns the EQ on or off for the selected channel.
3. **EQ Graph.** This graph shows overall EQ curve.
4. **EQ Frequency.** Adjusts the center frequency of each band.
5. **EQ Gain.** Sets level of the center 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 8.1*** *for more information.*
15. **EQ Type (Series III only).** This drop down menu allows you to select the EQ type for the current channel.

7.4 Limiter

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



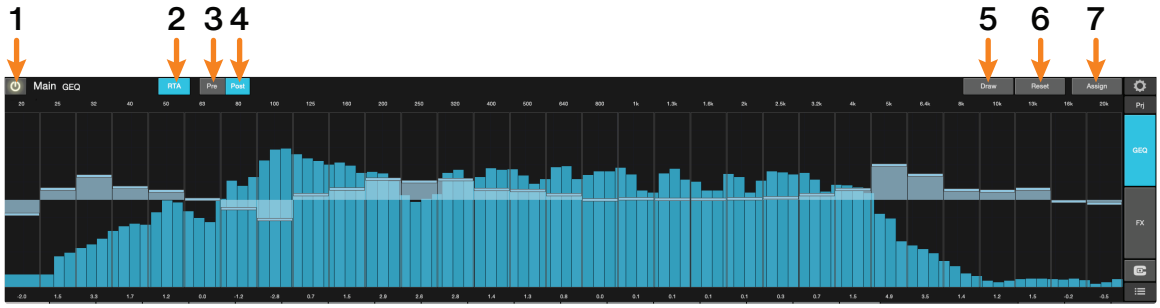
1. **Limiter On/Off.** Turns on the limiter for the selected input channel. The ratio is ∞:1.
2. **Limiter Threshold.** Sets the threshold of the limiter for the selected channel. When the signal's amplitude (level) exceeds the threshold setting, the limiter is engaged. The threshold can be set from -28 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.

8 Graphic EQ

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

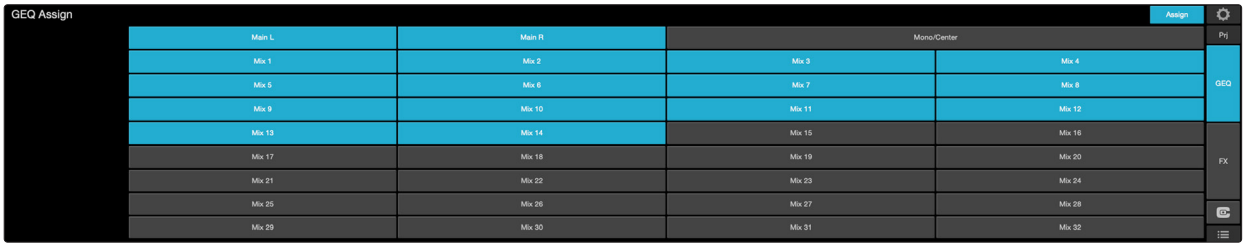
- StudioLive Series III mixers provide eight graphic EQs that can be assigned to any output bus.
- StudioLive AI-series RM/RML mixers provide a graphic EQ for the Main bus and the first 14 aux buses.
- StudioLive AI-series console mixers provide a graphic EQ for every aux bus plus the mains.

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. Universal Control 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.** 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: *Smaart Spectra Tools are available for StudioLive AI-series mixers from with the Graphic EQ. See* ***Section 5.1*** *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.

8.1 Enabling Smaart Analysis (StudioLive AI-series only)

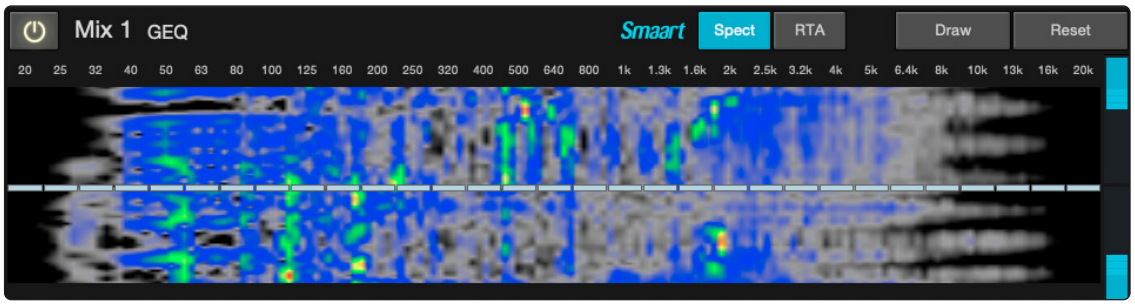
Both the GEQ and Fat Channel EQ provide Smaart Spectra™ analysis when connected to a StudioLive AI-series mixer. Smaart Spectra was developed by Rational Acoustics to power Smaart's Spectrum Measurement Engines and includes an RTA and a spectrograph.

By default, Smaart® analysis is disabled. While Smaart 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 Smaart, and Universal Control will take control over these FireWire auxiliary inputs.

Note: Smaart 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. Universal Control's integrated Smaart modules do not support StudioLive Series III consoles.

8.1.1 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.

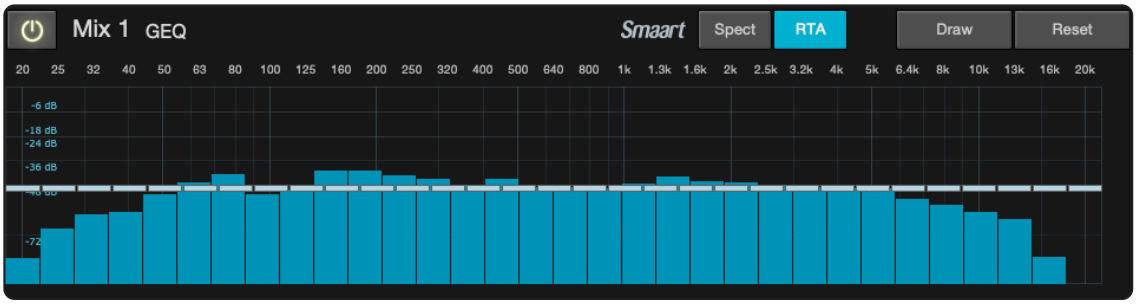
Many audio signals that are encountered in the field are highly dynamic. Musical signals, speech, and even environmental noise contain significant changes in spectral content as a function of time. The spectrograph can be thought of as a record of multiple RTA measurements taken over time, with color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

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

8.1.2 RTA



Clicking on the RTA button (from the Fat Channel EQ or GEQ tab) will launch a real-time analyzer in which x = frequency and y = 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.

8.2 Using the Smaart 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 lavaliere 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.

8.3 Using the RTA While Mixing

The RTA provides a view of amplitude and frequency content over a specified plane. 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 it a secret weapon for many mix engineers.

Because the RTA is analyzing the channel or 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.

Power User Tip: *The RTA can be useful in understanding what the frequency content of an instrument when creating space for it in a mix. 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. It should be noted, however, that an RTA cannot be used as a substitute for careful listening. While this tool provides a great visual analysis of your mix, critical listening must always be your main guide.*

9 Adding Effects

Your StudioLive mixer is equipped with multiple FLEX FX internal effects processors each with a dedicated mix bus.

- StudioLive Series III 32-channel mixers have four freely assignable processors.
- StudioLive 64S mixers are equipped with eight freely assignable processors.
- StudioLive AI-series mixers have two processors dedicated for reverb effects and two more dedicated for delay effects.
- Regardless of model, the effects returns for any effect bus can be routed to any mix bus.

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.

9.1 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.

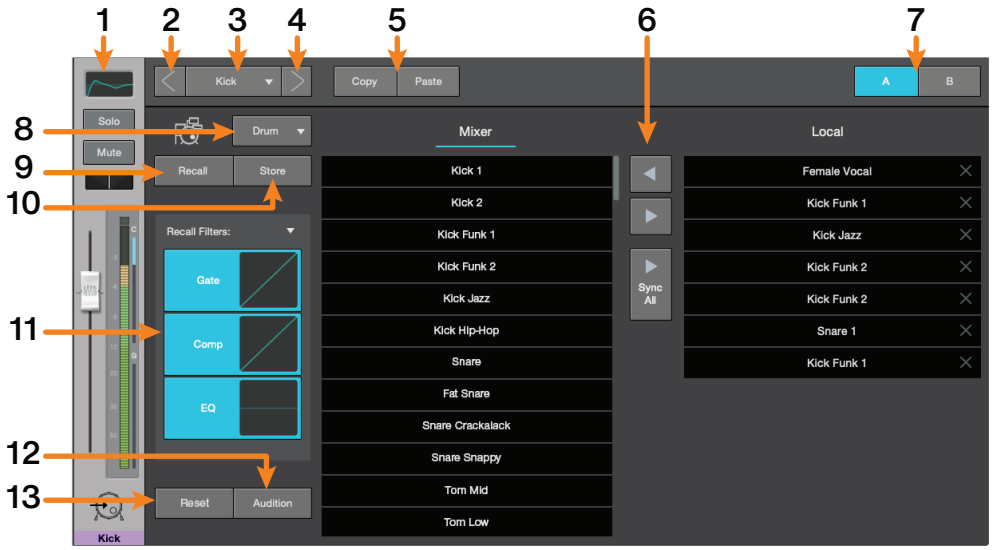
This will open the effects editor. From here, you can change the effects type, adjust parameters, and load presets.

10 Presets

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

10.1 Fat Channel Presets

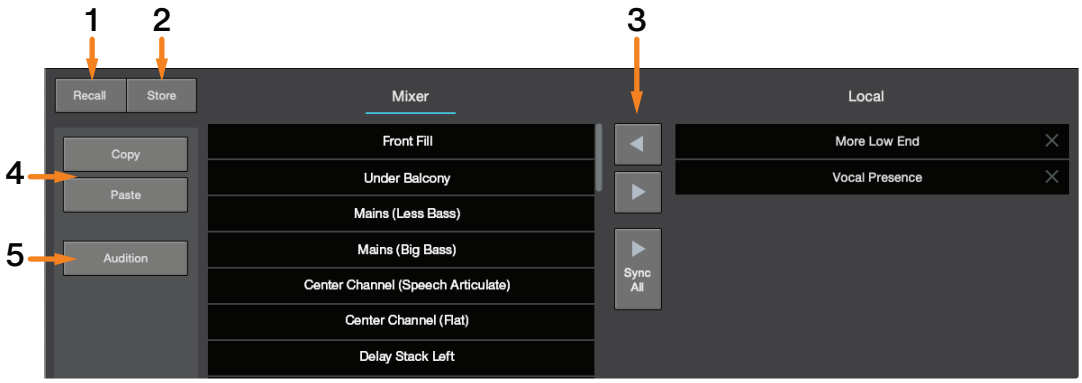
While the Fat Channel is active, this button launches the Fat Channel presets menu. To close the menu and reopen the mixer view, simply click the button again.



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 Universal Control and presets stored locally on the mixer. *See **Section 10.4** 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.

10.2 GEQ Presets

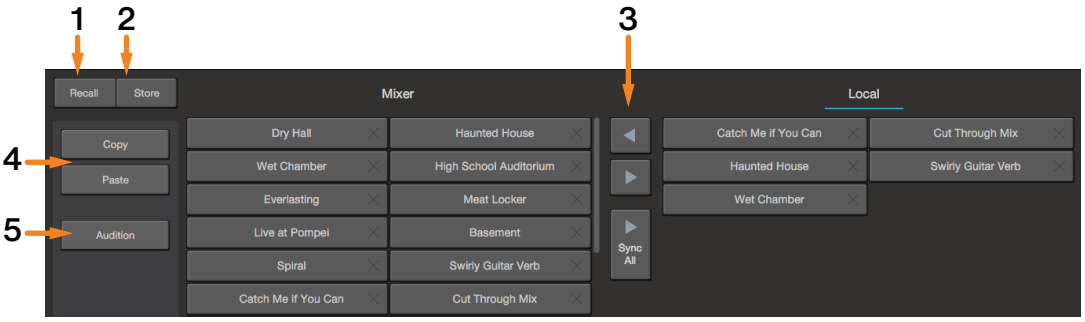
While the GEQ View button is active, the Preset button launches the GEQ Presets menu. To close the menu and reopen the mixer view, simply click the button again.



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 Universal Control and presets stored locally on the mixer. *See **Section 10.4** 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.

10.3 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 Universal Control and presets stored locally on the mixer. *See **Section 10.4** 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.

10.4 Preset Management

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

Syncing the Mixer Library

Presets stored in the mixer library can be copied to the device running Universal Control either individually or you can sync the entire preset library.

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

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

Note: *Dragging and dropping a preset allows you to overwrite currently used library slots, so be careful where you drop it!*

You can also use the Transfer buttons to transfer one preset to and from the Mixer and Local libraries. When transferring to the Mixer library, the preset will be moved to the first available Empty Location.

11 Projects and Scenes

Every parameter on your StudioLive mixer can be stored and recalled later. Global settings, like FlexMix modes, Talkback assignments, and all the routing set in the Digital Patching menu in addition to System settings like Sample Rate, Network Settings, and Cue Source are stored within **Projects.**

Because fundamental routing and bus structure is being changed when a Project is recalled, the load time for Projects is slightly longer than loading a Scene or Preset. It is recommended that Projects are not loaded during a performance or other live application.

All other mixer settings like Channel Strip parameters, Fat Channel models and settings, and Channel Identifiers like name, color, and type are stored inside of **Scenes.**

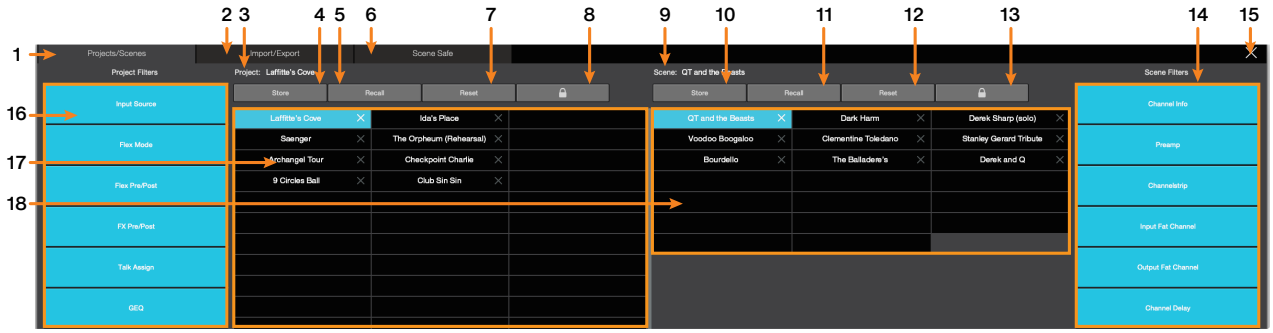
Scenes that share the same Global System settings should be stored within the same Project. Many Scenes can be stored within each Project but scenes created in one Project cannot be recalled in any other Project.

Note: *Only StudioLive Series III mixers v. 2.0 firmware and higher offer this functionality. StudioLive AI-series mixers employ a traditional Scene. See* ***Section 11.2*** *for more information.*

11.1 Project and Scene Management (StudioLive Series III)

To access your Project and Scene Libraries, press the 'Prj' button.

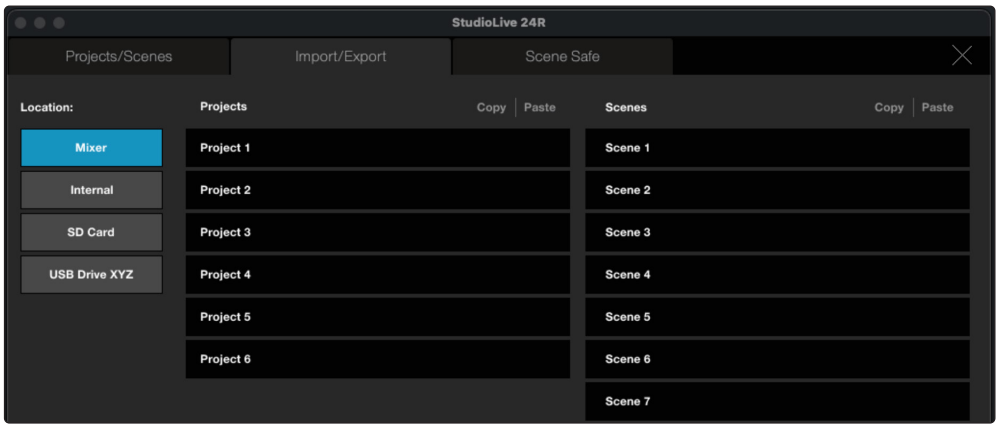
The controls on the left side of the screen save and load Projects as well as resets the default routing of your mixer. The controls on the right side on the screen save and load Scenes within the current Project, as well as resets the default state of every currently recallable parameter.



1. **Project / Scene Manager Tab.** Click / Tap to view, store, and load Projects and Scenes on your mixer's local memory.
2. **Import/Export Tab.** Click / Tap to transfer Project and Scenes between you mixer memory and the device running this instance of Universal Control.
3. **Currently Loaded Project.** Displays the name of the Project file that is currently loaded on your StudioLive mixer.
4. **Store Project.** Click / Tap to store your current global settings as a new Project or to update an existing Project file.
5. **Recall Project.** Click / Tap to load the currently highlighted Project file. *Note that because Projects are altering parameters of global functions, they take slightly longer to load. Because of this PreSonus recommends loading Projects prior before mixing a session live.*
6. **Scene Safe Tab.** Click / Tap to select channels that will not be effected by a Scene recall.
7. **Reset to Default.** Click / Tap to reset all global parameters to their factory default. This includes all digital patching and FlexMix modes.
8. **Lock Project.** Click / Tap to lock the currently selected Project library slot. This will prevent the file from being overwritten. When this is enabled, no new data can be stored to this location until it is unlocked.
9. **Currently Loaded Scene.** Displays the name of the Scene file that is currently loaded on your StudioLive mixer.
10. **Store Scene.** Click / Tap to store your correct mix settings as a new Scene within the current Project or to update an existing Scene file.
11. **Recall Scene.** Click / Tap to load the currently highlighted Scene file.
12. **Reset to Default.** Click / Tap to reset all mix parameters to their factory default. This will not reset Global parameters like digital patching and FlexMix modes.

13. **Lock Scene.** Click / Tap to lock the currently selected Scene library slot. This will prevent the file from being overwritten. When this is enabled, no new data can be stored to this location until it is unlocked.
14. **Scene Filters.** When recalling a Scene, you can choose to omit certain sets of parameters. When a filter is blue, the parameter set will be recalled. When grey, the parameter set will be omitted from the recall and these settings will remain unchanged.
15. **Close Project/Scene Menu.** Click / Tap to the 'X' to exit and return to the mix view in Universal Control.
16. **Project Filters.** When recalling a Project, you can choose to omit certain sets of parameters. When a filter is blue, the parameter set will be recalled. When grey, the parameter set will be omitted from the recall and these settings will remain unchanged.
17. **Project Library.** Every Project stored locally on your StudioLive mixer will be displayed here.
18. **Scene Library.** Every Scene stored within the currently loaded Project will be displayed here.

