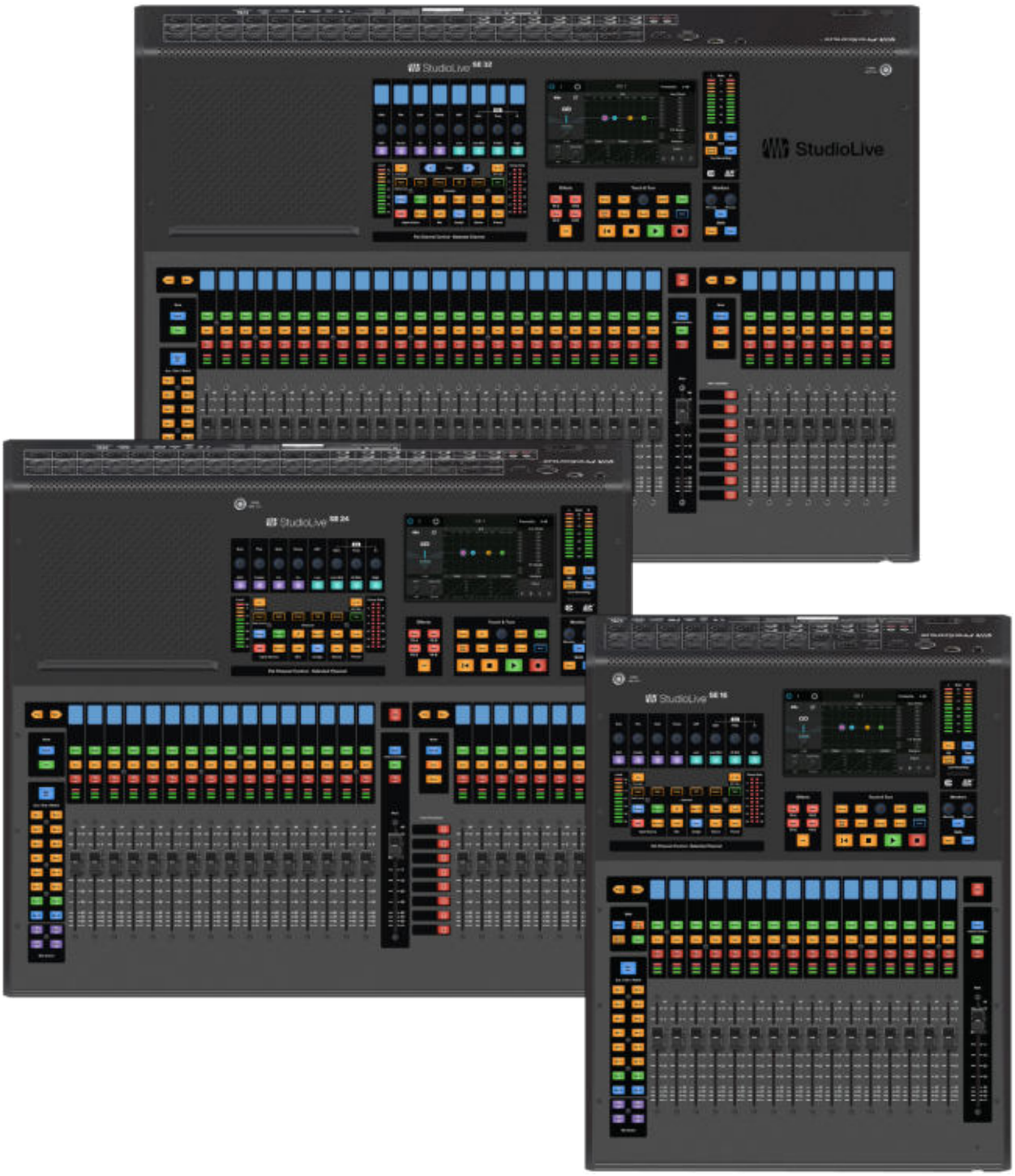
StudioLive® Series III SE Consoles

Digital Mixing Systems with Integrated Recording

Owner's Manual



PreSonus®

www.presonus.com

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1 Overview

1.1 Introduction





Thank you for purchasing your PreSonus® StudioLive® Series III Digital Mixer. PreSonus Audio Electronics has built your StudioLive mixer with high-grade components to ensure optimum performance for many years to come. StudioLive Series III breaks new boundaries for music performance and production.

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

1.2 About this Manual

We suggest that you spend some time with this manual before starting to work with your StudioLive Series III mixer, to familiarize yourself with its features, workflows, and connection procedures. This will help your setup process go as smoothly as possible. This manual applies to all StudioLive Series III mixers. While every StudioLive Series III mixer provides nearly identical mixing capabilities, some features and workflows vary between models. Where these differences occur, they will be called out. All illustrations for shared features and functions will show a StudioLive SE 32.

This manual covers the following hardware products:

StudioLive Series III Special Edition (SE) Models

- StudioLive SE 32
- StudioLive SE 24
- StudioLive SE 16

StudioLive Series III S Models

- StudioLive 64S
- StudioLive 32S
- StudioLive 32SX
- StudioLive 32SC

StudioLive Series III Blue Models (requires v. 2.0 firmware or later)

- StudioLive 32
- StudioLive 24
- StudioLive 16

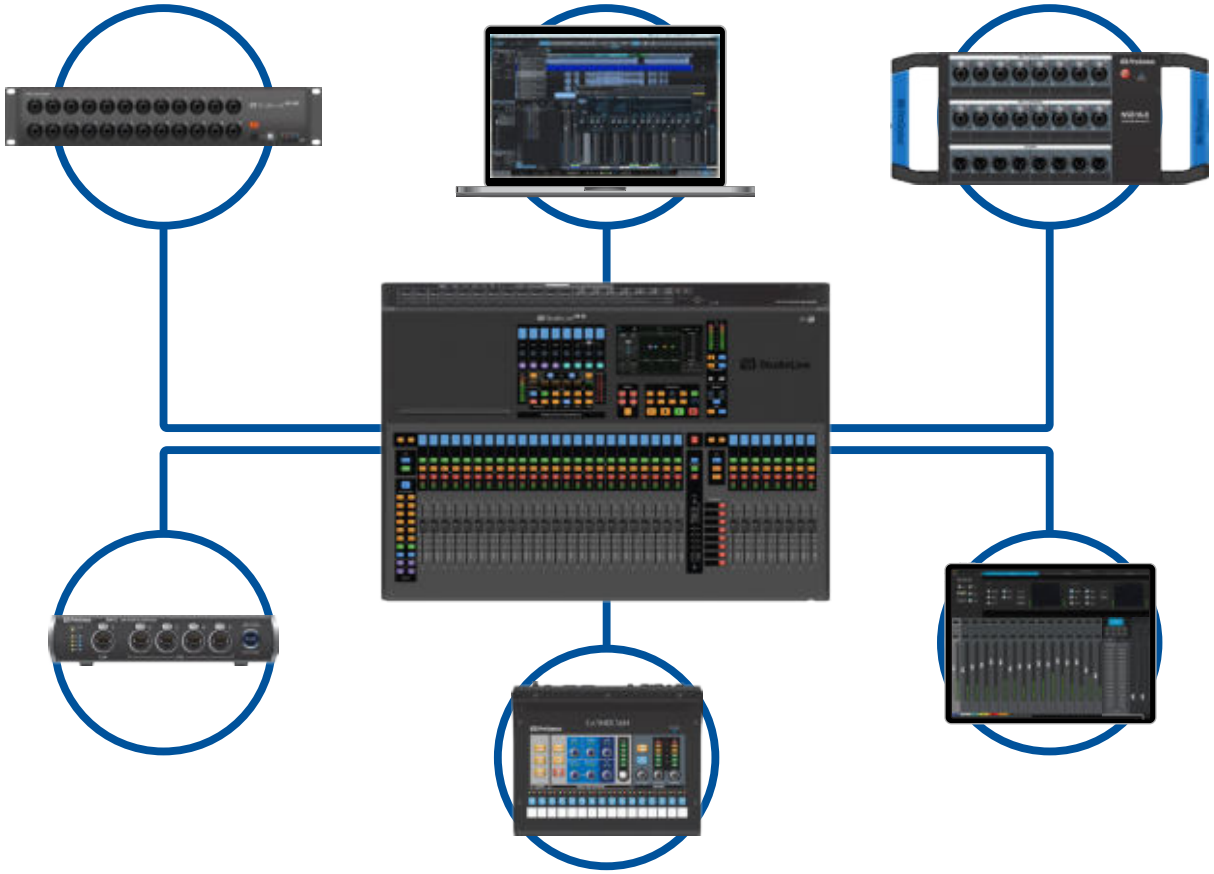
Throughout this manual, you will find Power User Tips, providing mixing tricks and explanations of various useful audio terms. Near the end of this manual, you'll find a selection of audio tutorials, covering everything from microphone placement to recommended equalizer and compression settings. We hope these tutorials help you to get the most from your StudioLive Series III mixer.

All models, except the StudioLive 64S, are 32-channel mixers and will be referred to as such when differences occur between the StudioLive 64S and the other mixers in the StudioLive Series III family.

Thank you, once again, for purchasing our product. We are confident that you will enjoy your new StudioLive.

1.3 Companion PreSonus Products

Welcome to the PreSonus Ecosystem! As a solutions company, we believe the best way to take care of our customers (that's you) is to ensure that you have the best possible experience from the beginning of your signal chain to the end. In order to achieve this goal, we've prioritized seamless integration throughout every design phase of these products from day one. The result is systems that communicate with each other as intended— straight out of the box—without excessive configuration hassle.



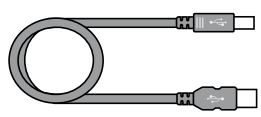
For more information on individual products, please visit www.presonus.com.

1.4 What's in the Box

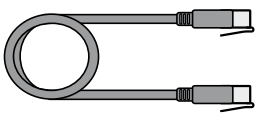
In addition to a Visual Quick Start Guide, your StudioLive package contains the following:



A PreSonus StudioLive Series III digital recording and performance mixer



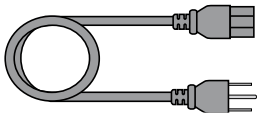
- 1 meter USB cable



- 1 meter CAT6 Ethernet cable



- StudioLive Series III Quick Start Guide



- IEC power cord

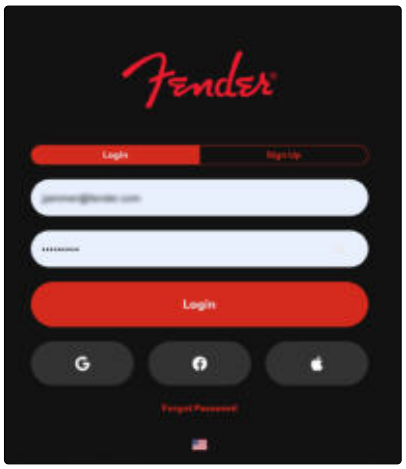
Power User Tip: All companion software and drivers for your PreSonus StudioLive Series III mixer are available for download from your My Fender user account. Please visit http://my.fender.com and register your StudioLive Series III mixer to receive downloads and licenses.

1.5 Register Your StudioLive Series III SE Console Mixer

Your StudioLive Series III SE Console Mixer is loaded with professional audio tools and flexible monitoring controls. Please visit www.presonus.com and navigate to the StudioLive Series III SE console mixer product page to verify the latest system requirements for your mixer.

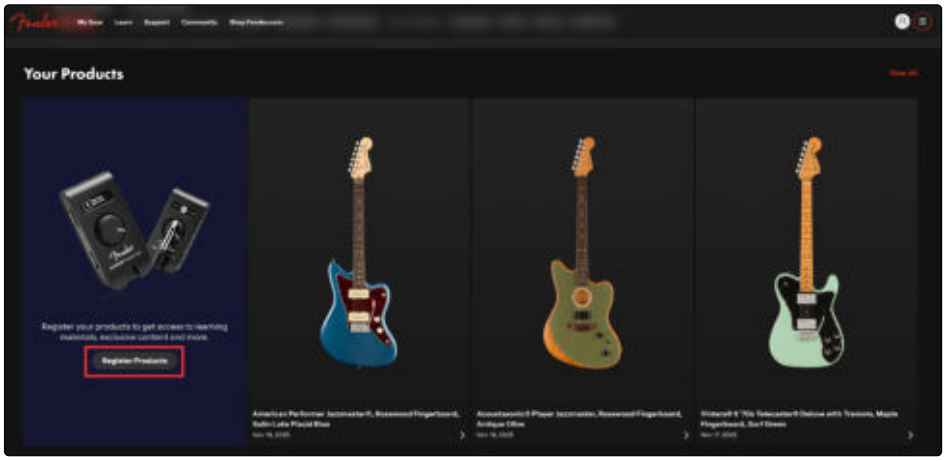
Once you've verified that you meet the latest system requirements, follow these steps:

1. Visit My.Fender.com and create or log into your user account.

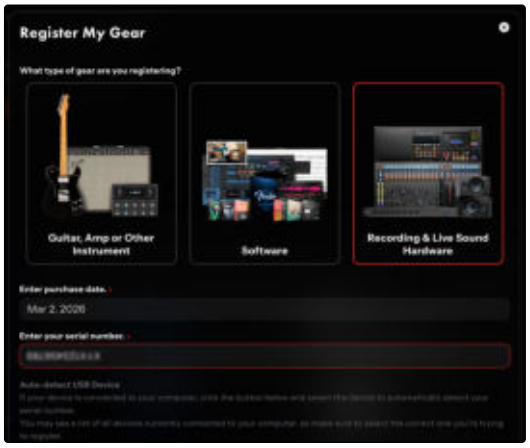


Note: If you have previously created a MyPreSonus account, you can use these credentials on MyFender to log in. All of your previous registered PreSonus products will be available from the new unified MyFender account experience.

2. At the top of your MyFender homepage, click onto the "Register Products" button. After clicking, a dialog window will appear.



3. Select "Recording & Live Sound Hardware," enter your mixer's serial number in the field below, and click "Register."



4. To download Universal Control and Capture for macOS and Windows, navigate to the My Gear page in MyFender. Click on the "Hardware" filter, and then, click on your mixer to open the product page. From here, you can download the Capture and Universal Control installers.
5. Once registered, you will also find your complementary license for Fender Studio Pro registered to your account. You can download the installer from the My Gear page.

Note: 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.

1.6 Additional Resources

Your StudioLive console mixer comes with many supporting documents created to help you make the most of your mixer. You can find the following documents from the Software Documents and Downloads Search page.

Software Guides:

- Capture 3 User Manual. Included with StudioLive mixers is Capture, a digital-audio multitrack-recording application designed to make recording quick and easy. This manual covers how to download and use Capture with your StudioLive mixer.
- 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 User 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.
- Fender Studio Pro Integration with StudioLive® Series III Mixers. Studio Pro License with 12 Months Studio Pro+ Access is included with every StudioLive mixer. In addition to being a powerful DAW, Studio Pro provides unique routing and integration features. This manual will help you get the most from your StudioLive mixer when used with Studio Pro.
- Universal Control for StudioLive Mixers. This user manual describes the features and functions of Universal Control with every StudioLive mixer model. Universal Control can be used to remotely control ever function on your StudioLive mixer or specific functions, depending on the set permissions, or to turn your tablet into additional screens for your mixer. This user manual also details how to use your StudioLive mixer as an audio interface, using your Studiolive mixer with popular DAWs, Metro, and more.

Additional Resources:

- Advanced AVB Integrator Application 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 emulation.
- StudioLive Series III Stage Box Mode Addendum. The StudioLive Series III rackmount mixers (StudioLive 32R, StudioLive 24R, StudioLive 16R) can be used as advanced stage boxes for any StudioLive Series III console mixer.

2 Getting Started

Before you begin, here are a few rules to get you started:

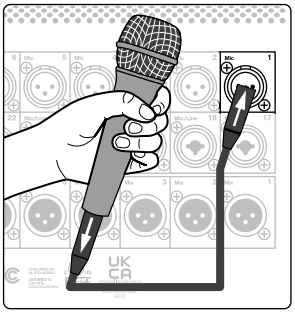
- Always turn down the Main fader and both the Monitor and Phones knobs in the Monitor section before making connections.
- Before plugging or unplugging a microphone while other channels are active, mute the channel to which you are connecting.
- Your faders should be set on or near the "U" mark whenever possible. The "U" indicates unity gain, meaning the signal is neither boosted nor attenuated.
- Do not allow your inputs to clip. Watch the level meters; when signal nears Clipping, the top LED illuminates, indicating that the analog-to-digital converters are in danger of being overdriven. Overdriving the converters will cause digital distortion, which has a negative effect on sound quality.

Your P.A. and studio equipment should be powered on in the following order:

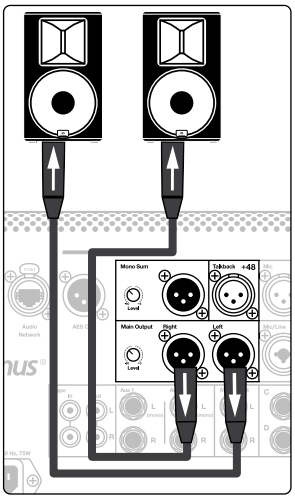
- Sound sources (keyboards, direct boxes, microphones, etc.) connected to the StudioLive inputs
- StudioLive Series III mixer
- Computer (if applicable)
- Power amplifiers or powered loudspeakers

When it is time to power down, your system should be turned off in the reverse order. Now that you know what not to do, let's get started!

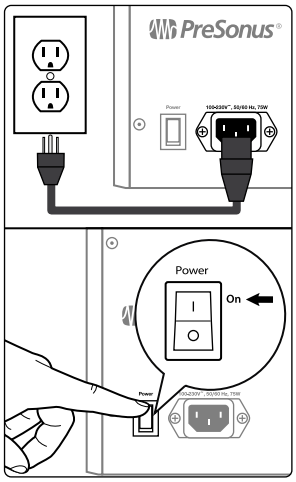
2.1 Level Setting Procedure



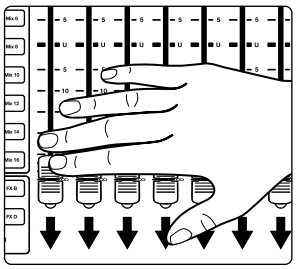
6. Plug a microphone into the Channel 1 input on your StudioLive Series III with a standard XLR cable.



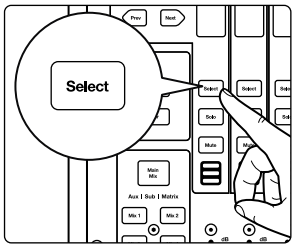
7. Connect the main outputs of your StudioLive to your powered monitors (or power amp if using passive speakers).



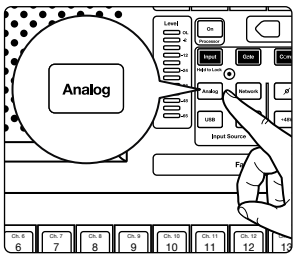
8. Plug your StudioLive into a power outlet and turn it on.



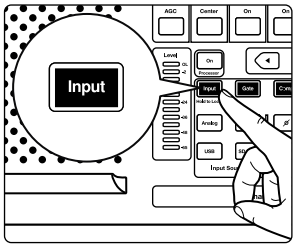
9. Move all of the faders on your StudioLive down to the lowest setting.



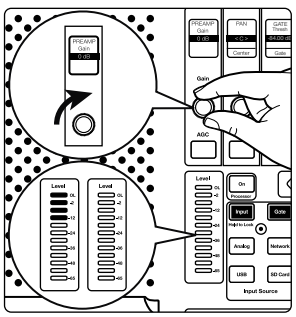
10. Press the Select button on Channel 1 to bring its settings into focus in the Fat Channel.



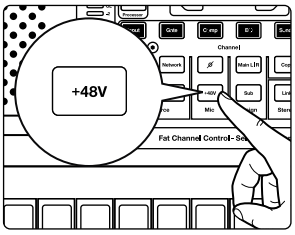
11. Press the Analog button in the Fat Channel to patch in the analog input.



12. Press the Input button in the Fat Channel.



13. Turn the first knob in the Fat Channel section (Preamp Gain) counter-clockwise to its lowest setting.

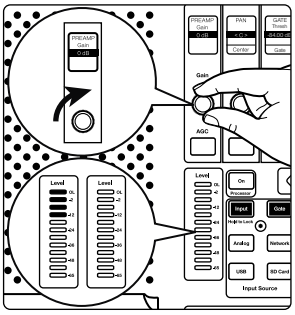


14. If your microphone requires phantom power, press the +48v button in the Fat Channel.

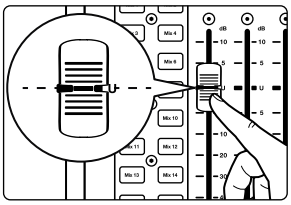
15. Turn on your powered monitors or power amp.



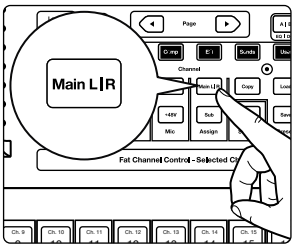
16. Speak or sing into your microphone at the same volume as the performance.



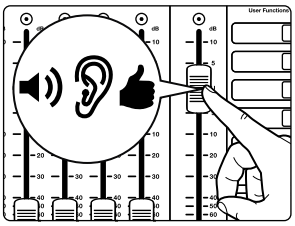
17. Turn the first knob in the Fat Channel section (Preamp Gain) clockwise while watching the Level (input) meter in the Fat Channel. Adjust the Preamp Gain knob until the meter shows an average level around the middle of its range. Avoid lighting the red (clip) LED at the top of the meter.



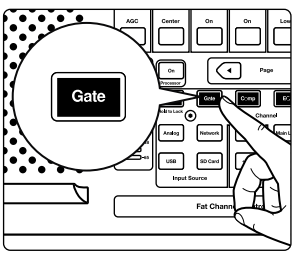
18. Raise the Channel 1 fader to its "U" setting (unity gain).



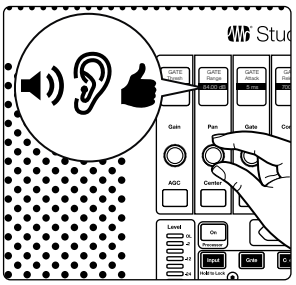
19. Press the "Main" button in the Fat Channel to assign Channel 1 to the Main output bus.



20. Raise the Main fader while singing or speaking into the microphone until you are satisfied with output level.



21. Select the Fat Channel processor (Gate, Compressor, or EQ) you would like to edit first.



22. Use the controls in the Fat Channel or on the Touch Display to set the parameters to taste.

StudioLive SE 16, SE 24, 32SX and 32SC Users will utilize the Touch Display to edit all Fat Channel parameters. The controls in the Fat Channel are fixed to their designated function.

2.2 Useful Concepts

This section covers some basic workflow concepts to help you to more quickly get acquainted with your StudioLive.

2.2.1 Select Buttons and the Fat Channel



All around the StudioLive, you will see Select buttons. There is a Select button on each channel as well as the master fader. Each of these buttons serves exactly the same purpose: to access the available Fat Channel parameters for its channel or bus. These buttons will also change colors to alert you as to the type of mix you are viewing (Aux, Subgroup, or Matrix).



The Fat Channel is the heart of the StudioLive. It gives you a wealth of powerful signal processing, mixing, and configuration tools to help you make the most of your mixer. Each channel and mix in your StudioLive can take advantage of the Fat Channel functions at the touch of the corresponding Select button.

The 8 multipurpose knobs, buttons, and Scribble Strip displays in the Fat Channel shift their functions to suit your needs as you move between tasks. The integrated Touch Display works in tandem, providing useful information and fluid touch control.



The StudioLive SE 16, SE 24, 32SX and 32SC feature a Fixed mode Fat Channel that is locked to the Input layer controls you need under your fingertips quickly. All other StudioLive users can toggle between the Fixed and Dynamic modes by pressing and holding the Input button in the Fat Channel.

For more information on using the Fat Channel system, see Section 6.

2.2.2 Fat Channel Plugins

The Compressor and EQ in the Fat Channel are equipped with multiple plug-in models that can be loaded on each input and output to alter the sound and provide your mix with more character. For more information about the Fat Channel plug-ins and a reference of the available processors and utility settings for each type of signal that the Fat Channel can process, see Section 6.

2.2.3 FlexMixes

In a traditional analog console, there are several different types of buses, each feeding a dedicated output. Your StudioLive mixer features analog Mix outputs, each driven by a FlexMix bus. Why do we call them FlexMixes? Because each FlexMix can be configured as any one of three bus types:

- Pre- or Post-Fader Send Aux Bus. Aux buses provide auxiliary mixes that are separate from the main and subgroup mixes.
- Subgroup. Subgroups are alternate buses that act much like the Main L+R bus on your StudioLive.
- Pre- or Post-Fader Matrix Mix. Matrix mixes provide auxiliary mixes created from any bus output as well as every input channel.
- What's more, FlexMixes can be stereo linked or used as mono, providing maximum flexibility.

Power User Tip: Compact StudioLive Series III mixers, like the StudioLive SE 16 and StudioLive 32SC, are equipped with more FlexMix buses than physical analog FlexMix outputs. These additional buses can be routed over the AVB network to NSB-series stageboxes, EarMix personal monitor systems, and other mixers on the network.

For more information on using and configuring FlexMixes, see Section 5.1

2.2.4 Fader Layers

To provide the most compact form factor, the StudioLive mixer utilizes fader layers. Each layer allows you to view the channel strip controls for the input channels in each mix. Additional fader layers allow you to view just the Aux Inputs, the DCA Group outputs, or the Mix Master outputs.

More information about Fader Layers can be found in Section 4.2.

2.2.5 DCA Groups

Filter DCA Groups are a way to control the overall volume of a group of related channels (such as all drum channels). While you can accomplish a similar result by routing channels to a subgroup and controlling their volume with the subgroup master, DCA Filter Groups require no such re-routing and offer some additional utility.

Filter DCA Groups provide two different fader functions: Default and Traditional.

- While in Default mode, the faders for the channels assigned to the Filter DCA Group will move when the Filter DCA Group fader is adjusted. In this way, you always have a clear visual cue of the actual fader level for every channel.
- While in Traditional mode, the faders for the channels assigned to the Filter DCA Group will not move when the Filter DCA Group fader is adjusted.

For more information on using DCA Filter Groups, see Section 4.3.

2.2.6 Recording and Playback

The StudioLive Series III mixers are equipped with a 34-track SD recorder that is completely integrated with your mixer, making multi-track recording and Virtual Soundchecks quick and easy. Playback channels from the SD card can be switched individually per channel.

In addition to the onboard SD recorder, a USB audio interface is also included. This interface is continuously bidirectional, allowing you to use plugins as inserts as well as recording and playback applications.

More information about SD recording and playback is available in Section 8.

More information on USB recording and playback is available in the Universal Control for StudioLive Mixers User Manual.

2.2.7 Digital Patching

StudioLive Series III mixers allow you route any input to any channel and any mix to any output. This enables you to create a customized configuration for your mixer. In this way, you can patch any analog input or digital return (AVB, USB, or SD) to any channel you like as well as route any FlexMix to any analog output, the AVB network, or as sources for the USB audio interface and SD multitrack recorder.

The Digital Patching screen provides a detailed overview of what type of source is feeding each channel, which input or return is patched to each channel, and where each bus is routed.

For more information, please review Section 12.3.

2.2.8 Projects, Scenes, and Presets

Every parameter on your StudioLive mixer can be stored and recalled later. These settings are saved as follows:

Projects

Global System settings and routing are stored within a Project. A Project saves the mode for each FlexMix, 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.

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.

For more information on saving and loading Projects, see Section 9.6.1.

Scenes

Scenes that share the same Global System settings should be stored within the same Project. Many Scenes can be stored within each Project. A Scene saves all the settings you need to recall your mix like Channel Strip parameters, Fat Channel models and settings, and Channel Identifiers like name, color, and type. As of firmware version 2.8.2 and later, Scenes can be copied from Project as well as using Universal Control.For more information on saving and loading Scenes, see Section 9.6.2.

Presets

When you've dialed in a setting for a Fat Channel or FX processor that you'd like to use on another channel later or in a future mix, you can save it as a Preset. Presets are globally accessible from any Project or Scene. So, even if you've created the perfect Reverb preset in Project or Scene, you can recall it later from any other Project or Scene.

For more information on saving and loading Fat Channel Presets, see Section 6.1.2.

Presets can also be created within Universal Control where you can easily back them up, transfer them, and reorganize your library. In addition to being able to fully remote control your StudioLive mixer, Universal Control is a powerful editor/librarian software for your Projects, Scenes, and Presets. Please review the Universal Control for StudioLive Mixers user manual for more information.

2.2.9 User Profiles

User Profiles provide an easy way to grant access to some features and scenes to some users, while locking out others. In this way, more advanced users can manage critical functions like Digital Patching and bus configuration that cannot be changed by guest users.

By default, an Admin profile is active when your StudioLive mixer is powered on. This profile type has access to every feature and function on the mixer.

Restricted profiles are always locked out of the Settings, Audio Routing, and UCNET screens and cannot lock or unlock scenes nor can they change a soft patch.

Restricted profiles can also be locked out from other optional functions as the Admin user sees fit.

For more information on configuring and using User profiles, see Section 12.2.