11.1.1 Import/Export: Scene and Project Transfer



Projects and Scenes can be stored locally on your StudioLive mixer or locally on your computer and copied between the two. New in Universal Control 4.5 and later, Scenes can also be transferred between Projects.

Location

To the left of the screen, you will find the Location list, from here, you can select between the Mixer, Local device storage, or select an external device from which to load your Projects. Once a Location is selected, only the Projects and their associated Scenes that are stored in that location will be shown. For example, if Mixer is selected, the Projects and Scenes displayed will be those that are stored in the connected Mixer's library.

Copying Projects to a New Location

1. To copy a Project from one location to another, select it from the Project list.
2. Press the Copy button at the top of the Project list.
3. Navigate to the desired location and select the slot to which you'd like to copy the Project.
4. Press the Paste button.

Copying Scenes to another Project

New in Universal Control 4.5 and later, Scenes created in one Project can be copied into another Project. This is especially useful if you are creating a mix scene using the Offline Editor and do not have access to the main Project file for the mixer on which you'll be using it.

To copy a Scene to another Project:

1. Select the desired Scene from the list and press the Copy button above the Scene list
2. Select the destination Project from the Project list. If the destination Project is stored on a different location, navigate to the Location first and select the desired Project.
3. Select the desired Scene location within the Project
4. Press the Paste button

11.2 Mix Scenes (StudioLive AI-series)

Universal Control 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.

11.2.1 Quick Scenes

The Quick Scene buttons in the Scene view allow you to create a scene without storing it to the Scene Library, either on your mixer's memory or in Universal Control on your computer or mobile device and giving it a name. This is especially useful when mixing multiple bands that you might not ever mix again. Quick Scenes are stored in non-volatile memory and will be retained when your mixer is power cycled.

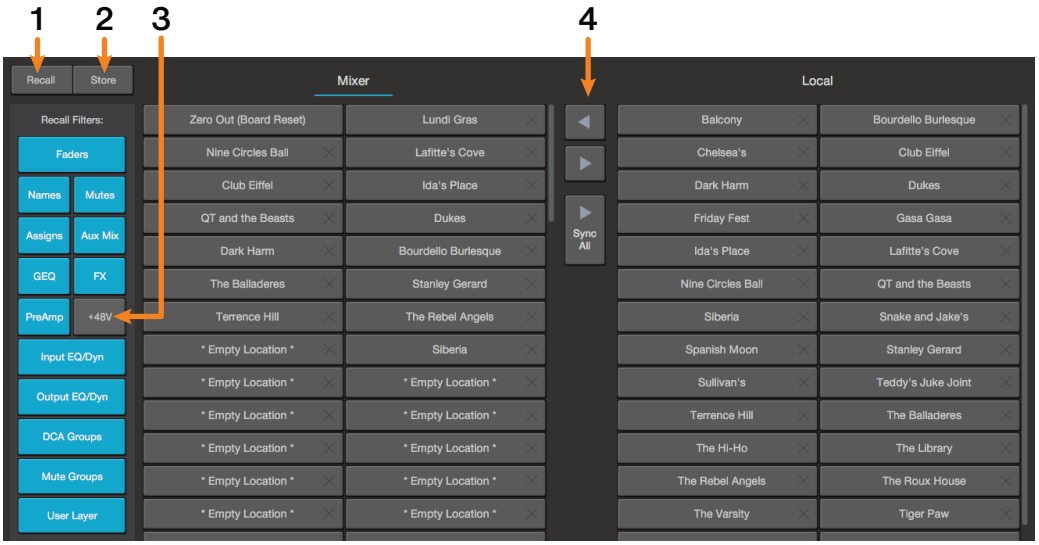
Universal Control provide the following Quick Scene controls:

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).

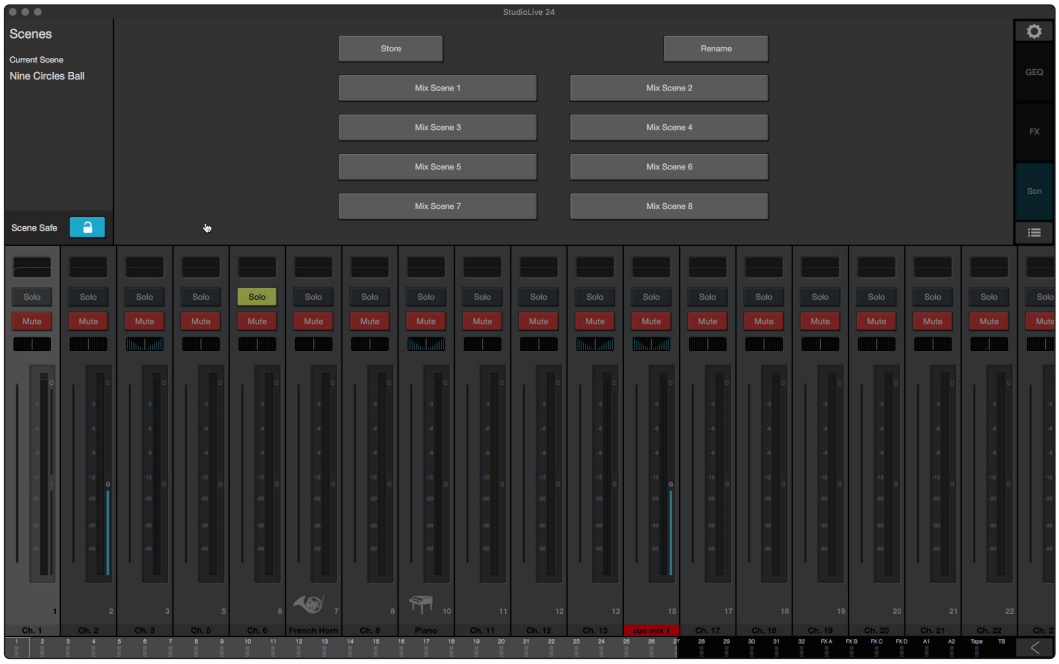
11.2.2 Scenes Library

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.

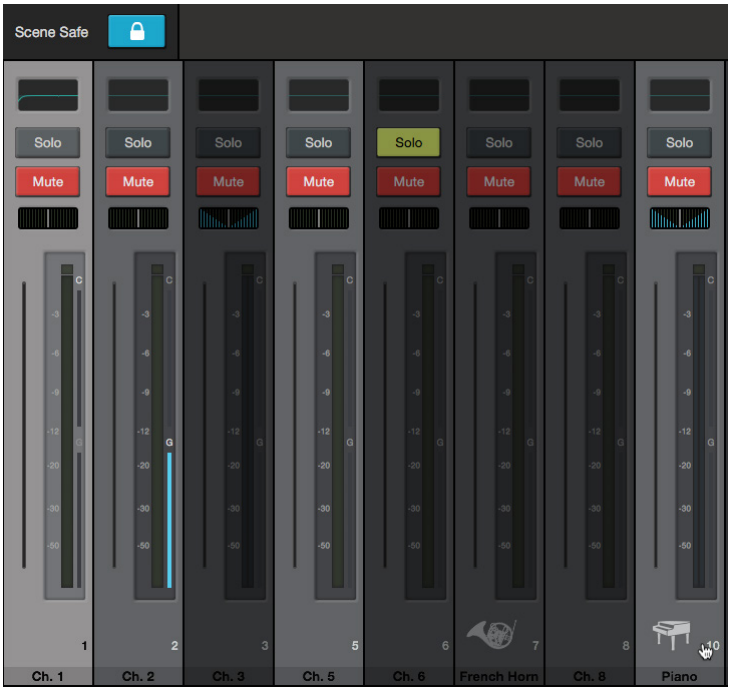


1. **Recall.** Click on this button to load the currently selected scene.
2. **Store.** Click on this button to create a new scene from the current mixer settings.
3. **Scene filters.** Universal Control mix scenes store the settings of the entire mixer. You can choose to load the entire scene or filter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

11.2.3 Scene Safe Edit



Engaging the Scene Safe Edit button allows you to disable recalling any scene parameters on specified channels.



To enable Scene Safe mode on any channel, simply click on it while Scene Safe Edit is engaged. Once selected, a channel will always be omitted while recalling any mix scene.

12 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.

12.1 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.

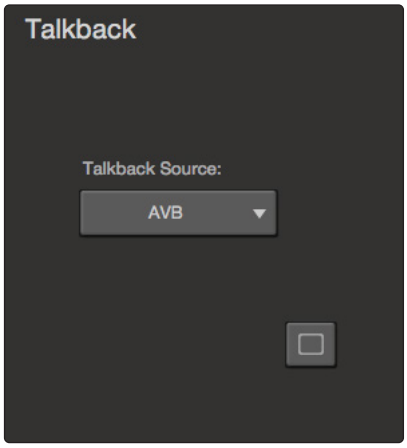
Click on the Talkback button to enable the Talk function on your StudioLive mixer.

12.1.1 Talkback Destination

To select the destination for your Talkback routing, click or tap the Talk Assign button, then click or tap on 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 to which the Talkback has been routed will turn red to indicate that Talkback is active.

12.1.2 Talkback Source (StudioLive Rack Mixers)

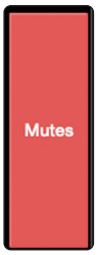


Any channel on your StudioLive rack mixer can be designated as the talkback source. To select a talkback source, select the talkback channel in any mix.

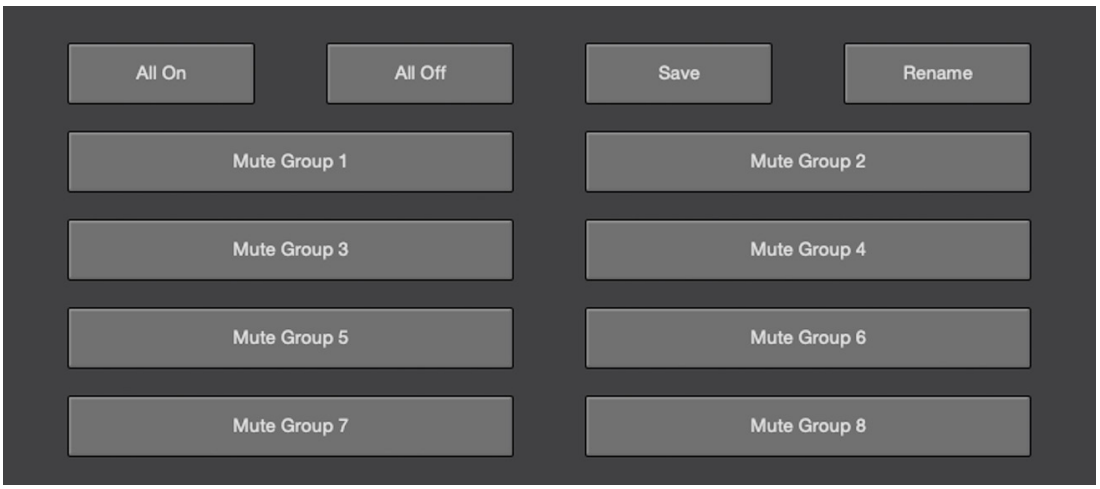
You will be able to select the input you'd like to use, control the preamp level, and enable phantom power. If your mixer is connected via AVB to a StudioLive console mixer, you can also choose the console mixer's dedicated talkback input by selecting "AVB" from this menu.

12.2 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 Universal Control, 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.



Universal Control 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.*

12.3 FX Mutes

You can mute your FX buses one of two ways: Globally or Individually. To mute every FX bus simultaneously, click or tap on the Mute All FX button.

To mute FX buses individually, click or tap on the FX Mutes button. This will display individual mutes for each bus.

12.4 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 Universal Control, the main mix you see in Universal Control 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 Universal Control. 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.

13 The Settings Page

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

- Customize the look and feel of Universal Control
- Configure your control network settings
- Connect to EarMix 16M Personal Monitor Mixers and NSB-series Stage Boxes
- Route audio to and from the AVB Network
- Patch any input or bus to any channel or output
- Create User Profiles and customize device permissions
- Authorize additional Fat Channel plug-ins
- Back up your entire mixer

StudioLive AI-series mixers will find network customization and device permission options as well as access to FireWire Aux Inputs routing and the Smaart Wizards.

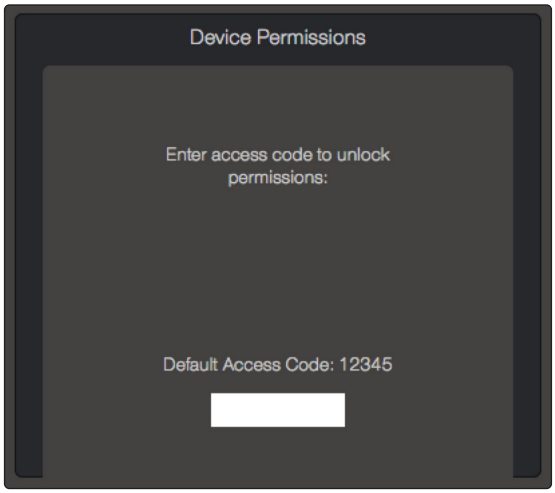
To open the Configuration Settings page, click on the Settings button in the upper right hand corner of Universal Control.

13.1 Device Settings

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

13.1.1 Device Permissions

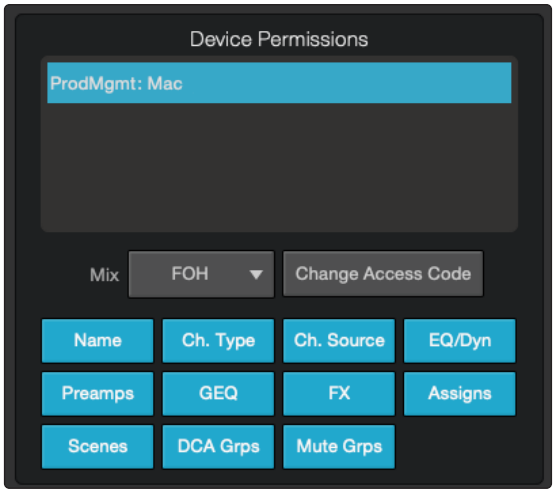
Controlling your StudioLive remotely with Universal Control or QMix-UC for mobile devices allows you to move about the venue freely. However, it can also put the full power of the StudioLive in multiple hands—some more adept than others. Therefore, your StudioLive enables you to limit each wireless device's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



Once a device is connected to your wireless network and has launched Universal Control 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 the QMix-UC Reference Manual.***

Universal Control Permssions



When setting permissions for Universal Control 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 device will be configured as front-of-house (FOH), and the others will be configured as aux mixes.

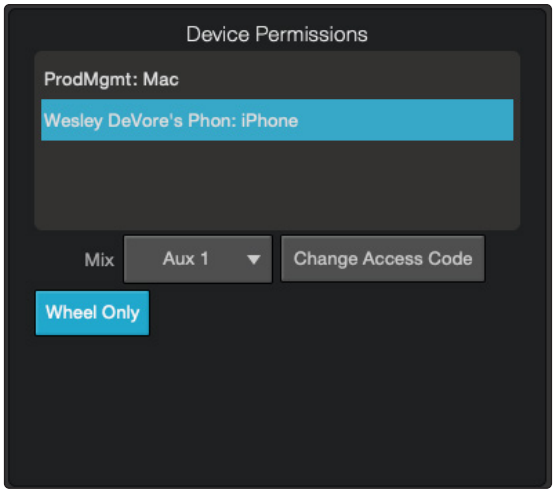
- **None.** The selected device will not be able to control your StudioLive mixer.
- **FOH.** Enables all Universal Control functions for the selected device.
- **All Auxes.** The selected device will only control the channel send levels for all aux mixes.
- **Aux 1...** Universal Control will only control the channel send levels for the specified aux mix.

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

- **Other Permissions.** Use these buttons to enable access the stated set of parameters regardless of the Mix Permission mode you have selected for this device. This allows you further customize the level of control you grant to each user.

  Note: *This features is only available on StudioLive Series III mixers.*

QMix-UC Permissions



When setting permissions for QMix-UC users, you will choose between providing full access to all aux mixes and providing access to only a single aux mix.

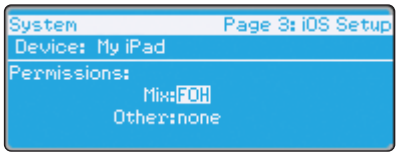
- **None.** The selected device will not be able to control your StudioLive mixer.
- **All Auxes.** QMix-UC will control the channel send levels for all aux mixes.
- **Aux 1...** QMix-UC will only control the channel send levels for the specified aux mix.
  - When a user has access to a single aux mix, you also have the option to limit control to the Wheel of Me only. 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 page on the aux to which you've provided access. *See the* ***QMix-UC Reference Manual*** *for more information on the Wheel of Me and Aux Mix pages.*

Change Access Code

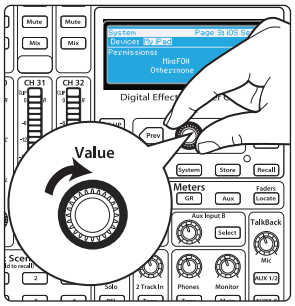
This button allows you to set a custom access code for each Universal Control device so that once permissions have been set, they cannot be changed locally on the device without the correct access code. By default, the access code is 12345.

13.1.2 Setting Permission on StudioLive AI-Series Consoles

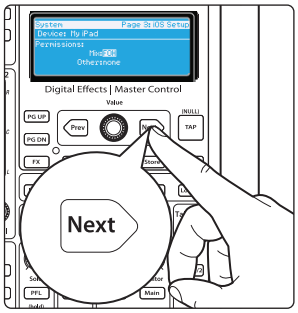
Permissions for Universal Control can also be set from your StudioLive AI-series console mixer. Once a tablet is connected to your wireless network and has launched Universal Control, the device will be displayed in the Remote Devices list on the System Menu on your StudioLive. Each device will be listed using its device name so you can easily identify which device is which.



1. Press the System button on your StudioLive to launch the System menu and Page down to navigate to Page 3: iOS Setup.



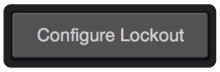
2. Use the Value encoder to scroll through the list of available iOS devices.



3. 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.

13.1.3 Configure Lockout (StudioLive AI Console Mixers)

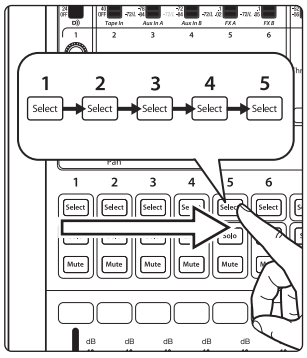
You can lock out the functions of your StudioLive AI-series mixer when you are away from it by creating a password.



1. To do this, you must click on the Configure Lockout button from the Settings page.
2. Enter the 5-digit numeric passcode you would like to use.
3. To make the mixer able to be locked, enable Device is Lockable.
4. Click Set Lockout save the passcode.

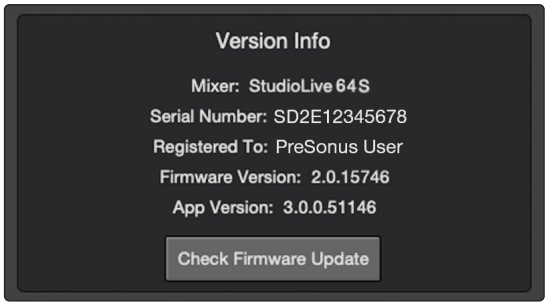
Locking Your Mixer

Once the passcode has been set, you can lock or unlock your mixer any time by navigating to Page 8 of the System menu on your mixer.



Press the Select buttons that correspond to the 5-digit code you saved. For example, if you set the passcode as 1-2-3-4-5, you would press the Select buttons for Channels 1-5 respectively.

13.1.4 Firmware



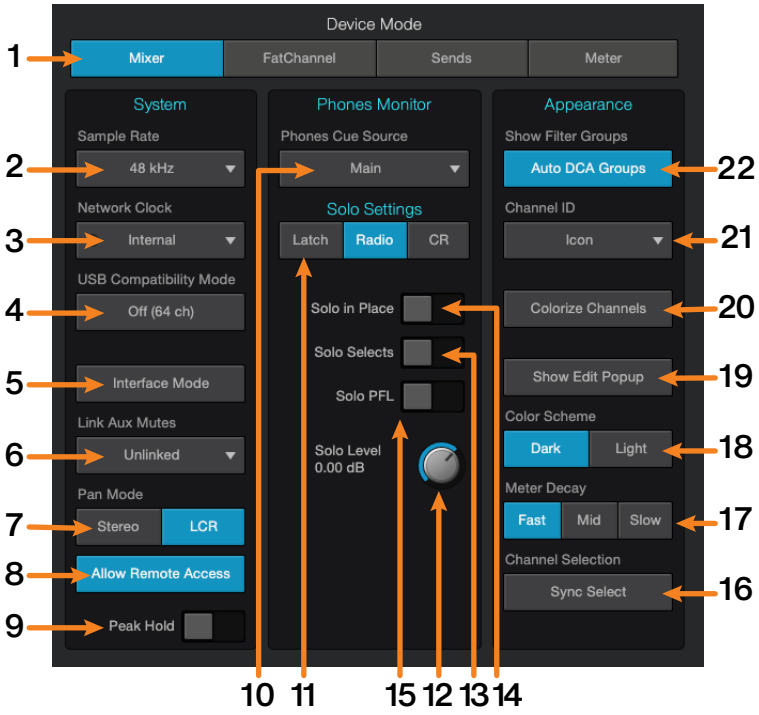
Universal Control allows you to view the currently installed firmware version on your StudioLive mixer as well as the version of Universal Control you are running.

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

13.2 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 Universal Control. This section will describe the functions available for each mixer type.

13.2.1 StudioLive Series III Mixers



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

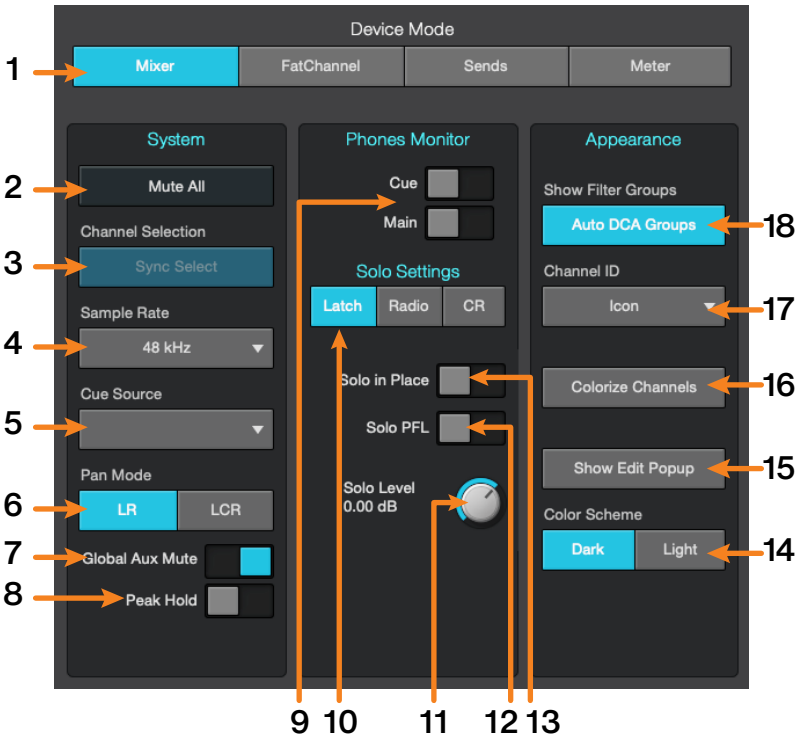
- **Fat Channel.** Fat Channel Display mode is designed to function as a second screen for your mixer. In this display mode, all the Fat Channel features for each channel will be displayed rather than every function on the mixer. You can select a different channel to view either from your mixer or from the meter bridge in Universal Control.
- **Sends.** Aux Sends mode provides two display options. While on inputs, Universal Control will display all the bus sends for the selected channel. While on outputs, Universal Control 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. **Sample Rate.** Sets the Sample Rate for your mixer.
3. **Network Clock.** Sets the clocksource for networked mixers. When using two or more mixers with stand-alone functionality on the same AVB network, only one can be set to Internal clock. The other mixers must be set to "Network Stream." By default, StudioLive Series III rack mixers in Stage Box Mode default to stream. For more information, ***please review the PreSonus AVB Networking Guide.***
4. **USB Compatibility Mode.** StudioLive Series III mixers are powerful 64x64 USB audio interfaces. Not every computer system's USB bus is designed for this many audio streams. USB Compatibility Mode reduces the USB audio streams to 34x34 to provide more universal compatibility with most computer systems. If you are experiencing connectivity or streaming issues with your computer system, it is recommended to enable USB Compatibility Mode.
5. **Interface Mode.** Enabling Interface Mode will allow you to access the physical outputs on your mixer directly from your DAW. While active, the FlexMix associated with the physical output will be disabled.
6. **Link Aux Mutes.** Sets the operation mode for linking mute buttons between channels and aux sends.
   - **Unlinked.** When this mode is selected, channel mutes can be independently controlled in each Aux Mix and the Main Mix.
   - **Main Mute Auxes.** When this mode is selected, muting a channel in the main mix will mute it in every aux mix. However, channels can be muted and unmuted independently from each aux mix.
   - **All Aux Mute Link.** When this mode is select, the channel mutes for every aux mix are linked. In this mode, muting a channel from any aux mix will mute it in every aux mix but not in the Main mix.
   - **Global Mute Link.** When this mode is select, the channel mutes for every aux mix and the Main mix are linked. In this mode, muting a channel from any mix will mute it in every mix.
7. **Pan Mode (StudioLive 64S only).** The StudioLive 64S features an independent Mono/Center bus that can be configured either as a mono bus or as the center channel in an LCR system. ***For more information, please review the StudioLive Series III Owners Manual.***
8. **Allow Remote Access.** When enabled, your mixer can be remotely controlled over the Internet using a PreSonus Metro connection. For more information on Metro, ***please see Chapter 15***.
9. **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.
10. **Phones Source.** Selects the Cue Source for the headphone outputs.
11. **Solo Mode (Defaults to Radio mode).** These buttons let you choose from the following behavioral modes for channel soloing:
    - **Latch.** In this mode, you can solo multiple channels or buses at once.
    - **Radio.** In this mode, only one channel or bus can be soloed at a time. When this mode is chosen, the Select Follows Solo button appears. Enabling this option causes channels and buses to be selected for Fat Channel editing when soloed (as though the corresponding Select button had been pressed).
    - **CR (Control Room).** In this mode, soloed signals are sent directly to the monitor output bus, temporarily disabling any other signals that are routed to that output. When solo is disengaged, any existing routings to the monitor outs are re-enabled.
12. **Solo Level.** Controls the output level of the Solo bus.
13. **Solo Selects.** When Radio Solo mode is enabled, the Solo Select option will be available. When Solo Select is active, soloing a channel will also select it. This is available for all three solo modes.
14. **Solo In Place On/Off Button.** Enables Solo In Place. SIP (Solo In Place), or "destructive soloing," mutes every unsoloed channel on the StudioLive. If one of the muted channels is routed to the mains or a subgroup, it will be muted in those outputs. This also applies to soloed channels: The output routing is still active. Note that while you can manually unmute a channel, this mode should be used with extreme caution during a live performance. Only the input channels can be placed in destructive soloing. The subgroups and aux buses are omitted from SIP mode.

Power User Tip: *When SIP is engaged, channel mutes will only apply to the subgroup and main bus assignments. SIP does not mute input channels in aux-bus mixes. Because of this, you can use SIP to dial in a mix in the mains without disturbing the musicians' last-minute rehearsal on stage. Destructive soloing is also a great way to tune each channel's dynamics individually in live-mixing situations or do surgical editing in the studio. SIP mode mutes every channel and bus that is not soloed in the Main bus (that is, if Channel 3 is soloed, you will only hear Channel 3 in your mains). This makes a great fine-tuning tool but it can quickly destroy a live mix. We highly recommend that you drop out of this mode once the show has started.*

15. **Solo PFL On/Off.** Enables Pre-Fader Listen (PFL) Soloing. The default setting for the Solo bus is After-Fader Listen (AFL); by pressing PFL, Pre-Fader Listening is enabled. In either mode, pressing Solo on any channel or bus routes that channel to the Solo bus and has no effect on the main or subgroup mixes. - PFL soloing is not available for the subgroups. - Aux bus soloing is always PFL, regardless of whether this mode is engaged.
16. **Sync Select.** In situations where you are using Universal Control as a second (or third) screen for your StudioLive mixer, you may wish to keep Universal Control and your mixer focused on the same channel or bus. Enabling Sync Select will let you select a channel or bus on either your mixer or on your Universal Control device.
17. **Meter Decay.** Adjusts the Meter decay time in Universal Control from Fast to Slow.
18. **Color Scheme.** These two luminosity presets compensate for environmental light interference.
19. **Show Edit Popup.** Presents a large display of parameter value for each function.
20. **Colorize Channels.** Custom colors shade the entire channel strip, rather than just the channel label.
21. **Channel ID.** Choose between Icon only or Icon with channel number.
22. **Show Filter Groups.** This option allows to show or hide the filter groups that are created automatically when channels are categorized.

13.2.2 StudioLive AI-series RM/RML mixers

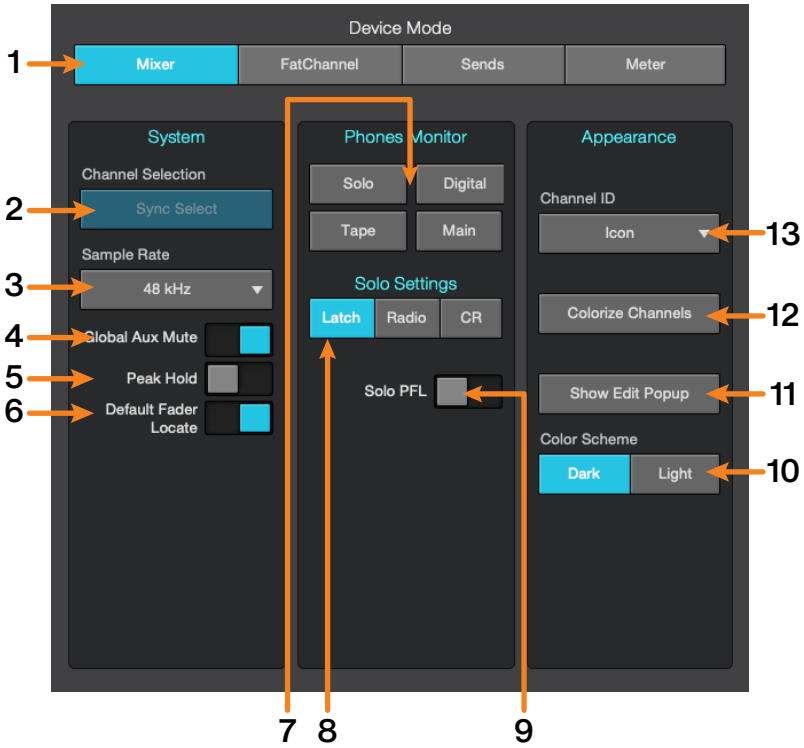


1. **Device Display Mode.** Selects the viewing mode for Universal Control:
   - **Mixer.** While in Mixer Display mode, you have access to every function, making it great for remote mixing.
   - **Fat Channel.** Fat Channel Display mode is designed to function as a second screen for your mixer. In this 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 Universal Control.

- **Sends.** Aux Sends mode provides two display options. While on inputs, Universal Control will display all the bus sends for the selected channel. While on outputs, Universal Control 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 Universal Control.
4. **Sample Rate.** Sets the sample rate for your mixer.
5. **Cue Source.** Sets the audio source for the cue mix.
6. **Pan Mode.** Sets the main bus output type as stereo L/R or as LCR (Left-Center-Right).
7. **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.
8. **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.
9. **Phones Monitor.** Sets source for the headphone output.
10. **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.
11. **Solo Level Control.** Adjusts the overall level of the solo bus.
12. **Solo PFL.** Enables/disables PFL soloing.
13. **Solo in Place.** Enables/disables destructive solo.
14. **Color Scheme.** Luminosity presets to compensate for environmental light interference.
15. **Show Edit Popup.** Presents a large display of parameter value for each function.
16. **Colorize Channels.** Custom colors shad the entire channel, rather than just the channel label.
17. **Channel ID.** Choose between Icon only or Icon with channel number.
18. **Show/Hide Auto Groups.** Shows/hides Auto Filter DCAs. When categories are applied, Universal Control automatically creates a Filter DCA group based on each category. To hide these groups, simply turn off this preference.

13.2.3 StudioLive AI-Series console mixers



1. **Device Display Mode.** Selects the viewing mode for Universal Control:

- **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 Universal Control.
- **Sends.** Aux Sends mode provides two display options. While on inputs, Universal Control will display all the bus sends for the selected channel. While on outputs, Universal Control 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 Universal Control.
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.
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. **Default Fader Locate.** Enables Fader Locate mode if a fader movement is made from Universal Control. It is highly recommended that you leave this feature enabled if you are remotely controlling your StudioLive AI-series console mixer from a tablet using Universal Control.
7. **Phones Monitor.** Sets source for the headphone and Control Room outputs.
8. **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.
9. **Solo PFL.** Turns PFL soloing on or off.
10. **Color Scheme.** Luminosity presets to compensate for environmental light interference.
11. **Show Edit Popup.** Presents a large display of parameter value for each function
12. **Colorize Channels.** Allows you to add custom colors to channel strips.
13. **Channel ID.** Choose between Icon only or Icon with channel number.

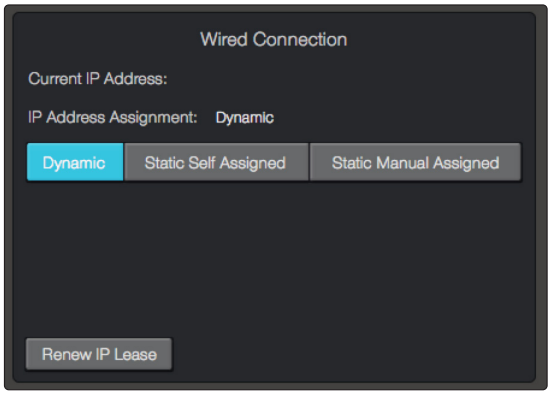
13.3 Networking

The Network tab in Universal Control allows you to manage the network settings for you StudioLive mixer, including managing your Wired Connection settings and configuring stage boxes as well as other AVB peripherals.

Note: *AVB Devices like NSB-series stage boxes and the EarMix 16M are not compatible with StudioLive AI-series mixers. These products are only compatible with StudioLive Series III mixers and other 1722.1 compliant AVB products.*

13.2.1 Wired Connection

When hardwired to a LAN network via Ethernet, there are three types of IP configuration schemes available from within Universal Control. 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.

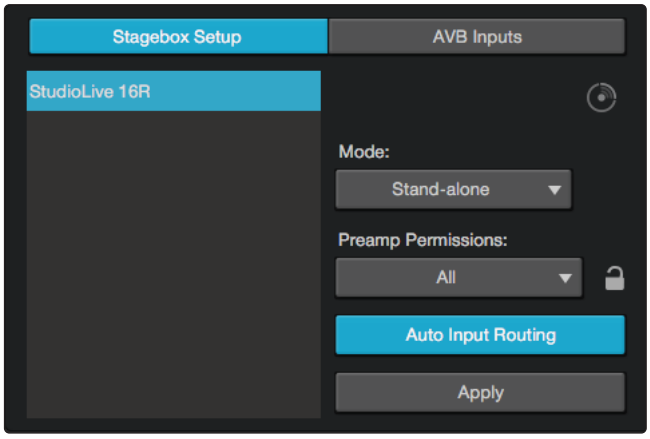
The most common direct Ethernet connection scenario is while using a StudioLive Series III console mixer connected directly to your computer to utilize DAW mode.

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.*

13.3.2 Stagebox Setup (StudioLive Series III only)



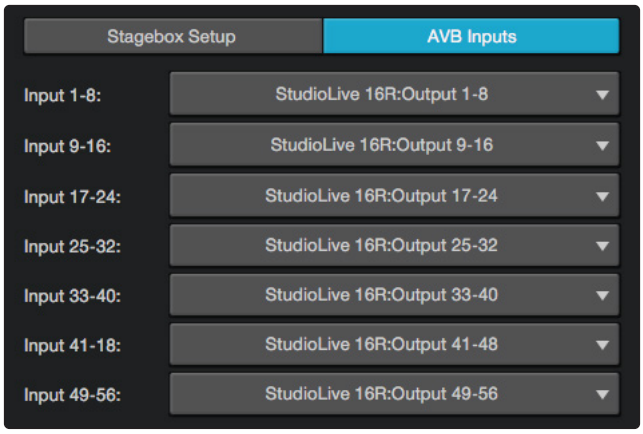
StudioLive Series III rack mixers can be configured as stage boxes for StudioLive Series III console mixers using the touchscreen on your console mixer or from Universal Control. The Stagebox Setup area on the Networking tab mirrors the same functions that are available from the touchscreen on your console mixer.

To configure you rack mixer, select it from list at the left.

If you have more than one rack mixer connected to the network and are unsure which mixer is which, you can press the Identify button. This will flash the front panel LEDs on whichever mixer is currently selected.

Select the Stagebox Mode you would like to use and click or tap the Apply button.

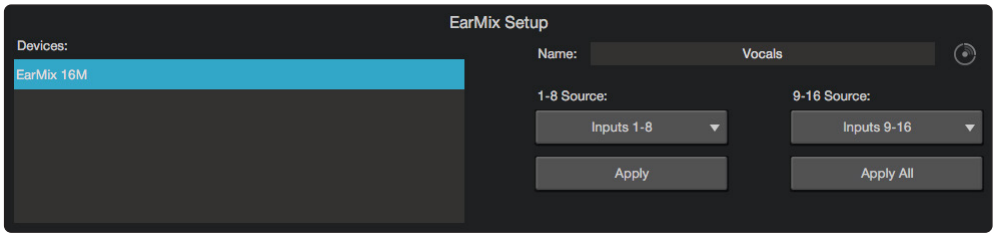
Power User Tip: *Connecting to your mixer and selecting the mode can be one or two steps. When Apply is pressed, both the selected mixer and the selected Stagebox Mode are saved simultaneously.*



To route your streams, use the AVB Inputs tab.