3 Hookup

3.1 Rear Panel Configurations

3.1.2 StudioLive SE 32



Analog Inputs				
Mic / Line	Mic Only	Aux Inputs	Tape Inputs	Talkback In
16 Combo	16 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	Subgroup	Main Out	Mono Sum	Monitor Out	Tape Out
12 XLR (M) 4 1/4" TRS	4 1/4" TRS	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.3 StudioLive SE 24



Analog Inputs				
Mic / Line	Mic Only	Aux Inputs	Tape Inputs	Talkback In
16 Combo	16 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	Subgroup	Main Out	Mono Sum	Monitor Out	Tape Out
12 XLR (M) 4 1/4" TRS	4 1/4" TRS	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.4 StudioLive SE 16



Analog Inputs				
Mic / Line	Mic Only	Aux Inputs	Tape Inputs	Talkback In
8 Combo	8 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	Subgroup	Main Out	Mono Sum	Monitor Out	Tape Out
6 XLR (M) 4 1/4" TRS	N/A	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.5 StudioLive 64S



Analog Inputs				
Mic / Line	Mic Only	Aux Inputs	Tape Inputs	Talkback In
32 Combo	n/a	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	Subgroup	Main Out	Mono / Center	Monitor Out	Tape Out
16 XLR (M)	n/a	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.6 StudioLive 32S



Analog Inputs				
Mic / Line	Mic Only	Aux Inputs	Tape Inputs	Talkback In
32 Combo	n/a	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	Subgroup	Main Out	Mono Sum	Monitor Out	Tape Out
12 XLR (M) 4 1/4" TRS	4 1/4" TRS	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.7 StudioLive 32SX



Analog Inputs				
Mic / Line	**Mic Only**	**Aux Inputs**	**Tape Inputs**	**Talkback In**
16 Combo	16 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	**Subgroup**	**Main Out**	**Mono Sum**	**Monitor Out**	**Tape Out**
12 XLR (M) 4 1/4" TRS	4 1/4" TRS	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.8 StudioLive 32SC



Analog Inputs				
Mic / Line	**Mic Only**	**Aux Inputs**	**Tape Inputs**	**Talkback In**
8 Combo	8 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	**Subgroup**	**Main Out**	**Mono Sum**	**Monitor Out**	**Tape Out**
6 XLR (M) 4 1/4" TRS	N/A	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.9 StudioLive 32 (Blue Model)



Analog Inputs				
Mic / Line	**Mic Only**	**Aux Inputs**	**Tape Inputs**	**Talkback In**
16 Combo	16 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	**Subgroup**	**Main Out**	**Mono Sum**	**Monitor Out**	**Tape Out**
12 XLR (M) 4 1/4" TRS	4 1/4" TRS	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.10 StudioLive 24 (Blue Model)



Analog Inputs				
Mic / Line	**Mic Only**	**Aux Inputs**	**Tape Inputs**	**Talkback In**
12 Combo	12 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	**Subgroup**	**Main Out**	**Mono Sum**	**Monitor Out**	**Tape Out**
8 XLR (M) 8 1/4" TRS	n/a	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.1.11 StudioLive 16 (Blue Model)



Analog Inputs				
Mic / Line	**Mic Only**	**Aux Inputs**	**Tape Inputs**	**Talkback In**
8 Combo	8 XLR	4 1/4" TRS	2 RCA	1 XLR (F)

Analog Outputs					
Flex Mix	**Subgroup**	**Main Out**	**Mono Sum**	**Monitor Out**	**Tape Out**
6 XLR (M) 4 1/4" TRS	n/a	2 XLR (M)	1 XLR (M)	2 1/4" TRS	2 RCA

3.2 Rear Panel Connections

While the complement of analog I/O differs between the various StudioLive Series III models, the function of each component is consistent across the mixer range.

3.2.1 Analog Inputs



Mic/Line Inputs. Each microphone input on the StudioLive Series III mixers is supplied with a remote PreSonus XMAX microphone preamplifier, for use with all types of microphones. The XMAX preamp features a Class A input buffer circuit, followed by a dual-servo gain stage. This results in exceptionally low noise, and a wide range of gain, allowing you to boost signals significantly without introducing unwanted background noise.

It is important to note that the XMAX circuit is an analog design that is remotely controlled digitally.

Each model is also equipped with a number of inputs that can also accept line-level signals. These inputs use TRS-XLR combo jacks that can accept both XLR and balanced or unbalanced 1/4" cables. The ¼-inch TRS connectors bypass the gain stage and are scaled to accept line-level signals up to +18 dBu.

Power User Tip: When the line inputs are engaged, the microphone preamp circuit is bypassed completely, however, +20 dB of digital gain is available. Typical examples of line-level connections are synthesizer outputs, signal processors, and stand-alone mic preamps and channel strips. Use the output level control on your line-level device to adjust its level.



Microphone Only Inputs. Every model StudioLive Series III mixer, except the StudioLive 64S, is also provided with Microphone Only inputs. These inputs can only be used with line level sources connected to a D.I. box.



48-volt Phantom Power. The StudioLive provides individually-switchable 48V phantom power for each microphone input.

WARNING: Phantom power is required for condenser microphones and certain other specialty microphones that contain active preamp circuitry. However, applying phantom power to mics that don't require power can damage them (especially ribbon mics). Switch phantom power off for all channels where it is not required.

XLR connector wiring for phantom power:
Pin 1 = GND Pin 2 = +48V Pin 3 = +48V

Note: As with many audio devices, plugging a microphone or line-level device, or enabling/disabling phantom power can create a momentary noise spike in the audio output of your StudioLive mixer. It is highly recommended that you mute or turn down a channel's fader before changing connections or toggling phantom power on or off.



Aux Inputs. The StudioLive offers two balanced stereo auxiliary inputs. While these line inputs are generally used as effects returns, they can also be used for any line-level source (synthesizers, amp modelers, etc.). The left input of each pair is normalled to the right input, so if you are returning a mono signal to the mix, connect it to the left input, and the signal will be routed to both sides of the mix.

Power User Tip: More information about using external effects processors can be found in Section 5.2.3.



Talkback Mic Input. StudioLive mixers do not have a built-in talkback microphone, rather they are equipped with an additional XMAX mic preamp to connect an external microphone for talkback use.

Note: Phantom power is always enabled on the Talkback Mic input. If using a dynamic mic, we recommend checking its documentation to verify that phantom power will not harm it.

Power User Tip: The Talkback Mic input uses the same high-quality XMAX mic preamp employed by the other input channels, and can be enabled as a recording input or as an additional input channel in any mix.



Tape In/Out. These RCA input and output jacks can be used to connect a music player (MP3, CD, tape) or other consumer device to your system. The Tape inputs are an available input source within the mixer, while the Tape outputs mirror the output of the Main output pair.

3.2.2 Analog Outputs



Sub Outputs (StudioLive SE 32, SE 24, 32S, 32SX, and 32 only). These are balanced mono outputs, one for each subgroup.

Power User Tip: While other StudioLive Series III models do not provide dedicated subgroups outputs, every 32-channel StudioLive Series III is equipped with four dedicated subgroups in addition to the FlexMixes. These subgroups can be routed to any FlexMix output, USB send, or routed to other hardware, like an NSB-series stagebox, over an AVB network. The StudioLive 64S is equipped with 32 FlexMixes, any or all of which can be configured as a subgroup.

More information about Subgroups can be found in Section 5.3.1.



Mix Outputs. Local analog outputs are provided for the FlexMixes on your StudioLive Series III mixer. While any FlexMix can be routed to any output, by default, these mixes are routed in order (i.e. FlexMix 1 to Mix Out 1, FlexMix 2 to Mix Out 2, etc.)

More information about configuring FlexMixes can be found in Section 5.1.

More information about routing to Mix Outputs can be found in Section 12.3.2.



Main Left / Right Outputs. The StudioLive features stereo main outputs on XLR connections.



Main Mono Output. A mono output is also provided. For all 32-channel models, this output is an analog sum of the Main stereo mix.

Main / Mono level controls (32-channel models). All 32-channel StudioLive mixer models are equipped with a level control to adjust the output level at the analog stage. The Main (stereo) output attenuation control has a range of -80 to 0 dB. The Mono output level control has a range of -80 to +6 dB.

Note: This feature is not available on the StudioLive 64S.



StudioLive 64S Only: The Mono Output on the StudioLive 64S is equipped with its own mono bus. This bus can be configured as a mono mix or a center channel and provides level control for all input independently of the Main Mix bus. When configured as a Center channel, each channel has a unique center divergence control. For more information on the StudioLive 64S Mono Bus, please see Section 5.6.



Monitor Outputs. This pair of balanced 1/4"TRS outputs are provided to connect a pair of monitors in the control room or sound booth. The level is controlled by the Monitor knob in the Monitors section on the top panel.

3.2.3 Digital and Networking



AES Output. By default, the AES/EBU digital output receives the same signal as the stereo Main outputs. However, you can route any of the mix buses, Tape input, or the Solo bus to this output. Because the StudioLive cannot be synced externally, you will need to use it as the master clock and set your AES-equipped device to receive word clock externally via AES. Please consult the documentation for your external digital device for instructions.

Power User Tip: This output can also be connected to S/PDIF-format devices, through the use of an AES/EBU-S/PDIF adapter. A standard XLR-RCA adapter will not function. AES/EBU-S/PDIF adapters contain impedance-matching circuitry that is required for proper function.



Audio Network. This connection accepts both locking Ethernet (e.g. etherCON™) and RJ45 connections and is used for AVB audio networking.

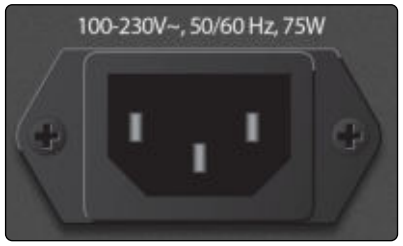


Ethernet Port. This RJ45 port is used to connect your StudioLive to a standard LAN network for control applications only.



USB Port. This female USB-B jack provides connection to a computer for audio interfacing, control, and file transfer duties.

3.2.4 Power



Power Input. Connect the provided IEC power cable to this input.



Power Switch. Push the top part of this switch to power your StudioLive on, and the bottom to switch power off.

Power User Tip: StudioLive Series III mixers provide a Soft Power Down option from the Home menu. Selecting this option first will store your StudioLive's current mix state, allowing you to power it off without losing any settings. You will also be given the option to log out of the current User Profile.

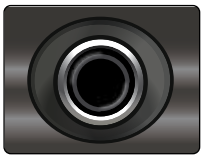
3.3 Top Panel Connections



Lamp Connector. This 12V BNC connection is provided to connect a third-party console lamp. Do not use a bulb that is larger than 12V, 380 mA.

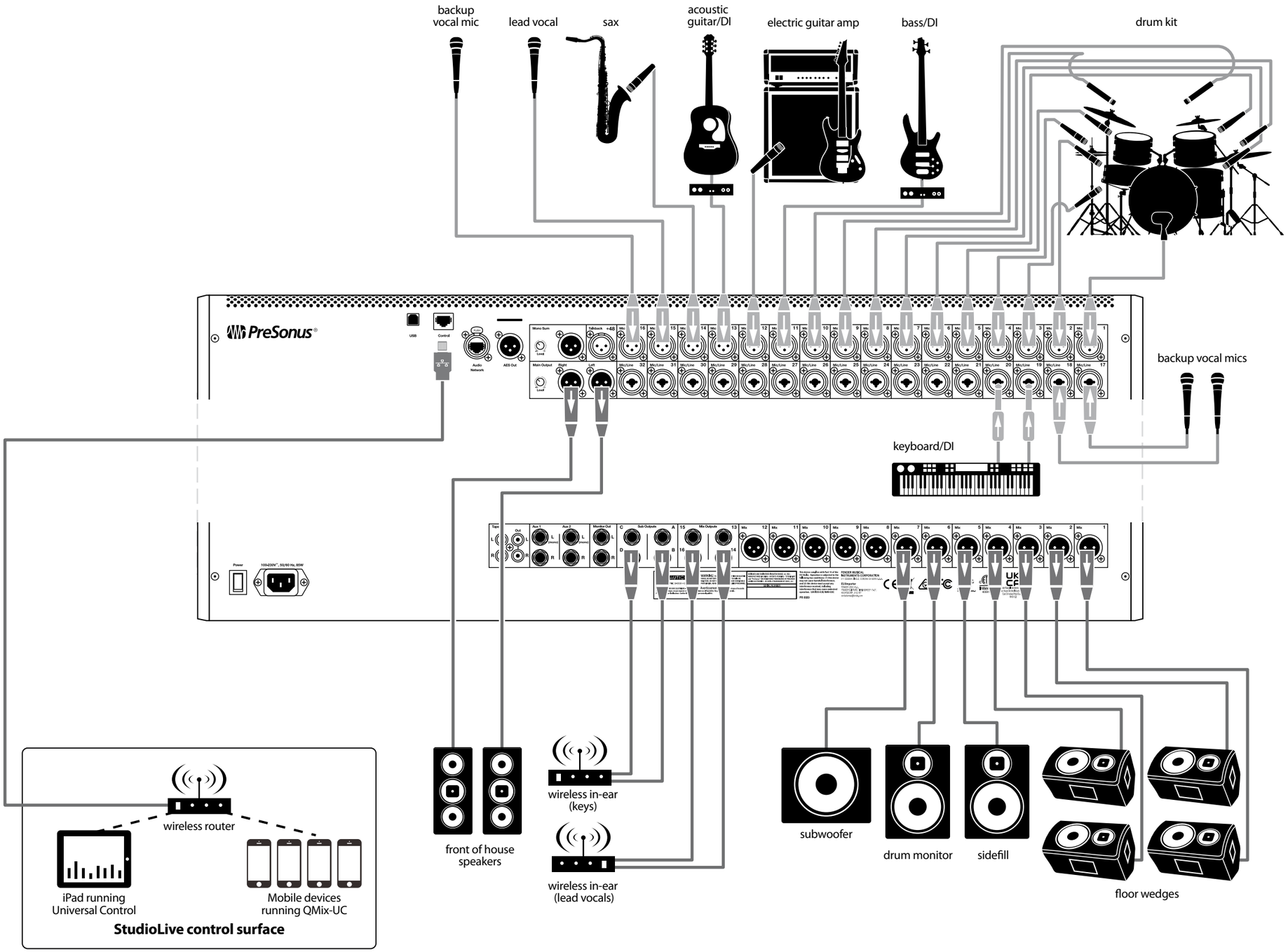


SD Card Slot. This slot accepts standard-sized SD cards at capacities up to 32 GB (SDHC supported). SD cards can be used for audio recording and playback, transferring Capture 3 session from your computer to your mixer, and firmware updates.

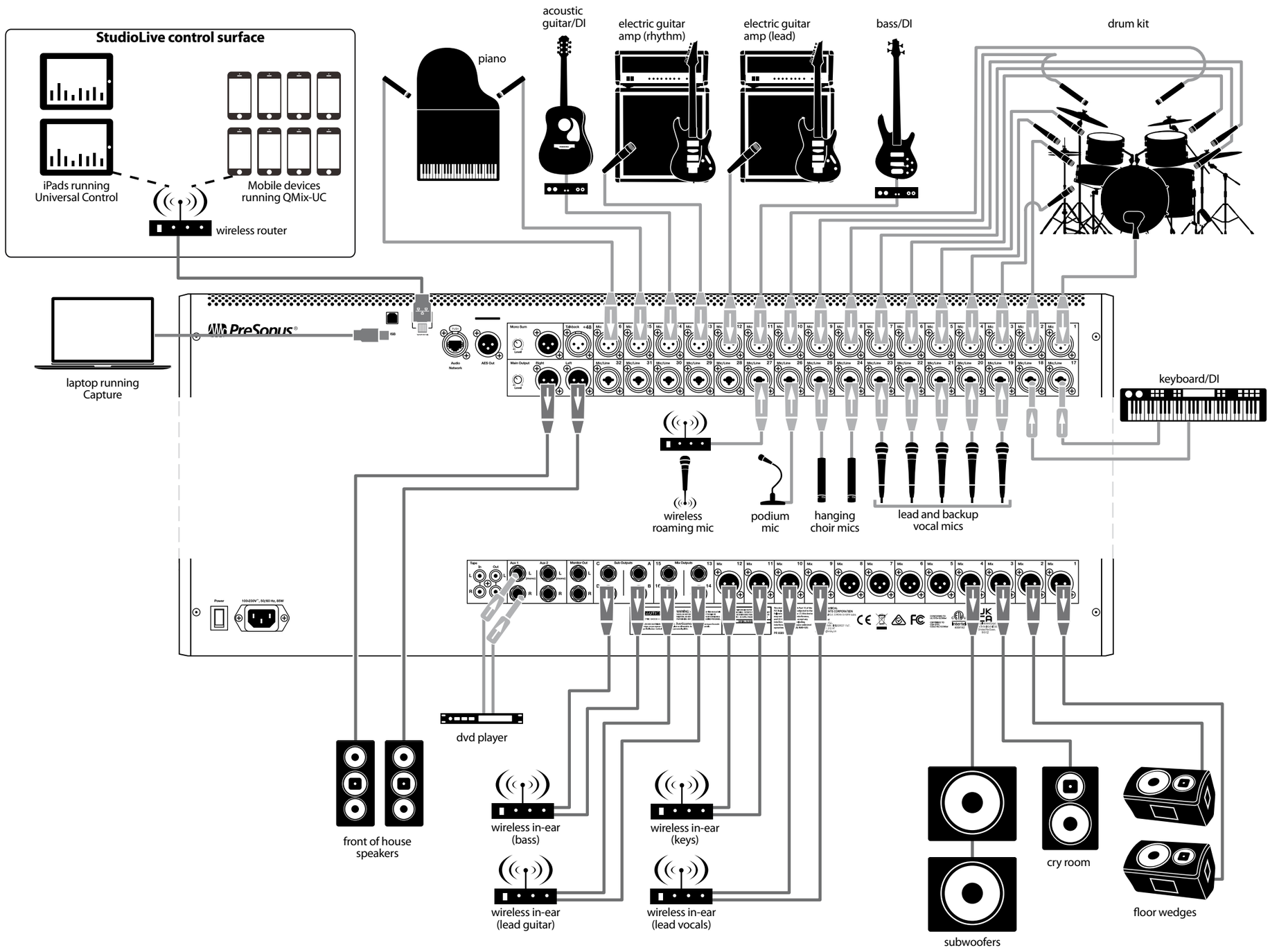


Headphone Output. On the front of the StudioLive, a 1/4-inch TRS jack is available for connecting a pair of headphones. Headphone output level is set by turning the Phones knob in the Monitors section of the mixer. By default, this output receives its signal from the solo bus, but you can freely assign any mix bus (pre-or-post-fader) as well as the Tape Input to the Headphone output. See Section 10 for more information.

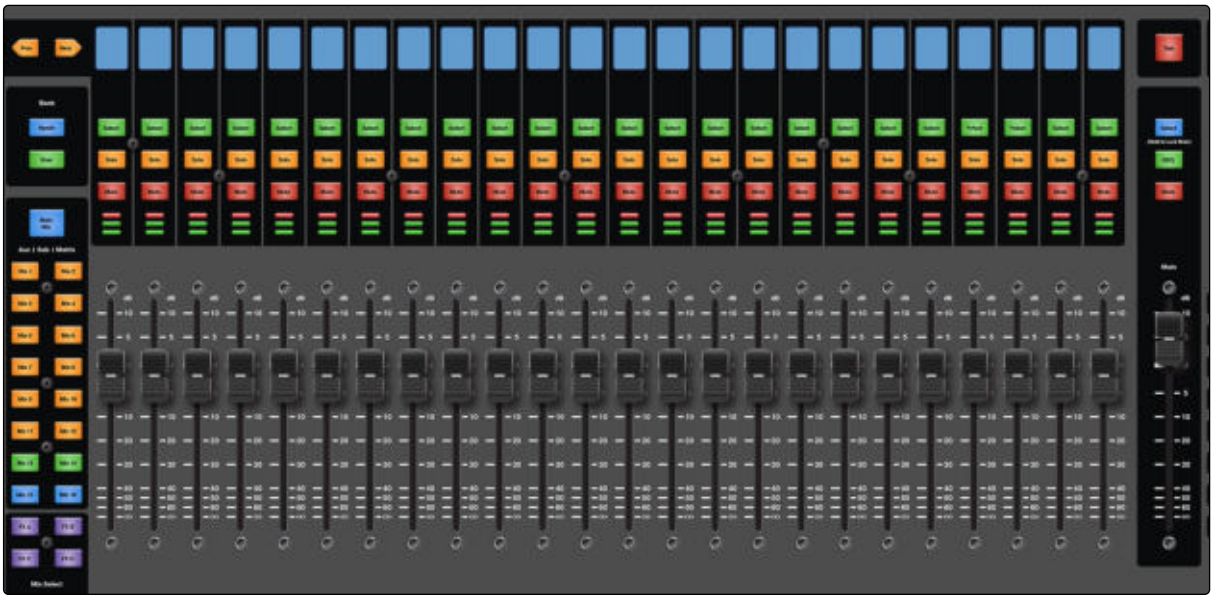
3.4 Typical Band Setup Diagrams



3.5 Typical Church Setup Diagrams



4 Basic Mix Functions Overview



StudioLive Series III mixers offer many powerful and flexible mixing tools that allow you to quickly set up and monitor multiple mixes at once and have been designed to make managing multiple layers of input channels, mix masters, and fader mixes, as well as navigating even the most complicated systems simple.

4.1 Channel Strip Basics

If you've used a mixer before, the StudioLive channel strip layout should look familiar. Each channel strip on your StudioLive (apart from the Master) features the following controls and visual aids:



Scribble Strip Display. This graphical display shows you useful information about the input channel or mix master that the channel is currently addressing. The following details are displayed:

- Name. Shows the name for the channel currently being controlled by the channel strip.
- Number. Shows the number and type of the channel currently being controlled by the channel strip. Standard inputs are numbered normally. Aux input channels begin with "A," Tape inputs with "Tape," FX returns with "FX," Aux Bus Masters with "Ax," Subgroup Masters with "Sb," and Matrix Masters with "Mx."
- Pan Position. Shows the current pan position for the channel currently being controlled by the channel strip.



Select Button. Press this button to select a channel or bus to bring its Fat Channel settings into focus. Select buttons can also be used to add and remove channels from Subgroups, DCA Filters, and Mute Groups. For more information, see Sections 5.3, 4.3, and 12.1.



Solo Button. This button will solo its channel to the main outputs or to the monitor outputs, depending on whether AFL/PFL (Pre-Fader Listening) or SIP (Solo In Place) is selected in the Solo Edit Menu. Please review Section 10.1.1 for details.



Mute Button. Press this button to mute the corresponding channel, mix, or bus. Press it again to unmute.



Level Meter. Each channel has a three-segment LED level meter, to provide an indication of the signal level. The bottom segment illuminates when the signal reaches -40 dBFS. The middle segment illuminates when the signal reaches -18 dBFS. The top segment will begin to illuminate red as the input signal approaches clip at -1.5 dBFS. Once the signal exceeds -0.2 dBFS, the LED will illuminate more brightly.



Channel Fader. This touch-sensitive motorized fader lets you control output volume for the input, mix, or bus that the channel is currently addressing. When the fader is pulled all the way down (to the ∞ mark), the signal is muted entirely. At the "U" mark (for unity gain), the mixer is neither boosting nor attenuating the signal. Settings above "U" add up to 10 dB of gain.

Power User Tip: Because the channel faders are motorized, you can quickly flip between mixes and recall mix scenes without needing to manually recall them.

4.2 Fader Layers and Banks

With so many available analog and digital inputs, mixes, buses, and DCAs, your StudioLive has more internal mix elements than it does channel strips to control them. This is where fader layers come in.

You can switch between these layers using the following buttons:



Inputs. This displays the input channels across all faders. By default, each local analog input is routed to the corresponding channel (i.e. Input 1 is routed to Channel 1, etc.), however, any local analog input or network source can be routed to each channel. For more information on Digital Patching, see Section 12.3.

For a more detailed overview of default analog routing, please review the table in Section 14.2.1.



User. The User layer allows you to create a custom selection of channels for quicker access. For more information on the User layer, see Section 4.2.1.



Aux Inputs. While active, the eight channel strips to the right of the Master fader control FX Returns A-D, Aux Input 1 & 2, Tape Input, and Talkback. The channel strips to the left of the Master fader continue to address input channels as normal. Note: this control is not available on the StudioLive 32SC and StudioLive 16.



DCA Groups. Each of the 24 DCA Groups is equipped with a group master control. Press Prev and Next buttons to bank through the 24 DCA Groups. When enabled, the group masters are available from your StudioLive control surface as follows:

- StudioLive 64S, SE 32, SE 24, 32S, 32SX, 32, and 24 users: The 8 channel strips to the right of the Master fader control the Filter DCA Group masters.
- StudioLive SE 16, 32SC and 16 users: The DCA Group masters are available on the channel faders.

Power User Tip: In addition to the 24 user-definable DCA groups, your StudioLive mixer will automatically create DCA groups for channels that are placed within the same category (Drums, Guitar, etc). These Auto DCA groups will populate below the user-definable groups.



Mains (Mix | FX Masters). When enabled, the main level for Subgroups, FlexMixes, and FX buses are available from your StudioLive control surface as follows:

- StudioLive SE 32, SE 24, 64S, 32S, 32SX, 32, and 24 users: The 8 channel strips to the right of the Master fader control the bus masters.
- StudioLive SE 16, 32SC and 16 users: The bus masters will be available on the channel faders.

Note: Depending on your model, this button may be labeled "Mix | FX Masters" however the function is the same.

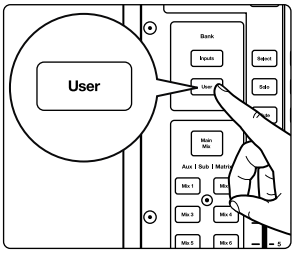


Press the Prev and Next buttons to scroll through the other available input channels and output buses.

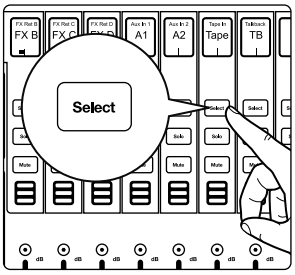
4.2.1 User Fader Layer

The User layer lets you choose a selection of channels that are visible when you press the User button. This can be useful to access crucial channels quickly, especially in mixes with high channel counts.

To assign channels to the User layer, do the following:

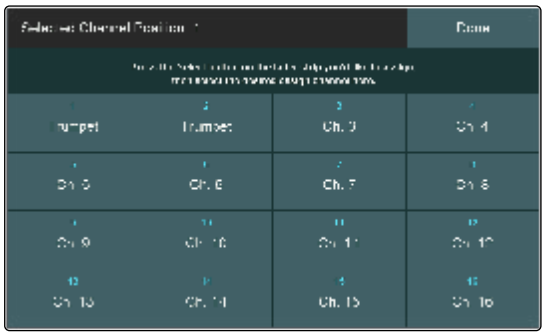


1. Navigate to the User layer by pressing the User button.



2. Press Select on a channel strip to which you wish to assign a mixer channel or any unused channel in the user layer.

3. The User Layer Assignment screen will be displayed on the Touch Display.



4. Select the channel of your choice on the Touch Display to assign it to the channel strip of your choice.
5. Repeat steps 2-4 as necessary to populate the User layer with your most needed channels.
6. Press Done when finished.

To Edit the User layer, press and hold the Select button for the channel for which you'd like to change the assignment. This will open the User Layer Assignment screen. From here you can unassign the channel completely or change the channel assigned to it.

Power User Tip: Every channel, mix master, and DCA group master is available to assign to the User Layer. Use the encoder below the Touch Display to navigate through all the available options.

4.3 Filter DCA Groups

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. 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.

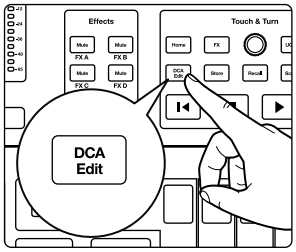
You can create up to 24 Filter DCA Groups.

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 from the Filter DCA Group edit screen.

4.3.1 Creating Filter DCAs

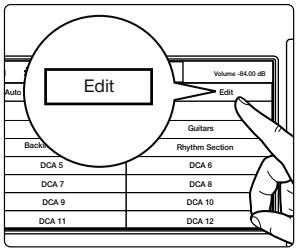


1. To create a new Filter DCA Group, press the DCA Edit button in the Master Control section.

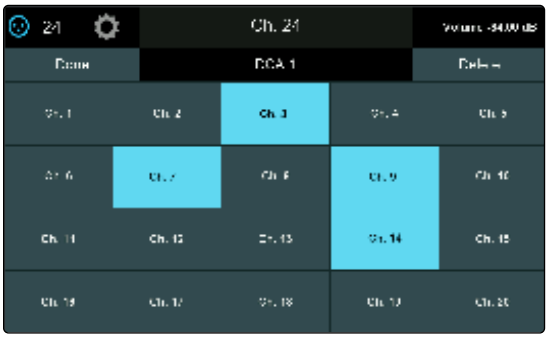
2. This will open the Filter DCA Group edit screen.

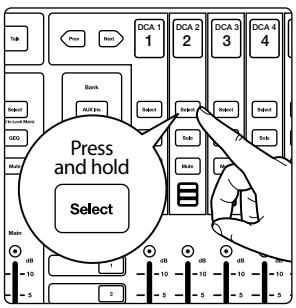


3. Select the DCA Group you'd like to use.



4. Press the "Edit" button on the Master Control Touch Display.
5. Press the default name to create custom filter name. Press "Enter" when done.
6. The Select buttons on your mixer will flash. Press the Select buttons for the channels you'd like to assign to your new Filter DCA Group. The Select buttons will illuminate solid as the channel is assigned to the group. You can also use the select buttons on the Touch Display to assign channels.
7. Press "Done" when you've finished making your channel selections.





You can add and remove channels to a DCA group, or quickly create a new group by pressing and holding the Group Master Select button.

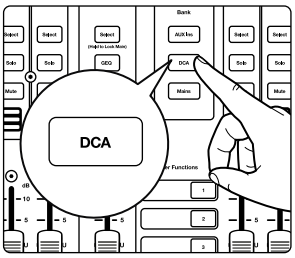
All the Select button for any channel currently not in the DCA group will flash. Simply touch the select button for a channel to add or remove it to the group.