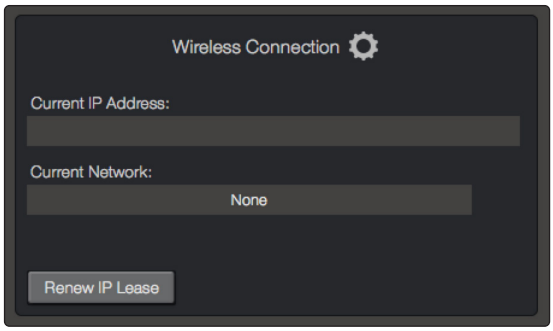
For complete information on Stagebox Modes and AVB Inputs routing, ***please review the StudioLive Series III Stagebox Mode addendum.***

13.3.3 EarMix Setup (StudioLive Series III only)

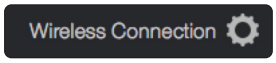


EarMix 16M Personal Monitor Mixers can be connected and configured from the EarMix Setup area on the Network tab. For complete instructions, ***please review your EarMix 16M User Manual.***

13.3.4 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.

13.3.5 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 like the PreSonus SW5E.

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

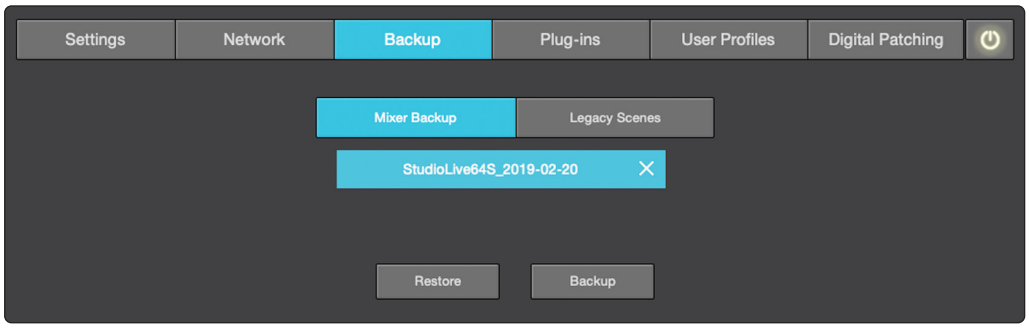
Note: *Establishing the cascaded connection may take several seconds. When complete, you'll see each mixer displayed in the Master and Slave unit spaces.*

Once your mixers are cascaded, they will function 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 Universal Control, 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.

13.4 Backup

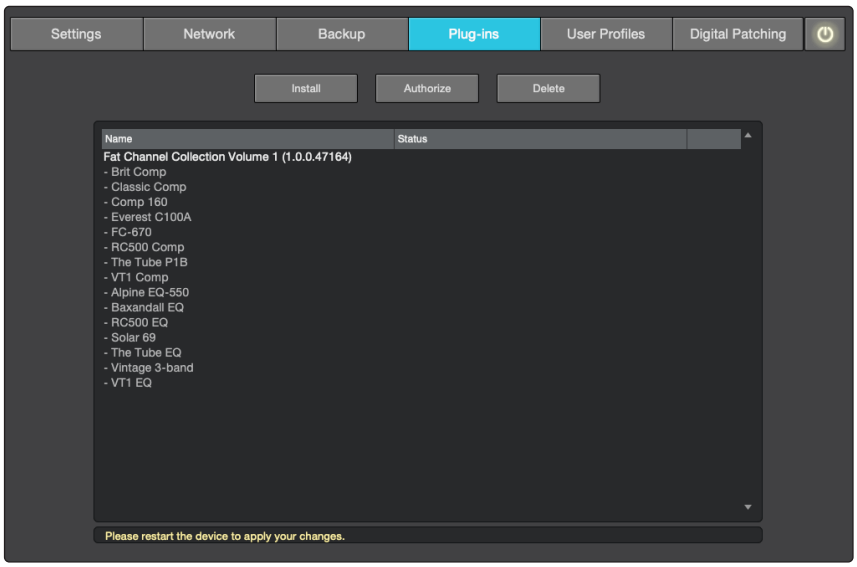


The Backup tab displays any backup logs that have been created in Universal Control. The Backup tab allows you to create complete, time-stamped snapshots of your StudioLive. This can be especially useful when completing a project that may need to be revisited in the future.

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

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

13.5 Plug-ins (StudioLive Series III Mixers)

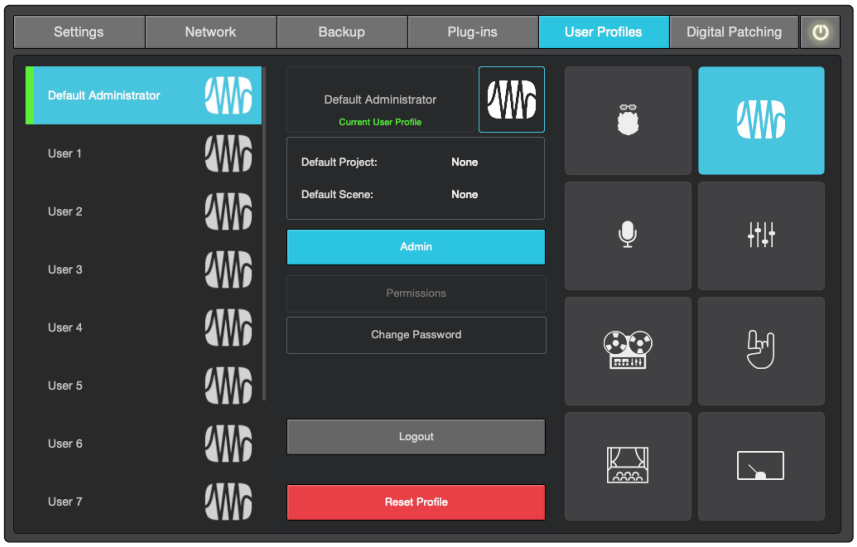


StudioLive Series III Fat Channel Plug-ins allow you to enhance your StudioLive Series III mixer and Studio One Pro® Fat Channel with additional processor models. These plug-ins are virtual signal processors that load in your StudioLive Series III console or rack mixer's Fat Channel, expanding your compressor and EQ processor libraries. Each plug-in comes in both StudioLive Series III format and Studio One format so you can use your new processor on your computer and in your mixer.

The Classic Studio, Modern Classics, and Vintage Channel Strips bundles are available individually from your authorized PreSonus dealer or from shop.presonus.com. Or buy all three bundles—12 processors in all—in the Fat Channel Collection, Volume 1, to supercharge your StudioLive Series III mixer and Studio One Pro.

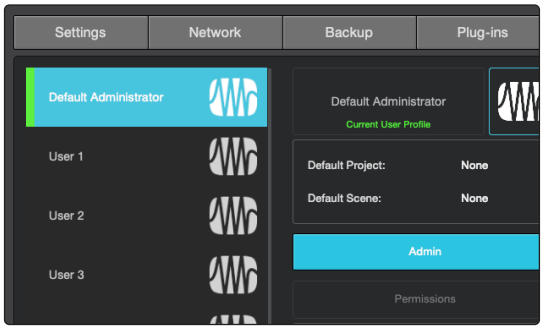
Registered StudioLive Series III owners who purchased their mixers after January 1, 2021 will find the complete Fat Channel Collection available in their MyPreSonus account already. To activate, simply click "Install".

13.6 User Profiles (StudioLive Series III Mixers)

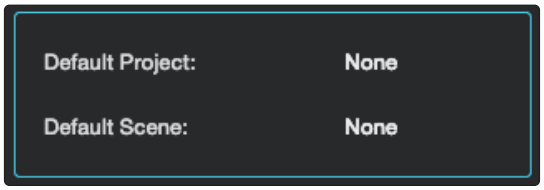


User Profiles allow you to create custom settings limiting access to certain functions. A specific project and scene can also be assigned to each Profile so that when the user logs into the mixer, they will have the option to load their preferred configuration.

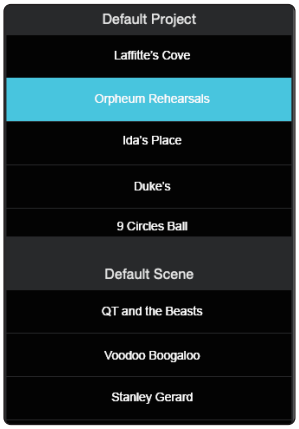
13.6.1 Default Administrator



User Profiles must be activated on your mixer. By default, your mixer is logged into the Default Adminitrator profile. This profile has access to every setting and parameter on your mixer.



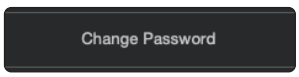
A default Project and Scene can be added to the Admin profile, click or tap to edit.Several customized settings can be added to the Default Administrator profile.



Once a project is selected, you can select a default Scene from within it.

Power User Tip: *You can set the Default Project and Scene simultaneously, by selecting either option. While any Project can be set as the default, only Scenes within the Default Project can be chosen as the default.*

Add a password

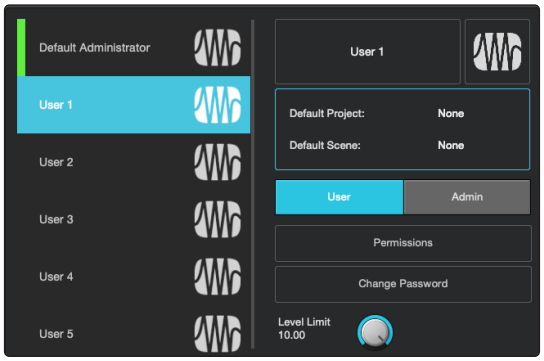


Click or Tap on the Change Password button to password protect the Default Administrator profile. If you log out of this profile, you will be prompted to enter the password to log back in.

Reset Profile

To reset the profile to default state, press the Reset Profile button.

13.6.2 Creating a New Profile



You can create up to 10 User Profiles in addition to the Default Administrator profile.

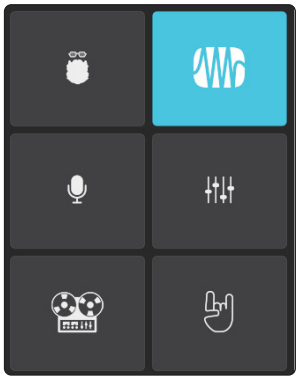
To customize any profile, simply select it from the list.

Power User Tip: *You must be logged into an administrator (default or custom) to create a new User Profile.*

Select a Name

Tap on the default name field to enter a custom profile name. The only name that cannot be changed is the Default Administrator.

Select an Avatar

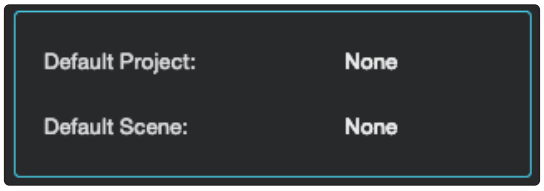


By default, the PreSonus logo is the avatar for every user. This can be changed by tapping the default avatar on the profile settings page.

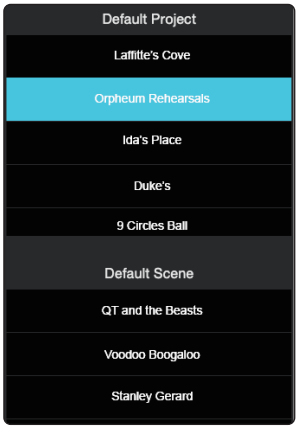
Profile Type

You can create two different Profile Types: Admin and User. Admin profiles are given access to every function and parameter. User profiles can have their permissions limited. For more information on setting User Permissions, ***see Section 13.6.3***.

Default Project and Scene



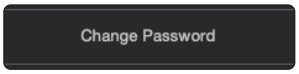
Just like for the Default Administrator profile, you can select a Project to be loaded when someone logs into their User Profile. This is especially useful for less experienced users.



Tapping on either the Default Project and Scene field will open the User Profile Default Project/Scene list. From here you can select the Default Project and Scene.

Note: *While any Project can be selected as default, only a Scene that is stored within the designated Default Project can be selected.*

Change Password (Optional)

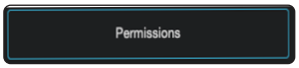


Click or Tap on the Change Password button to password protect the profile. If you log out of this profile, you will be prompted to enter the password to log back in.

Reset Profile.

To reset the profile to default state, press the Reset Profile button.

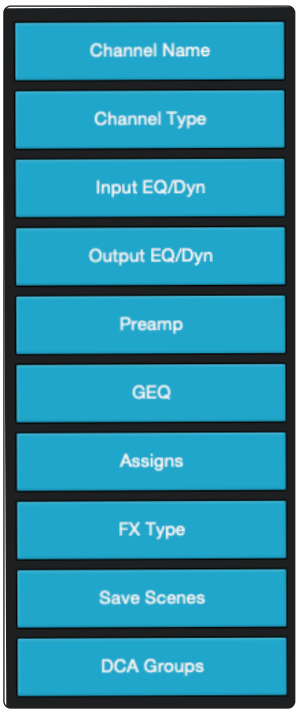
13.6.3 Edit User Permissions



When a User Profile is set to "User," permissions can be granted for certain functions and denied for others.

The following features are only accessible from Administrator Profiles and always locked out in every User Profile:

- System Settings
- Audio Routing Options
- Input Source Patching
- UCNET Options
- Scene Lock / Unlock

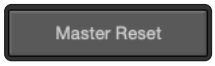


From the Edit Permissions screen, you can limit access to the following functions on a per User basis:

- **Channel / Bus Names.** This locks the ability to rename any Channel or Bus.
- **Channel Types.** This locks the ability to change the Channel Type.
- **Input EQ/Dynamics.** This locks the ability to control Gate, Compressor, EQ, and Limiter parameters for every input channel.
- **Output EQ/Dynamics.** This locks the ability to control Compressor, EQ, and Limiter parameters for every output bus as well as Output Delay.
- **Preamps.** This locks the ability to adjust the Input trim, Digital Gain, Phantom Power, Polarity, High Pass Filter, and Input Delay.
- **GEQ.** This locks the User out of the GEQ menu completely.
- **Assigns.** This locks the ability to make any channel assigments to the Main bus or Subgroups.
- **Changing FX Types.** This locks the ability to change the effects types loaded into the StudioLive Series III Effects Rack.
- **Save Scenes.** This locks the ability to save or create new scenes.
- **Changing / Adding DCA Filter Groups.** This locks the ability to create or alter DCA Filter Groups.

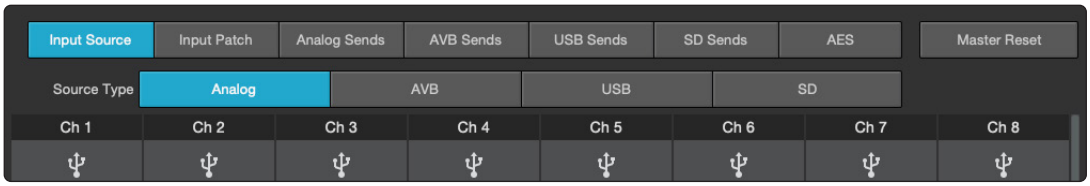
13.7 Digital Patching (StudioLive Series III only)

Digital patching allows you to route any analog or digital input to any channel and any mix to any output. This can save you hours of frustration having to rewire and repatch your physical inputs and outputs, especially in a fixed installation. Digital patching also allows you to freely route audio to your AVB network and record anything you'd like via USB.



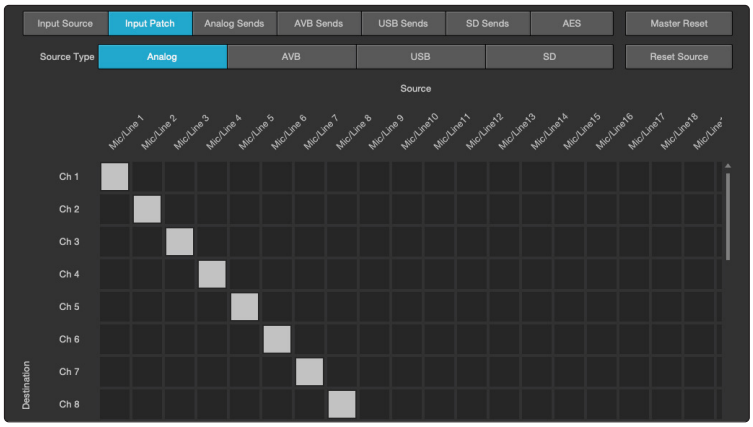
Press the Master Reset to reset all routings to their default state.

13.7.1 Input Source

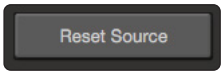


Selecting the Input Source tab will allow you to patch any source type to any channel. This also provides you with a global view of what type of source is routed to each channel, as well as allows you globally configure all of your source routings for each type. For example, while the USB tab is active, you can patch every desired USB return to every channel on your mixer.

13.7.2 Input Patch



From the Input Patch tab, you can route any input to any channel. This allows you to select the sources for all input types (Analog, AVB, USB, and SD). From this menu, you can, for example, route Analog Input 10 and USB Return 17 to Channel 1 on your mixer. You can then toggle between the two sources using the USB and Analog source controls for your mixer.



Pressing the Reset Sends button will reset the default routing.

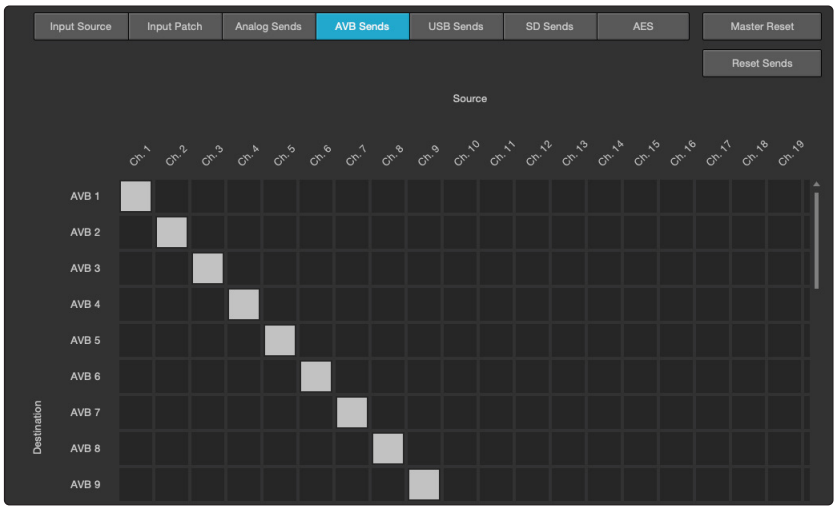
Power User Tip: *The routing you select for each source type is saved. In this way, you can switch between custom Analog, Network, and USB routings just as you can with the default routings.*

13.7.3 Analog Sends

Selecting the Analog Sends tab will allow you to patch any mix (FlexMix, Subgroup, FX Mix, Main Left, Main Right, Solo Left, or Solo Right) to any FlexMix output.