4.3.2 Editing or Deleting a Filter DCA Group

1. To edit or delete a Filter DCA Group, first touch its name to select it.
2. Touch the Edit button to enter the Filter DCA Group Edit screen.
3. To add or remove a channel from the group, touch the name of the channel in the provided list to select or deselect them.
4. To name or rename the group, touch the name field.
5. To delete this group, touch the Delete button.

When you're finished, touch Done to confirm your changes.

4.3.3 Managing DCA Group Masters



You can bring the master faders for all existing Filter DCA Groups to the channel strips by pressing the DCA Groups button in the Bank section.

Pressing the Select button on a DCA Group master while the DCA Groups screen is active will select it on the screen.

Pressing and holding the Select button for a DCA Group master will allow you to add or remove channels from the group by pressing the desired channel's Select button.

Power User Tip: Pressing the Select button for a DCA Group Master will spill the group on the faders. In this way, you can quickly make adjustments to a DCA mix.

4.3.4 DCA Group Options

From the DCA Groups page, you have two options to customize the way these groups function on your mixer:

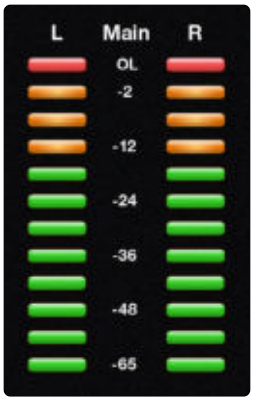


Your StudioLive will automatically create a DCA group for channels that are tagged in the same category (i.e., Drums, Horns, etc.), this button allows you to toggle that option on or off.



By default, the individual levels of every channel in a DCA group will adjust with the group's master fader and maintain their relative mix. Enabling Traditional DCA mode will adjust the output level of the group without changing the fader position of the channels within that group.

4.4 Main Meters



These meters show signal level for the Main bus.

For all Main meters, the green LEDs at the bottom begin to light at -65 dBFS, continuing upward to -18 dBFS. The bottom-most yellow LED begins to light at -12 dBFS, continuing upward to -2 dBFS. The red LED at the top of the meter lights when the signal reaches -0.1 dBFS, and remains lit for 5 seconds, once activated, to better alert you that clipping is occurring.

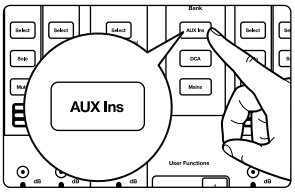
4.5 Talkback System

The StudioLive features a Talkback microphone input on the back panel. This can be routed to your choice of Aux outputs, as well as the Main output.



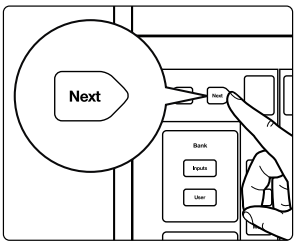
To enable talkback, press the Talk button. To prevent unwanted noise, this is disabled by default. The Talk button must be engaged for the Talkback input to be heard in any mix.

The Talkback level can be adjusted independently in each mix.



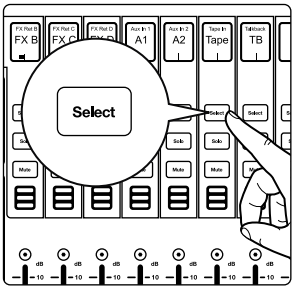
Pressing the Aux Inputs button will bring up the Talkback channel on the last fader.

Note: This feature is not available on the StudioLive SE 16, 32SC and StudioLive 16. The Talkback channel is always at the end of the Inputs layer. Press the Next button to navigate to the last bank of channels.



Alternatively, press the Next button to bank to the Talkback channel on the Inputs layer.

4.5.1 Talkback Edit Screen



Press the Talkback Channel's Select button to open the Talkback Edit screen, giving you access to additional options.



- Preamp Gain. Sets the preamp gain for the Talkback mic input.
- Talk Destination. Use these buttons to select the mixes to which you'd like to route the Talkback input.

Power User Tip: While the Talkback has a dedicated rear-panel analog input, this can be changed and sourced from any Analog, AVB, USB, or SD stream from the Digital Patching menu. In this way, you can quickly patch playback to every wedge for rehearsal, use an NSB-series stage box input, and much more. To change the source type of the Talkback between Analog, Network, USB, or SD Card, use the Input Source buttons in the Fat Channel. For more information on using the Digital Patching menu to change the Talkback source, see Section 12.3.1.

5 Buses and Routing

StudioLive Series III mixers were designed to be highly adaptive to your mix environment. At the core of this design philosophy are the FlexMixes; however, dedicated Internal FX buses, four fixed subgroups (32-channel models), and a main mono bus (StudioLive 64S) round out the complement of routable outputs on your StudioLive mixer.

5.1 FlexMixes



StudioLive Series III mixers provide FlexMixes that can be used for a variety of applications. 32-channel StudioLive models are equipped with 16 FlexMixes, the StudioLive 64S is provided with 32. Regardless of model, FlexMixes all function exactly the same way and can be configured as follows:

- Aux Mix. Sums the input channels after they routed to the bus, pre- or post-main mix level. Each channel is equipped with its own level control to create a completely independent mix. Aux mixes can be used for many applications. The two most common applications are creating monitor mixes and inserting external effects processors into the mix.
- Subgroup. A subgroup allows you to combine multiple channels into a single bus so that the overall level for the entire group is controlled by a single fader and processed by the Fat Channel. Subgroups can be routed to the main mix, to a dedicated output, or both.
- Matrix. A variant of the Aux, a Matrix can combine signals from inputs, other mixes, buses, the main output bus, and so on. Matrix mixes are more commonly used to send audio to different loudspeaker zones, create a front fill, or to provide a producer or director a different mix.

StudioLive 64S only: Matrix Mixes are only available on Mixes 17-32.

The Mix Select buttons allow you to choose the mix you'd like to control. When a mix is selected, the channel faders will display the level for that mix only. These buttons will change color depending on how they are configured.

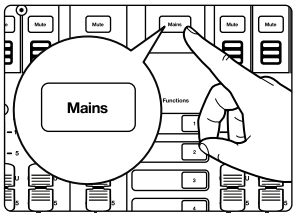
StudioLive 64s Users: To access the second mix layer for any Mix button, press the button a second time. For instance, if you press the Mix 1|17 button once, you will be viewing Mix 1. A second press of this button will show Mix 17. The button will toggle between the two mixes with each consecutive press until another Mix button is selected. When the first layer Mix is selected for any Mix button, the button light is solid and it will blink when the second layer is selected for visual reference.



When a mix is selected, the Main fader will control its output level.

Power User Tip: While having the Master fader follow the currently selected mix is most commonly needed, occasionally, it will be beneficial to lock the Master fader to the Main mix. To do this, simply press and hold the Master Select button. The Select button will cease to illuminate, indicating that the function is now locked to the Main Mix. To unlock the fader and return to normal functionality, press and hold the Select button.

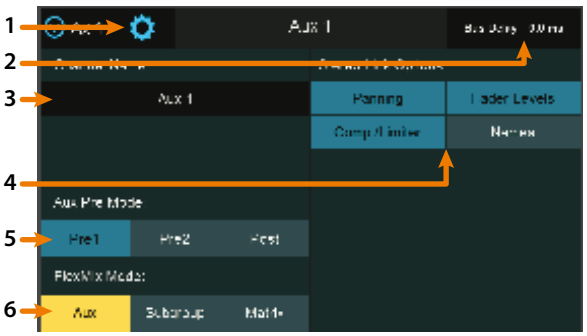
StudioLive 64S Users: Press the Main Mix Select button a second time while focused on the Main Mix to access the Center bus Master.



To view the master output level for every mix, press the Mains (Mix | FX Masters) button.



To select the type of FlexMix functionality (Aux, Subgroup, or Matrix), touch the gear-shaped button to open the FlexMix Settings screen and make your selection from the menu. Once you're done, exit the FlexMix Settings screen and create your mix.



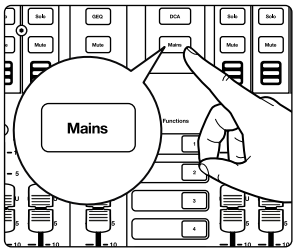
1. Close Settings. Tap to exit the Settings menu.
2. Current Parameter. Displays the currently selected parameter and its current value.
3. Mix Name. Tap to customize name.
4. Stereo Link Options. You can choose to link the four functions when creating a stereo bus, or leave them independently controllable: Fader Level, Compressor/Limiter, Names, and Bus Panning (Stereo Matrix Mixing only).
5. Aux Pre Mode (Aux and Matrix Modes only). Sets the Channel Send position when a FlexMix is designated as an Aux Mix. See Sections 5.2 and 5.4 for details.
6. FlexMix Mode. Sets the functionality of the FlexMix: Aux, Subgroup, or Matrix.

   A note to StudioLive 64S users: The Matrix Mix option is only available on FlexMixes 17-32. Aux and Subgroup options are available on every FlexMix.

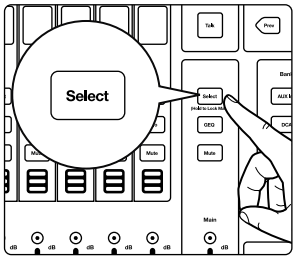
5.2 Aux Mixes

As its name implies, an Aux mix allows you to create an alternate, or "auxiliary," mix that can be routed to an output separate from the Main bus. Aux buses have many applications, the two most common of which are creating monitor mixes and inserting external effects processors into the mix. When you turn up the aux send level on a channel, its signal is sent to the corresponding aux output at the level you choose. In this way, the same channel can be used to create several alternate mixes to the main mix.

To create an Aux Mix:



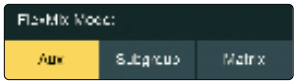
1. Press the Mains (Mix | FX Masters) button. This will bring up the FlexMix Masters onto the channel strips.



2. Press the Select button for the FlexMix Master you'd like to make an Aux Mix.



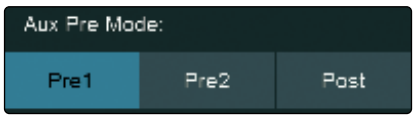
3. Press the Settings button on the Master Control Touch Display.



4. Press the Aux button under FlexMix Mode.

5.2.1 Pre/Post Channel Sends

You can select the send positions for the channels routed to each Aux mix. 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 Invert switch, high-pass filter, and gate.



From the FlexMix settings menu, you can choose between three send positions for your 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.

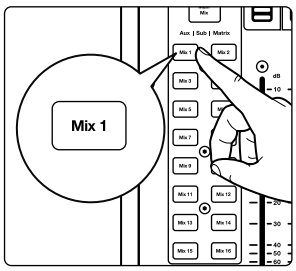
Post: Sends each channel to the Aux bus after all Fat Channel processing (polarity invert, high-pass filter, gate, compressor, EQ, and limiter), and after the fader.

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.

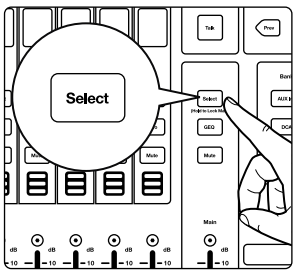
5.2.2 Creating Aux Mixes

Creating custom monitor mixes is critical. If musicians can't hear themselves or their bandmates, their performance will suffer. A monitor mix can be mono or stereo. Most often, an individual live monitor mix is mono and is sent to a floor-wedge or sidefill monitor (the obvious exception being in-ear monitor systems). A studio monitor mix is usually stereo because it is sent to a headphone amplifier that requires both a left and a right-channel input. In both cases, the function of the aux bus is the same.

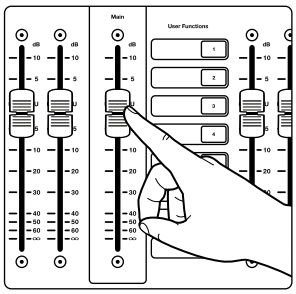
As an example, let's create a mono monitor mix on FlexMix 1.



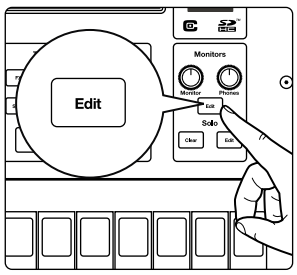
1. Press the Mix 1 button in the Mix Select section to access settings for Aux Mix 1. The faders move to show send levels to Aux 1 for each channel in your mix.
2. Ask the musician(s) what signals they would like to hear in their monitors, and use their requests as a starting point, adjusting the faders for the relevant channels to create a monitor mix.



3. Press the Flex Fader Select button to access the Fat Channel processing for the monitor mix output. This can be useful for eliminating feedback in a monitor. EQ can also be used to increase the presence of an instrument by boosting that particular frequency range without necessarily boosting the send level in the mix. This is great for getting the lead guitar to cut through in the guitarist's monitor mix and to provide that extra rumble in the bassist's mix.



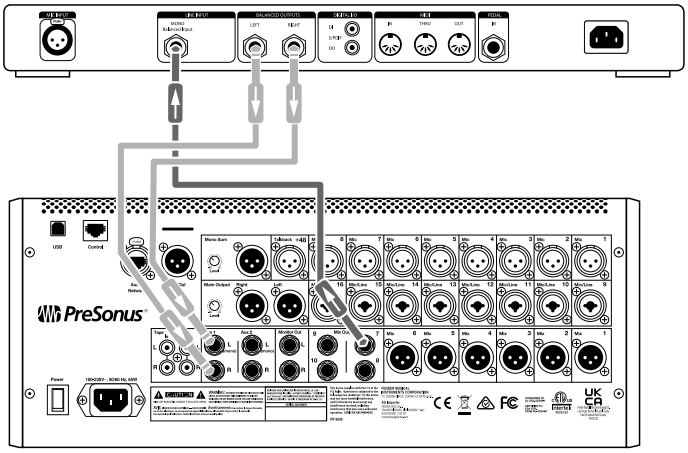
4. Move the Main fader to adjust the overall level of the monitor mix.



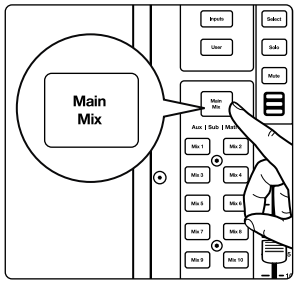
5. You can listen to the monitor mix you're creating in your headphones or control room monitors by pressing the Edit button in the Monitors control section.
6. Select Monitor or Phones on the Touch Display, then touch the Aux mix you're working on at the moment (Mix 1, in this example).

5.2.3 Working with External Effects Processors

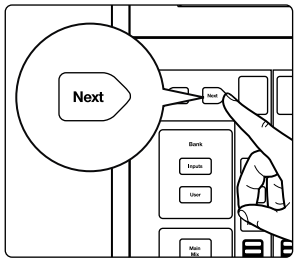
Creating a mix to send to an external effects processor is similar to creating an internal FX mix, only in this case, we route the mix signal to a mix output (Mix Output 7, in this example), and route the effected signal from the processor back to a stereo Aux input (Aux Input 1, in this example) on a StudioLive SE 16, for our example. If your effects processor is mono, connect its output to the L (left) jack of the Aux Input.



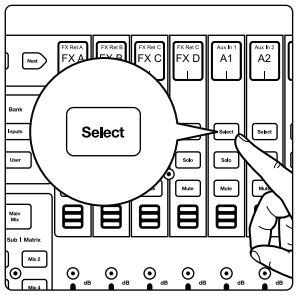
1. Connect Mix Output 7 to the input of your external effects processor, and connect the outputs of the processor to the Aux Input 1 jacks.



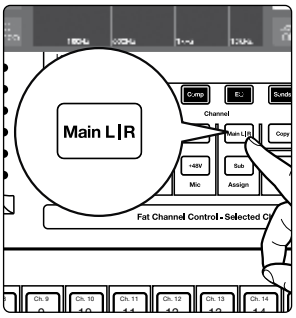
2. Press the Main Mix button.



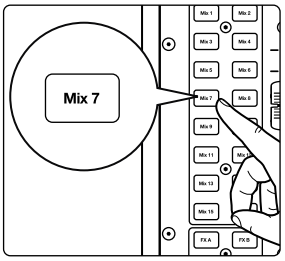
3. Press the Next button to bring the Aux Input channel layer.



4. Press the Select button that corresponds to Aux Input 1 (the input pair you're using as an effects return), to access its settings in the Fat Channel.



5. Press the Main L|R button in the Fat Channel (LR for StudioLive 64S) to assign Aux Input 1 to the main output mix.



6. Press the Mix 7 button in the Mix Select section to access settings for Aux 7 (the Aux mix you're using to send channels to the external processor). The faders move to show send levels to Aux 7 for each channel in your mix.
7. For each channel that you wish to send to the external processor, move the related fader to the desired level. Setting a fader higher makes the related channel sound more processed (or "wet").
8. Move the Main fader to adjust the overall level of the output you're sending to the external processor.
9. If you want to send a stereo signal (rather than mono) to your effects processor, connect a pair of Aux outputs, starting with an odd-numbered output (1 & 2, 3 & 4, or similar) to the inputs of your effects processor and link the output pair to create a stereo bus.

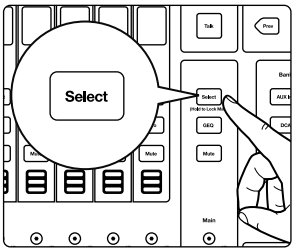
5.3 Subgroups

A subgroup allows you to combine multiple channels into a single bus so that the overall level for the entire group is controlled by a single fader and can be processed using the Fat Channel's noise gate, limiter, compression, and EQ, in addition to the processing available for each channel. Subgroups can also be soloed and muted.

You will find many uses for subgroups that will make mixing more convenient and will provide better control of your mix. At the end of this section, we explore one of the most common ways in which subgroups can help you to create a more efficient mixing environment and a more successful live mix. But first let's go over the subgroup controls.

Note: In addition to providing FlexMixes that can function as subgroups, 32-channel StudioLive models also provide four dedicated Subgroups.

5.3.1 Creating a Subgroup



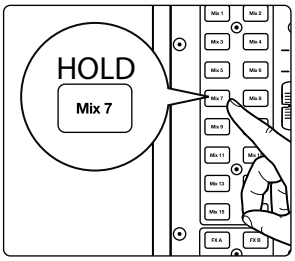
1. Press the Select button for the FlexMix Master you'd like to make a Subgroup.



2. Press the Settings button on the Master Control Touch Display.



3. Press the Subgroup button under FlexMix Mode.



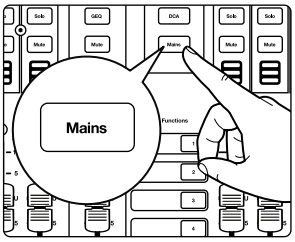
4. Press and hold the FlexMix button. All the channel Select buttons will begin to flash. Press the Select buttons for the channels you'd like to add to the subgroup. Release the FlexMix button when you have completed your channel selection.

   Only channels that have been added to a FlexMix subgroup will be displayed across the fader layers when the FlexMix is selected.

   Channels can be added or removed at any time by pressing and holding the FlexMix button for the desired FlexMix subgroup.

5.3.2 Fixed Subgroups (32-channel models only)

In addition to the FlexMixes, 32-channels StudioLive mixer models are equipped with four subgroups. Like the FlexMix Subgroups, the StudioLive allows you to group channels and apply the Fat Channel's noise gate, limiter, compression, and EQ to the group as a whole, in addition to the processing available for each channel. Subgroups can be soloed and muted. The StudioLive SE 32, SE 24, 32S, 32SX, and 32 provide dedicated Subgroup outputs on the back panel. Subgroups on the StudioLive SE 16, 32SC, 24 and 16 can be routed to the AVB network.

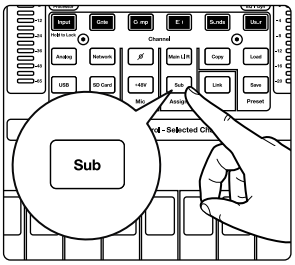


To view the fixed Subgroups' master faders, press the Mains (Mix | FX Masters) button. This will bring up the master output control for every output bus.



Use the Next button to bank to the end of the FlexMixes.

To add a channel to a fixed Subgroup:



1. Select the channel and press the Subgroup button in the Assign section of the Fat Channel. This will bring up the Assigns menu on the Touch Display. The four fixed Subgroups are at the top of the screen.
2. Touch the Subgroup to which you'd like to assign the channel.



For more information on Subgroup routing assignments, please refer to Section 5.3.1.

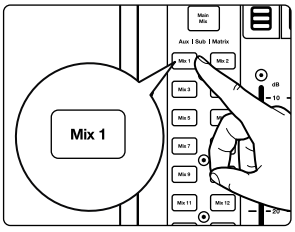
5.3.3 Creating Instrument Subgroups

Grouping individual instruments that create a section in your mix has obvious advantages: The entire group can be muted or soloed, brought up or down in a mix, and faded in or out for a more polished intro or outro. Because subgroups can also be processed by the Fat Channel, some common groups are drums, backing vocals, horn sections, and string sections. Drums are a classic application for subgroup mixing. While we'll use a drum group in this particular example, these principles can be applied when grouping any type of instrument section.

In this example, our drums will be connected to the StudioLive as follows:

- Channel 1: Kick
- Channel 2: Snare Top
- Channel 3: Snare Bottom
- Channel 4: Floor Tom
- Channel 5: Tom 1
- Channel 6: Tom 2
- Channel 7: Overhead Left
- Channel 8: Overhead Right
- Channel 9: Hi-Hat

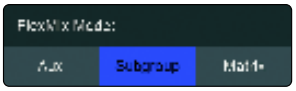
We will create a stereo subgroup by first making both FlexMix 1 and 2 Subgroups and linking them to create a stereo bus.



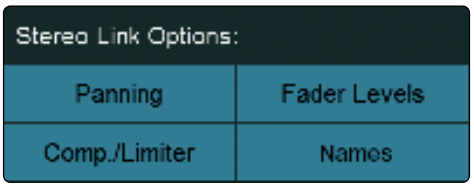
1. Press the Mix 1 Select button. This will also automatically enable the Select button for the Mix 1 output master.



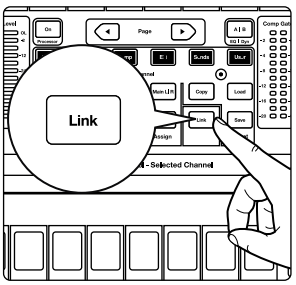
2. In the Touch Display, press the Settings gear.



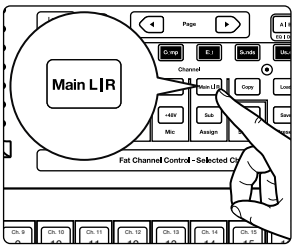
3. Press the Subgroup button under FlexMix Mode.



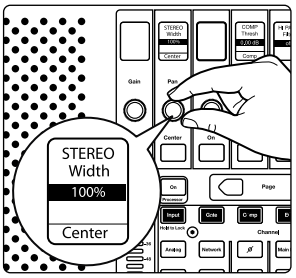
4. Enable all four Stereo Link Options.



5. In the Fat Channel, press the Stereo Link button.



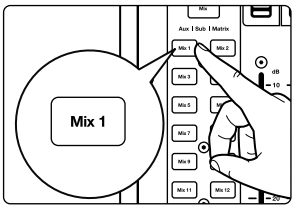
6. Assign the Subgroup to the Main bus by pressing the Main button in the Fat Channel (LR on StudioLive 64S).



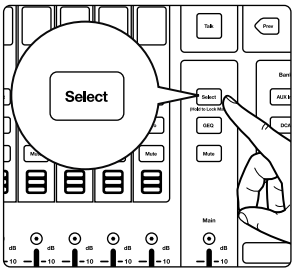
7. Turn the Pan knob all the way clockwise to set the stereo pan to hard left and right. Now Subgroups 1 and 2 are linked, with Sub 1 panned hard left and Sub 2 panned hard right. The channel panning is preserved.

Now that we've created a stereo subgroup, let's make an instrument group:

1. Press and hold the FlexMix button and then press the Select button for each of the drum channels to assign them to the subgroup.
2. The first step is to get a good mix of the instruments you are grouping—in this case, the drums. Beginning with Channel 1 (Kick), raise the fader and, with the drummer's assistance, set the input trim, EQ, and dynamics for each drum separately.
3. As you select each channel and dial in its Fat Channel settings, unassign it from the Main bus so that it is only assigned to the Subgroup. When you are done with each channel, lower the fader before moving on.



4. After you have gone through the entire kit and are satisfied with each channel's EQ and dynamics, have the drummer play the entire kit, and select the Mix 1 in the Mix Select area and set the relative volume and panning for each mic in the mix.



5. Press the FlexMix fader's Select button to use the Fat Channel section to add dynamics processing and EQ to the stereo drum group.

5.4 Matrix Mixes

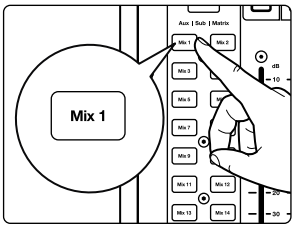
On the simplest level, a matrix mix is a mix of mixes. A matrix mix allows you to combine any bus on your StudioLive as well as input channels. Matrix mixes can be the Swiss Army knife to solve some of the most problematic audio routing issues.

Here are some of the most common uses:

- Feeding the house mix to multiple locations (i.e. the lobby, a webcast feed)
- Creating a front fill mix

A note to StudioLive 64S users: The Matrix Mix option is only available on FlexMixes 17-32. Aux and Subgroup options are available for every FlexMix.

5.4.1 Creating a Matrix Mix



1. Press the Mix Select button for the FlexMix Master you'd like to make a Matrix mix.



2. Press the Settings button on the Master Control Touch Display.



3. Press the Matrix button under FlexMix Mode

When you select your Matrix mix, the StudioLive buses will be on the first layer of inputs followed by the input channels.

Pre/Post Channel Sends

You can select the send positions for the channels routed to each Matrix mix. By default, all Matrix mixes 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 Invert switch, high-pass filter, and gate.

From the FlexMix settings menu, you can choose between three send positions for your mix:

Pre 1: Sends each channel to the Matrix bus after the polarity invert, high-pass filter, and gate.

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

Note: Buses on which a GEQ has been inserted will be sent to Matrix mixes before the GEQ.

5.4.2 Creating a Front Fill Mix

In some venues, the house PA doesn't cover the front rows effectively. This can be especially problematic in the band on stage is using in-ear monitors instead of floor wedges. Without floor wedges the people seated in the first few rows are actually "behind" the PA because they will hear more stage volume from the instruments on stage than from the front-of-house system. This problem can be solved by placing a few low profile speakers on the front edge of the stage to cover the first few rows of the audience.

You will want to blend the Main Left/Right mix at a low level with the source signals that may be difficult to hear, like the vocal and direct bass channels.

5.5 FX Buses

FX Buses act just like Aux mixes, but rather than feeding an output, they feed one of the StudioLive's internal effects processors. This allows you to customize the amount of a channel's signal that is being effected. Your StudioLive has dedicated FX buses, each one feeding its own internal FX processor. The StudioLive 64S has 8 internal FX buses; all other models have 4.

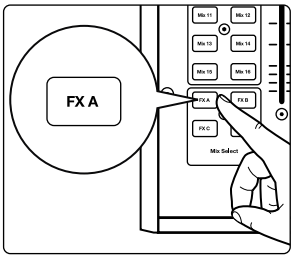
Pre/Post Channel Sends

Like Aux mixes, you can select the send position for each channel that is routed to an FX Mix. By default, all FX buses are set to Post. This places the send of every input channel to each FX bus after the fader, limiter, EQ, and compressor, Polarity Invert switch, high-pass filter, and gate. See Section 5.2 for more information on the other available settings.

5.5.1 Creating Internal Bus FX Mixes

There are at least two main advantages to creating an effects mix instead of inserting an effect on a channel. First, several channels can be sent to a single processor. In addition to greatly simplifying the number of parameters you have to control, this can help to create a cohesive sound for your mix. Second, you can vary the level sent from each channel to the processor, rather than patching the output directly into the effect. This allows you to add a lot or a little of an effect to any given channel.

The internal effects buses are used much in the same way the Aux buses are used to create monitor mixes. Let's create a mix for FX A:



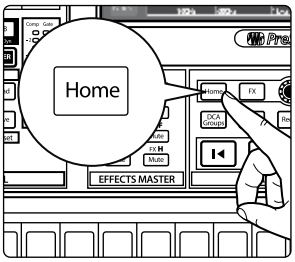
1. Press the FX A button in the Mix Select section to access settings for the FX A mix. The faders move to show FX A send levels for each channel in your mix.
2. For each channel that you wish to send to FX A, move the related fader to the desired level. Increasing the fader level increase how processed, or "wet", any given channel will sound.
3. Using the Fat Channel, you can apply Compression and EQ to the FX A Output. This can help quell unwanted resonance and make the effected signal sound more polished.
4. Move the Flex fader to adjust the overall level of the effected output of FX A.
5. The FX A bus has a return in every FlexMix as well as the Mains. To adjust the FX A Return in any mix, press its Mix Select button and navigate to the "FX A" channel.

5.6 Main Mono/Center Bus (StudioLive 64S only)

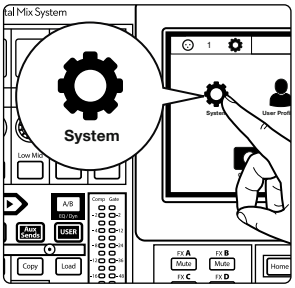
Unlike the other StudioLive Series III mixer models which are equipped with with a Mono Sum output that shares the Main bus with the Main stereo outputs, the StudioLive 64S's Mono output is provided with its own mix bus.

This bus can either be configured as a mono bus for the stereo main mix or as the center channel in an LCR configuration.

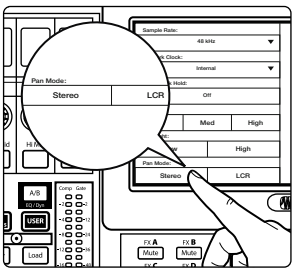
Selecting Pan Mode



1. By default, your StudioLive 64S is set to Stereo Pan Mode; to change this to LCR Pan Mode, press the Home button.



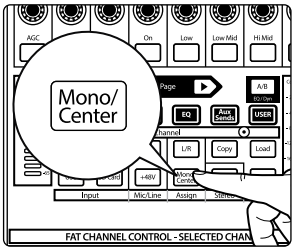
2. Press the System icon to open the System menu.



3. From this menu, you can toggle between Stereo Pan Mode and LCR Pan mode.

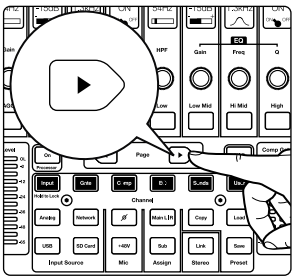
   Regardless of mode, the Mono/Center output level is always grouped to the Main output level. This means that while the Mono/Center output level can be adjusted up or down independently to taste, when you move the Master fader while the Main Mix is selected, you will be controlling the relative mix of both the stereo Main Mix and the Mono/Center output levels.

5.6.1 Mono Bus Mode

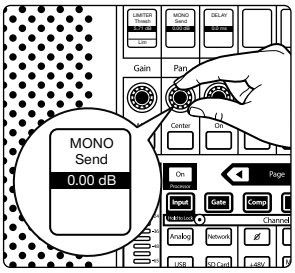


When Stereo Pan mode is active, the send level for each channel to the Mono bus is set to 0.0 dB and the send position is set to post-fader by default. In this way, each channel can be assigned to the Mono bus simply by engaging the Mono/Center assign button in the Fat Channel.

While in Stereo Pan Mode, each channel is provided with a Mono Send from the Input section of the Fat Channel so that its level can be adjust in the Mono bus output independently of the Main mix.



With the Input layer active, page to the next bank.



From the second Input layer page, use the encoder below the Mono Send display to adjust the send level up or down.

The send to the Mono bus is alway set to post-fader.

5.6.1.1 Using the Mono Bus to Feed Subwoofers

One of the best ways to improve efficiency in any loudspeaker system, is to drive the subwoofers separately from the full-range speakers. By isolating only the channels you want in your subwoofers, you can achieve a much cleaner sub-frequency mix. This also allows you to send less low-frequency content to your full-range system and to create more clarity in the critical mid-range of your system.

In a conventional mixer, this can be done by using a subgroup, an aux mix, or a matrix mix. Each has its own unique benefits, however, they all have the same drawback: you must use up one of your precious buses to drive the subwoofer and nothing else.

The StudioLive 64S allows you to use your Mono bus just like a subgroup or an aux mix.

The benefit of using a subgroup workflow, is that adding channels to the subwoofer is greatly simplified: you simply need to press the assign button and the channel will be outputted through the subwoofer at the same level you've set in the Main mix. This is the default behavior of the Mono bus.

But what if you want more kick in your subwoofer? Or less keys?

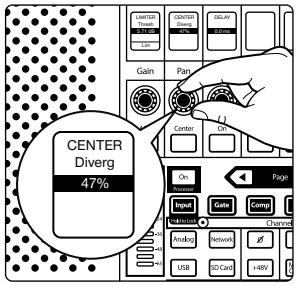
This is where the Mono send comes into play, allowing you to customize your low-frequency mix to better enhance your system.

If you need even more control, you can set the send position to pre-fader for a truly independent subwoofer mix.

5.6.2 LCR Mode

LCR Pan mode allows you to pan each channel across three positions, from left to center to right and back again, through any position in between. This is accomplished using the Center Divergence control. This powerful feature provides a true LCR panning experience and allows you to precisely place each channel where you want it in your LCR system, affording more clarity and greater system efficiency.

The Center Divergence works in conjunction with the pan control, setting the prominence of each channel in the Center bus as the pan position approaches center (<C>).

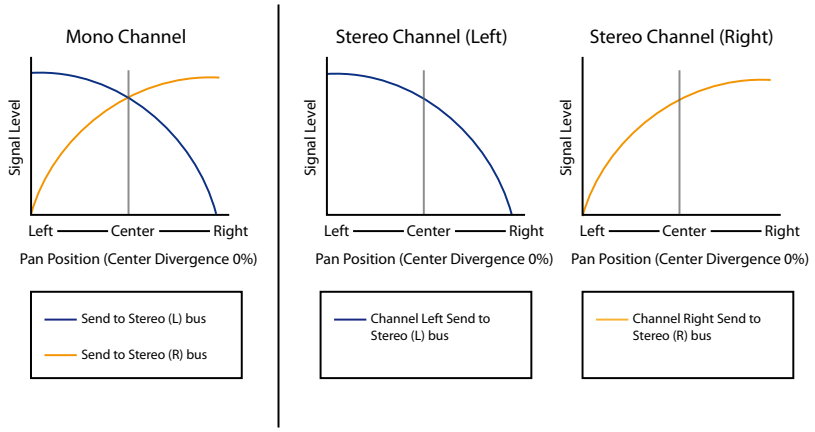


To adjust the Center Divergence, scroll to the second page of the Fat Channel Input layer and use the encoder below the Center Divergence display.

The Center Divergence control has a range from 0% to 100%.

Understanding Center Divergence

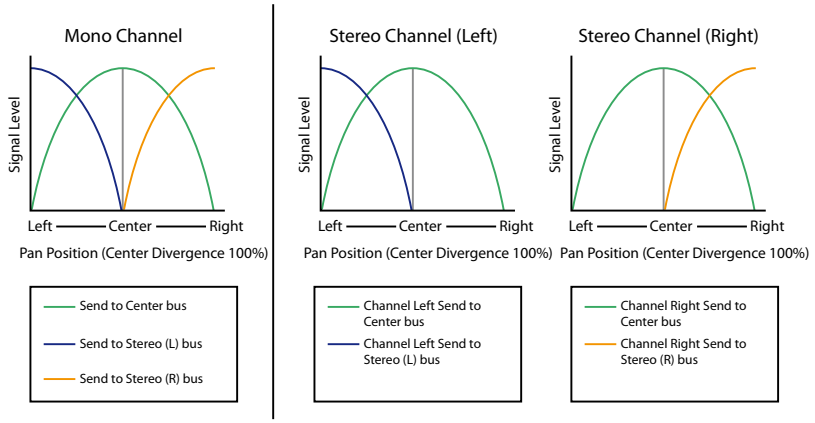
When the Center Divergence control is set to 0% and the channel is panned to center (<C>), a mono channel's signal will be sent equally to the left and right sides of the Main Stereo bus. Stereo channels will retain their stereo positions (i.e. the left side
will be sent to the left side of the Main stereo bus and the right side will be sent to the right).

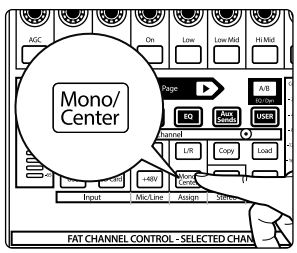


As the Center Divergence is adjusted from 0% toward 100%, a channel panned to the center (<C>) will be more prominent in the Center bus as the Center Divergence percentage is increased.

When the Center Divergence is set to 50% and the channel is panned to the center (<C>), the signal will be sent to the both sides of the Stereo bus and the Center bus at the same level.

When the Center Divergence control is set to 100% and the channel is panned to center (<C>), the entire signal will be sent to the Center bus and none will be sent to the Left or Right sides of the Main stereo bus:





Any channel or subgroup can be assigned to the L/R Main bus and/or the Center bus by pressing the Mono/Center button.

6 The Fat Channel

6.1 Overview



The Fat Channel gives you powerful signal processing, mixing, and configuration tools for each channel and bus on your StudioLive.



To begin working on a channel or mix with the Fat Channel, simply press its Select button. When you press a Select button, the number (and name, if applicable) of the selected channel or mix is shown on the Touch Display.

Mix Select buttons can be accessed one of two ways:

Press the Mains (Mix | FX Masters) button in the Bank section. This makes the mix and bus master faders available on the channel strips. Then, you can press the Select button that corresponds with the mix or bus you want to work with, bringing it into focus in the Fat Channel.

- Press the Mix Select button that corresponds with the mix or bus you want to work with. The Master fader on the mixer surface then addresses the master fader for that mix or bus. Press the Select button above the Master fader to access Fat Channel controls for that mix or bus.

The Fat Channel provides different types of processing and utility settings depending on what type of channel or mix is selected. The following is a quick reference of the available processors and utility settings for each type of signal that the Fat Channel can process.

	Input Channels	Aux & Tape Inputs	FX Returns	FlexMixes	Main Mix
Preamp Gain	√	---	---	---	---
Hi Pass Filter	√	---	---	√	---
Pan	√	---	---	---	---
Gate	√	---	---	---	---
Compressor	√	√	√	√	√
EQ	4-Band	4-Band	4-Band	6-Band	6-Band
Limiter	√	---	---	√	√
USB Send	All Channels and Buses up to 64	All Channels and Buses up to 64	All Channels and Buses up to 64	All Channels and Buses up to 64	All Channels and Buses up to 64
SD Send*	Channels 1-32	---	---	Up to 1 stereo bus	Up to 1 stereo bus
Delay	√	---	---	√	√
Aux Sends	√	√	√	---	---
Aux Mute	√	√	√	---	---
Aux Pan	√	√	√	---	---

*Note to StudioLive 64S users: The 34 SD Sends are freely routable between all channels and buses.

6.1.1 A/B Comparison for EQ and Dynamics Settings



The A/B button lets you make A/B comparisons of EQ, compressor, and gate settings for the selected channel or mix. This function lets you try various changes as you look for the optimum setting, without the risk of losing your original settings. If this button is dimmed, you're looking at the "A" set of parameter settings. If this button is lit fully, you're looking at the "B" parameter set.

To A/B Fat Channel settings, press the A/B button. This saves the current EQ and dynamics settings for the selected channel as the "A" snapshot, and copies its settings to a second snapshot, we'll call "B." The A/B button lights, to tell you that you are now working with the "B" snapshot.

Power User Tip: The A/B function can also be used to maintain two distinct Fat Channel settings for a given channel or bus. So, the next time the guitar player tells you that they plan to switch to a hollowbody mid-show, you can be ready with a more appropriate alternate setting, saved as the "B" snapshot.

6.1.2 Copy/Paste & Preset Load/Save



Press Copy to copy Fat Channel settings from the currently selected channel to one or more other channels. Once Copy is pressed, the Select buttons for all other channels start blinking. Press the Select button on any channels to which you want to copy Fat Channel settings from the currently selected channel.

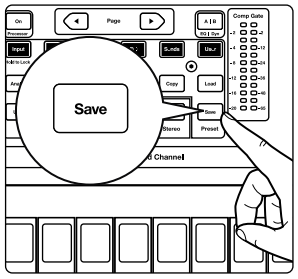


Press Load to paste the settings to the selected channels.

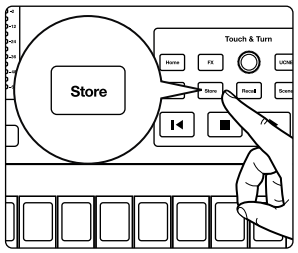


The Save and Load buttons let you save and load Fat Channel presets, letting you store and reapply useful Fat Channel processing and utility settings to future mixes. While all Fat Channel settings are included when you save a preset, you can choose to filter out some types of settings, to load only part of a preset (such as only EQ and compressor parameters).

To save a preset:

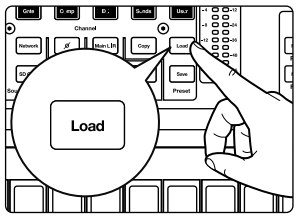


1. Press Save. The Fat Channel Presets view is shown on the Touch Display.

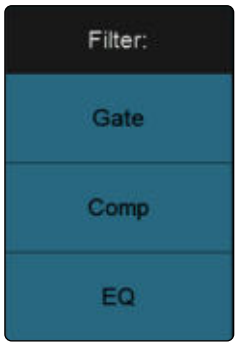


2. Press the Store button in the Master Control area to bring up the onscreen keyboard. Enter your preset name with the keyboard, and choose a category (such as Kick Drum or Guitar) from the Category selector, if desired.
3. Press the Enter button on the keyboard to save your preset, or press the back-arrow to cancel and exit this screen.

To load a preset:



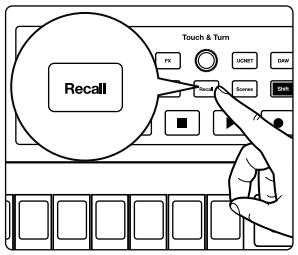
1. Press Load. The Fat Channel Presets view is shown on the Touch Display.



2. To partially load a preset (for example, EQ parameters only), press the relevant buttons in the Filter column to disable loading for one or more processors.

To filter the presets by channel category (such as Kick Drum or Guitar), make a selection from the Category selector.





3. Select a preset and load it by pressing the Recall button in the Master Control area.

You can also momentarily audition the effects of a preset by selecting a preset and pressing the Audition button on the Touch Display, or rename it by pressing Rename and entering a new name with the onscreen keyboard. To return all Fat Channel parameters to Factory Default, press the Reset button.

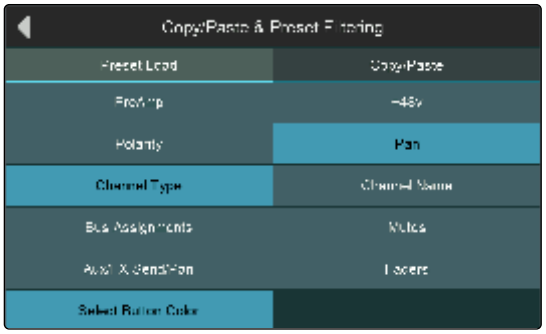


Advanced Filters

If you need finer control of which Fat Channel settings are included when copy/pasting or loading presets, press Advanced Filtering to open the Copy/Paste & Preset Filtering screen. In this screen, you can set the exact parameter types that are included in each these two preset actions.

Touch Copy/Paste and press the desired parameter buttons to filter parameters for copy/paste actions.

- Touch Preset Load to do the same for preset loading actions.



6.2 Fat Channel Navigation

StudioLive Series III mixers provide two Fat Channel options: Dynamic and Fixed. The StudioLive SE 24, SE 16, 32SX and 32SC use the Fixed Fat Channel at all times. All other models can utilize both.

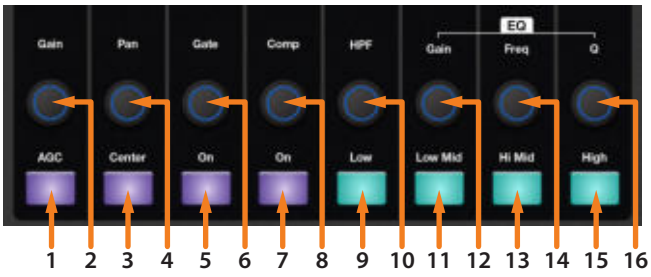
Dynamic Fat Channel



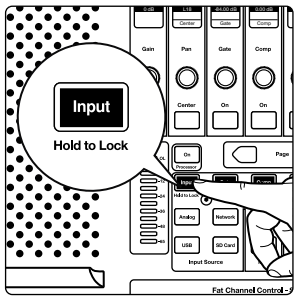
The eight Scribble Strip displays, encoders, and buttons at the top of the Fat Channel change dynamically to provide access to a variety of features and mixing tools. What is controlled here is determined by both the type of channel or bus that is selected and by the Fat Channel mode buttons.

Fixed Fat Channel

The eight encoders and buttons on the StudioLive SE 24, SE 16, 32SX and 32SC always control the following functions:

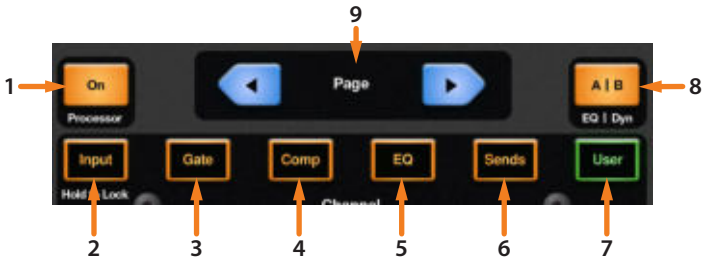


1. AGC (Automatic Gain Compensation).
2. Preamp Gain.
3. Center.
4. Pan.
5. Gate On / Off.
6. Gate Threshold.
7. Compressor On / Off.
8. Compressor Threshold.
9. Low Band Active.
10. High Pass Filter Frequency.
11. Low Mid Band Active.
12. Active EQ Band Gain Control.
13. High Mid Band Active.
14. Active EQ Band Frequency Control.
15. High Band Active.
16. Active EQ Band Q Control.



All other mixers can lock to these controls by pressing and holding the Input layer button.

For more information on the Input functions, please see Section 6.3.



1. Processor On/Off. Enables/Disables the currently active processor.
2. Input. For all StudioLive models, this opens the Channel Overview screen on the Touch Display. For models equipped with a Dynamic Fat Channel, this button will spill the Input layer controls onto the Fat Channel displays, encoders, and buttons. See Sections 6.3 and 6.8.1.
3. Gate. For all StudioLive models, this opens the Gate Overview screen on the Touch Display. For models equipped with a Dynamic Fat Channel, this button will spill the Gate controls onto the Fat Channel displays, encoders, and buttons. See Sections 6.4 and 6.8.3.

4. Comp. For all StudioLive models, this opens the Compressor Overview screen on the Touch Display. For models equipped with a Dynamic Fat Channel, this button will spill the Compressor controls onto the Fat Channel displays, encoders, and buttons. See Sections 6.5 and 6.8.4.
5. EQ. For all StudioLive models, this opens the EQ Overview screen on the Touch Display. For models equipped with a Dynamic Fat Channel, this button will spill the EQ controls onto the Fat Channel displays, encoders, and buttons.
   See Sections 6.6 and 6.8.5.
6. Aux Sends. For all StudioLive models, this opens the Aux Sends Overview screen on the Touch Display. For models equipped with a Dynamic Fat Channel, this button will spill the Aux Send levels, mutes, and pan controls for the currently selected channel onto the Fat Channel displays, encoders, and buttons. See Sections 6.7 and 6.8.6.
7. User. Model-dependent:
   - StudioLive 32SX and 32SC. Opens User Profile screen on Touch Display.
   - All Other Models. Spills user-customizable parameters on Fat Channel displays, encoders, and buttons. See Section 6.9.
8. Fat Channel A/B. Switches between two different Fat Channel Settings.
   See Section 6.1.1.
9. Prev/Next Page. Navigates to additional parameters (if available). Note: These controls are not available on the StudioLive 32SX and 32SC.

6.3 Input Mode



Pressing the Input button in the Fat Channel gives you access to important controls and informative displays for the currently selected channel or mix.

Note: These controls are fixed on the StudioLive SE 24, SE 16, 32SX and 32SC. For all other models, pressing holding the Input button will lock or unlock these functions to the Dynamic Fat Channel controls.



1. Preamp Gain (Input Channels only). Use the encoder to set the amount of preamp gain applied to the currently selected channel. The scribble strip displays the current gain level. Press the button below to enable Automatic Gain Compensation. For more information on Gain Compensation, please see the NSB-series Stage Box Owners Manual.
2. Pan. Use the encoder to set the currently selected channel or subgroup's pan position across the stereo field. The pan position will be displayed on the Scribble Strip. Press the button below the encoder to reset the pan position to Center.
3. Gate Threshold. The encoder sets, and the scribble strip displays, the gate threshold for the selected channel. The 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. If the threshold is set fully counterclockwise, the gate is turned off (always open), allowing all signals to pass through unaffected. You can set the threshold from 0 to -84 dB. See Section 6.4 for more information on the Noise Gate and its parameters.
4. Compressor Threshold. This encoder sets, and the scribble strip displays, the compressor threshold for the selected channel or output bus. When the signal's amplitude (level) exceeds the threshold setting, the compressor engages. Turning the knob counterclockwise lowers the threshold so that compression begins at a lower amplitude. The threshold can be set from -56 to 0 dB. See Section 6.5 for more information on the Compressor and its parameters.
5. High-Pass Filter. Use the encoder to set 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 threshold is set to its lowest point, the filter is off. The high-pass filter's slope is -12 dB/8va. Press the button below to enable the Low Band (B1) for control.

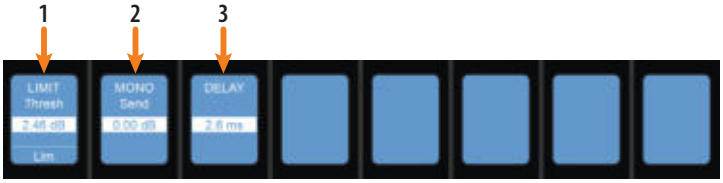
   Power User Tip: A high-pass filter attenuates all frequencies below the set threshold. Use the Fat Channel high-pass filter to remove unwanted low-frequencies from your source signal, rather than trying to EQ them out.

6. EQ Gain. Sets the amount by which the selected frequency will be boosted or cut. Press the button below to enable the Low Mid Band (B2) for control.
7. EQ Frequency. Sets the center frequency at which signals are boosted or cut for the current EQ band. Press the button below to enable the High Mid Band (B3) for control.
8. EQ Q. Sets the Q (or width) of the current EQ band. Larger Q values affect a narrower range of frequencies. Lower Q values affect a wider range. Press the button below to enable the High Band (B4) for control.



Pressing the Next Page button in the Fat Channel provides access to additional parameters.

Note: These controls are not available from the Fat Channel on the StudioLive SE 24, SE 16, 32SX and 32SC.



1. Limiter Threshold. This encoder sets, and the scribble strip displays, the threshold of the limiter for the selected channel or output bus. When the signal's amplitude (level) exceeds the threshold setting, the limiter is engaged. Turning the knob counterclockwise lowers the threshold, so limiting begins at a lower amplitude. The Limiter ratio is ∞:1.
2. Mono Send / Center Divergence (StudioLive 64S only). The encoder sets the Mono Send level or the Center Divergence percentage depending on the Pan Mode set in the System Menu. The button toggles between Pre- and Post-fader send to the Mono Bus. For more information on the Mono Bus, see Section 5.6.
3. Delay. Sets the alignment delay for the currently selected input or bus. More information about input and output delays and be found in Section 13.6 and 13.7.

6.4 Gate Mode (Dynamic Fat Channel)



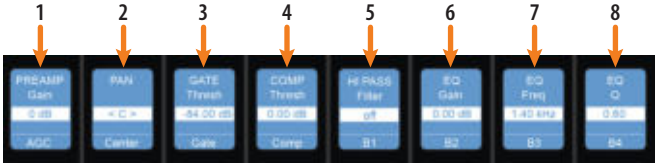
Pressing the Gate button in the Fat Channel gives you access to the Noise Gate parameters for the selected channel or mix. A Gate is a dynamics processor that lets you silence (or attenuate) signals that fall beneath a chosen signal level. This makes it possible to reduce the presence of noise or other undesirable signals in the spaces between the sounds you want.

The Noise Gate can be switched to function as an Expander. An Expander is another type of dynamics processor, that works like a Compressor in reverse. Rather than attenuating signals that pass a chosen threshold level, an expander boosts signals that pass its threshold. This comes in handy when trying to restore punch and impact to signals that have been overly compressed, or which are not naturally as dynamic as desired.

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. More information about Gates and Expanders can be found at: www.presonus.com/learn/technical-articles/How-To-Use-Dynamics-Processing-Getting-Started-With-Compressors-Gates-and-More

6.4.1 Dynamic Fat Channel Controls

The eight displays above the Gate/Expander controls show pertinent data about the current settings of these controls.



1. Threshold. Sets the signal level that bisects the signals you wish to keep from the signals you want to attenuate. Signals below this level are attenuated according to the setting of the Range parameter. Signals above this level pass through unaffected.
2. Range. Sets the amount of attenuation applied to a signal when its level falls below the Threshold. Lower settings pull signal level down further, all the way to -∞, if desired. Higher settings pull the signal down to a lesser extent, de-emphasizing noise and other nuisance signals more subtly (without a "hard" cut-off).

   Note: Range is disabled when the Expander is engaged.

3. Attack. Sets the time it takes for the gate to "open" when a signal passes the threshold.

   Power User Tip: 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.

4. Release. Sets the time it takes for the gate to "close" when a signal falls beneath the threshold.

   Power User Tip: 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.

5. Key Listen. Press the button to engage or disengage the Key Listen function in the solo bus. It will illuminate to indicate that the Key Listen is active. When Key Listen is enabled, and the selected channel is soloed, you can use the Control Room outputs to monitor what the gate key filter is removing.

6. Key Filter. This encoder sets, and the scribble displays, the frequency at which the gate will open. Setting a specific frequency, in addition to a specific decibel level, provides more sonic shaping.

   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.

7. Expander Mode. Press the button or turn the encoder to switch between Gate and Expander functions for this processor. See the next section of this manual for information on available parameters when in Expander mode.



Press the Processor button to turn the Gate on or off.

6.5 Compressor Mode (Dynamic Fat Channel)



Pressing the Comp button in the Fat Channel gives you access to the Compressor parameters for the selected channel or mix. A compressor is a dynamics processor that reduces the dynamic range of a signal by attenuating it by a set ratio when it exceeds a defined threshold.

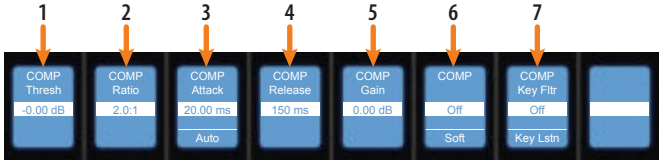
StudioLive Series III mixers ship with three compressor models from which to choose and the Fat Channel behaves differently, depending on which model is loaded. The eight Scribble strips in the Fat Channel show pertinent data about the current settings of these controls. The controls differ, based on the model of compressor you select.

For more information on available Fat Channel plug-in models, see Section 6.8.4.

6.5.1 Standard Compressor

The Standard Compressor is selected on every channel by default.

Dynamic Fat Channel Controls



1. Threshold. Sets the level above which the compressor begins to attenuate the signal.
2. Ratio. Sets the relationship between the amount a signal goes above the threshold, and the amount it is attenuated. At a 1-to-1 ratio (often written as 1:1), no compression occurs. At a 4:1 ratio, a signal that passes the threshold by 8 dB is attenuated to within 2 dB of the threshold (dividing by four). The higher the ratio you choose, the more pronounced the compressor effect becomes.
3. Attack. Sets the time it takes for the compressor to begin attenuating a signal, once it passes the threshold. Press the button below to toggle Auto mode on or off. 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.
4. Release. Sets the time it takes for the compressor to stop attenuating a signal once it falls below the threshold.

Power User Tip: Very short compressor 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 over-compressed, or "squashed," sound. All ranges of release can be useful, however, and you should experiment to become familiar with different sonic possibilities.

5. Gain. Sets the amount of "makeup gain" to apply to a signal. Once a signal is compressed, its overall level is often reduced. This gain control lets you bring it back up to the proper level after compression occurs.
6. Compressor Knee Soft/Hard. Press this button to toggle the compressor between soft and hard-knee modes. Soft-knee compression offers a smooth transition between uncompressed and compressed states. Hard-knee compression offers a more abrupt transition, and more exacting protection from stray peaks.
7. Key Filter. This encoder sets, and the scribble displays, 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. Press the button below to listen to the signal being used to trigger the compressor (including the effects of the high-pass filter, as set with the Key Filter control). Press again to switch back to the normal channel signal.

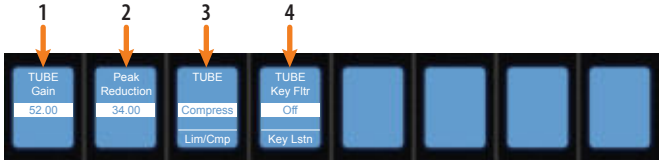


Press the Processor button to turn the Compressor on or off.

6.5.2 Tube Leveling Amplifier

Dynamic Fat Channel Controls

When the Tube Leveling Amplifier is selected, the following controls are available in the Fat Channel:



1. Gain. Sets input gain to the compressor. Because this type of compressor operates in a different way than a standard compressor, much of the way that it affects signals is based on the input level. Try different settings to see what suits your needs.
2. Peak Reduction. Sets the amount of peak reduction to apply to the signal. Higher settings result in more gain reduction and more pronounced compression effect.
3. Compressor/Limiter Toggle. The button below toggles the Tube Leveling Amplifier between its compressor and limiter modes. When in compressor mode, it acts with a variable ratio of 1:1-10:1. When in limiter mode, it acts with a variable ratio of 10:1-20:1, more aggressively limiting peaks.
4. Key Filter. This encoder sets, and the scribble displays, the frequency at which the Tube Leveling Amplifier will engage. It will still process the entire frequency range, but it is only engaged when the specified frequency is present. Press the button below to listen to the signal being used to trigger the compressor (including the effects of the high-pass filter, as set with the Key Filter control). Press again to switch back to the normal channel signal.

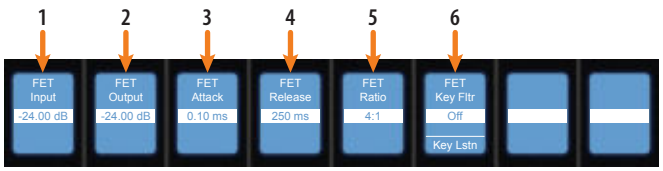


Press the Processor button to turn the Compressor on or off.

6.5.3 Class-A FET Compressor

Dynamic Fat Channel Controls

When the Class-A FET Compressor is selected, the following controls are available in the Fat Channel:



1. Input Gain. Sets input gain to the compressor. This setting affects the action of the compressor, so feel free to try various settings to find the optimal effect for your needs.