Pressing the reset button will reset the default routing for the currently selected input type.

13.7.4 AVB Sends



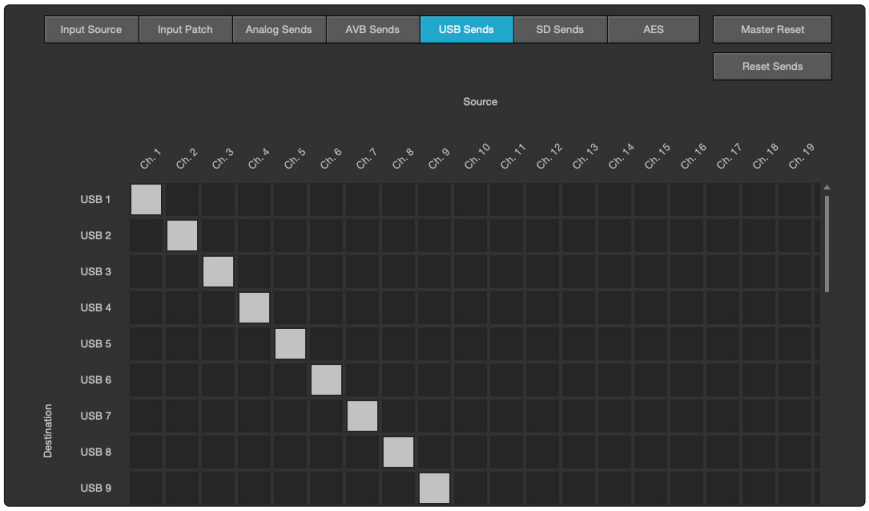
Selecting the AVB Sends menu will allow you to patch any channel send or mix to any AVB output.

Pressing the Reset Sends button will reset the default routing.

The following local StudioLive sources can be sent out to the AVB Network:

- Every Input Channel
- Aux In A L and R
- Aux In B L and R
- Tape In L and R
- Talkback
- Every FlexMix
- FX Send Mix A-D (pre-effects processor)
- Subgroup A-D (32-channel models only)
- Main Mix L and R
- Main Mono/Center (StudioLive 64S)
- Solo L and R

13.7.5 USB Sends



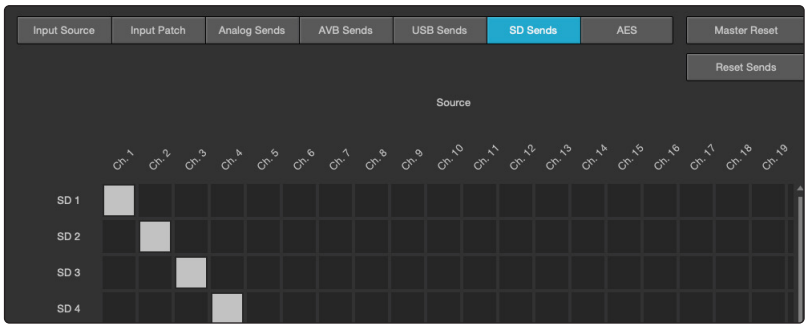
Selecting the USB Sends tab will allow you to patch any channel send or mix to any USB driver send.

Pressing the Reset Sends button will reset the default routing.

The following local StudioLive sources can be sent to the USB bus to be recorded in your favorite DAW application:

- Every Input Channel
- Aux In A L and R
- Aux In B L and R
- Tape In L and R
- Talkback
- Every FlexMix
- FX Send Mix A-D (pre-effects processor)
- Subgroup A-D (32-channel models)
- Main Mix L and R
- Main Mono/Center (StudioLive 64S)
- Solo L and R

13.7.6 SD Sends

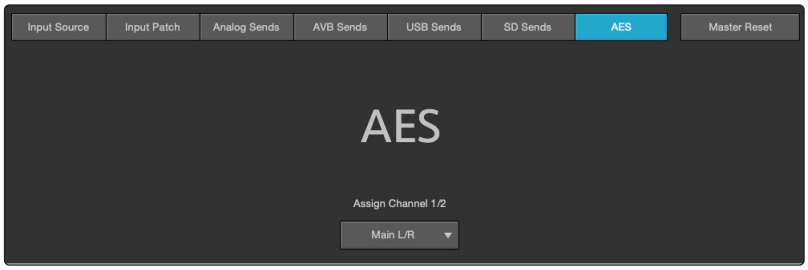


Selecting the SD Sends tab menu provides routing the onboard SD recorder as follows:

- **StudioLive Series III 32-channel models.** This router allows you to patch any mix to the last stereo pair of SD Card recording inputs (33-34). The Main Mix, any FlexMix pair, or any fixed Subgroup pair can be routed to these tracks on your SD Recorder.
- **StudioLive 64S.** Because the StudioLive 64S is equipped with more channels than the onboard SD Recorder can record, the SD Sends router allows you to route any channel or bus to any of the 34 available tracks.

Pressing the Reset Sends button will reset the default routing.

13.7.7 AES



Selecting the AES tab allows you to route any mix pair to the AES output on your StudioLive mixer.

13.8 Aux Routing (StudioLive AI-Series Mixers)

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, Universal Control will take control of the second-to-last pair of auxiliary inputs. When Smaart has control, these inputs will be grayed out.

13.9 Smaart System Check Wizards (StudioLive AI-series only)

When connected to a StudioLive AI-series mixer, Universal Control 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: *Smaart System Check Wizards are not available with StudioLive Series III consoles.*

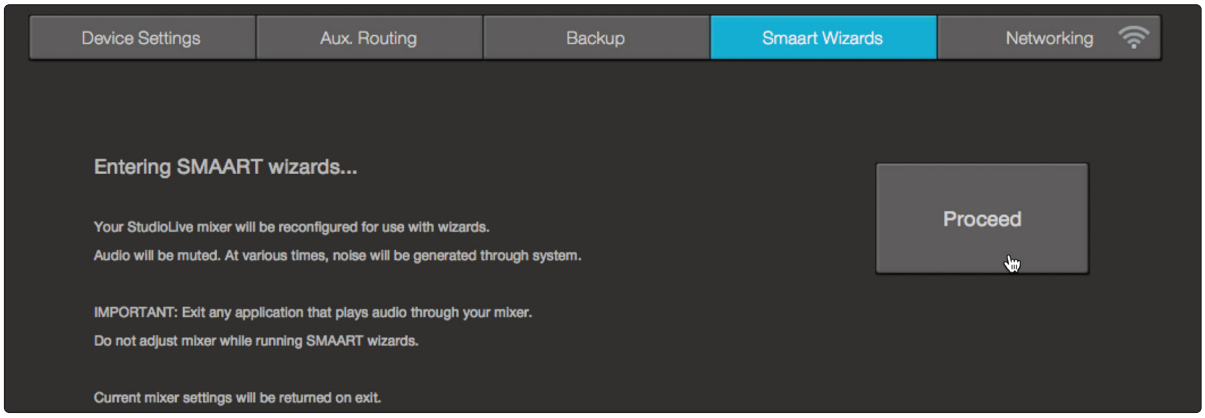
Traditionally, in professional sound reinforcement, the mixing console is there to mix, and the system processor is there to align and tune the speaker system. When functioning and set correctly, the system processor is invisible to everyone but the System Engineer. For the first time, the tools used 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 Smaart System Check Wizards in Universal Control merge these two worlds.

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

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

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



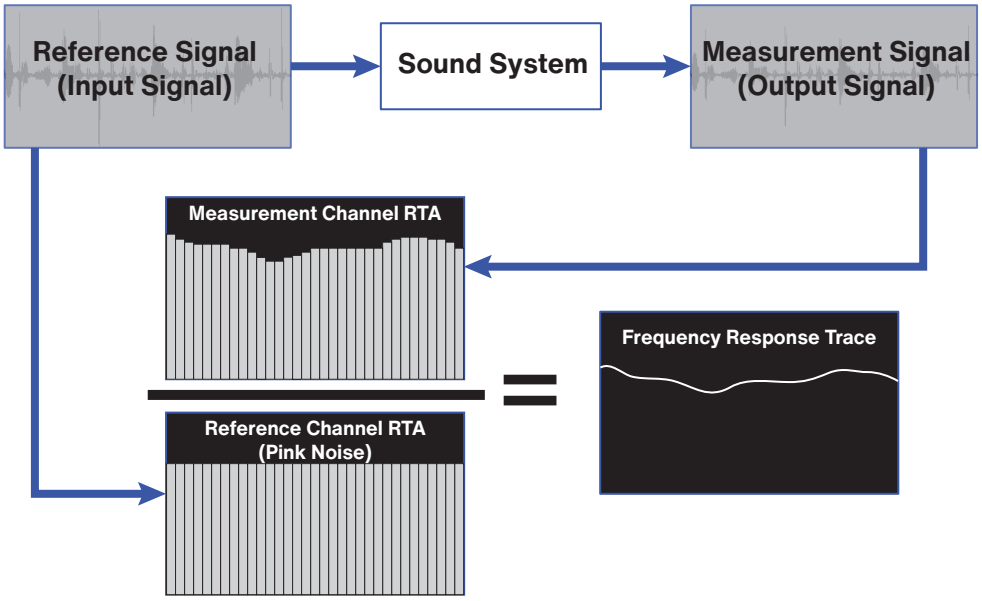
Clicking on the “Proceed” button will launch the Wizard select window and you will no longer have control over your mixer. You can exit the Wizards and regain control at any point simply by clicking on one of the other tabs or closing the Settings Page.

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.*

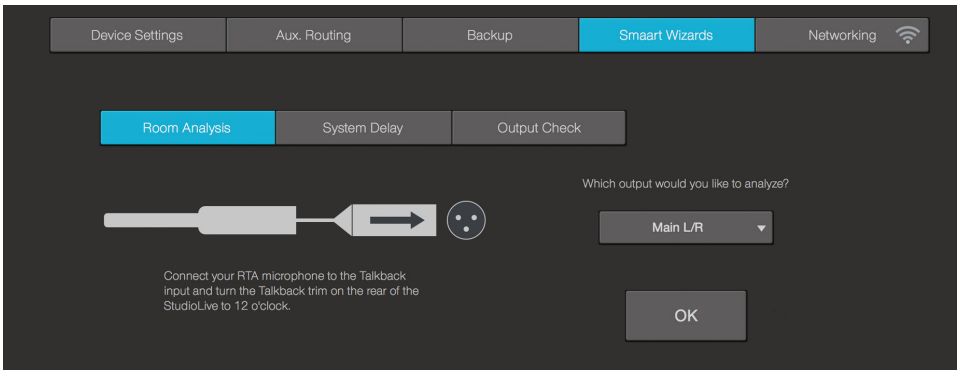
A measurement microphone is special type of condenser microphone that is designed to provide an accurate reproduction of a room’s sound characteristics for use with audio-analysis tools, such as RTAs and spectrographs. Measurement microphones typically have an omnidirectional polar pattern and deliver 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 Smaart System Check Wizards. PreSonus offers the budget-priced PRM1 Precision Measurement Microphone for this purpose.

13.9.1 Smaart 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 Smaart Room Analysis Wizard.*

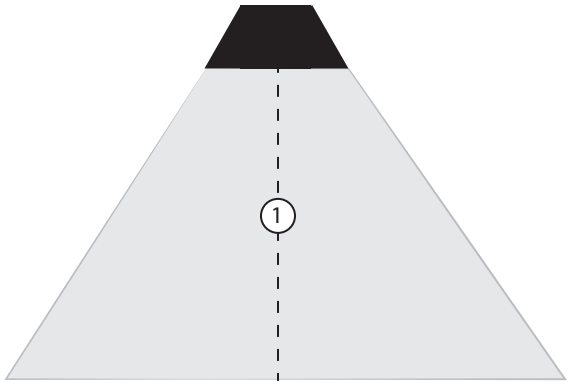
Basic Analysis Mic Placement

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 13.9.4 for tips in choosing the best primary mic position***.

Advanced Analysis Mic Placement

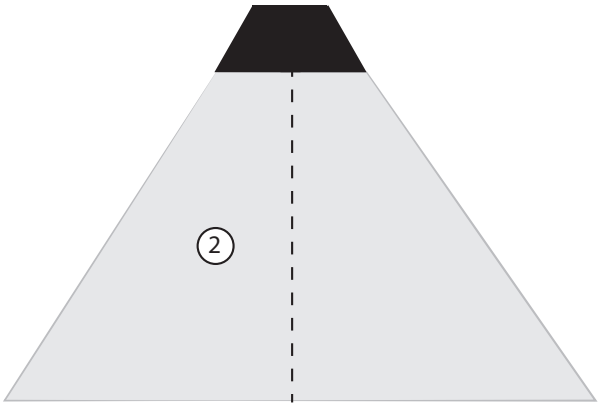
As previously mentions, you will analyze your speaker from three different positions. For the first analysis, place your microphone on-axis in front of the speaker you want to analyze. If you are analyzing a stereo bus, place your microphone on-axis in front of the Left speaker. ***See Section 13.9.4 for tips in choosing the best primary mic position***.

On-Axis

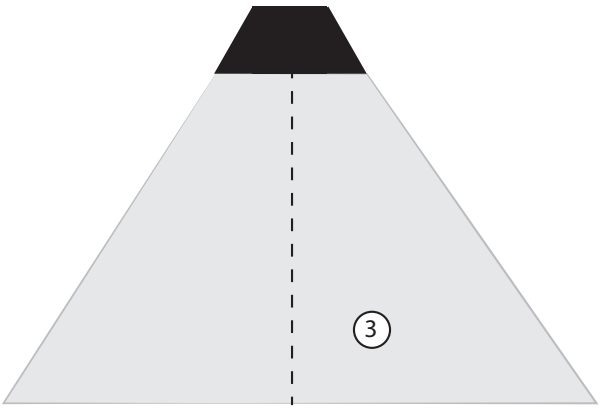


The next two measurements will be taken off-axis. Place your microphone off-axis in front of the same speaker. ***See Section 13.9.4 for tips in choosing the best secondary and tertiary mic positions:***

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.*

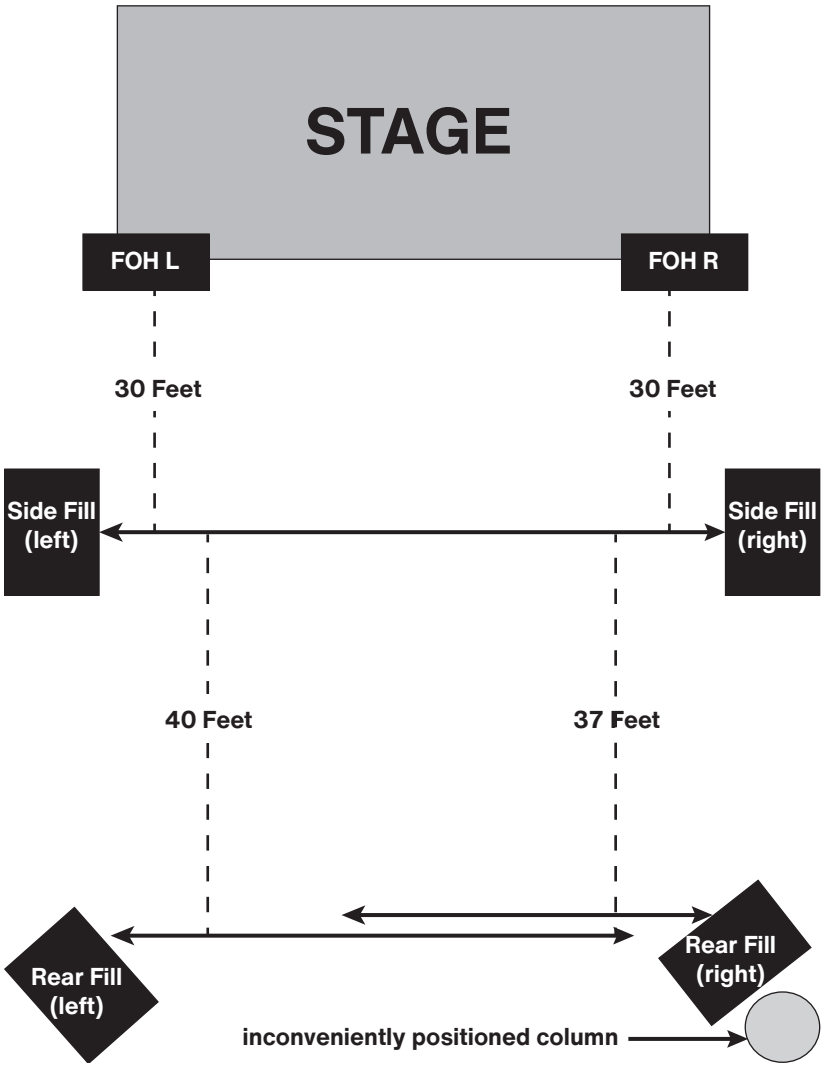
13.9.2 Smaart System Delay Wizard

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.

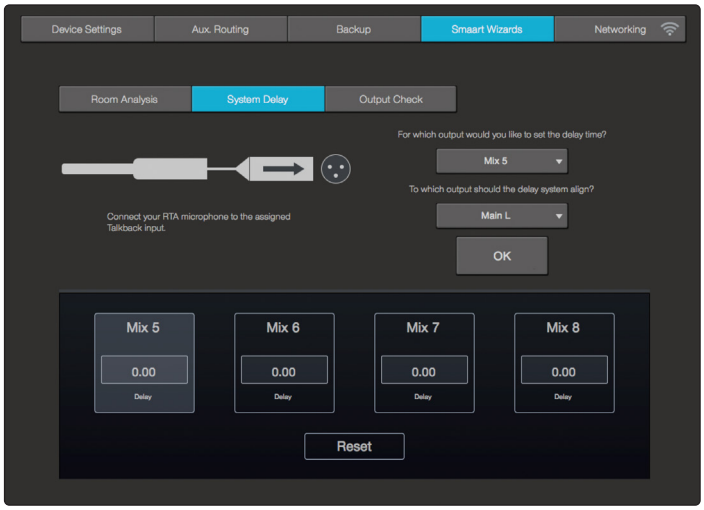
When using the SSD wizard for the above system, you would run the wizard four times. The first time, you'd use the main front-of-house left for the main system and the left sidefill for the delay system. The second time, you will use the left sidefill as the main system and the left rear-fill for the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

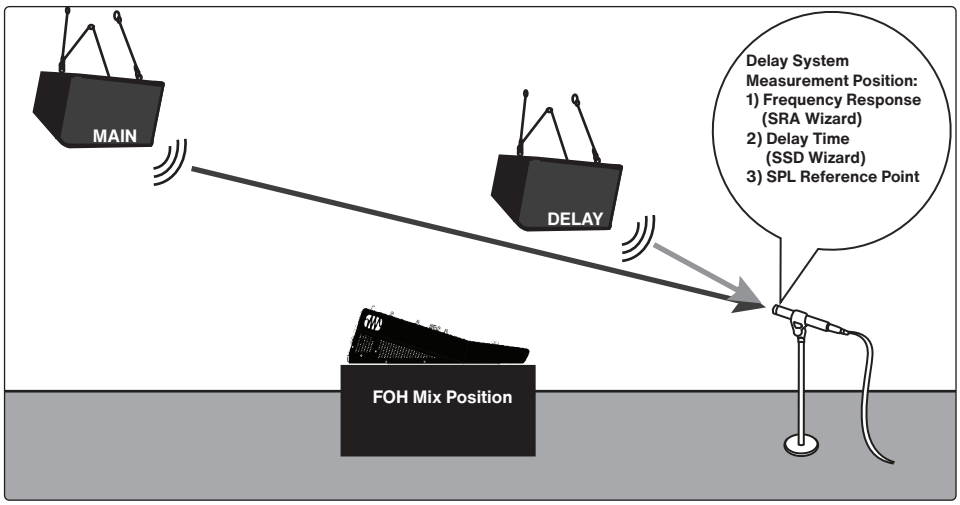


To launch the System Delay Wizard, click on the System Delay tab and select the speaker output you want to delay. From the bottom pull-down menu, select the speaker output to which you'd like to align. This can be your main outputs or any of the subgroup outputs, even if the subgroup outputs have been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

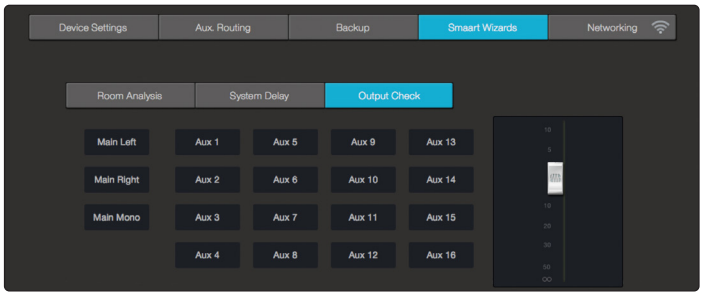
Note: *For delay times between 0 and 50 ms, the delay will be set to the nearest 0.5 ms; between 51 and 100 ms, the delay will be set to the nearest 1 ms; and between 102 and 300 ms, the delay time will be set to the nearest 2 ms.*



13.9.3 Smaart 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 Smaart 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 Smaart 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 Smaart 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.

13.9.4 Mic Position

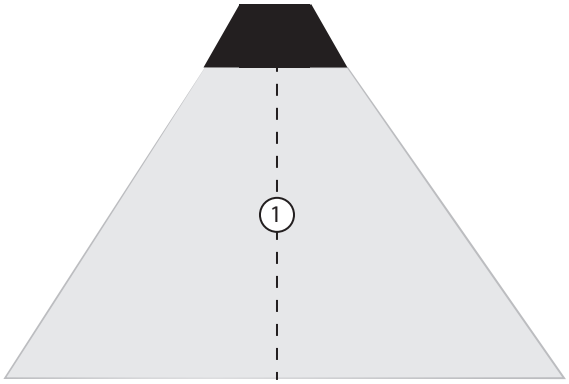
The SRA and SSD wizards do all of the calculations and complex routing through the StudioLive for you. Two very important decisions are up to you: Where to place the mic and, in the case of the SRA wizard, what to do with the frequency-response trace.

Improper mic placement can create "problems" in your trace that actually don't exist in your sound system.

Primary Mic Position

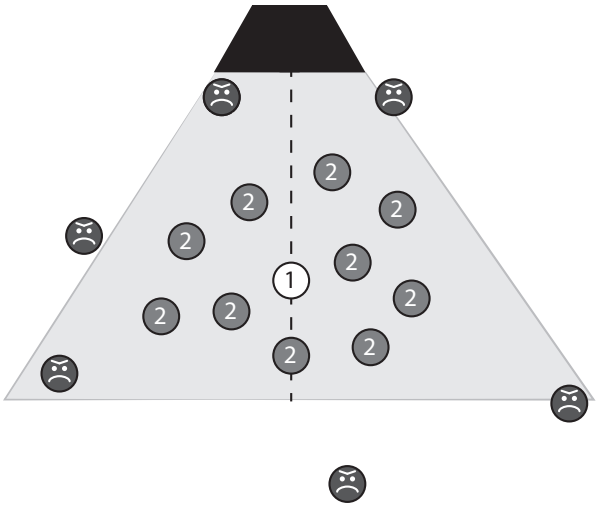
This is the main reference point for a speaker and can be used as a single, "representative" position if you're short on time or patience and just want to get a "gut check" of your system.

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.

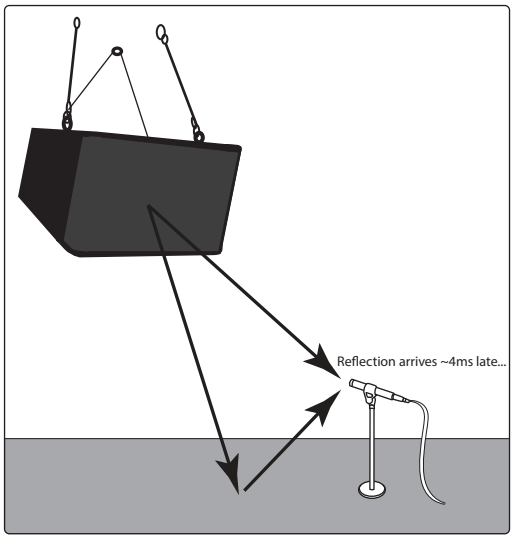


Secondary Mic Position

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.

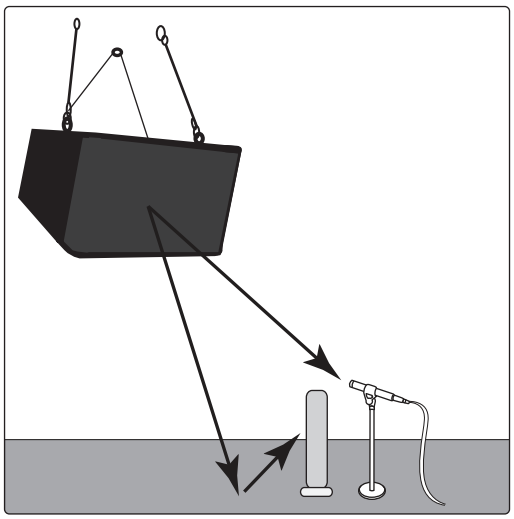


A word of caution about ground bounce: Ground reflections become an issue when a speaker is flown and angled down. The proper mic position, in this case, will also catch the reflection of the signal off the floor.

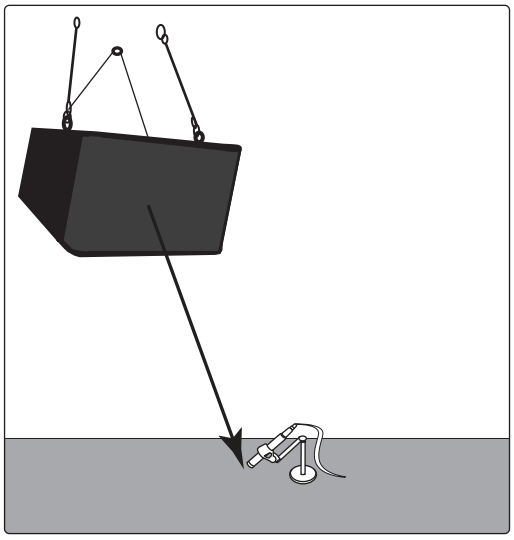


In this case, you can choose from three options:

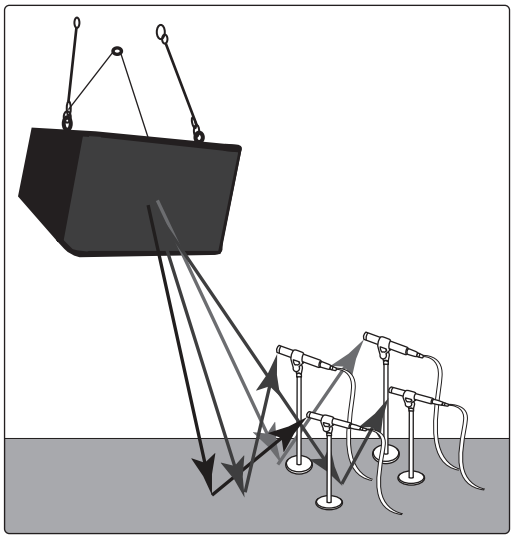
- Block the reflection with a baffle that is large enough to be effective above 100 Hz (so at least 5’ by 5’).



- Do a ground-plane measurement.



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



13.9.5 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.

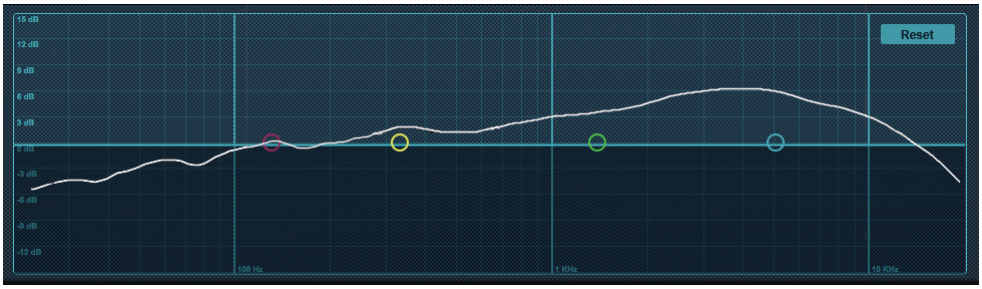
A frequency-response trace is not a video game. Your goal is to fix your system and make it sound the best it can, not create an EQ curve that is an exact inversion of the frequency-response trace. Mix with your ears, not your eyes.

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.

13.9.6 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.*

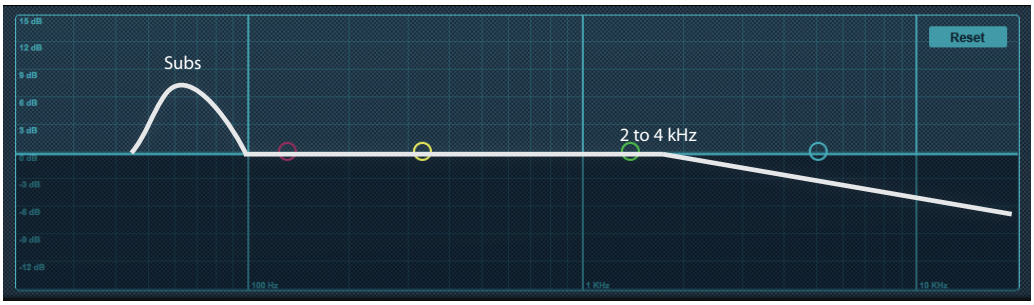
Different types of live performances make different demands of a PA system. A classical concert has very different needs from a rock concert. Just as you wouldn't mix an evening of Bach quartets the same as an evening of thrash metal, you don't want to tune your PA system the same for both types of events.

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.

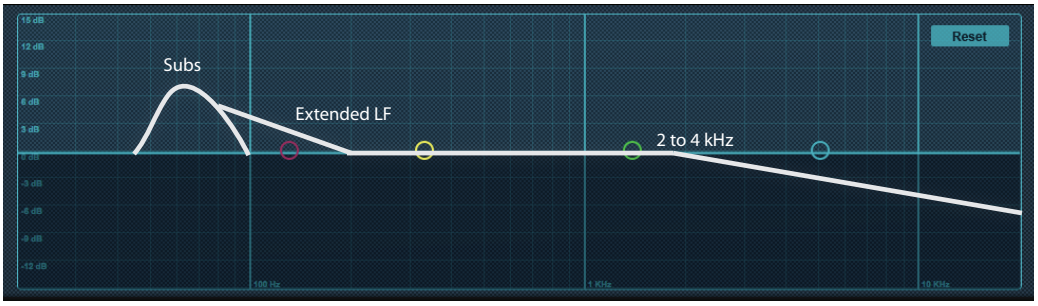
In other words, you can stack the deck to be assured of a big FOH mix win. In system alignment, this deck stacking is called "trends." Every genre and performance type requires a different type of trend. The sole objective of a system EQ is to smooth out the sound system by creating a uniform slope that 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:

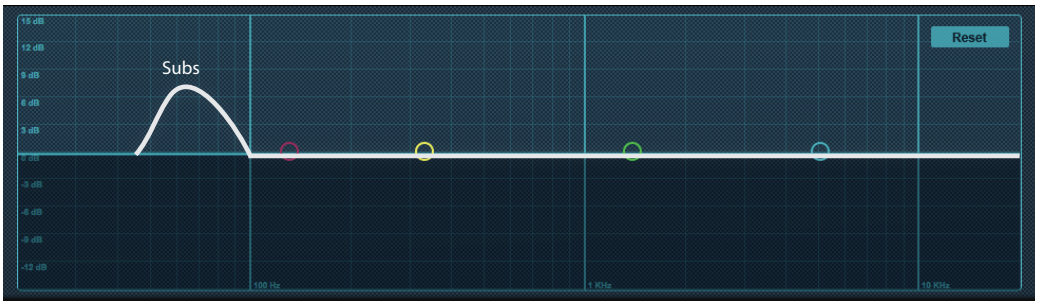
Music Concert



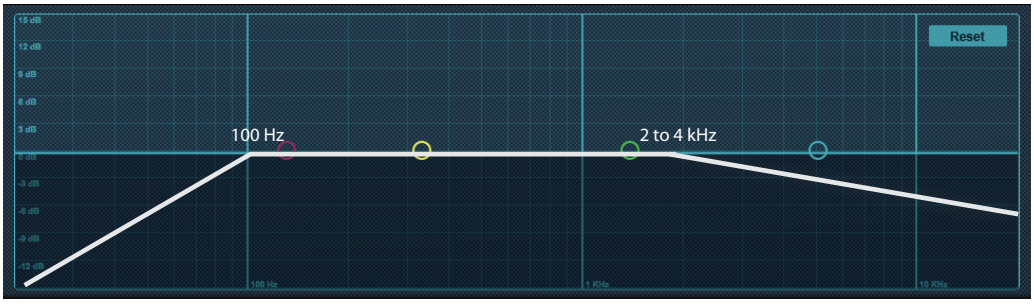
Rock Concert



Music Playback/Reproduction



Speech Intelligibility

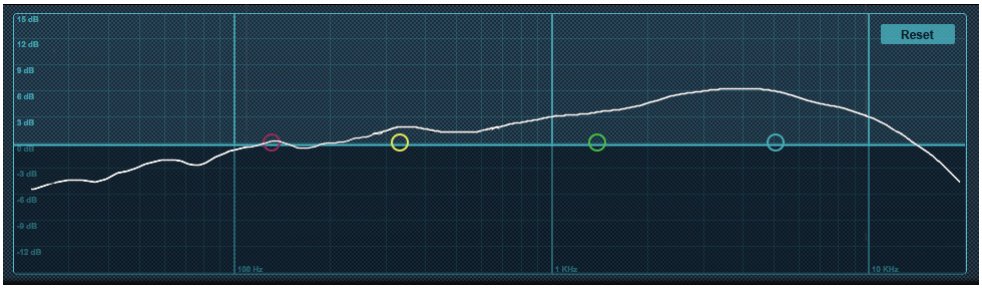


Power User Tip: *The amplitudes depicted in the trend examples shown here are guidelines: examples of very general slopes required for different applications. The desired value will be different for every gig, and it is ultimately up to you to decide what is required for your show, based on what type 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.*

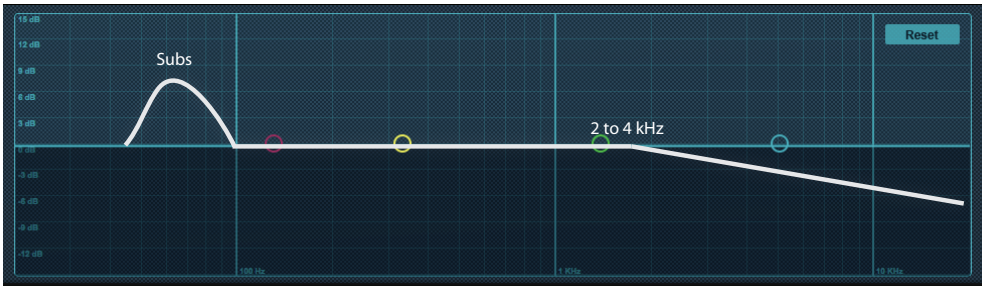
13.9.7 Spotting the Trend: Real World Example

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:

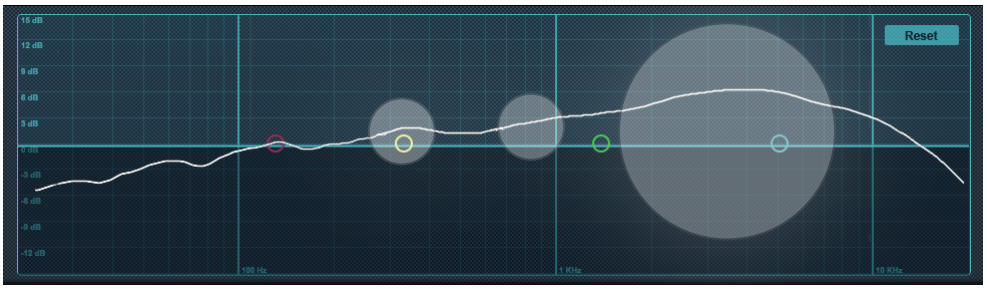


to this:



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

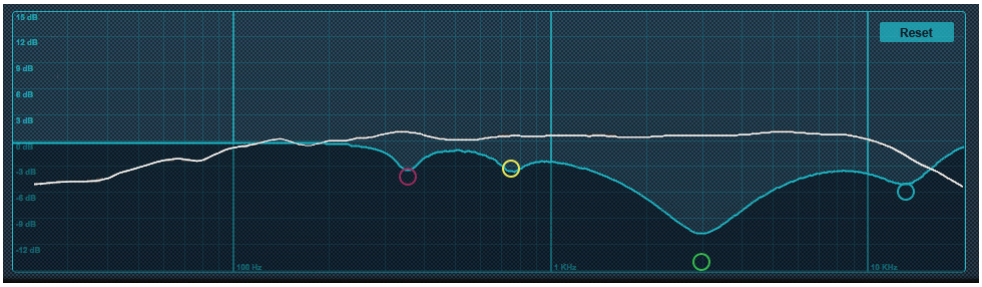
Looking at our trace, it's easy to spot a few problem areas. There's a bump at 300 Hz that could be smoothed out a bit. Another bump at 750 Hz could stand some flattening, and a big rise at 1 kHz to 10 kHz is going to make our system shrill at higher volumes.