2. Output Gain. Sets the amount of "makeup gain" to apply to a signal. Once a signal is compressed, its overall level is often reduced. This gain control lets you bring it back up to the proper level after compression occurs.
3. Attack. Sets the time it takes for the compressor to begin attenuating a signal once it passes the threshold.
4. Release. Sets the time it takes for the compressor to stop attenuating a signal once it falls below the threshold.
5. Ratio. Sets the Ratio for the compressor. The following Ratios are available: 4:1, 8:1, 12:1, 20:1, or All.
6. Key Filter. This encoder sets, and the scribble displays, 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. Press the button below to listen to the signal being used to trigger the compressor (including the effects of the high-pass filter, as set with the Key Filter control). Press again to switch back to the normal channel signal.



Press the Processor button to turn the Compressor on or off.

6.6 EQ Mode (Dynamic Fat Channel)



Pressing the EQ button in the Fat Channel gives you access to equalization settings for the currently selected channel or mix. An EQ (or equalizer) is a tone control that lets you make changes in the tonal balance of a signal. You can boost or cut the level of ranges of frequencies, to make corrective or creative changes to the signal.

Like the compressor, StudioLive Series III mixers ship with three EQ models from which to choose and the Fat Channel behaves differently, depending on which model is loaded. For more information on available Fat Channel plug-in models, see Section 6.8.5.

6.6.1 Standard EQ

Dynamic Fat Channel Controls

The Standard EQ is selected on every input channel and output by default:



1. Band 1 / Low Gain. Sets the amount by which the selected frequency will be boosted or cut. Press the button below to turn the band on or off.
2. Band 1 / Low Frequency/Q. The encoder can control either frequency or Q for this band of EQ. Use the button below to toggle between the two. When in Frequency mode, it sets the center frequency at which signals are boosted or cut by this band of EQ. When in Q mode, it sets the Q (or width) of the current EQ band. Larger Q values affect a narrower range of frequencies. Lower Q values affect a wider range.
3. Band 2 / Low-Mid Gain. Sets the amount by which the selected frequency will be boosted or cut. Press the button below to turn the band on or off.
4. Band 2 / Low-Mid Frequency/Q. The encoder can control either frequency or Q for this band of EQ. Use the button below to toggle between the two. When in Frequency mode, it sets the center frequency at which signals are boosted or cut by this band of EQ. When in Q mode, it sets the Q (or width) of the current EQ band. Larger Q values affect a narrower range of frequencies. Lower Q values affect a wider range.
5. Band 3 / High-Mid Gain. Sets the amount by which the selected frequency will be boosted or cut. Press the button below to turn the band on or off.
6. Band 3 / High-Mid Frequency/Q. The encoder can control either frequency or Q for this band of EQ. Use the button below to toggle between the two. When in Frequency mode, it sets the center frequency at which signals are boosted or cut by this band of EQ. When in Q mode, it sets the Q (or width) of the current EQ band. Larger Q values affect a narrower range of frequencies. Lower Q values affect a wider range.
7. Band 4 / High Gain. Sets the amount by which the selected frequency will be boosted or cut. Press the button below to turn the band on or off.

8. Band 4 / High Frequency/Q. The encoder can control either frequency or Q for this band of EQ. Use the button below to toggle between the two. When in Frequency mode, it sets the center frequency at which signals are boosted or cut by this band of EQ. When in Q mode, it sets the Q (or width) of the current EQ band. Larger Q values affect a narrower range of frequencies. Lower Q values affect a wider range.



When a bus is selected, the EQ has six bands. Use the Page navigation buttons to navigate between Bands 1-4 and Bands 5-6.

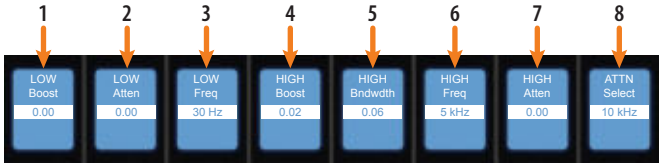


Press the Processor button to turn the EQ on or off.

6.6.2 Passive Program EQ

Dynamic Fat Channel Controls

When the Passive EQ is selected, the following controls are available in the Fat Channel:



1. Low Boost. Sets the level of boost applied around the chosen low frequency. This control interacts nicely with the Low Attenuation control, allowing for boosts in apparent bass energy while keeping overall bass energy within optimal limits.
2. Low Attenuation. Sets the level of attenuation applied around the chosen low frequency. This control interacts nicely with the Low Boost control, allowing for boosts in apparent bass energy while keeping overall bass energy within optimal limits.
3. Low Frequency Select. Sets the center frequency of the band covered by the Low Boost and Low Attenuation controls.
4. High Boost. Sets the level of boost applied around the chosen high frequency.
5. High Bandwidth. Sets the Q (or width) of the effect of the high EQ band.
6. High Frequency. Sets the center frequency of the high EQ band.
7. High Attenuation. Sets the amount of attenuation applied in a shelving fashion to frequencies at and above the chosen high frequency.
8. Attenuation Select. Sets the frequency at and above which the High Attenuation control attenuates treble content.



Press the Processor button to turn the EQ on or off.

6.6.3 Vintage 1970s EQ

Dynamic Fat Channel Controls

When the Vintage 1970s EQ is selected, the following controls are available in the Fat Channel:



1. Low Gain. Sets the amount of boost or cut to apply the low-frequency band of this EQ.
2. Low Frequency. Sets the shelving frequency of the low-frequency band of this EQ.
3. L-Mid Gain. Sets the amount of boost or cut to apply the low-mid-frequency band of this EQ.
4. L-Mid Frequency. Sets the center frequency of the low-mid-frequency band of this EQ.
5. H-Mid Gain. Sets the amount of boost or cut to apply the high-mid-frequency band of this EQ.

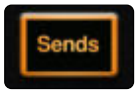
6. H-Mid Frequency. Sets the center frequency of the high-mid-frequency band of this EQ.
7. High Gain. Sets the amount of boost or cut to apply the high-frequency band of this EQ.



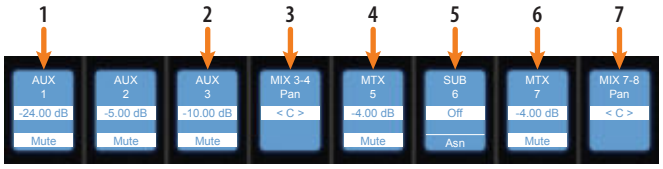
Press the Processor button to turn the EQ on or off.

6.7 Aux Sends Mode (Dynamic Fat Channel)

Dynamic Fat Channel Controls



When the Fat Channel is in Aux Sends mode, the Scribble Strips will display different parameters depending on how you have your FlexMixes configured:



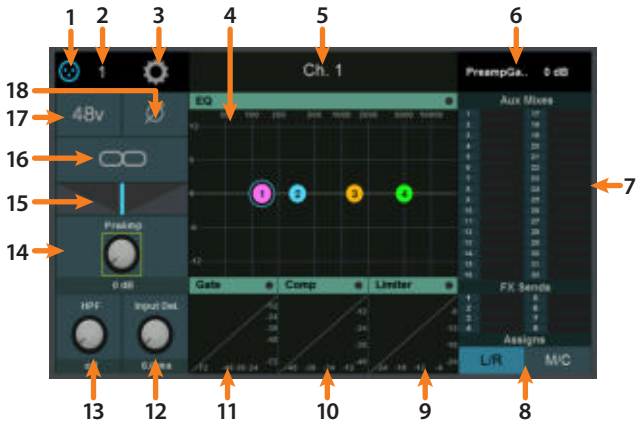
1. Mono Aux. The encoder controls the send level of the channel to the Mono Aux. The button beneath controls the channel mute in the Mono Aux.
2. Stereo Aux Send. The encoder controls the send level of the channel to the Stereo Aux. The button beneath controls the channel mute in the Stereo Aux.
3. Stereo Aux Pan. The encoder controls the pan position of the channel in the Stereo Aux.
4. Mono Matrix. The encoder controls the send level of the channel to the Mono Matrix Mix. The button beneath controls the channel mute in the Mono Matrix Mix.
5. Subgroup. The button beneath controls the channel assignment to the Subgroup. Stereo Subgroups will be provided with a pan control as well.
6. Stereo Matrix. The encoder controls the send level of the channel to the Stereo Matrix Mix. The button beneath controls the channel mute in the Stereo Matrix Mix.
7. Stereo Matrix Pan. The encoder controls the pan position of the channel in the Stereo Matrix Mix.

6.8 Fat Channel Screens

6.8.1 Channel Overview



While an Input channel is selected and Input mode is active, the Channel Overview is shown on the Touch Display:



1. Signal Source. Displays whether this channel is receiving signal from an analog or digital source. Press to open the Input Source screen. For more information, see Section 6.10.1.
2. Input Source Number. Displays the number of the input source assigned to the current channel.
3. Settings Button. Touch to access additional channel or bus settings.

4. EQ. Displays the EQ overview. Touch to open the EQ Screen. See Section 6.6 for more information.
5. Name. Displays currently selected channel or bus name.
6. Current Parameter. Displays currently controlled parameter and its value.
7. Aux and FX Send Levels. Displays the send levels for current channel. Touch this area to open Channel Bus Sends screen. See Section 6.7 for more information.
8. Assignments. Use these controls to assign/unassign the current channel to the Main bus and either the Mono/Center bus (StudioLive 64S) or the four dedicated Subgroups (all 32-channel models).
9. Limiter. Displays the Limiter overview. Touch to open the Limiter Screen.
10. Compressor. Displays the Compressor overview. Touch to open the Compressor Screen. See Section 6.8.4 for more information.
11. Gate. Displays the Noise Gate overview. Touch to open the Noise Gate Screen. See Section 6.8.3 for more information.
12. Delay. Sets the amount of alignment delay applied to the input channel or bus. Touch to enable manipulation by the Master Control encoder. See Section 13.6 and 13.7 for more information.
13. HPF Frequency. Sets the High Pass Filter cut-off frequency. Touch to enable manipulation by the Master Control encoder.

    Note: The Main stereo and Mono bus on the StudioLive 64S provides a toggle between Low Pass Filter and High Pass Filter behavior.
14. Preamp Gain. Sets the preamp gain. Touch this knob to enable manipulation by the Master Control encoder.
15. Pan. Sets the pan position. Touch to enable manipulation by the Master Control encoder.
16. Link. Links or unlinks the channel to the adjacent channel or bus to create a stereo pair.
17. +48v. Touch to enable/disable phantom power.
18. Polarity Invert. Touch to enable/disable polarity invert.

6.8.2 Channel Settings Screen



When the overview screen for a channel or bus is open, can access the Channel Settings screen by tapping on the Settings button (Call-out #3).



1. Channel Name. Touch the name field to enter a new name with the onscreen keyboard.
2. Channel Type. Touch the type field to choose between the standard identifying channel types (such as Guitars or Drums).
3. Digital Send Options. Touch Pre (signal is sent before Fat Channel processing) or Post (signal is sent after Fat Channel Processing) to choose the signal routing when sending this channel or bus to a USB or network-connected audio device.
4. Channel Color. Sets the color of a channel's Select button. If no color is selected, the Select button will be blue.
5. Stereo Link Options. These options let you specify the linking behavior when you link pairs of channels or buses, with the following options:
   - Preamp Level/Trim. Enable this option to link preamp level and trim settings when channels are linked. Disable to allow these settings to be individually set for each linked channel.

- Panning. Enable this option for "stereo" panning mode, which lets you use the pan controls on linked channels or buses to control overall stereo "width." Moving a pan control on a linked channel moves the corresponding pan control the same amount in the opposite direction. Disable this option to allow independent panning of linked channels or buses.
- Fader Levels. Enable this option to link volume faders for linked pairs of channels or buses. Disable it to allow independent manipulation of fader levels for linked channels.
- Comp./Limiter. Enable this option to link the compression and limiting detection behavior for linked channels or buses. With this option on, signals occurring either linked channel cause identical gain reduction behavior in both. Disable this option to let the compressor/limiter act independently on each linked channel.
- Names. Enable this option to keep linked channel/bus names identical. With this option on, a change to either name in a linked pair is reflected in the other linked channel.

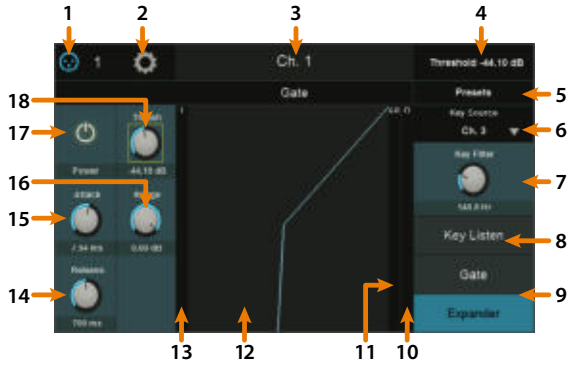
Power User Tip: If one of the digital inputs (Network, USB, or SD) is selected as the channel source, you will be presented with the option to designate the Digital Send source as either Analog or Digital. This is a great way to use plugin processing as an insert. This is also necessary if you'd like to record an AVB or USB input to the SD recorder. For more information, please see the Universal Control for StudioLive Mixers User Manual.

6.8.3 Gate Overview Screen



While Gate is active in the Fat Channel, the Touch Display displays the Gate Overview screen, displaying every Gate parameter available, along with useful metering and a graphical representation of the effect of current settings. Touching any onscreen knob allows you to use the Master Control encoder to set the selected parameter. Touching a drop-down selector (such as Key Source) lets you select from a list of relevant choices. Use the Master Control encoder to scroll through choices. Touching onscreen buttons toggles the related parameter on or off.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.4.1 for details.



1. Signal Source. Displays whether this channel is receiving signal from an analog or digital source. Press to open the Digital Patching screen. For more information, see Section 12.3.
2. Settings Button. Touch to access additional channel settings.
3. Channel Name and Number. Displays currently selected channel name and number.
4. Current Parameter. Displays currently controlled parameter and its value.
5. Presets. Opens the Preset Library. See Section 5.9 for more information.
6. Key Source (Input Channels only). The encoder sets and the scribble strip displays the input signal that will trigger the gate. This method of triggering a dynamics processor is often called sidechaining. Set to "None" to disable sidechaining. For more information on Sidechaining, see Section 13.8.

   Note: Because the StudioLive 64S employs the quad-core FLEX DSP engine, any of the first 32 channels can be used a Key Source for channels 1-32 while any of the second 32 channels can be used as a Key Source for channels 33-64. Sidechain inputs are grouped into channel 1-32 and 33-64 separately with only 16 channels able to be routed between the two groups. This means only 16 channels from group 33-64 can be used as a side chain source on channels 1-32 and only 16 channels from group 1-32 can be used as a side chain source on channels 33-64.
7. Key Filter. Sets the Key Filter frequency.
8. Key Listen. Touch to enable the Key Listen function.
9. Gate / Expander Toggle. Toggles the function of the processor between Gate or Expander.
10. Output Meter. Displays the post-Gate signal level.

11. Gain Reduction Meter. Displays the amount of Gain Reduction applied by the Gate to the channel.
12. Graph. Displays the Gate curve.
13. Input Meter. Displays the pre-Gate signal level.
14. Release. Sets the Release time for the Gate/Expander.
15. Attack. Sets the Attack time for the Gate/Expander.
16. Range. Sets the Range for the Gate.
17. Threshold. Sets the Threshold for the Gate/Expander.
18. Gate On/Off. Turns the Gate on or off for the current channel or bus.

Power User Tip: Use the Tap or Shift buttons to "null" button any parameter by pressing and holding the Tap or Shift buttons while adjusting the control of your choice to return that control to its default setting.

6.8.4 Compressor Overview Screens



Pressing the Comp button in the Fat Channel gives you access to the Compressor parameters for the selected channel or mix. A compressor is a dynamics processor that reduces the dynamic range of a signal by attenuating it by a set ratio when it exceeds a defined threshold. This lets you tame transients in a signal and increase its overall level (if desired). It also lessens the risk of peaking and the resulting distortion. Compressing a signal and raising its level also lets you accentuate subtle details (such as room reverberation or ghost notes) which might otherwise go unheard.

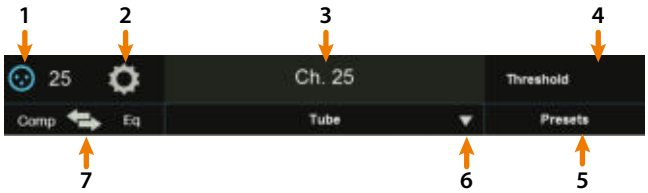
The Fat Channel gives you the following distinct compressor plug-in models to choose from, each with its own set of controls and its own behavior.

- Standard Compressor. A clean and full-featured compressor that offers transparent dynamic range reduction.
- Tube Leveling Amplifier. A model of a tube-based optoelectronic compressor, with simple, quick controls and a classic tonal character.
- Class-A FET Leveling Amplifier. A model of a Class-A FET-based compressor, with an aggressive, punchy tonal character.
- Brit Comp. Capturing the unique sound of a twin VCA gain-reduction amplifier design, the Brit Comp is ideal for taming piano dynamics or adding punch to drums and percussion. Included in the Classic Studio Bundle.
- Classic Compressor. The smooth character of this compressor allows you to create transparent or extreme color changes to your audio, making it a workhorse for just about any application. Included in the Vintage Channel Strips Bundle.
- Comp 160 Compressor. With simple controls, yet capable of extreme compression traits, the Comp 160 provides VCA character with a personality all its own. Try it on drums—you'll be glad you did! Included in the Modern Classics Bundle.
- Everest C100A Compressor. Based on a classic design focused on gentle, natural-sounding gain reduction, the Everest C100A helps control dynamics while still letting the signal breathe. Included in the Modern Classics Bundle.
- FC-670 Compressor. This model of an iconic compressor/limiter of the 1950s imparts an unmistakable silky warmth on just about any signal. Included in the Classic Studio Bundle.
- RC-500 Compressor. FET-based compressors such as the one in the PreSonus RC 500 use transistors to emulate a triode tube's operation and sound. Modeled after PreSonus' RC500 signature FET compressor, this plug-in provides an ultra-fast attack time and repeatable performance. Included in the free PreSonus Bundle.
- Tube P1B Compressor. In general, the response time of optical compressors tends to soften the attack and release, which can smooth out uneven volume fluctuations. Emulating an all-tube, optical design, the Tube P1B compressor delivers musicality, preserving the clarity of the signal even at the most extreme settings. Included in the Vintage Channel Strips Bundle.
- VT-1 Compressor. Stunning high-end sound and incredible versatility are hallmarks of PreSonus' VT-1, which is modeled after a popular vacuum tube channel strip's FET compressor. The VT-1 provides fast attack and repeatable performance with a fully variable ratio. Included in the free PreSonus Bundle.

All plug-ins are available from the drop-down list on the Touch Display.

Power User Tip: Use the Shift or Tap buttons to "null" button any parameter by pressing and holding the Shift or Tap button while adjusting the control of your choice to return that control to its default setting.

The compressor models can be selected from the Touch Display when Compressor mode is active in the Fat Channel:



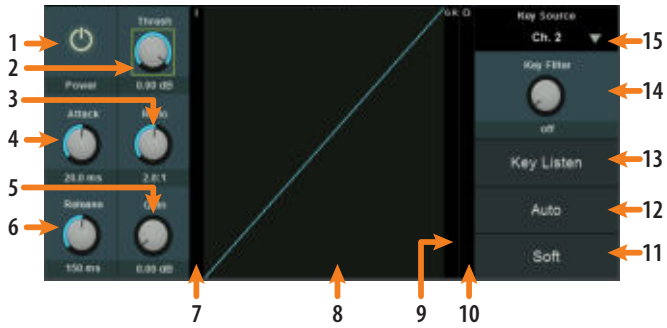
1. Signal Source. Displays whether this channel is receiving signal from an analog or digital source. Press to open the Input Source screen. For more information, see Section 6.11.
2. Settings Button. Touch to access additional settings.
3. Name and Number. Displays currently selected channel or bus name and number.
4. Current Parameter. Displays currently control parameter and its value.
5. Presets. Opens Presets menu on the Touch Display.
6. Compressor Type. Changes the type of Compressor model.
7. Comp>EQ. The Compressor and EQ can be reordered in the signal path. By default, the signal passes through the compressor before passing through through EQ. When reordered, the EQ is placed before the compressor in the signal path.

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.

6.8.4.1 Standard Compressor Overview Screen

When the Fat Channel is in Standard Compressor mode, the Touch Display shows an overview screen that displays the relevant parameters, along with useful metering and a graphical representation of the effect of current settings. Touching any onscreen knob allows you to use the Master Control encoder to set the selected parameter. Touching a drop-down selector (such as Key Source) lets you select from a list of relevant choices. Use the Master Control encoder to scroll through choices. Touching onscreen buttons toggles the related parameter on or off.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.5.1 for details.



1. Processor On/Off. Enables or disables the Compressor.
2. Threshold. Sets the Threshold for the Compressor.
3. Ratio. Sets the Compressor Ratio.
4. Attack. Sets the Attack time for the Compressor.
5. Gain. Sets Make-up Gain for the Compressor.
6. Release. Sets the Release time for the Compressor.
7. Input Meter. Displays the pre-Compressor signal level.
8. Graph. Displays current compression curve.
9. Gain Reduction Meter. Displays the amount of Gain Reduction applied by the Compressor to the channel.
10. Output Meter. Displays the post-Compressor signal level.
11. Soft. Enables Soft knee compression.
12. Auto. Enables Auto Mode.
13. Key Listen. Touch to enable the Key Listen function.

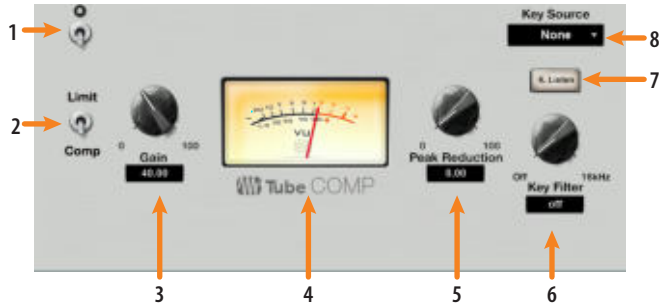
14. Key Filter. Sets the Key Filter frequency.
15. Key Source (Input Channels only). Sets the Key Source for the Compressor.

    Note: Because the StudioLive 64S employs the quad-core FLEX DSP engine, any of the first 32 channels can be used a Key Source for channels 1-32 while any of the second 32 channels can be used as a Key Source for channels 33-64.

6.8.4.2 Tube Leveling Amplifier Overview Screen

When the Fat Channel is in Tube Compressor mode, the Touch Display shows an overview screen that displays the relevant parameters. Touching any onscreen knob allows you to use the Master Control encoder to set the selected parameter. Touching a drop-down selector (such as Key Source) lets you select from a list of relevant choices. Use the Master Control encoder to scroll through choices. Touching onscreen buttons toggles the related parameter on or off.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.5.2 for details.



1. Processor On/Off. Enables or disables the Compressor.
2. Comp / Limiter. Switches between the compressor and limiter modes.
3. Gain. Sets the input gain to the compressor.
4. VU Meter. Displays the post-Compressor signal level.
5. Peak Reduction. Sets the amount of peak reduction to apply to the signal.
6. Key Filter. Sets the Key Filter frequency.
7. Key Listen. Touch to enable the Key Listen function.
8. Key Source (Input Channels only). Sets the Key Source for the Compressor.

   Note: Because the StudioLive 64S employs the quad-core FLEX DSP engine, any of the first 32 channels can be used a Key Source for channels 1-32 while any of the second 32 channels can be used as a Key Source for channels 33-64.

6.8.4.3 Class-A FET Compressor Overview Screen

When the Fat Channel is in Class A FET Compressor mode, the Touch Display shows an overview screen that displays the relevant parameters. Touching any onscreen knob allows you to use the Master Control encoder to set the selected parameter. Touching a drop-down selector (such as Key Source) lets you select from a list of relevant choices. Use the Master Control encoder to scroll through choices. Touching onscreen buttons toggles the related parameter on or off.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.5.3 for details.



1. Processor On/Off. Enables or disables the Compressor.
2. Input. Sets the input gain to the compressor.
3. Output. Sets the make-up gain for the compressor.

4. Attack. Sets the attack time for the compressor.
5. Release. Sets the release time for the compressor.
6. VU Meter. Displays the post-Compressor signal level.
7. Ratio. Sets the ratio for the compressor.
8. Key Filter. Sets the Key Filter frequency.
9. Key Listen. Touch to enable the Key Listen function.
10. Key Source (Input Channels only). Sets the Key Source for the Compressor.

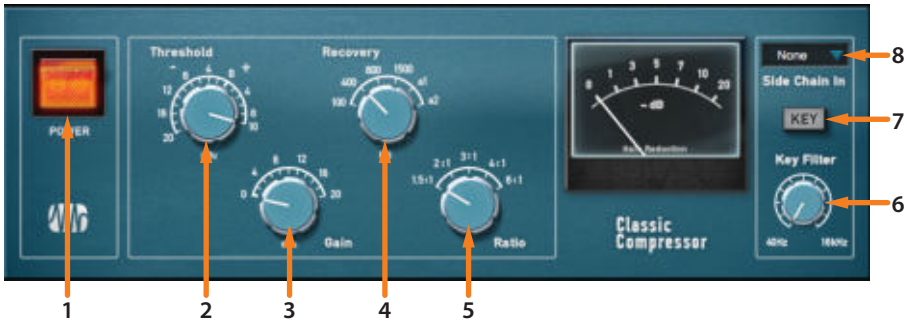
    Note: Because the StudioLive 64S employs the quad-core FLEX DSP engine, any of the first 32 channels can be used a Key Source for channels 1-32 while any of the second 32 channels can be used as a Key Source for channels 33-64.

6.8.4.4 Brit Comp Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain.
2. Threshold. Sets the Threshold for the compressor.
3. Attack. Sets the Attack time in milliseconds (ms) for the compressor.
4. Ratio. Sets the compression Ratio.
5. Release. Sets the Release time in seconds (s) for the compressor.
6. Makeup. Sets the amount of make-up gain applied to the signal by the compressor.
7. Key Filter. Sets the Key Filter frequency.
8. Key On/ Off. Enables / disables the Key Filter.
9. Sidechain. Sets the sidechain channel.

6.8.4.5 Classic Compressor Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain.
2. Threshold. Sets the Threshold for the compressor.
3. Gain. Sets the amount of make-up gain applied to the signal by the compressor.
4. Recovery. Sets the release time for the compressor.
5. Ratio. Sets the compression Ratio.
6. Key Filter. Sets the Key Filter frequency.
7. Key Filter On/ Off. Enables / disables the Key Filter.
8. Sidechain. Sets the sidechain channel.

6.8.4.6 Comp 160 Compressor Overview Screen



1. Threshold. Sets the Threshold for the compressor.
2. Compressor On / Off. Enables / disables the compressor in the signal chain.
3. Compression. Sets the Compression ratio.
4. Output Gain. Adjusts the gain of the of the output amplifier stage. The Output Gain control does not interact with the compressor threshold.
5. Key Listen. Enables / disables the Key Filter.
6. Key Filter. Sets the Key Filter frequency.
7. Sidechain. Sets the sidechain channel.

6.8.4.7 Everest C100A Compressor Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain. This can be controlled both by clicking or tapping on the LED or by clicking or tapping on the switch (Call-out #5).
2. Attack. Sets the Attack time for the compressor between Fast, Medium, and Slow.
3. Release. Sets the Release time for the compressor between Fast, Medium, and Slow.
4. Gain. Sets the output gain of the compressor. This level is monitored by the meter.
5. Compressor On / Off. Enables / disables the compressor in the signal chain. This can be controlled both by clicking or tapping on the switch or by clicking or tapping on the LED (Call-out #1).
6. Gain Reduction. Sets the amount of gain reduction applied to the signal.
7. Key Filter. Sets the Key Filter frequency.
8. Key Listen On/ Off. Enables / disables the Key Filter.
9. Sidechain. Sets the sidechain channel.

6.8.4.8 FC-670 Compressor Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain.
2. Input Gain. Adjusts the gain of the input signal as it goes into the compressor.
3. Threshold. Sets the Threshold for the compressor.
4. Time Constant. Adjusts the fixed Attack and Release settings.
5. Key Filter. Sets the Key Filter frequency.
6. Key Listen On/ Off. Enables / disables the Key Filter.
7. Sidechain. Sets the sidechain channel.

6.8.4.9 RC-500 Compressor Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain.
2. Threshold. Sets the Threshold for the compressor.
3. Attack. Sets the Attack time in milliseconds (ms) for the compressor from 0.5 ms (Fast) to 10 ms (Slow).
4. Makeup. Sets the amount of make-up gain applied to the signal by the compressor.
5. Release. Sets the Release time in seconds (s) for the compressor from 40 ms (Fast) to 500 ms (Slow).
6. Key Filter. Sets the Key Filter frequency.
7. Key Filter On/ Off. Enables / disables the Key Filter.
8. Sidechain. Sets the sidechain channel.

Power User Tip: The RC-500 Compressor has a fixed ratio of 3:1. This ratio will work well for a wide variety of instruments. If you would like more compression, lower the threshold while raising the input level. Lighter compression can be easily achieved by raising the threshold.

6.8.4.10 Tube CB Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain.

2. Gain. Sets the amount of make-up gain applied to the signal by the compressor.
3. Attack. Sets the Attack time for the compressor.
4. Threshold. Sets the Threshold for the compressor.
5. Release. Sets the Release time for the compressor.
6. Ratio. Sets the compression Ratio.
7. Attack / Release Mode. When set to "Fixed", the Attack time is set to 1 ms and the Release time is set to 50 ms. When set to "Manual", these times are user definable by the Attack (#2) and Release (#4) controls.
8. Key Filter. Sets the Key Filter frequency.
9. Sidechain. Sets the sidechain channel.
10. Key On/ Off. Enables / disables the Key Filter.

6.8.4.11 VT-1 Compressor Overview Screen



1. Compressor On / Off. Enables / disables the compressor in the signal chain.
2. Threshold. Sets the Threshold for the compressor.
3. Attack. Sets the Attack time for the compressor from 0.5 ms (Fast) to 10 ms (Slow).
4. Release. Sets the Release time in seconds (s) for the compressor from 40 ms (Fast) to 500 ms (Slow).
5. Ratio. Sets the compression Ratio.
6. Gain. Sets the amount of make-up gain applied to the signal by the compressor.
7. Key Filter. Sets the Key Filter frequency.
8. Key Filter On/ Off. Enables / disables the Key Filter.
9. Sidechain. Sets the sidechain channel.

6.8.5 EQ Overview Screens



Pressing the EQ button in the Fat Channel gives you access to equalization settings for the currently selected channel or mix. An EQ (or equalizer) is a tone control that lets you make changes in the tonal balance of a signal. You can boost or cut the level of ranges of frequencies, to make corrective or creative changes to the signal.

The Fat Channel gives you the following distinct EQ models to choose from, each with its own set of controls and its own behavior.

- Standard EQ. A clean and full-featured EQ that offers transparent tone shaping.
- Passive Program EQ. A model of a tube-based EQ with simple, quick and a classic tonal character.
- Vintage 1970s EQ. A model of a classic solid-state EQ, with simple, musical frequency settings and a lot of character.
- Alpine EQ-550. The 1960s-vintage EQ provides consistent, repeatable equalization using three overlapping bands, divided into seven fixed frequency points, each with five steps of boost or cut. Its selectable peaking or shelving filters for the high and low band, along with an independently insertable bandpass filter, provide an easy path to creating acoustically superior equalization. Included in the Classic Studio Bundle.
- Baxandall EQ. This EQ offers the world's most popular EQ curve. Using gently sweeping treble and bass EQ shelves, it allows you to make subtle, yet effective, changes over wide swaths of the frequency spectrum. Included in the Modern Classics Bundle.

- RC-500 EQ. It's rare to find a truly outstanding solid-state channel strip that can deliver a vintage vibe reminiscent of classic high-end products, yet employs a thoroughly modern design. The PreSonus RC 500 was one of these rare gems. The RC 500 EQ plug-in is modeled after the channel strip's 3-band semi-parametric EQ and combines isolated filters and optimized, per-band Q to provide subtle signal-shaping without harsh artifacts. Included in the free PreSonus Bundle.
- Solar 69 EQ. The sound of classic British EQ is absolutely legendary and has enhanced many a great recording. Emulating this classic British design, the Solar 69 EQ adds definition to kick drums, shapes electric guitars, and adds shimmer to acoustic guitars and vocals without sacrificing body. Included in the Classic Studio Bundle.
- Tube Midrange EQ. This midrange EQ is based on a passive, all-tube design for ultra-smooth and musical equalization, making it ideal for any midrange source material. Included in the Vintage Channel Strips Bundle.
- Vintage 3-band EQ. With its distinct filter shaping, sheen, and bite, this three-band active EQ includes both high and low shelving filters, providing enhanced tone-shaping possibilities. Included in the Vintage Channel Strips Bundle.
- VT-1 EQ. The VT-1 EQ models a popular vacuum tube channel strip's 4-band semi-parametric EQ, which combines isolated filters and optimized, per band Q. Designed with musicality in mind, this EQ is smooth and refined, which made it an instant classic. Included in the free PreSonus Bundle.

The eight Scribble Strips in the Fat Channel show pertinent data about the current settings of these controls. The controls differ, based on the model of EQ you select.

Power User Tip: Use the Tap button to "null" button any parameter by pressing and holding the Tap button while adjusting the control of your choice to return that control to its default setting.

The EQ models can be selected from the Touch Display when EQ mode is active in the Fat Channel:



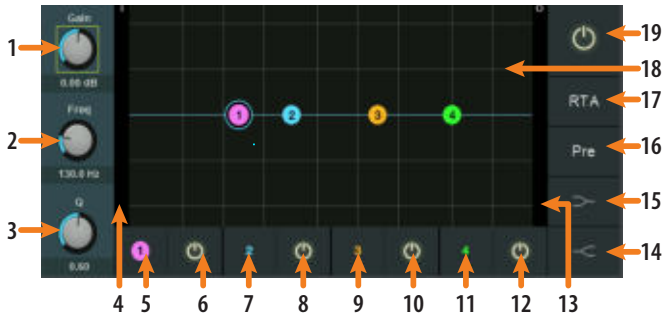
1. Signal Source. Displays whether this channel is receiving signal from an analog or digital source. Press to open the Digital Patching screen. For more information, see Section 12.3.1.
2. Channel Settings Button. Touch to access additional channel settings.
3. Name and Number. Displays currently selected channel or bus name and number.
4. Current Parameter. Displays currently control parameter and its value.
5. Presets. Opens Presets menu on the Touch Display.
6. EQ Type. Changes the type of EQ model.
7. Comp>EQ. The Compressor and EQ can be reordered in the signal path. By default, the signal passes through the compressor before passing through through EQ. When reordered, the EQ is placed before the compressor in the signal path.

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.

6.8.5.1 Standard EQ Overview Screen

When the Fat Channel is in Standard EQ mode, the Touch Display shows an EQ overview screen, displaying the relevant parameters, along with useful metering and a graphical representation of the effect of current settings. Touching any onscreen knob (or EQ node, in the Standard EQ) allows you to use the Master Control encoder to set the selected parameter. Touching a drop-down selector (such as Key Source) lets you select from a list of relevant choices. Use the Master Control encoder to scroll through choices. Touching onscreen buttons toggles the related parameter on or off.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.6.1 for details.



1. Gain. Controls the amount of boost or cut applied to the frequency of the currently of the currently selected band (Call-out #5, 7, 9, or 11).
2. Frequency. Sets the center frequency for the currently selected band (Call-out #5, 7, 9, or 11).
3. Q. Sets the Q for the currently selected band (Call-out #5, 7, 9, or 11).
4. Input Meter. Displays the Input signal to the EQ.
5. Band 1 Select. Selects Band 1 for control via Gain (#1), Frequency (#2), and Q (#3).
6. Band 1 On/Off. Enables/disables Band 1.
7. Band 2 Select. Selects Band 2 for control via Gain (#1), Frequency (#2), and Q (#3).
8. Band 2 On/Off. Enables/disables Band 2.
9. Band 3 Select. Selects Band 3 for control via Gain (#1), Frequency (#2), and Q (#3).
10. Band 3 On/Off. Enables/disables Band 3.
11. Band 4 Select. Selects Band 4 for control via Gain (#1), Frequency (#2), and Q (#3).
12. Band 4 On/Off. Enables/disables Band 4.

    Note: When one of the output buses is selected, Bands 5 and 6 will also be visible.
13. Output Meter. Displays the post-EQ Output signal.
14. High Shelf On/Off. Enables/disables the high shelf EQ. When the Shelf button is not engaged, the High band is a parametric EQ. Enabling the Shelf button turns the High band into a high shelving EQ that alters, by a fixed amount, a band of high frequencies at and above a user-selected shelving frequency.

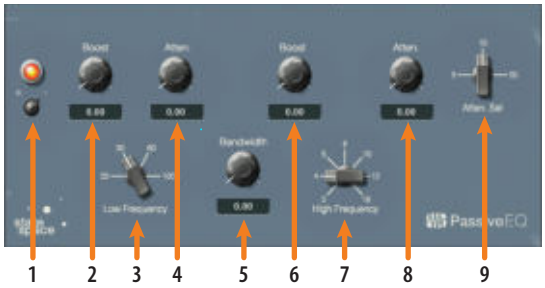
    Power User Tip: A high shelving EQ is like a treble-control knob on a stereo. In this mode, the Center Frequency control selects the shelving frequency.
15. Low Shelf On/Off. Enables/disables the low shelf EQ. When the Shelf button is not engaged, the Low band is parametric. Enabling the Shelf button turns the Low band into a low-shelving EQ that alters, by a fixed amount, a band of low frequencies at and below a user-selected shelving frequency.

    Power User Tip: A low shelving EQ is like a bass-control knob on a stereo. In this mode, the Center Frequency control selects the shelving frequency.
16. Pre/Post. Switches the RTA measurement between Pre- or Post-EQ.
17. RTA. Engages/disengages the RTA display in the EQ graph.
18. Graph. Displays EQ curve.
19. EQ On/Off. Globally switches all EQ bands On or Off.

6.8.5.2 Passive Program EQ Overview Screen

When the Fat Channel is in Passive EQ mode, the Touch Display shows an overview screen, displaying the relevant parameters. Touching any onscreen knob allows you to use the Master Control encoder to set the selected parameter.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.6.2 for details.



1. EQ On/Off. Enables/disables the EQ globally. Touch to toggle on or off
2. Low Boost. Boosts the Low Band.
3. Low Frequency. Sets the center frequency for the Low Band.
4. Low Attenuation. Attenuates the Low Band.
5. High Bandwidth. Sets the bandwidth (Q) for the High Band.
6. High Boost. Boosts the High Band.
7. High Frequency. Sets the center frequency for the High Band.
8. High Attenuation. Sets the attenuation for the High Band.
9. Attenuation Select. Sets the Frequency at which the attenuation begins.

6.8.5.3 Vintage 1970s EQ Overview Screen

When the Fat Channel is in Vintage EQ mode, the Touch Display shows an overview screen, displaying the relevant parameters.

Power User Tip: For StudioLive models with dynamic Fat Channel displays, many of these parameters can also be controlled from the encoders and buttons in the Fat Channel. See Section 6.6.3 for details.



1. EQ On/Off. Enables/disables the EQ globally. Touch to toggle on or off.
2. Low Frequency. Sets the shelving frequency for the Low Band.
3. Low Gain. Sets the Gain for the Low Band.
4. Low-Mid Frequency. Sets the center frequency for the Low-Mid Band.
5. Low-Mid Gain. Sets the Gain for the Low-Mid Band.
6. High-Mid Frequency. Sets the center frequency for the High-Mid Band.
7. High-Mid Gain. Sets the Gain for the High-Mid Band.
8. High Gain. Sets the Gain for the High Band.

6.8.5.4 Alpine EQ-550 Overview Screen



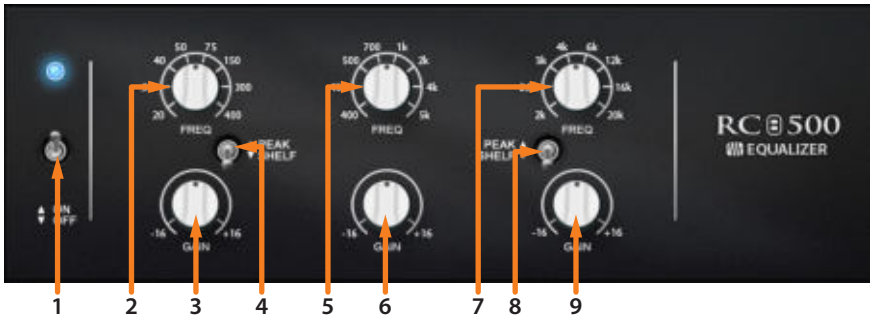
1. EQ On/Off. Enables / disables the EQ in the signal chain.
2. L/F. Toggles between a Peak and Shelf EQ for the low band.
3. H/F. Toggles between a Peak and Shelf EQ for the high band.
4. Filter. Toggles a Band Pass filter from 50 to 15 kHz on or off.
5. Low Band Frequency. Sets the frequency for the low band.
6. Low Band Gain. Sets the amount of gain for the low band.
7. Mid Band Frequency. Sets the frequency for the mid band.
8. Mid Band Gain. Sets the amount of gain for the mid band.
9. High Band Frequency. Sets the frequency for the high band.
10. High Band Gain. Sets the amount of gain for the high band.

6.8.5.5 Baxandall EQ Overview Screen



1. EQ On/Off. Enables / disables EQ in the signal chain.
2. Low Cut. This controls the cut-off frequency of the 12 dB/octave Low Cut filter from 54 to 12 Hz.
3. Low Shelf. Sets the threshold of the low shelf from 74 to 361 Hz.
4. Low Frequency. Sets the amount of gain for the low band.
5. High Frequency. Sets the amount of gain for the high band.
6. High Shelf. Sets the threshold for the high shelf from 1.6 to 18 kHz.
7. High Cut. This controls the cut-off frequency of the 12 dB/octave High Cut filter from 54 to 12 Hz.

6.8.5.6 RC-500 EQ Overview Screen



1. EQ In/Out. Bypasses the EQ circuit in the signal chain.
2. Low Band Frequency. Sets the center frequency of the EQ's low-frequency band.
3. Low Band Gain. Sets the attenuation or boost of the EQ's low-frequency band.
4. Low Band Shelf. By default, the low band of the EQ is a standard peak filter with a fixed Q of 0.6. When the Shelf switch is engaged, the low band functions as a shelving filter.
5. Mid Band Frequency. Sets the center frequency of the EQ's mid-frequency band.
6. Mid Band Gain. Sets the attenuation or boost of the EQ's mid-frequency band.
7. High Band Frequency. Sets the center frequency of the EQ's high-frequency band.
8. High Band Shelf. By default, the high band of the EQ is a standard peak filter with a fixed Q of 0.6. When the Shelf switch is engaged, the high band functions as a shelving filter.
9. High Band Gain. Sets the attenuation or boost of the EQ's high-frequency band.

6.8.5.7 Solar 69 EQ Overview Screen



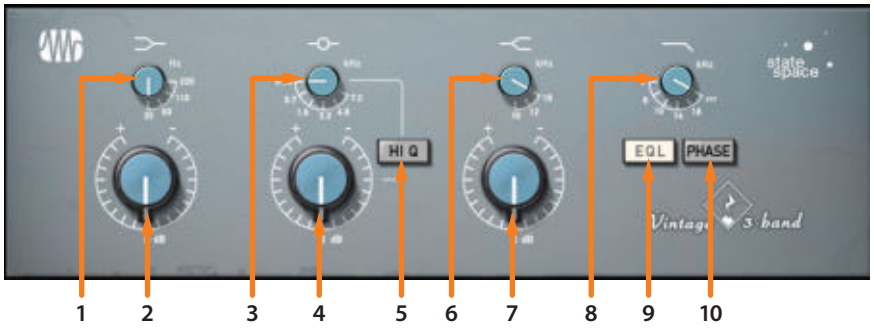
1. Low Band Frequency. Sets the center frequency of the EQ's low-frequency band.
2. Low Band Gain. Sets the attenuation or boost of the EQ's low-frequency band.
3. Mid Band Frequency. Sets the center frequency of the EQ's mid-frequency band.
4. Mid Band Gain. Sets the attenuation or boost of the EQ's mid-frequency band.
5. Peak / Trough. When in Peak mode, the Mid Gain control will boost the midrange. When switched to Trough mode, the Mid Gain will cut the midrange and narrow the Q to function as a notch filter.
6. High Band Frequency. Sets the center frequency of the EQ's high-frequency band.
7. High Band Gain. Sets the attenuation or boost of the EQ's high-frequency band.
8. Polarity. Flips the polarity.
9. EQ On / Off. Enables / disables the EQ in the signal chain.

6.8.5.8 Tube EQ Overview Screen



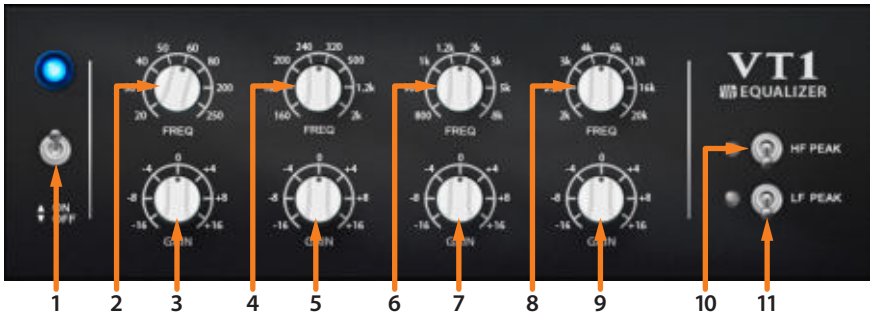
1. Low Band Frequency. Sets the center frequency of the EQ's low-frequency band.
2. Low Band Gain. Sets the attenuation or boost of the EQ's low-frequency band.
3. Mid Band Frequency. Sets the center frequency of the EQ's mid-frequency band.
4. Mid Band Gain. Sets the attenuation or boost of the EQ's mid-frequency band.
5. High Band Frequency. Sets the center frequency of the EQ's high-frequency band.
6. High Band Gain. Sets the attenuation or boost of the EQ's high-frequency band.
7. EQ On / Off. Enables / disables the EQ in the signal chain.

6.8.5.9 Vintage 3-Band EQ Overview Screen



1. Low Band Frequency. Sets the center frequency of the EQ's low-frequency band.
2. Low Band Gain. Sets the attenuation or boost of the EQ's low-frequency band.
3. Mid Band Frequency. Sets the center frequency of the EQ's mid-frequency band.
4. Mid Band Gain. Sets the attenuation or boost of the EQ's mid-frequency band.
5. Hi Q. Switches between a wide and narrow Q.
6. High Band Frequency. Sets the center frequency of the EQ's high-frequency band.
7. High Band Gain. Sets the attenuation or boost of the EQ's high-frequency band.
8. High Pass Filter Frequency. Sets the frequency threshold for the High Pass Filter.
9. EQ L. This enables or disables the EQ in the signal chain.
10. Phase. Reverses the polarity by 180˚ at the output.

6.8.5.10 VT-1 EQ Overview Screen

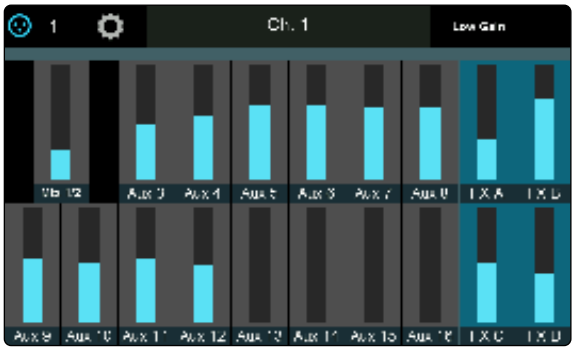


1. EQ On / Off. Enables / disables the EQ in the signal chain.
2. Low Band Frequency. Sets the center frequency of the EQ's low-frequency band.
3. Low Band Gain. Sets the attenuation or boost of the EQ's low band.
4. Low Mid Band Frequency. Sets the center frequency of the EQ's low-mid frequency band. The low-mid band has a fixed Q of 0.6.
5. Low Mid Band Gain. Sets the attenuation or boost of the EQ's low-mid band.
6. High Mid Band Frequency. Sets the center frequency of the EQ's high-mid band. The high-mid band has a fixed Q of 0.6.
7. High Mid Band Gain. Sets the attenuation or boost of the EQ's high-mid band.
8. High Band Frequency. Sets the center frequency of the EQ's high-frequency band.
9. High Band Gain. Sets the attenuation or boost of the EQ's high band.
10. HF Peak. When the Peak switch is engaged, the high band of the EQ becomes a standard peak filter with a fixed Q of 0.6. When it is disengaged, the high band is a shelving filter.
11. LF Peak. When the Peak switch is engaged, the low band of the EQ becomes a standard peak filter with a fixed Q of 0.6. When it is disengaged, the low band is a shelving filter.

6.8.6 Aux Sends Overview Screen



While Aux Sends Mode is engaged, the Touch Display displays the Aux Sends Overview screen. This screen displays the send level of the Selected channel in every FlexMix:



6.9 User Mode



The User Mode allows you to create your own custom Fat Channel controls. To assign a function to an encoder and its adjacent button, press any unassigned button. This will open the User Mode edit screen:

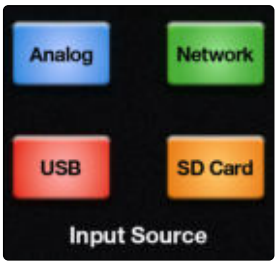


When you are done assigning function, press the Done button on the Touch Display.

To edit any function, press and hold any Fat Channel function button while User mode is active.

6.10 Input Controls

6.10.1 Input Source



When a channel is selected (rather than a bus or output), these four buttons give you a choice of input type to be routed to that channel. Choose from the following:

- Analog. Signal is routed from the corresponding analog input.
- Network. Signal is routed from the corresponding channel from the AVB network input (if applicable).
- USB. Signal is routed from the corresponding USB audio channel, for playback from a computer.
- SD Card. Signal is routed from the corresponding channel of the currently loaded multitrack recording on an inserted SD card.

By pressing and holding any of these buttons, you'll enter Multi-Assign mode, which allows you to set the input source for multiple channels at once. Once in this mode, the Select button for every Input Channel will flash. Press the Select button for any channel for you which you'd like to set to that source. For example, if you would like to engage the USB return for every Input Channel, press and hold the USB Input Source button, then press the Select button for every Input Channel. This will engage the corresponding USB Return for every channel.

6.10.2 Input Meters



On the left side of the Fat Channel control section, you'll see the "Level" meter. This meter gives you a visual indication of input signal level for the selected channel or mix. On the right side, you'll see meters that pertain to dynamics processing: "Comp" shows compressor gain reduction, and "Gate" shows gate gain reduction.

6.10.3 Input Source Routing



While any Overview Screen is active, you will see the Input Source button in the upper left hand corner. Touching this button will open the Input Source Screen. From here you can select the sources for the different input types available for the currently selected channel or bus.



By default, every input source is routed to its respective channel (Analog Input 1 to Channel 1, USB Playback stream 7 to Channel 7, etc.). You can reset the routing to the default setting at any time, by pressing the Reset button.

Note: For a more detailed overview of the default channel routings, please review Section 14.2.

Analog Input Source (Input Channels only)



Press the Analog Input Source icon to select the input channel that will be active on the currently selected channel when the source is set to Analog in the Fat channel. Tap on an analog input to patch it to the current channel.

Network Input Source



Press the Network Input Source icon to select the Network Input that will be active on the currently selected channel or bus when the source is set to Network in the Fat channel. Tap on an AVB input to patch it to the current channel.

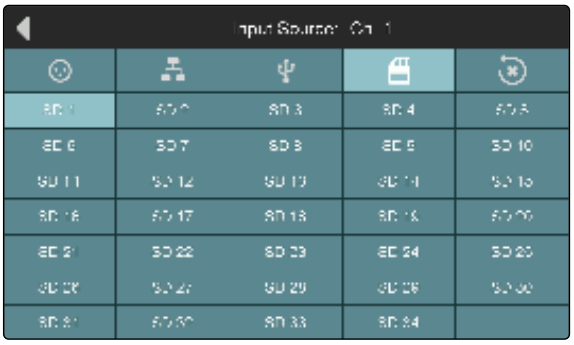
Power User Tip: It is important to understand that for output buses, this is the input to the bus, not the output itself. In most instances, this will be sourced from the internal DSP. This feature can be used to insert an external effect from the AVB network.

USB Input Source (Input Channels only)



Press the USB Input Source icon to select the USB playback stream that will be active on the currently selected channel when the source is set to USB in the Fat channel. Tap on a USB return to patch it to the current channel.

SD Input Source (Input Channels only)



Press the SD Input Source icon to select the SD Track that will be active on the currently selected channel or bus when the source is set to SD in the Fat channel. Tap on any SD playback stream to patch it to the current channel.

6.10.4 Polarity and Phantom Power



When an analog input channel is selected, these buttons let you toggle channel polarity flipping (Ø) and phantom power (+48V) on or off.

Power User Tip: When recording with more than one open microphone, use the polarity invert to combat phase cancellation between microphones.

6.10.5 Stereo Link



When a channel or mix is selected, pressing this button links some of the parameters of a channel or mix with those of its even or odd counterpart (channel 1 links only with 2, 7 links with 8, and so on). When this button is lit, the selected channel is linked to its paired channel.

The following parameters are always kept in parity between linked channels or buses:

- Input assignment
- Channel type
- Bus mode (aux/subgroup)
- Compressor/EQ type
- Gate parameters & keying (signal from either channel or mix can trigger both related gates)
- EQ parameters
- Graphic EQ settings
- Mute and Solo states
- Bus assignments
- Phantom power and polarity status
- Fat Channel EQ/Dyn A/B status
- Aux and FX send levels
- Pan position
- Filter DCA group assignment
- Talkback and monitor routing settings
- Pre/post fader settings
- Bus output delay

Some parameters have configurable linking behavior that allow them to work in tandem (stereo linked) or be independently set. This is configured in the Channel Settings screen in the Master Control section:

- Preamp trim
- Pan settings
- Channel or mix fader levels
- Compressor and limiter keying
- Channel/bus names

For more information on selecting linking options, see Section 6.8.2.

6.11 Output Assignment Buttons

6.11.1 Main/Mono Bus Assignment (StudioLive 64S only)



When an input channel is selected, you can use these buttons to assign it to the Main and Mono/Center buses. Press L/R to send the selected channel output to the Main Stereo bus. Press Mono/Center to send the channel output to a Mono or Center bus (Pan Mode dependent).

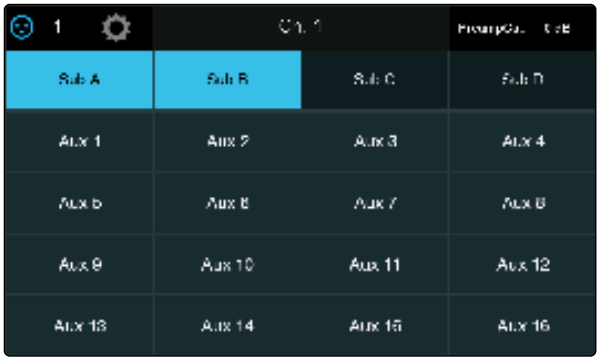
For more information on the Main bus, see Section 5.6.

6.11.2 Main/Subgroup Assignment (All 32-Channel StudioLive Models)



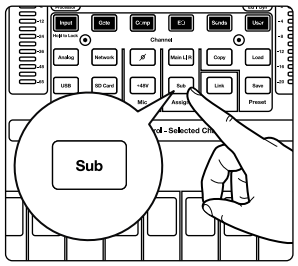
When an input channel is selected, you can use these buttons to assign it to an output path. Press Main to send the selected channel output to the Main bus. Press SubGrp to open the Bus Assignment screen on the Touch display.

You can assign a channel output to a subgroup in two different ways:

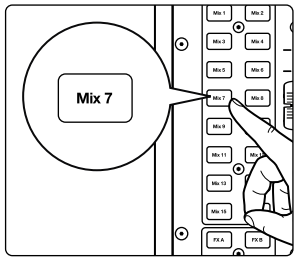


Press the Subgroup button and release it, the Subgroup Assignment view shows in the Touch Display, with a list of all available subgroups. You can then touch the desired subgroup to route the channel to the subgroup of your choice.

To assign a channel to multiple FlexMix Subgroups:



1. While the channel is selected, press and hold the SubGrp button in the Assign section of the Fat Channel.



2. The available subgroup FlexMix select buttons will flash. Press the FlexMix select buttons for the subgroups to which you'd like to assign the channel.

7 Tape Controls



By default, the Tape channel is sourced from the analog Tape In jacks on the rear of the mixer and the currently paired Bluetooth audio device simultaneously. The two signals are mixed together and summed on the Tape In channel.

A note to StudioLive SE 24, SE 16, 32SX and 32SC users: Bluetooth audio is not available on these models.

If you prefer, you can instead route audio from a connected network device, computer connected via USB, or from tracks 33-34 in a Capture session stored on an inserted SD card.

To configure the tape input options, press the Edit button in the Tape control area, next to the Touch Display.



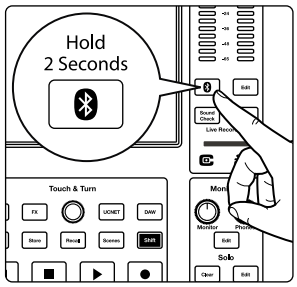
The Tape Edit screen is displayed. Here, you can choose a signal to be routed to the Tape input channel from the following options:

- Analog/BT. Touch this button to route both the Tape input jacks and the currently selected paired Bluetooth device to the Tape input channel. When selected, two slots are shown for paired Bluetooth devices. Touch the button that relates to your choice of device to route its audio output to the Tape input channel. A Forget Devices button is provided to break pairing connections, allowing you to pair another device, or to work out pairing issues with a device that doesn't seem to function. Bluetooth audio is not available on the StudioLive SE 24, SE 16, 32SX and 32SC.
- Network. Touch this button to use audio from the designated network tape channels as the local tape input source. For more information see Section 5.4.1.
- USB. Touch this button to route audio from a USB-connected computer to the Tape input channel. Once selected, USB streams 37 and 38 will be available as the tape source. For more information on USB audio routing, see Section 6.10.3.
- SD Card. Touch this button to route audio residing on an inserted SD card to the Tape input channel.

The Tape to Main knob mirrors the setting of the Tape input channel fader. Touch the knob to adjust this setting with the Master Control encoder.

7.1 Pairing a Bluetooth Device

To pair a Bluetooth audio device for use with the Tape input:



- Press and hold the Bluetooth button in the Tape control area for two seconds to enter pairing mode.
- The button will flash, indicating that your StudioLive is searching for a discoverable Bluetooth device.
- Once your device is successfully paired, the Bluetooth button will illuminate and stop flashing.

Note that while up to two Bluetooth devices can be paired at one time, only one device can input audio at a time.To remove a device, tap Forget Devices. Bluetooth is not available on the StudioLive SE 24, SE 16, 32SX and 32SC.

8 SD Recording



Your StudioLive mixer has audio recording and playback abilities that can come in very handy, especially in a live sound context. You can record multi-track live performances to an SD card for later use. Also, you can play back multi-track audio from previously recorded performances, for use as a "virtual sound check," allowing you to dial in your mix even when the band isn't around.

To begin the process of recording or playing back a performance, press the Edit button in the Live Recording control section, which brings up the Live Recording Edit screen on the Touch Display.