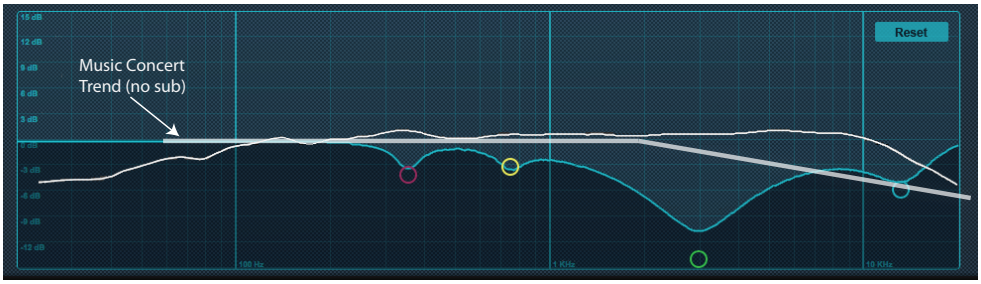
What about all the other bumps and dips? Remember: The frequency-response trace is not a video game. You don't need to put a filter on every bump or dip in your trace when a few carefully placed filters will achieve a much better result. This is also why the wizard overlays the trace on your parametric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



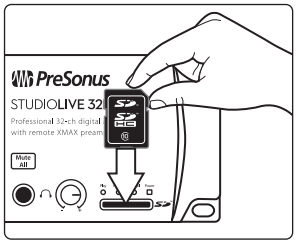
Power User Tip: *Spotting the trend and knowing what to do with it are experiential skills that get better over time. Because of this, you may try using the trends in the previous section as practice tools. Shoot your room with the SRA wizard and try to EQ it for speech intelligibility, then play an 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.*

14 StudioLive Series III Rack Mixer SD Recording

StudioLive Series III rack mixers are equipped with an onboard stereo SD recorder that allows you to record any mix as a stereo WAV file to any FAT16- formatted SD card or FAT32-formatted SDHC card.

This section explains how to use your stereo SD Recorder.

14.1 Recording a New Capture Session

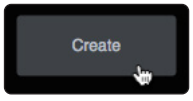


1. Insert a FAT16-formatted SD card or FAT32-formatted SDHC card into your StudioLive Series III rack mixer. An SD card will provide up to 2 GB of storage space. An SDHC card will provide up to 32 GB.

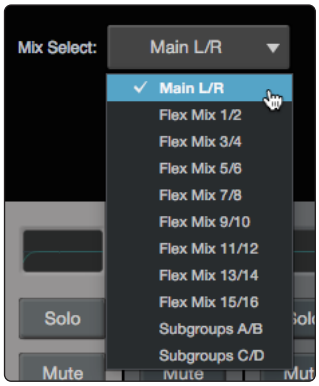
2. Launch Universal Control and click or tap on the Capture button.

3. Click or tap on the Create New Session icon.

4. You will be asked to name your session using the Artist Name, Venue, and Location. Once you have created a session after customizing any of these fields, Universal Control will save them for future use. So, for example, if you would like to create another session for an artist, you can click on the pull-down menu to the right of the customization field and simply select it from there.



5. Click the Create button.



6. Select the mix you would like to record. By default, Capture will record the main mix.

7. Click record to begin.

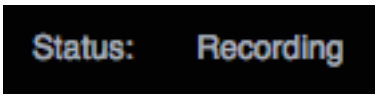
14.2 Capture Screen

1. **Return to Zero.** Return playback position to the beginning of the session.
2. **Stop.** Stops recording or playback.
3. **Play.** Starts playback.
4. **Record.** Begins recording.
5. **Record Lock.** Prevents the recording from being stopped. Record Lock must be disabled before the recording can be stopped.
6. **Mix Select.** Drop-down menu to select stereo mix to be recorded.
7. **Recording Duration.** Displays how long the current Session has been recording.
8. **Current Position.** Displays the current timeline position of the playback cursor.
9. **Remaining Time.** Displays the remaining time that can be recorded, based on the size of the available storage left on the SD card.
10. **Recording Status Messages.** ***See Section 14.3 for more information***.
11. **Close Session.** Closes current session and returns to the start screen.

14.3 Recording Status Indicators

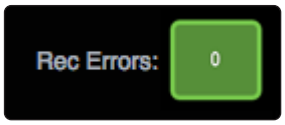
At the lower right corner of the screen, you will see recording status indicators. These will help you to keep an eye on how well your recording session is going.

14.3.1 Status



- **Ready.** SD Card session is loaded, is currently not busy, and is waiting for user input.
- **Recording.** Audio is being recorded to any Track(s) that are currently armed for recording.
- **Preparing...** The session is currently processing an action. This is commonly seen when attempting to play back a long session after it is first loaded or has just finished recording.
- **Playing.** The recorded session audio is currently being played back.

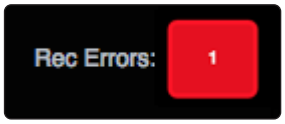
14.3.2 Recording Errors



Green. The recording session currently has no recording errors, and there isn't a chance that an error will occur. The green box will display 0 inside, showing that there are currently no record errors.

Yellow. The recording session currently has no record errors; however, the SD Card's read/write speed are being stretched to the limit. In this case, it is possible that recording errors can occur. The yellow box will display 0 inside, showing that there are currently no record errors.

Note: *As an SD Card's storage space is filled, its read/write speed slows down. Because of this, the Rec Errors indication may turn from green to yellow as the card fills up.*



Red. As soon as a recording error occurs, this indication will turn red to alert you. The number of errors will be displayed in the box. When errors occur, you will hear a skip or a drop-out in the recorded audio.

Power User Tip: *As soon as you see an error display, make a note of the current timeline position. This will help you to isolate the audio dropout more easily.*

15 Universal Control: Metro

15.1 Introduction

Universal Control Metro is a powerful feature in Universal Control available exclusively for StudioLive Series III mixers. With Metro, you can remotely log into, control, and monitor the audio for a StudioLive Series III mixer over the Internet on a secure, peer-to-peer connection.

With Universal Control Metro, you'll be able to:

- Remotely create a broadcast mix from your home without stepping foot into the venue.
- Produce a livestream or podcast from anywhere in the world.
- Troubleshoot StudioLive Series III mixers quickly and conveniently from your home or office.
- Ensure that a remote recording session is properly gain staged.
- Remotely mix an all-day conference panel from the comfort of your couch.
- And so much more!

A brief note on limitations: While Metro technology fully supports mixing Front-of-House or monitors remotely, PreSonus does not recommend this use case because while you'll have complete mixing control from your remote set-up, you will not be able to hear the mix in the room or quell feedback before it builds. So, while you may be able to dial in a great mix as a starting point for the show from anywhere, PreSonus recommends having an engineer on-site during the performance to ensure the best possible listening experience for the audience and the performers.

15.1.1 Useful Terminology

Universal Control Metro operates on the established host/client network architecture. To ensure maximum usability of this guide, let's establish some terminology upfront:

The computer connected to the StudioLive mixer that will be remotely controlled is the **Host**.

The computer connecting remotely to that mixer is the **Client**. Note that while a StudioLive Series III mixer is required on the Host side, the Client can monitor audio from that mixer through any audio interface connected to the Client computer.

Metro requires certain steps be taken on both the Host and the Client ends of the connection. The majority of this guide will cover the functions necessary for the Client side.

15.2 Getting Started

15.2.1 Update Your Firmware And Software

In order to use Universal Control Metro:

- The host will need their mixer to be running firmware version 2.7.0.92826 or higher.
- Both the host and client will need to be running Universal Control version 4.2 or higher.
- Metro functionality requires the host mixer to be connected via USB to a compatible computer with a stable Internet connection.
- Firmware update instructions can be found in your mixer's manual or on PreSonus.com. The latest version of Universal Control can be downloaded here.

15.2.2 Remote Access Permissions And Security

As security is of the utmost importance, accessing a StudioLive mixer for remote operation employs a three-stage permission system. These permissions include:

- Connecting your MyPreSonus account with the MyPreSonus account of the registered owner of the host mixer.
- In Universal Control, the owner of the host mixer must enable Remote Access.
- Remote Access must also be enabled in the host mixer itself.

- Depending on your Operating System, some privacy, security, and admin settings may need to be tweaked to allow for the best possible connection. Your router security settings may also need to be taken into consideration.

The host instance of Universal Control must be logged in to the host's MyPreSonus account and the client instance of Universal Control must be logged in to the client's MyPreSonus account. The client instance of Universal Control will have access to any mixer or ecosystem device that can be seen by the host instance of Universal Control (assuming Remote access is turned on for both the host instance of Universal Control and the StudioLive mixer).

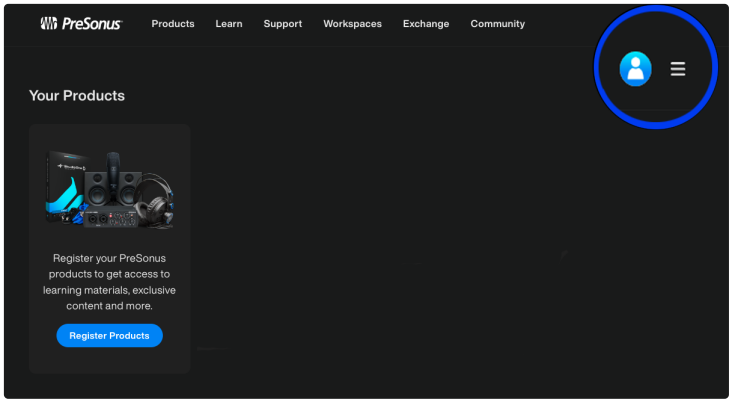
Only one client can be connected to a single host.

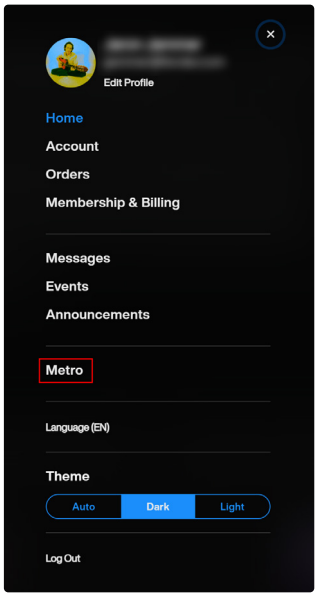
15.2.3 Adding A Metro Connection

Metro connections can be managed from your MyPreSonus account.

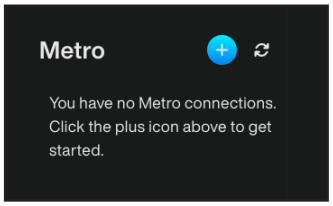
To get started, sign into your account at My.PreSonus.com. If you don't have an account already, follow the onscreen instructions to create one.

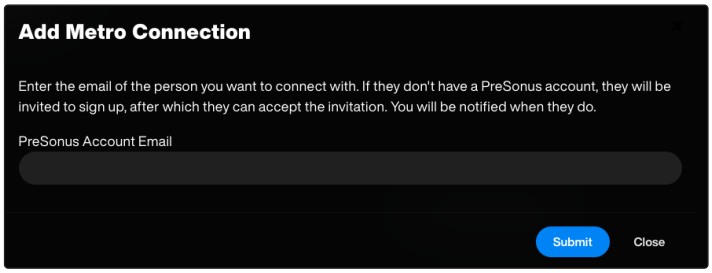
Once logged back in, click the menu icon on the top right to open up the MyPreSonus navigation menu and choose "Metro."





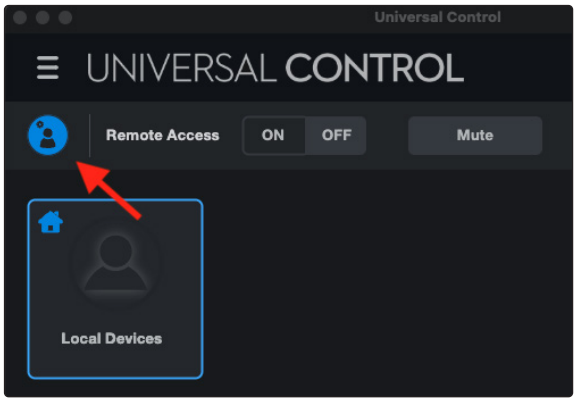
From the Metro workspace, Click the add (+) button and enter the e-mail address of the registered owner of the mixer you would like to remotely access. They will be notified via e-mail of your request.





Once your request is approved, your new contact will display in the list of Metro contacts on the left. Click the star icon to mark any as favorites, if desired - they will auto-populate to the top of the list.

With this user connection established, you'll be able to see the users listed in the Universal Control Metro section of Universal Control, as well as instances of Universal Control they have available to connect with.



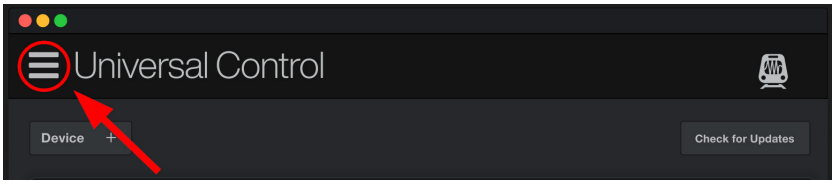
You can access this same page right from the Metro section of Universal Control. Simply click on the Manage connections button in the upper left corner of the screen. This will open a browser window with the Metro Connection workspace in your My.PreSonus account.

Once you have successfully logged into your MyPreSonus account from Universal Control, click on the Metro icon in the upper right corner to launch the Metro panel.

15.2.4 Activating Remote Access in Universal Control

In order to remotely connect to another mixer or have another user remotely connect to yours, both **host** and **client** need to activate Remote Access in Universal Control.

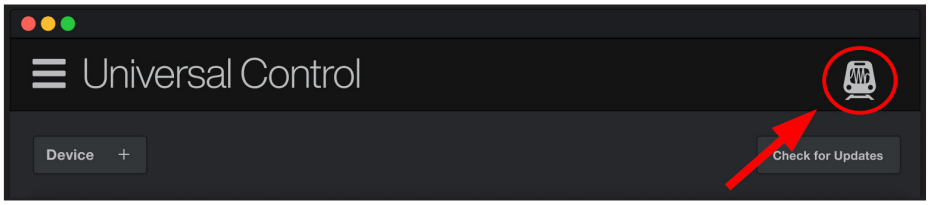
Launch Universal Control.



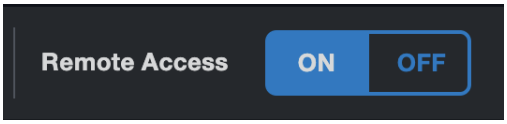
First, check to make sure that you are signed into your MyPreSonus account in Universal control. Click on the drop-down menu in the upper left corner to find out.

If "Sign in..." is listed as an option, select it and enter the log in information for your MyPreSonus account. If "Sign Out" is listed instead, please proceed to the next step.

Once sign-in status is confirmed, click the icon on the top right to open the Metro panel.



Click the “Remote Access” button; set it to ON.

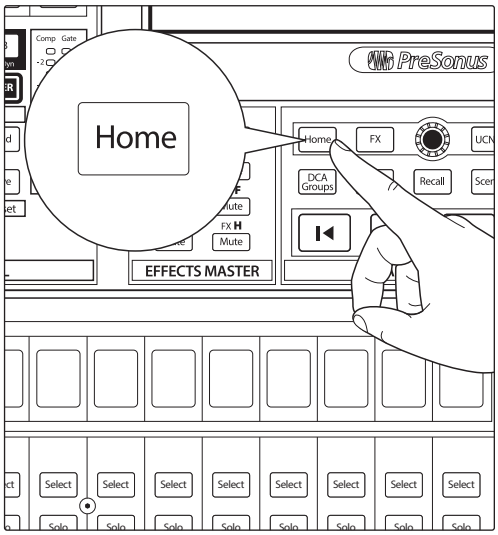


15.2.5 Enabling / Disabling Remote Access On Host Mixers

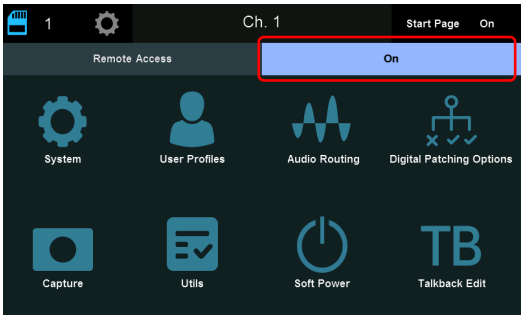
Remote Access is enabled by default on all StudioLive mixers. This means that once Remote Access is turned on in Universal Control on the Host computer, the StudioLive mixers connected to the Host computer are ready to be controlled via a remote Metro connection.

However, this permission can be enabled and disabled on each individual mixer itself. This added layer of permission allows users with multiple mixers connected to a Host computer to select which mixers can be controlled remotely via Metro and which ones may not.

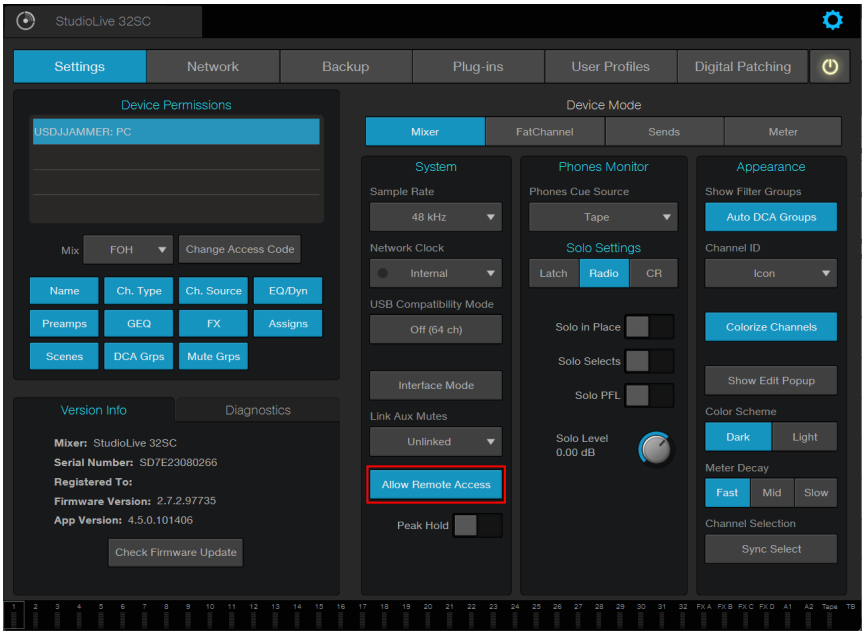
On a StudioLive Console mixer, select the Home button.



Next, set Remote Access to On.



For StudioLive rack mixers you can access the Remote Access feature in the Settings menu under System Settings.

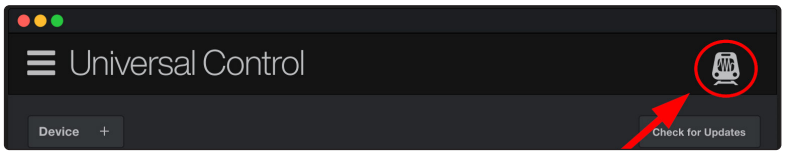


15.2.6 Establishing A Remote Connection Session

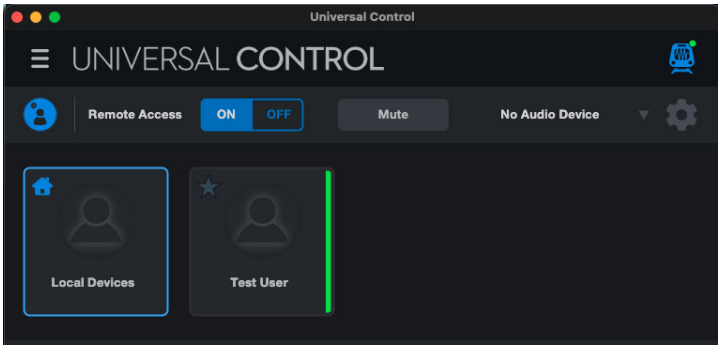
Once you've added your Metro connections in MyPreSonus and have enabled Remote Access, you are ready to create your first Universal Control Metro remote mixing session.