This screen is the starting point for recording or playing back a live performance on an SD card and allows you to create new sessions, load saved sessions from your SD/SDHC card, and test your SD/SDHC card's speed.

Before beginning any multitrack recording, it is recommended that you format your SD/SDHC card in FAT32 format, even if your card was formatted prior to being packaged. There are several utilities that allow you to format your SD/SDHC card.

Please note: The StudioLive Series III mixers support both SD and SDHC cards up to 32 GB. Tested and approved models and brands can be found at www.PreSonus.com.



The first time you insert your SD/SDHC card, you should perform a Speed Test. This simple test can take several minutes, depending on card speed, and will tell you the transfer rate of your card, as well as the amount of simultaneous tracks you can reliably record.

Power User Tip: Your StudioLive is also equipped with a USB audio interface to record and play back from a computer. More information on USB recording and playback is available in the Universal Control for StudioLive Mixers User Manual.

8.1 Creating a New Session for Recording

When the Live Recording screen is displayed on the Touch Display, you can create a new live recording Session by touching New Session on the Touch Display. This brings up the New Session screen.



In this screen, you can enter the artist's name, a name for the performance (venue, date, etc.), and the location of the performance, to help you keep track of various live recordings. If you touch the Artist, Performance, or Location field on the Touch Display, an onscreen keyboard is shown, to let you enter the required information.

When you've entered the artist name, performance name, or location for one Session, it is saved for easy use in future sessions (up to 10 of each category at a time). Saved designators can be easily selected by touching the drop-down menus in the right column of controls on this page. Use the Master Control encoder to scroll through choices.

Once you've entered the needed information for your new Session, touch Create in the Touch Display to create the new session, or touch Cancel to cancel this operation and exit the New Session screen. Once a new Session is created, the Capture screen is shown on the Touch Display, and you can begin recording. For more information, see Section 8.3.

8.2 Loading a Session for Playback

When the Live Recording screen is displayed on the Touch Display, you can load a previously recorded Session for playback or Virtual Soundcheck, by touching Load Session on the Touch Display. This brings up the Load Session screen.



In this screen, you can select from a list of existing live recording Sessions on the currently selected playback medium. Use the encoder below the Touch Display to scroll through the list.

To load a session for playback:

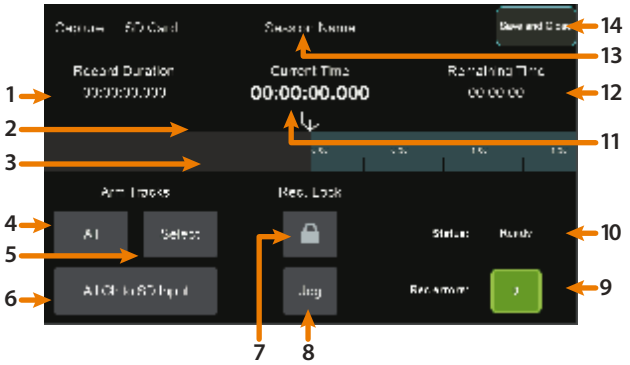
- Touch the Session of your choice to select it. The Recall button flashes.
- Press Recall to load the Session.
- Once the Session is loaded, the Capture screen is shown, and you can begin playback of your Session.

When the Load Mix button is active, the mix Scene stored with the session will also load. The parameters that are loaded are filtered according to the settings in the Scenes screen. For more information on creating and recalling mixer scenes, see Section 9.6.2.

8.3 Capture Screen

PreSonus Capture is a multitrack digital-audio recording application designed to make recording with StudioLive mixers quick and easy. This application is built into StudioLive Series III mixers, allowing you to track directly to an SD card using the same high-quality audio engine as PreSonus' groundbreaking Studio Pro DAW. Session files recorded on the SD Card can be opened directly in Studio Pro and Capture – no conversion or exporting necessary.

Capture sessions recorded in Capture 3.0 on a computer using the USB audio interface can be loaded onto an SD Card for playback later. For more information, please review the Capture™ 3 Software User Manual.



1. Record Duration. Shows the total recorded length of the current Session.
2. Current Position. Shows the current position of the recording and playback.
3. Timeline. Shows the current cursor location in the timeline of the current Session.
4. Arm All Tracks. Touching this button will arm all 34 tracks for recording. This will record all 32 input channels and your Main mix.
5. Select Arm Tracks. Press the Select button to enable channel selection mode. In this mode, you can press the Select buttons on each channel in the mixer to arm specific channels for recording. When a channel is selected, its Select button glows steadily. When a channel is not selected, the button flashes.

A note to StudioLive 64S Users: Because SD recording is limited to 34 tracks, any channel on your

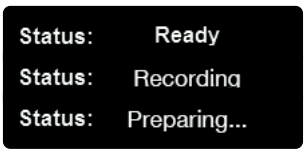
StudioLive 64S can be routed to any of the 34 tracks in your Capture SD session. Because of this, it is important to understand that the Select buttons in this mode are arming the Track in the Capture SD session, not selecting a Channel for recording. For more information, please review Section 12.3.5.

6. All Ch to SD Input. Touch this button to route audio from the Capture Session to the input channels. Touch this button again to go back to the previously established routing.
7. Recording Lock. Touch this button to enable Recording Lock mode. When this mode is enabled, recording cannot be stopped by pressing the Stop button in the Transport controls. To disable this mode, touch the lock button again.
8. Jog. Touch this button to use the Master Control encoder as a jog-wheel and move the recording/playback cursor.
9. Rec. Errors. This field indicates the number of errors and the potential for errors to occur. See Section 8.3.1 for more information.
10. Status. Displays the current recording status. See Section 8.3.1 for details.
11. Current Timeline Position. Displays the current playback and recording position.
12. Remaining Time. Shows the amount of time available for recording on the connected recording medium
13. Session Name. Displays the name of the current Session.
14. Save and Close. Saves the session and returns to the Live Recording Edit screen.

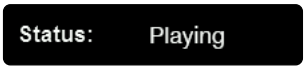
8.3.1 Recording Status Messages

The following indicators on the Capture screen will help you to keep an eye on how well your recording session is going:

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 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.

Rec 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.

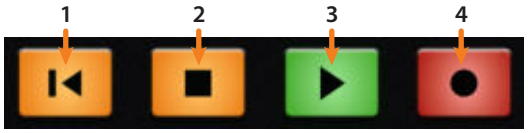


- Red Square. As soon as a recording error occurs, this indication will turn red to alert you. The number of errors will be displayed in the box. When errors occur, you will hear a skip or a drop-out in the recorded audio.

  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.

8.3.2 Transport Controls

When a new Session is created or an existing Session is loaded, the Transport buttons give you control over recording, playback, and navigation through the timeline of the current Session. Use these controls in conjunction with those in the Capture screen for total control of your recording and playback needs. The button functions are as follows:



1. Return to Zero. Press this button to move the recording/playback cursor to the start of the Session timeline. Enable Shift and press Return to Zero for Rewind.
2. Stop. Press this button to stop playback or recording.
3. Play. Press this button to begin playback from the current cursor position in the Session timeline. Enable Shift and press Play for Fast Forward.
4. Record. Press this button to begin recording from the current cursor position in the Session timeline.

8.4 Virtual Sound Check

We've all been there. The drummer is stuck in traffic. The guitarist is stuck at work. And you're stuck at front-of-house (FOH) with a hyped up lead singer and bass player and no way to dial in a front-of-house mix, let alone set up the singer's in-ear mix. Don't panic! With Capture's Virtual Soundcheck mode, dialing a good rough mix without the band—or with half the band missing—is quick and simple.



1. To begin, create a new Session, press the Soundcheck button on your StudioLive mixer.

2. This will launch the Load Session screen. Select the previously recorded session you would like to use for your Virtual Soundcheck.





3. The Recall button will begin to flash. Press the Recall button to load the saved Session. This will also engage all the SD channel returns.



4. Your mixer scene is automatically saved with your Capture session. Enabling the Load Mix function will load the saved StudioLive mix scene as well.
5. Use the Transport controls to playback the recorded audio and dial in your mix.



6. When you have finished setting up your mix, press the Soundcheck button again to exit. This will close the Capture session and disengage all the SD returns on your StudioLive, leaving the track labels on your mixer.

9 Master Control



The Master Control area contains an array of controls that give you access to vital functions of the mixer including the StudioLive Series III FX rack, UCNET communication, DAW control, and the scene library. The following section details the use of these controls and the features they bring.

9.1 StudioLive Series III FLEX DSP Rack Effects

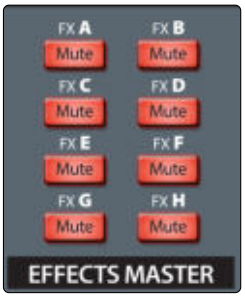


Your StudioLive Series III mixer is equipped with internal effects processors loaded with models of classic reverb units, delays, and modulation effects. Each processor is equipped with its own internal effect bus. Every channel on your StudioLive has a send to each of these buses. Every FlexMix and the Main bus is provided with a return from each effects bus.

Press the FX button to open the FX Rack screen on the Touch Display.



This screen displays the current effect loaded into each processor. Touching an effect's name will open the Effects Editor for that effects slot.



Each of the effects processors is also equipped with a physical mute button in the Effects Master section on your StudioLive mixer.



32-Channel StudioLive models are also provided with a dedicated Tap Tempo button in this same section. This button controls the tempo for any delay. To synchronize a delay effect to music as you hear it, tap this button in rhythm with the music (in 1/4-note, or one-beat intervals), until the delay effect is synced to your liking.

Power User Tip: The Tap button also act as a "null" button for parameters in the Fat Channel, Graphic EQ, and FX processors. Press and hold Tap and adjust the control of your choice to return that control to its default setting.



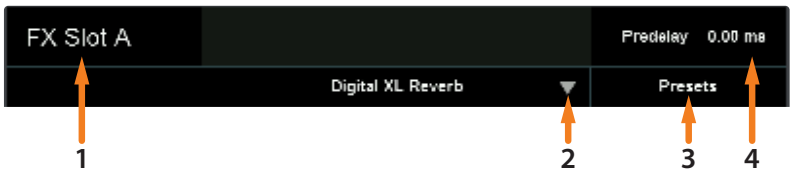
If you have just one effects slot occupied by a delay effect, this button will set its tempo. If you have more than one delay effect active, you must choose which delay is governed by this button by pressing the Tap Assign button in the Effects Editor for the desired delay.

StudioLive mixer models that are equipped with User Function buttons can dedicate one or more of these buttons to act as a Tap Tempo control for any delay loaded. For more information on User Function buttons, see Section 12.1.2.

9.1.1 The Effects Editor

As previously mentioned, tapping on any of the slots in the Effects Rack will launch the Effects Editor. At the top of this screen, you will find the Effects Type drop-down menu. Tapping on this menu will allow you select from the following effects:

- Digital XL Reverb
- PAE-16 Digital Reverb
- 335 Digital Reverb
- Vintage Plate Reverb
- Mono Delay
- Stereo Delay
- Ping Pong Delay
- Chorus
- Flanger



1. FX Slot. Displays the currently selected FX Slot.
2. Effects Type Menu. This drop-down menu allows you to change the active effect currently selected FX Slot.
3. Presets. Opens the FX preset screen. See Section 9.1.3 for more information.
4. Current Parameter. Displays the parameter currently controlled by the Value Encoder below the Touch Display, as well as its setting.

9.1.2 Effects Types

9.1.2.1 Digital XL Reverb

This convolution-style reverb emulates an acoustic space to add life and vibrancy and provides the following controls:



- Predelay. Sets the length of short delay before the onset of reverberation, lending a sense of space to the reflections.
- Reflection. This control allows you to set the level (in decibels) of the early reflections. The louder the early reflections, the smaller the room will seem.
- Diffusion. Sets the amount of diffusion to apply to the reverb tail.
- Size. Sets the width of the stereo image.
- Ratio. Use this control to set the balance between the direct sound (dry signal) and the reverberated sound (wet signal).
- LPF Frequency. Use this control to attenuate low frequencies that can muddy a reverb.
- LF Damping Freq. Use this control with create a warmer sound. This will enhance content at the frequency you set.

- LF Damping Gain. Sets the level at which the damping frequency will be boosted.
- HF Damping Freq. Use this control with create a brighter sound. This will enhance content at the frequency you set.
- HF Damping Gain. Sets the level at which the damping frequency will be boosted.

9.1.2.2 335 Digital Reverb

This reverb mimics the controls and sound of classic 1970s digital reverb and provides the following controls:



- Predelay. Sets the length of short delay before the onset of reverberation, lending a sense of space to the reflections.
- Diffusion. Sets the amount of diffusion to apply to the reverb tail.
- Reflection. This control allows you to set the level (in decibels) of the early reflections. The louder the early reflections, the smaller the room will seem.
- Size. Sets the width of the stereo image.
- Low Pass. Use this control to attenuate low frequencies that can muddy a reverb.
- LF Damp Freq. Use this control with create a warmer sound. This will enhance content at the frequency you set.
- LF Damping Gain. Sets the level at which the damping frequency will be boosted.

9.1.2.3 PAE-16 Digital Reverb

This reverb effect is inspired by a classic 80's-era digital reverb unit and provides the following controls:



- Predelay. Sets the length of short delay before the onset of reverberation, lending a sense of space to the reflections.
- Diffusion. Sets the amount of diffusion to apply to the reverb tail.
- Reflection (Time). This control allows you to set the level (in decibels) of the early reflections. The louder the early reflections, the smaller the room will seem.
- Low Pass. Use this control to attenuate low frequencies that can muddy a reverb.
- LF Damp Freq. Use this control with create a warmer sound. This will enhance content at the frequency you set.
- LF Damping Gain. Sets the level at which the damping frequency will be boosted.

9.1.2.4 Vintage Plate Reverb

This reverb effect is inspired by a classic mechanical plate reverb unit and provides the following parameters:



- Predelay. Sets the length of short delay before the onset of reverberation, lending a sense of space to the reflections.
- Reflection. This control allows you to set the level (in decibels) of the early reflections. The louder the early reflections, the smaller the room will seem.
- Low Pass. Use this control to attenuate low frequencies that can muddy a reverb.
- LF Damp Freq. Use this control with create a warmer sound. This will enhance content at the frequency you set.
- LF Damping Gain. Sets the level at which the damping frequency will be boosted.

9.1.2.5 Mono Delay

This delay effect offers a simple, quick-to-use multi-tapped delay arrangement and provides the following parameters:



- Delay Time. Sets the length of the delay line.
- Tap Assign. Assigns the Tap Tempo to the TAP button.
- Feedback. Sets the amount of delayed signal to be fed back to the input of the effect. Higher settings lead to longer delay tails (and eventually, outright chaos).
- LP Filter. Sets the cutoff frequency for a low-pass filter, applied to the delayed signal.
- HP Filter. Sets the cutoff frequency for a high-pass filter, applied to the delayed signal.
- Feedback LPF. Sets the cutoff frequency for the low-pass filter applied to the feedback signal.
- Feedback HPF. Sets the cutoff frequency for the high-pass filter applied to the feedback signal.

9.1.2.6 Stereo Delay

This delay effect is inspired by a classic 80's-era dual-delay unit and provides the following controls:



- Delay Time A and B. Sets the length of their respective delay line.
- Tap Assign A and B. Assigns the respective Tap Tempo function to the TAP button.
- Feedback A and B. Sets the amount of delayed signal to be fed back to their respective inputs of the effect. Higher settings lead to longer delay tails (and eventually, outright chaos).
- Spread. Sets the width of the stereo image
- LP Filter. Sets the cutoff frequency for a low-pass filter, applied to the delayed signal.
- HP Filter. Sets the cutoff frequency for a high-pass filter, applied to the delayed signal.
- Feedback A and B LPF. Sets the cutoff frequency for the low-pass filter applied to the respective feedback signal.
- Feedback A and B HPF. Sets the cutoff frequency for the high-pass filter applied to the respective feedback signal.

9.1.2.7 Pingpong Delay

As its name indicates, this stereo delay bounces the signal across the stereo field to create a wider image.



- Tap Assign L and R. Assigns the respective Tap Tempo function to the TAP button.
- Time Left and Right. Sets the delay time for the left and right side, respectively.
- Width. Sets the width of the stereo image.
- Feedback. Sets the amount of delayed signal fed back into the input of the effect.
- Fb Time. Sets the delay offset of the feedback signal.
- LP Filter. Sets the cutoff frequency for the low-pass filter on the delayed signal.
- HP Filter. Sets the cutoff frequency for the high-pass filter on the delayed signal.
- Fb LPF. Sets the cutoff frequency for the low-pass filter on the feedback signal.
- Fb HPF. Sets the cutoff frequency for the high-pass filter on the feedback signal.

9.1.2.8 Chorus

A chorus effect is created by mixing the source signal with one or more pitch-shifted copies of it and then modulating the copies using an LFO.



- Rate. Sets the frequency of the LFO.
- Depth. Sets amplitude of the modulation from 0 to 100%.
- Width. Shifts the phase of the LFO.
- LFO Polarity. Toggles the polarity between positive (off) and bi-polar (on).
- Shape. Sets the type of wave form for the LFO.
- Offset. Sets the time (in milliseconds) between the source signal and the modulated signal.
- Feedback. Variable feedback, or regeneration, produces multiple decaying repeats. Increasing the feedback value increases the number of echoes, as well as the resonance that is created as one echo disappears into another.

9.1.2.9 Flanger

The flanger blends two identical signals together and delays one by a constantly varying time.



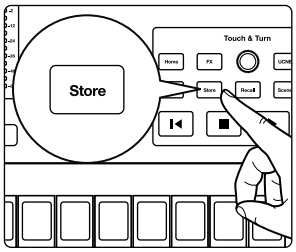
- Rate. Sets the frequency of the LFO.
- Range. Sets amplitude of the modulation from 0 to 100%.
- Width. Shifts the phase of the LFO.
- Offset. Sets the time (in milliseconds) between the source signal and the modulated signal.
- Feedback. Variable feedback, or regeneration, produces multiple decaying repeats. Increasing the feedback value increases the number of echoes, as well as the resonance that is created as one echo disappears into another.

9.1.3 Effects Presets



From the Effects Presets screen, you can load factory and custom presets for each Effect Type as well as store your own custom presets.

To save an Effects Preset:

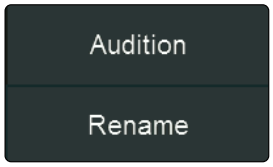


1. Tap the desired location for your new preset. You can select an Empty Location or a previously used location. Selecting a previously stored preset will overwrite the stored settings with the current settings.
2. Press the Store button in the Master Control area to bring up the onscreen keyboard. Enter your preset name with the keyboard.
3. Press the Store button again to save your preset, or press the Cancel button on the screen to cancel and return to the Preset Library screen.

To load an Effects Preset:



Tap the desired preset on the screen and press the Recall button in the Master Control area to load it.



You can also momentarily audition the effects of a preset by selecting a preset and pressing the Audition button on the Touch Display, or rename it by pressing Rename and entering a new name with the onscreen keyboard.

9.4 UCNET



UCNET is a special networking protocol that PreSonus created to enable advanced remote control and audio transmission features between various PreSonus hardware and software products. This includes devices running Studio Pro, Capture, Universal Control, and QMix-UC software.



Note: For more information on networking configuration and setup for UCNET-compatible products, please see the respective product manuals.

9.4.1 Mixer Nickname



At the top of the UCNET screen, you will fix the name of your mixer. You can customize your Mixer's name by tapping on the "Mixer Nickname" field. This will change the mixer's name anywhere it is displayed (Universal Control, QMix-UC, etc.)

9.4.2 Permissions



Your StudioLive can be controlled remotely by networked devices running Universal Control and QMix-UC software.

Press the Permissions button to set the level of control available to each user. At the top of the screen is a Device/User selector, which lets you choose which of the connected devices for which to set control permissions. Depending on the type of device you choose (QMix-UC or Universal Control), the screen shows different options:

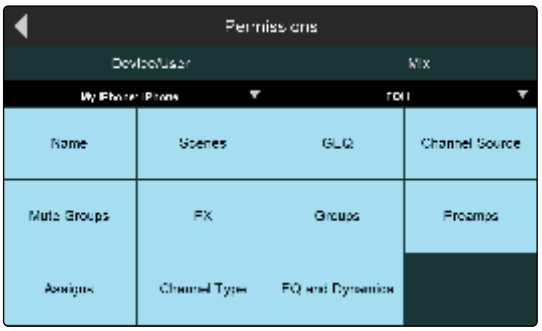
QMix-UC Device Permissions



When setting permissions for a device running QMix-UC software, the Mix selector gives you the following modes of control permission to choose from:

- None. Select this to disable remote control on the selected device.
- All Mixes. Control of every Aux Mix Send level and pan setting.
- Mix X. Control of an individual Aux Send level and pan setting.
- Wheel of Me Only Toggle. Limits access to the Wheel of Me control only.

Universal Control Device Permissions



When setting permissions for Universal Control, you can choose to filter out certain functions. When the button is the off state, the function will not be available for the selected device.

The following functions can be disabled individually:

- Name. Enables/disables the ability to remotely change channel and bus names.
- Channel Types. Enables/disables the ability to remotely change the channel type.
- Channel Source. Enables/disables the ability to remotely change the channel source.
- EQ & Dynamics. Enables/disables the ability to remotely change EQ and Dynamics settings for channels and available buses.
- Preamps. Enables/disables the ability to remotely control the preamp functions.
- GEQ. Enables/disables the ability to adjust the GEQ for the available buses.
- Assigns. Enables/disables the ability to assign and unassign channels to the main and subgroup buses.
- FX. Enables/disables the ability to edit the effects remotely.
- Scenes. Enables/disables the ability to remotely change scenes.
- Groups. Enables/disables the ability to remotely create Filter DCA groups.
- Mute Groups. Enables/disables the ability to remotely control mute groups.

9.4.3 Software Control

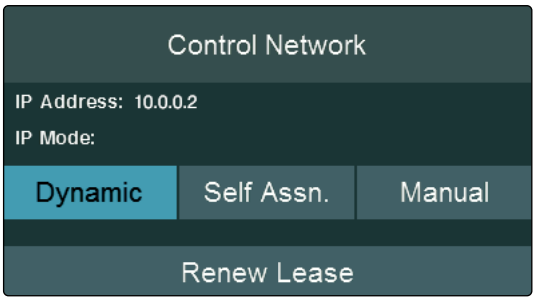


Your StudioLive Series III mixer can control Studio Pro in addition to function as a Mackie Control Emulation device for Logic and a HUI emulation device for ProTools.

For more information on using your StudioLive mixer as a controller for your DAW application please review the following addendums:

- Studio Pro Integration with StudioLive Series III Mixers
- StudioLive Series III MCU for Logic DAW Control Addendum
- StudioLive Series III HUI Emulation for ProTools DAW Control Addendum

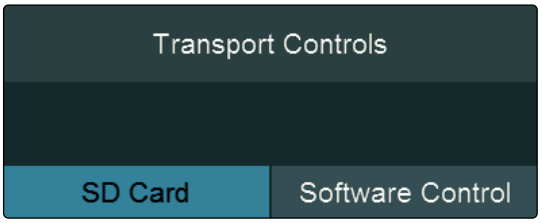
9.4.4 Control Network IP Address Settings



In the Control Network area of the UCNET screen, you'll see the current IP address of your StudioLive. This IP address can be assigned in one of three ways. Select the necessary IP assignment mode by touching one of the following buttons:

- Dynamic. The IP address is assigned automatically upon connection to the network, and can shift to a new address when necessary due to changes in network availability. In this mode, a Renew button is shown onscreen. Touch this button to renew the DHCP lease for your StudioLive.
- Static Self (Self-Assigned). The IP address is assigned automatically, but stays the same thereafter until you need to change it. In this mode, an Apply button is shown. Touch this button to auto-assign a new static IP address to your StudioLive.
- Static Manual. The IP address can be set manually, and remains the same until it is changed. In this mode, an Edit button is shown. Touch this button to open the Static Manual Edit screen, where you can specify IP address, subnet mask, and gateway settings for your StudioLive as needed for your network configuration. Touch each field in the form to bring up an onscreen keyboard for entry. When you're finished entering the settings, press Apply to establish the new settings. To exit without re-setting IP settings, touch the Cancel button.

9.4.5 Transport Controls



While your StudioLive Series III mixer is controlling a DAW, you can chose to have the Transport section control the SD recorder when DAW mode is disabled, or continue to control the Transport in your DAW whether or not DAW mode is active.

For more information on using your StudioLive mixer as a controller for your DAW application please review the following addendums:

- Studio Pro Integration with StudioLive Series III Mixers
- StudioLive Series III MCU for Logic DAW Control Addendum
- StudioLive Series III HUI Emulation for ProTools DAW Control Addendum

9.5 DAW Button



Your StudioLive can act as a control surface for the mixer functions of a computer running our Studio Pro, Logic or ProTools software. Press the DAW button to switch between normal mixing functions and DAW control. To return to normal operation, press the DAW button again.



While operating in DAW control mode, if there are more channels available in the connected DAW or mixer than there are channel strips on your StudioLive, you can press the Prev and Next buttons in the Bank section to switch between banks of channels.

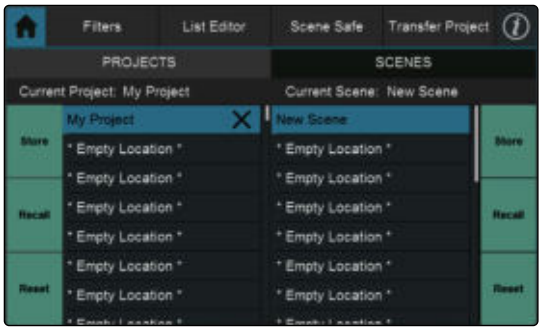
For more information on using your StudioLive mixer as a controller for your DAW application please review the following addendums:

- Studio Pro Integration with StudioLive Series III Mixers
- StudioLive Series III MCU for Logic DAW Control Addendum
- StudioLive Series III HUI Emulation for ProTools DAW Control Addendum

9.6 Scenes and Projects



As previously mentioned, every parameter on your StudioLive mixer can be simultaneously stored and recalled later using Projects and Scenes. To access these libraries, press the Scenes button. This will open the Projects library.



The Scene library for each Project is also viewable from this screen. 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.

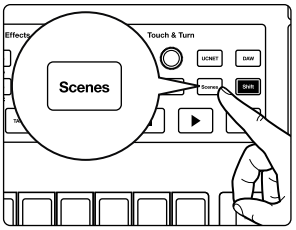
9.6.1 Creating and Recalling Projects

Global System settings and routing are stored within a Project. A Project saves the following Global parameters:

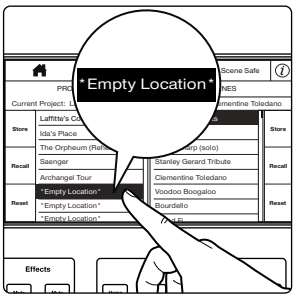
- User Function Buttons. The assignments for all User Function buttons.
- GEQ Settings. All bus assignments and curves.
- FlexMix Modes. Aux, Subgroup, Matrix.
- Pre/Post Modes. FlexMix and FX Mix.
- Solo Bus User Settings. Solo Mode (Radio, Latch, or Control Room), Solo in Place, Solo Selects, Solo PFL, Solo Level.
- Global Options. Peak Hold, Link Aux Mute Mode.
- Monitor Options. Phones Cue Source.
- Network IP Address Settings. Dynamic, Self Assign, or Manual.
- Digital Patching. Input, Output, AVB, SD, and USB.
- AVB Listener Streams. All AVB streams to which the mixer is listening.

While any of these settings can be changed while a Project is loaded, they will not be saved unless the Project is stored with the new changes. Loading a new scene will not change any of these settings.

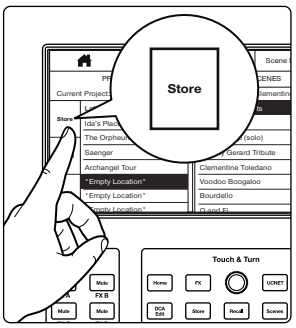
Saving a Project



1. To save a project, press the Scenes button.



2. Tap the desired location for your new Project. You can select an Empty Location or a previously used location. Selecting a previously stored Project will overwrite the stored settings with the current settings.



3. Press the left Store button on the Touch Display to bring up the onscreen keyboard. Enter your Project name with the keyboard.
4. Press the Enter button to save your Project, or press the Cancel button on the screen to cancel and return to the Projects Library screen.
5. Once saved, the Current Project field will alert you that your Project has been successfully saved and then display your new Project name.
6. The Store and Recall buttons will begin to flash. Use these buttons to create a new Scene with your current mix parameters, or to recall a stored Scene (if applicable). For more information on saving and recalling Scenes, see Section 9.6.2.

Loading a Project:

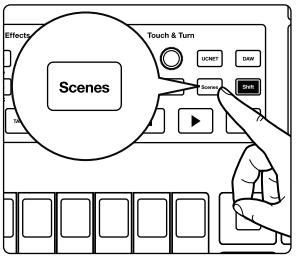
1. Tap name of the desired Project.
2. Press the left Recall button on the Touch Display.
3. Once loaded, the Current Project field will display the Project name.

9.6.2 Creating and Recalling Scenes

Creating a scene requires simply dialing in a mix that you would like to use at a later date and saving it. This has obvious benefits for both studio and live sound. For example, while in the studio, saving and recalling a scene allows you to move to another song and come back to the current mix later. For live shows with multiple bands, you can set up custom mixes for each band at soundcheck and recall the mix when that band goes onstage.