To establish a remote connection session:

1. Launch Universal Control.
2. Click the icon on the top right to open the Metro panel.



From here, you'll be presented with the list of your Metro connections from your MyPreSonus account. Each connection will also have a list of their instances of Universal Control that have had Remote Access turned on. Any computers currently online and open to you for a connection will be flagged with a green indicator.

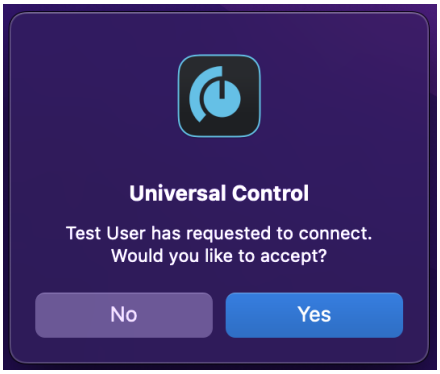


You can click the star icons to identify certain connections as Favorites.

Power User Tip: You can connect to your own mixer by selecting it in the "Local Devices" menu item, with no MyPreSonus account linking required.

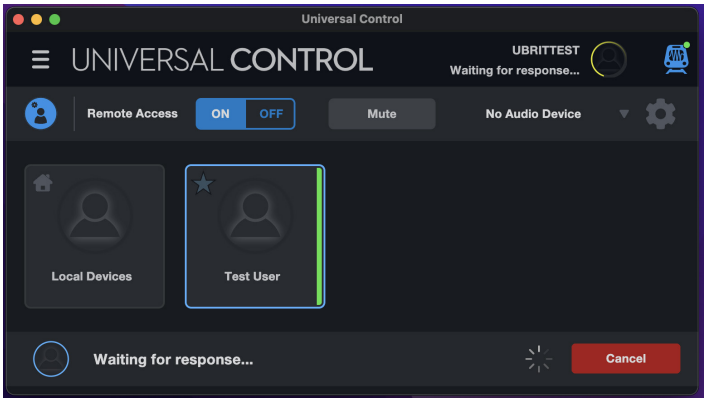
Click on the host instance you would like to connect to. A "Waiting for response" message will be displayed on the client side:

On the host side, a message will be displayed asking if the host will allow the connection.



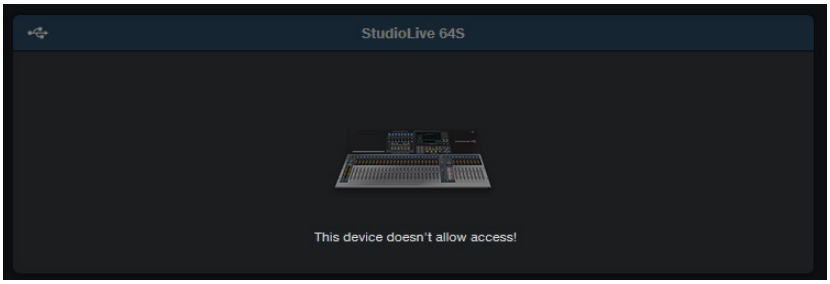
Once the host accepts the Remote Access request, the client will see every StudioLive Series III mixer on the host's network in the Universal Control Device List.

Once a Metro connection is established, the client will see only the host's devices when the connected host computer is selected in the Metro panel at the top of the UC Launch Window.

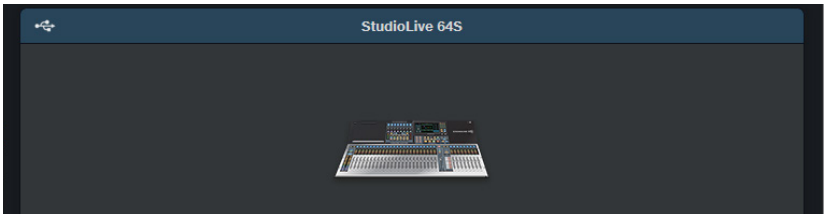


15.2.7 Allowing Client Access

If a mixer has had remote access disabled as described in ***Section 2.5***, it will appear grayed out on the Client side as shown below. The user on the Host side must enable access in order for you to remotely control it.



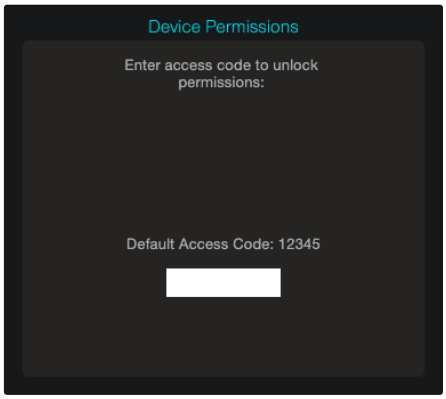
Click the desired mixer to open the Universal Control control panel for it.



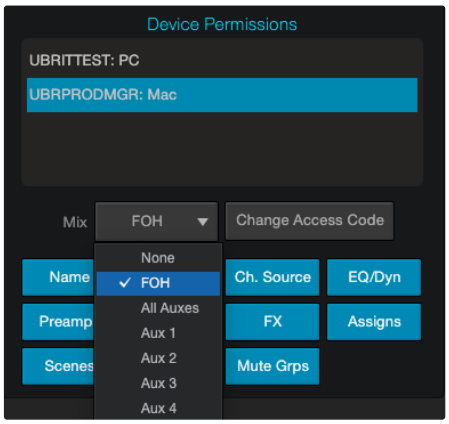
The first time you connect to a StudioLive mixer remotely using Metro, you willl need to enable permissions.

To do this, click on the Setting icon in the upper right corner.

Enter the access code for the mixer (default is 12345).



From here, select “FOH” from the permissions menu.



You are now ready to start controlling the Host mixer!

The Universal Control Window shown for the Metro-connected mixer will have a yellow border around it on both the client and host connections.

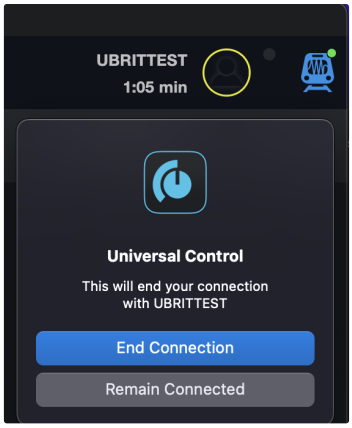
From here, you’ll be able to remotely control the Metro-connected mixer just as if it was connected to your local computer!

If the host computer is connected to the mixer via USB, you will also be able to monitor the audio from the Client side through your Client computer’s audio interface. *See Section 15.3 for complete information*.

You are now ready to begin remotely mixing and monitoring over the Internet with Metro! Complete

15.2.8 Ending A Remote Session

To end a remote session, either the host or client can select the user icon at the top right of the screen next to the connection time indicator:



15.3 Client Audio Options

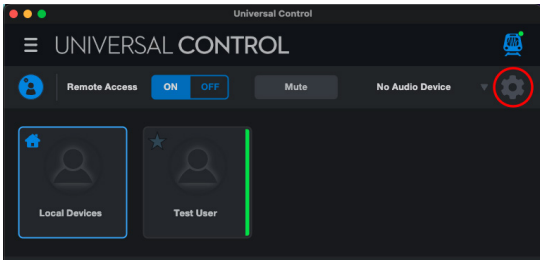
Metro allows the user on the Client side to monitor audio right from their personal speaker system. Metro is compatible with any audio interface. However, the sample rate on both the Client device and the Host mixer must match for audio to stream.

Audio sources are limited to the Main Mix and the Solo Bus.

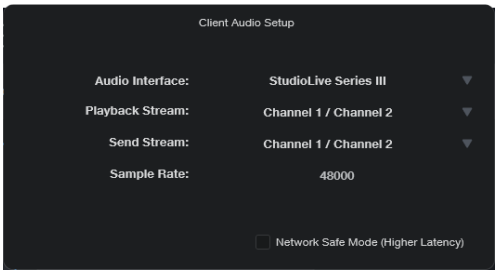
Please Note: *Audio with PreSonus Metro is not available if the StudioLive mixer is in USB Audio Interface Compatibility Mode. Make sure Compatibility mode is set to Off on your mixer before proceeding.*

15.3.1 Client Audio Setup

Click the gear icon below the Metro Show/Hide icon to open the Client Audio Setup window.



From here the client can select USB streams for desired local playback, as well as configure your local audio interface, Playback and Send streams, sample rate, and more.



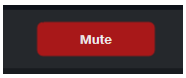
- **Audio Interface**: Choose the client-side audio interface to use.
- **Playback Stream**: Choose which playback streams of your interface will play sound from the host.
- **Send Stream**: Choose which stream from your interface to send sound to the host. (Talkback)
- **Sample Rate**: Choose the operating sample rate of your (client-side) audio interface
- **Network Safe Mode**: Increases the internal buffer size at the expense of latency. Use to avoid audio dropouts during connections with poor Internet connectivity.

15.3.2 Talkback

Use the Talkback feature to send voice communication from the client to the host. In the host's system, this mono audio stream will populate their Talkback channel.

15.3.3 Mute

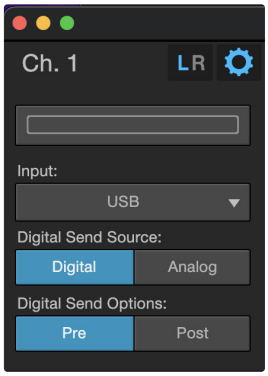
Use the Mute button to mute incoming audio from the Host computer. This does not mute the Talkback signal outbound from the Client to the Host.



15.4 Troubleshooting

15.4.1 Playback Troubleshooting

If you are using a StudioLive Series III mixer on the client side for monitoring, make sure that USB is selected as the source for the selected channels on your mixer.



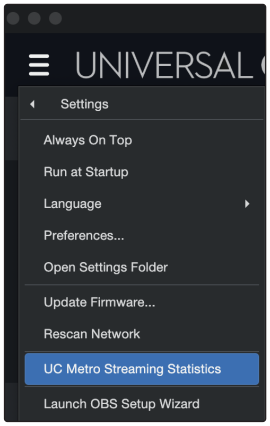
Additionally, both the audio interface on the Client side and the mixer on the Host side must be set to the same sample rate for audio to stream.

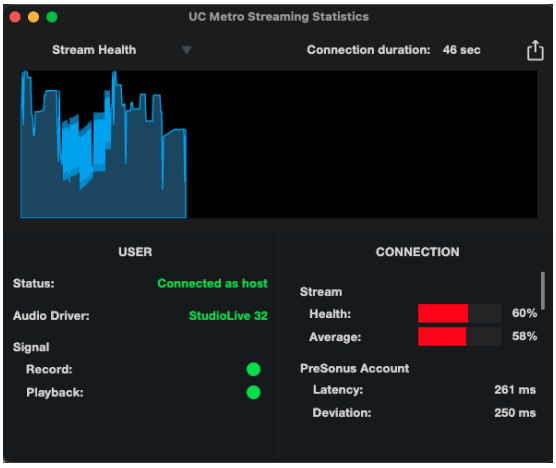
The StudioLive sample rate can be set from the System menu on the console.

15.4.2 Analysis

Universal Control provides an analysis tool for Metro called "UC Metro Streaming Statistics." While a connection is present, this window will display useful information about the connection such as stream health, stream latency, whether record and playback signals are present, etc. These parameters can help in troubleshooting some network and connection issues for UC Metro.

Access Streaming Statistics from the Universal Control launch Window under Settings.





If the client computer is hearing audio dropouts or other artifacts, this is normally contributed to a network speed or overall network health issue which will be indicated in the meters of the Statistics screen shown above. In this case, whoever is seeing the stream health issue on their end (client or host) should try to eliminate any potential slow-downs on their network or internet connection, which can be caused by a variety of factors including but not limited to network and router speed, bandwidth, and more.

16 Using the StudioLive with Popular Audio Applications

The section describes the basic driver-setup instructions for several popular audio applications. Complete setup instructions for PreSonus Studio One Pro and a brief tutorial on its features are located in the ***Studio One Integration Reference Manual for StudioLive Mixers***. 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.

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.*

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.

16.1 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 [Series III model], 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.

16.2 Ableton Live 5+

1. Launch Ableton Live.
2. Go to Options | Preferences | Audio.
3. Choose Driver Type: ASIO | Audio Device: StudioLive [Series III model], 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.

16.3 Apple Logic Pro/Express 7+

1. Launch Logic Pro/Express.
2. Go to Logic | Preferences | Audio.
3. Click on the Devices Tab.
4. Select StudioLive [Series III model], or PreSonus FireStudio from the device menu.
5. You will be asked if you'd like to relaunch Logic. Click "try (re)launch."
6. 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.
7. 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.
8. You are now ready to use your StudioLive.

16.4 Avid Pro Tools 9+

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

16.5 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 [Series III model]”, or “PreSonus FireStudio”
8. Go to Options | Audio... and click on the General tab.
9. Set the Playback Timing Master to “StudioLive [Series III model]...Channel 1”, or “PreSonus FireStudio ... Channel 1”
10. Set the Recording Timing Master to “StudioLive [Series III model]...Channel 1” or “PreSonus FireStudio ... Channel 1”

17 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.

Playback streams from your computer are returned to your mixer and can be patched into any channel or bus with a Digital Return button.

This section will help to provide a better idea of how audio flows from your mixer to your computer and back.

17.1 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 64S, StudioLive 32S, StudioLive 32SX, StudioLive 32SC, StudioLive 32, StudioLive 24, StudioLive 16, StudioLive 32R, and StudioLive 24R have 64 available sends and 64 available returns.
- The StudioLive 16R has 18 available sends and 18 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.

17.1.1 Channel Digital Sends

Digital Sends from input channels are sent pre-fader, however 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: Universal Control

Figure 3: StudioLive Series III console

StudioLive buses are also equipped with Digital Sends. These sends are always post-Fat Channel and pre-fader. StudioLive Series III mixers support the free routing of any channel or bus to any USB send. StudioLive AI-series mixers have 16 auxiliary sends that can be freely routed, ***see next section.***

17.1.2 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 Universal Control. 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.

17.1.3 Digital Returns

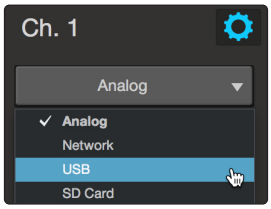
Each StudioLive input defaults to receive its respective digital return. The DAW Outputs in your recording application route these playback streams to their respective channels on the StudioLive (that is, the software's Output 1 always goes to StudioLive Channel 1 digital return and so on). Once you 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 in it 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: Universal Control



StudioLive Series III mixers support the free routing of any Digital Return to any channel via the Digital Patching menu. StudioLive AI-series mixers are hard-coded to always function in a one-to-one routing.

17.1.4 Main Digital Return

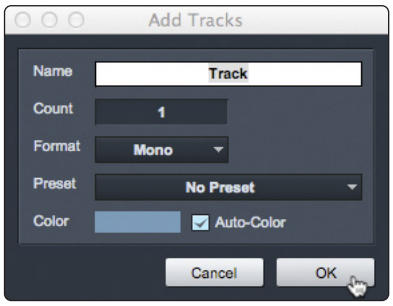
To provide the most flexible mixing environment, PreSonus has provided a stereo Main Digital Return to free the channels returns to be patched directly to their corresponding channels on your StudioLive mixer. In this way, you can monitor the main output from your recording application without using 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.

17.2 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 can 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 Pro onto Channel 4 of the StudioLive.

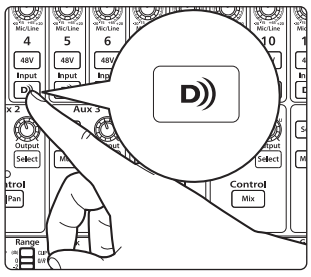


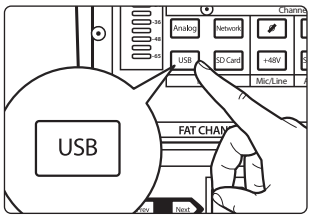
1. To begin, create a mono audio track in Studio One Pro.

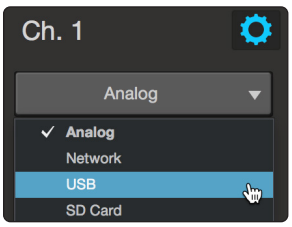
2. Assign its input to Channel 4 and its output to Output 4.

   (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 Pro, 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 17.1*** *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.*

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

Chicken and Andouille Gumbo

Ingredients:

- 1 C All-Purpose flour
- ¾ C Vegetable Oil
- 1 large onion (diced)
- 1 small onion (quartered)
- 6 celery stalks (diced)
- 1 large green bell pepper (diced)
- 3 cloves garlic (2 minced, 1 whole)
- 1 lb link Andouille sausage
- 4 Chicken leg quarters
- 4 qt water
- 4 bay leaves
- 1 tsp thyme
- 1 tsp Old Bay seasoning
- 1-2 C frozen okra, sliced
- ¼ C fresh parsley, minced
- 6-8 eggs (optional)

Cooking Instructions:

1. In a large pot, combine whole chicken leg quarters, water, quartered onion, Old Bay, 2 bay leaves and 1 whole clove garlic. Cover and bring to a low boil. Simmer stock until chicken is falling off the bone. Remove the chicken and set aside. Discard the onion, bay leaves, and garlic, reserving the liquid.
2. In a heavy saucepan, heat 1 Tbsp of the oil on medium high heat and brown the andouille until it is cooked through. Set aside sausage for later.
3. In the same saucepan, add and heat remaining oil. Slowly add flour 1-2 Tbsp at a time, stirring continuously. Continue cooking and stirring the roux until it is a dark brown (it should look like melted dark chocolate). Be careful to not to get the oil too hot or the flour will burn and you'll have to start over.
4. Once roux has reached the correct color, add diced onion, celery, green pepper, and minced garlic. Cook until vegetables are very tender. Do not cover.
5. Slowly add 1 quart of chicken broth and bring to a low boil, stirring constantly.
6. Transfer roux mixture to a soup pot and bring to low boil. Do not cover, the roux will settle on the bottom of the pot and burn.
7. Add remaining chicken broth, bay leaves, and thyme. Simmer for 30 minutes.
8. While gumbo is simmering, debone and shred chicken and slice the andouille.
9. Add chicken and andouille to gumbo and return to a simmer. Simmer for 30-45 minutes.
10. Stir in frozen okra and parsley and bring to a rolling boil.
11. **Optional:** Crack one egg into a teacup and quickly pour into the boiling gumbo. Repeat with the other eggs being careful not to cluster them too closely. After all the eggs have risen back to the surface, reduce heat and simmer.
12. 12. Correct seasoning with salt and pepper (red, white and/or black) if necessary.
13. Serve over rice with potato salad.

Serves 12

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Universal Control for StudioLive® Mixers

Software Reference Manual

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