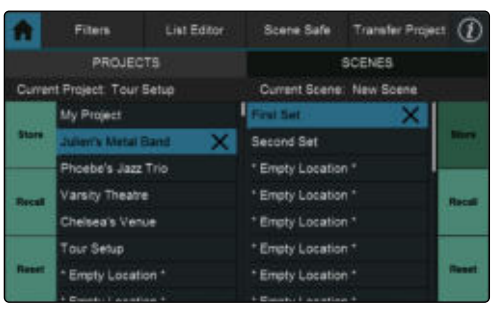
Scenes with the same Global routing and settings should be stored within the same Project. This greatly decreases load time when switching between Scenes.

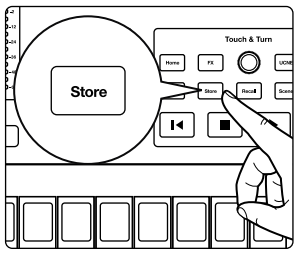
Saving a Scene



1. To save a scene, press the Scenes button.

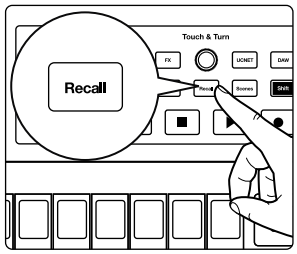
2. This will open the Scenes library menu on the Touch Display. The Store and Recall buttons will begin to flash.





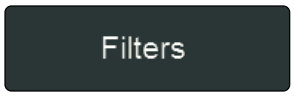
3. Scroll to an empty Scene location and press the Store button in the Master Control area or on the right side of the screen to enter a custom name.
4. Press the Store button again or press the Enter button on the screen to save the scene to your mixer's memory.

Loading a Scene



To recall a scene, touch one of the stored scenes in the library list to select it, then press the Recall button to recall the scene.

9.6.3 Filters



At the top of the Project and Scenes library screen, you will find the Filters button. Tapping this will open the Filters screen. From here you can select the parameters you want to be affected when you recall a Project or a Scene. With the exception of Phantom Power, all filters are enabled by default.

Project Filters



The following recallable parameter sets can be omitted when recalling a Project. When omitted, these parameters are still stored with a new Project. Filter affect recall only.

- Input Source. Analog, Network, SD, and USB.
- FX Mix Pre/Post Modes. Pre 1, Pre 2, or Post Settings for all FX Mixes.
- General Settings. Peak Hold, Link Aux Mute Mode, Phones Cue Source, Network IP Settings.
- Output Patching. Analog Output Routing set in the Digital Patching menu.
- USB Patching. USB Stream Routing set in the Digital Patching menu.
- Flex Mix Modes. The bus mode for each FlexMix (Aux, Subgroup, or Matrix).
- Talkback Assignment. All Talkback assignments.
- AVB Stream Routing. All AVB Streams from external devices to which the mixer is listening. Talker streams are global settings that are not affected by or stored within Project settings.
- AVB Patching. Internal patching of all AVB streams set in the Digital Patching menu.
- GEQ. GEQ bus assignments and curve settings.
- Flex Mix Pre/Post Modes. Pre 1, Pre 2, or Post Settings for all FlexMixes.
- Solo Bus User Settings. Solo Mode (Radio, Latch, or Control Room), Solo in Place, Solo Selects, Solo PFL, Solo Level.
- Analog Input Patching. The Analog Input Patching set in the Digital Patching menu.
- SD Patching. The SD Patching set in the Digital Patching menu.
- User Functions. The User Function button assignments as well as User Fader and Fat Channel layer assignments.

Scene Filters

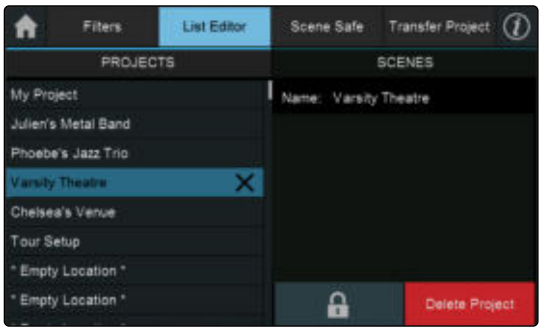
Filter Name	Included Parameters
Channel Info	Name Color Type
Input Fat Channel	**Fat Channel Settings for all Inputs:** High Pass Filter Gate Settings and Key Source Compressor Settings and Key Source EQ Settings Fat Channel Order (EQ<>Comp) Limiter Setting
Mutes	On/Off state for all Mutes
Subgroup Assignments	The channel assignments to every subgroup
FX Type/Settings	The active effect type for each FX Rack slot All associated FX parameter settings
Preamp	Preamp Trim and Digital Gain Phantom Power Polarity
Output Fat Channel	**Fat Channel Settings for all Outputs:** High Pass / Low Pass Filter Compressor Settings EQ Settings Fat Channel Order (EQ<>Comp) Limiter Setting
Main Mix Level	The Main Mix output level
Aux/Matrix Mixes	**The mix levels for every FlexMix configured as an Aux or a Matrix:** Send Levels Send Mutes Send Pans
DCA Groups	Name Color Channel Type Channels Assigned Mix Levels (Main, FlexMixes, FX)
Channel Strip	Solo Pan Stereo Link Link Options Pre/Post Digital Send Digital Send Source Fat Channel A/B state
Channel Delay	Input Delay settings
Main Mix Assigns	The channel and subgroup assignments to the Main Mix
FX Mixes	**The mix levels for every FX bus:** Send Levels Send Mutes Send Pans
Mute Groups	Name Channels Assigned Mute State

The List Editor allows you to change Project and Scene names, delete them, lock the ability to make changes to them, as well as reorder your Scene library as necessary.

Tapping on the List Editor tab opens the editor.

Projects

Tap on the Projects list to edit any Project in your library. Once selected you can choose to rename it, lock it or delete it entirely.



To rename a Project, tap the edit field.





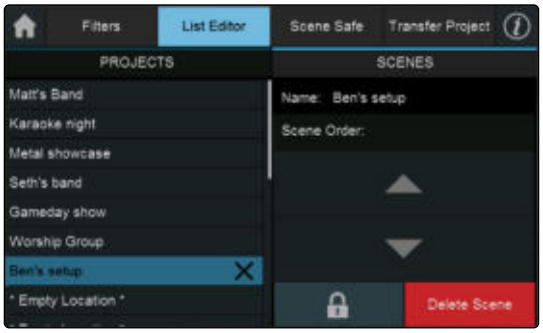
Tapping on the Lock button will prevent overwriting the stored parameters.



Tap the Delete Project button to remove it from your mixer. This will also delete all the Scenes stored within it.

Scenes

To edit the Scenes within a Project, first select the Project from Project List Editor, then tap on the Scenes tab.



To rename a Scene, tap the edit field.





Use the arrows to move a Scene up or down in the list.



Tapping on the Lock button will prevent overwriting the stored parameters.



Tap the Delete Scene button to remove it from the Project.



You can also tap on the 'X' next to a Scene in the Edit List to remove it from the Project.

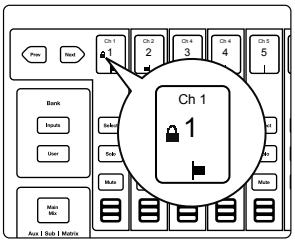
Power User Tip: Your StudioLive mixer will always ask you to confirm your selection before it deletes a Project or a Scene.

9.6.5 Scene Safe



In some cases, you may want to protect a channel or bus from being affected when scenes are recalled. To do this, touch the Scene Safe button. This opens the Scene Safe screen on the Touch Display.

This screen shows you a list of all available channels and buses. Touch the channel or bus of your choice to put it into scene safe mode, and protect it from changes when scenes are recalled.



When a channel is included in the Scene Safe group, a padlock will appear on its scribble strip to alert you that it will be omitted from any Scene that is recalled.

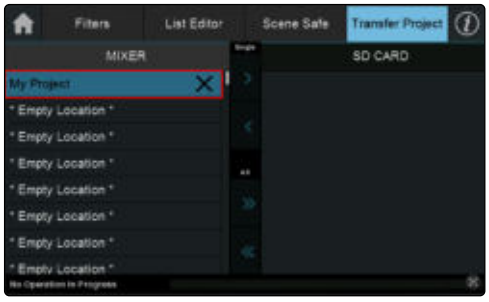
9.6.6 Transfer Project



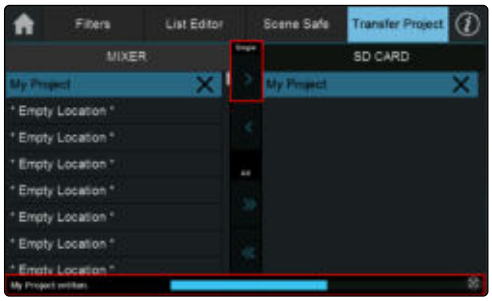
At the top of the Project and Scenes library screen, you will find the Transfer Project button. Tapping this will open the Transfer Project screen. From here, you can easily transfer an existing project on your mixer to an SD card (or vice versa!).

After you have inserted a formatted SD Card, follow the steps below:

1. From the Transfer Project screen, select the project file from the MIXER project list that you would like to transfer onto your SD card.

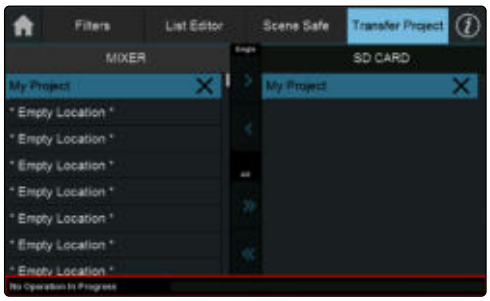


2. If you are transferring just Project, select the single arrow button [>] pointing towards the SD CARD project list. This will initiate the project download. While downloading, there will be a status bar below the Mixer.



Note: To transfer all of the projects saved on your mixer to an SD card, select the double arrow button [>>] pointing towards the SD CARD project list instead.

3. The progress bar will grey out and the text beside the progress bar will read "No Operation In Progress" once the project has successfully transferred to your SD card. At this point, it is safe to remove your SD card from your mixer.



If you would like to transfer projects from your SD card to your mixer instead, follow the same process but make sure to select the project(s) you would like to transfer from the SD CARD project list and click the arrow(s) facing the MIXER project list.

9.6.7 AutoStore

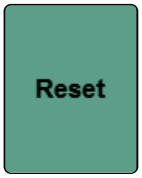
It is not necessary to create a scene for your StudioLive in order to preserve its settings when you power it down. The StudioLive takes continuous snapshots of the current position of every parameter on the mixer and stores them to memory every 3 seconds. This ensures that the next time you turn your StudioLive on, all of your settings will be restored to the same setting they were in when you powered down.



The AutoStore to Disk icon will flash in the upper left-hand corner of the Touch Display when an AutoStore snapshot is taken, alerting you that it is safe to power down your mixer.

Note: If you make changes to a stored scene, AutoStore will not save these changes as a permanent part of the scene. Any changes made to a scene in the StudioLive's library must be saved using the Scene menu, as described in the first part of this section.

9.6.8 Reset



For both Projects and Scenes, you'll find a Reset button. This button resets the currently loaded Project or Scene to the default state. Because you will potentially lose any changes to your current mix, you will be prompted to confirm this choice.

Project Reset

Inputs and Buses	Mode
Input Channels	n/a
FlexMix Mode	Aux (All FlexMixes)
FlexMix Pre/Post	Pre 1 (All FlexMixes)
FX Mix Pre/Post	Post
Solo Settings	AFL Radio Solo Mode Solo Level: Unity
Phones Cue Source	Solo
Peak Hold	Off
Sample Rate	48 kHz
Link Aux Mute Mode	Unlinked
Network IP Mode	Dynamic
Transport Controls	SD Card
GEQ	No Assignments

Note: See Section 14.2 for the default Digital Patching menu routing for every mixer model.

Scene Reset

Inputs and Buses	Output Level	Assign	Pan	Solo	Mute	Stereo Link	Aux/ FX Sends	Type
Input Channels (All Mixes)	-∞	Mains	C	Off	Off	Off	-∞	n/a
FX (All)	Unity	Mains	n/a	n/a	Off	n/a	n/a	Digital XL Reverb
Aux In A/B	-∞	Mains	n/a	n/a	n/a	n/a	-∞	n/a
Tape In	-∞	n/a	n/a	n/a	n/a	n/a	-∞	-∞

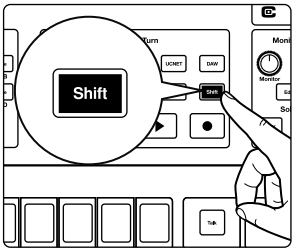
The Fat Channel will be restored to the same setting for every input and output on the StudioLive. Each of the dynamics processors and all EQ bands will be turned off.

Their parameters will be set as follows:

FAT CHANNEL PARAMETERS													
CHANNEL		HIPASS	NOISE GATE		LIMIT		COMPRESSOR		EQ	LOW	L.MID	H.MID	HIGH
GAIN	0db	OFF	STATE	OFF	STATE	OFF	THRESH	0 dB	STATE	OFF	OFF	OFF	OFF
PAN	<C>		RANGE	N/A			RAT	2:1	P/S	PEAK	n/a	n/a	PEAK
Source	Analog		ATK	5 ms			ATK	20 ms	Q	0.6	0.6	0.6	0.6
			REL	0.7 ms			REL	150 ms	FREQ	130 Hz	320 Hz	1.4 kHz	5 kHz
			Key Src	Off			GAIN	0 dB	GAIN	0 dB	0 dB	0 dB	0 dB
			Key Fltr	Off			MODE	Standard	MODE	Standard			
			Mode	Expand									

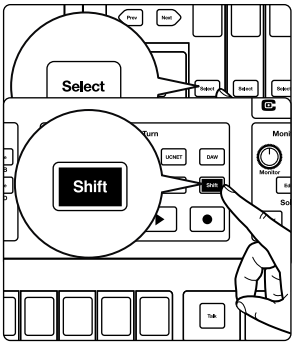
Power User Tip: Before beginning any new mixing situation, we recommended you reset your scene. This is the easiest way to ensure that there are no lingering parameter settings that could cause you some trouble in your new mix.

9.6.9 Nulling Parameters



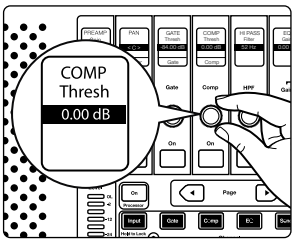
To return any Fat Channel parameter to its default setting, simply press and hold the Shift button and turn its encoder.

For example, if you want to null the current setting for the Channel 1 pan:



1. Select Channel 1.

2. Press and hold the Shift button.



3. Simultaneously turn Encoder 7: Compressor Threshold in the Fat Channel. The compressor threshold for Channel 1 will return to its default setting.

   Power User Tip: Parameters on 32-channel StudioLive Series III models can also be nulled by holding the TAP button.

9.7 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.

For more information about how to use the Offline Editor in Universal Control and transferring scenes from Project to another, see the "Universal Control for StudioLive Mixers" User Manual.

10 Monitoring Controls



In addition to the main outputs, your StudioLive mixer features a set of monitor outputs and a headphone jack, each with its own distinct signal path. While you can use these outputs to listen to the main mix, you can also assign other signals to them, such as Aux mixes, the solo bus, or the tape input. This allows easy monitoring of your choice of signals as you work, while the full mix continues to flow from the main outputs.

The Monitors control section is where you interact with these outputs. Turn the Monitor knob to set output level for the monitor outputs. Turn the Phones knob to set headphone volume. To get into more advanced monitoring settings, press the Edit button. This opens the Monitor screen on the Touch Display.



On this screen, you can choose which signals to send to the monitor and headphone outputs. Touch the Monitor button to configure signal routing for the monitor outs. Press the Phones button to do so for the headphone output. In either case, a grid of available sources is shown (Solo, Main, Tape, FlexMixes). Touching any one of these sources routes it to the currently selected monitoring output.

Power User Tip: When the Solo system is in CR (control room) mode, soloing a channel or bus causes that signal to be sent to the monitor outputs, temporarily overriding any preexisting routings to that output. When solo is disengaged, the routings you've chosen in the Monitor screen are restored. For more information on Solo Modes, see Section 10.1.1.

The Delay control allows you to adjust the amount of delay applied to the headphone and control room output signals. Touch the Delay knob and turn the Master Control encoder to add delay to either output. This is useful for aligning the timing of the Front-of-House monitoring signal with the signal coming from the Front-of-House PA system. The PA sound must traverse the distance from the speakers to your mix position before you can hear it, so a certain amount of delay occurs, which can obscure the finer details of your mix when using the monitor outputs. Adjust this control until the phasing/flamming effects are minimized.

10.1 Solo Controls



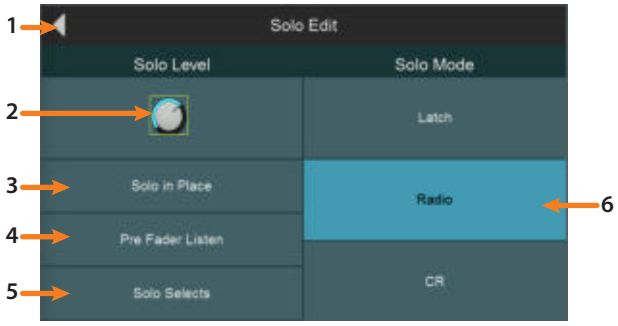
The StudioLive features an independent Solo bus. This feature is extremely useful in setting levels for monitor mixes, dialing in dynamics processing on each channel, and fixing issues during a live show without interrupting the main mix.

The Solo bus has three different modes: AFL (default), PFL, and SIP.

- AFL (After-Fader Listen). AFL sends the channel or subgroup signal to the Solo bus post-fader so that you can control the level of the soloed signal with the fader. This is the StudioLive's default setting.
- PFL (Pre-Fader Listen). PFL sends the channel or subgroup signal to the Solo bus before it reaches the fader so the fader does not affect the soloed signal.
- SIP (Solo In Place). This is also known as "destructive solo." When channels are soloed in this mode, every channel that isn't soloed will be muted, and only the soloed channels will be sent to their assigned outputs. While useful in dialing in dynamics during soundcheck, this mode is dangerous during a live show. We recommend that this mode be turned off when mixing live events.

Power User Tip: To unsolo all channels, press the Clear button in the Solo control section.

10.1.1 Solo Modes



To access the Solo bus controls, press the Edit button in the Solo control section. This will make the following controls available in the Touch Display.

1. Exit. Closes the Solo Edit screen.
2. Cue Mix Level Control. Adjusts the Overall Level of the Solo Bus. Touch this knob to adjust the overall level for the Solo bus with Master Control encoder.
3. 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.

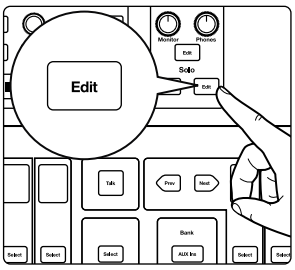
   Power User Tip: When SIP is engaged, channel mutes will only apply to the subgroup and main bus assignments. SIP does not mute input channels in aux-bus mixes. Because of this, you can use SIP to dial in a mix in the mains without disturbing the musicians' last-minute rehearsal on stage.

   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.
4. PFL/AFL Toggle Button. 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.
5. PFL soloing is not available for the subgroups.
   - Aux bus soloing is always PFL, regardless of whether this mode is engaged.
   - 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.
6. Solo Modes. (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. While CR Mode is active, multiple solo buttons can be engaged simultaneously.

10.1.2 Using the Solo Bus for Monitoring

When mixing live, or when recording multiple musicians at once, it is often necessary to quickly listen to just one instrument or group. The Solo and Monitor buses can be used together for this purpose. It is important to note that if you wish to monitor with speakers, rather than with headphones, it is necessary to connect the speakers to the Monitor Outs, rather than to the Main Outputs.

To use the Solo bus for monitoring purposes, do the following:



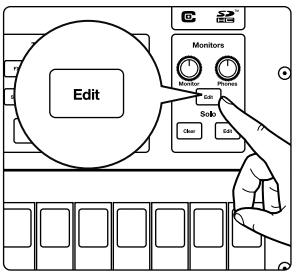
1. Press the Edit button in the Solo section to bring up the Solo screen.



2. Enable the Pre-Fader Listen option if you want to hear the soloed channels pre-fader (unaffected by fader level). Disable it if you want channel levels to be affected by fader levels.

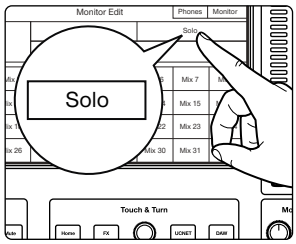


3. Touch Latch in the Solo Mode section of the Touch Display to enable the Latch solo mode. This lets you solo multiple channels at the same time, which is usually desired, in this case.

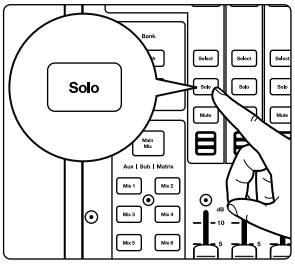


4. Press the Edit button in the Monitors section to bring up the Monitor screen.

5. Press Monitors if you want to listen on your booth or control room speakers. Press Phones if you want to listen on headphones. This brings up a list of available sources to route to the chosen monitoring system.



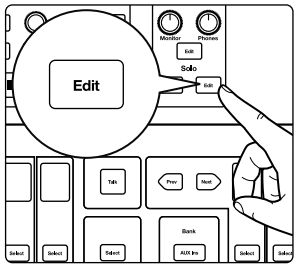
6. Touch Solo on the Touch Display to route the Solo bus to the monitor system you've chosen.



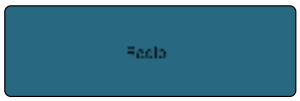
7. Press Solo on the channels or buses you want to monitor. The signal being fed to the Main outputs is unaffected.

10.1.3 Using Solo in Place to Set Up a Mix

We started this manual with a quick and easy way to set up the input levels for your StudioLive, ensuring that you have the highest possible input level without clipping your analog-to-digital converters. The next step is to set up your mix by dialing in the dynamics, EQ, and fader settings for each channel. This is a job for Solo In Place (SIP) mode. As previously mentioned, Solo In Place is a great way to dial in your mix without disturbing your musicians' last minute rehearsal or subjecting your audience to that impromptu jam session on stage. Radio Solo mode is especially useful for this purpose because it allows you to quickly solo just one channel at a time.



1. Press the Edit button in the Solo section to bring up the Solo screen.



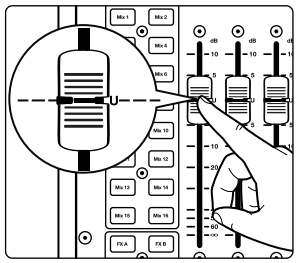
2. Touch Radio in the Solo Mode section of the Touch Display to enable Radio Solo mode.



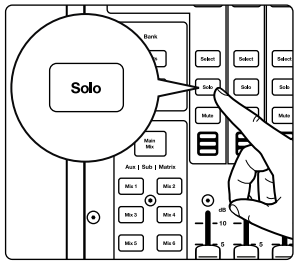
3. Touch Solo in Place on the Touch Display to enable Solo in Place mode.



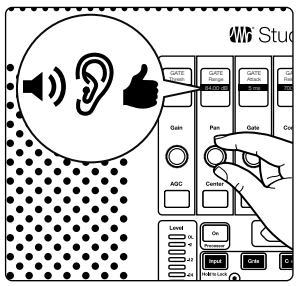
4. Touch Solo Selects on the Touch Display to enable Solo Selects mode.



5. Raise your channel faders and Master fader to unity gain.



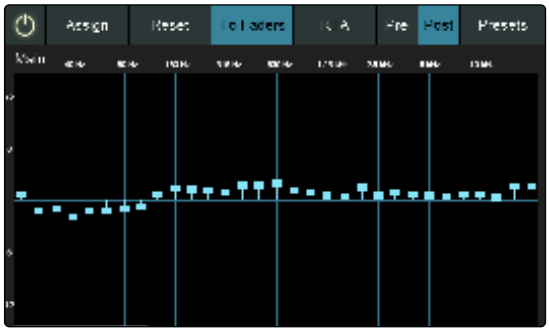
6. Many engineers start with the drums and work from the bottom up, so press the Solo button on your kick-drum mic channel. Notice that all the other channels on your StudioLive have been muted, and the kick-drum channel is selected.



7. The Fat Channel is now focused on the selected channel, giving you access to EQ, dynamics, and effects settings for the kick-drum channel. Set these to your liking.
8. Once you're satisfied, press the Solo button on the next channel and repeat step 6. In this way, continue with each channel in your mix.
9. When you've finished, press the Edit button in the Solo section and touch Solo in Place on the Touch Display to disable it and set up your fader mixer.

Power User Tip: While Radio Solo mode is especially useful for setting levels as described above, it is not ideal for soloing during a live show. Because of this, once you have set your levels, go back to the Solo Edit menu and select either Latch or CR Solo Mode.

11 Graphic EQ



Your StudioLive comes packed with 31-band graphic EQ processors that can be freely assigned to the Main mix, or your choice of FlexMixes. These can be used for system tuning, subtle tweaks, or wherever you find them useful. StudioLive 64S mixers are equipped with 16 graphic EQs while all other models are equipped with eight.

Graphic EQs are generally used to fine-tune the overall mix for a particular room. For instance, if you are mixing in a "dead" room, you may want to boost high frequencies and roll off some of the lows. If you are mixing in a "live" room, you might need to lower the high-midrange and highest frequencies. In general, you should not make drastic amplitude adjustments to any particular frequency band. Instead, make smaller, incremental adjustments over a wider spectrum to round out your final mix. To assist you with these adjustments, here is an overview of the way different frequency ranges affect sound characteristics:

- Sub-Bass (16 Hz to 60 Hz). The lowest of these bass frequencies are felt, rather than heard, as with freeway rumbling or an earthquake. These frequencies give your mix a sense of power, even when they only occur occasionally. However, overemphasizing frequencies in this range will result in a muddy mix.
- Bass (60 Hz to 250 Hz). Because this range contains the fundamental notes of the rhythm section, any EQ changes will affect the balance of your mix, making it fat or thin. Too much emphasis will make for a boomy mix.
- Low Mids (250 Hz to 2 kHz). In general, you will want to emphasize the lower portion of this range and de-emphasize the upper portion. Boosting the range from 250 Hz to 500 Hz will accent ambience in the studio and will add clarity to bass and lower frequency instruments. The range between 500 Hz and 2 kHz can make midrange instruments (guitar, snare, saxophone, etc.) "honky," and too much boost between 1 kHz and 2 kHz can make your mix sound thin or "tinny."
- High Mids (2 kHz to 4 kHz). The attack portion of percussive and rhythm instruments occurs in this range. High mids are also responsible for the projection of midrange instruments.
- Presence (4 kHz to 6 kHz). This frequency range is partly responsible for the clarity of a mix and provides a measure of control over the perception of distance. If you boost this frequency range, the mix will be perceived as closer to the listener. Attenuating around 5 kHz will make the mix sound further away but also more transparent.
- Brilliance (6 kHz to 16 kHz). While this range controls the brilliance and clarity of your mix, boosting it too much can cause some clipping so keep an eye on your main meter.

11.1 Assigning GEQs



To assign a Graphic EQ to one of the mixes, select the desired mix and press the GEQ button. This will open the GEQ screen. Touching a mix will insert a Graphic EQ on it post-fader.



On the upper right hand side of the screen, you will see how many GEQs are available to be assigned.

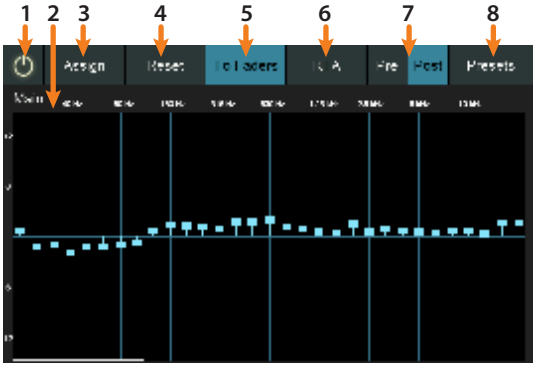


You will be alerted when every available GEQ has been assigned.

Once assigned, you can access the GEQ at any time by pressing the GEQ button on your desired mix:

Use the Fat Channel encoders to control the Graphic EQ in banks of eight. Use the Master Control encoder to scroll to a different bank.

11.2 Using the GEQ



1. On/Off. Use this button to enable/disable the current GEQ.
2. Current Bank. By default, the GEQ is controlled from the Fat Channel encoders in banks of eight. This highlights the bank that is currently being controlled from the Fat Channel. Use the value encoder to move to another bank.
3. Assign. Opens the Assign GEQ screen. See Section 11.1.
4. Reset. Press this button to flatten the GEQ.
5. To Faders. Enable this button to control your GEQ from your StudioLive faders.
6. RTA. Enables the RTA. See Section 11.4.



Power User Tip: For StudioLive SE 24, SE 16, 32SX and 32SC users, the RTA can be enabled and disabled from the control surface by pressing the RTA button.

7. Pre/Post-GEQ. Enables Pre- or Post-GEQ viewing on the RTA. See Section 11.4.
8. Presets. Opens the GEQ Presets screen. See Section 11.3.

11.3 GEQ Presets

To store or load a GEQ preset for the currently selected instance, touch the Presets button while the GEQ screen is active. This loads the GEQ Presets screen. In this screen, to load a preset, scroll through the list of existing presets, and touch the preset of your choice to select it. Press the Recall button to load the selected preset. To store a GEQ preset, press the Store button. A text entry field appears, letting you name your new preset. Touch Save to complete the process. Touch Cancel to cancel the process.



11.4 Using the RTA to Ring Out Monitors



Every Graphic EQ is equipped with a Real-time analyzer, or RTA, in which x = frequency and y = amplitude. As previously mentioned, an RTA provides a close visual representation of what you are hearing. It provides a view of the long-term spectrum of the signal—for example, the one- third-octave spectrum long-term average of a musical performance.

Feedback is short term for a feedback loop, where a portion of the signal from the speaker returns to the microphone, resulting in a constant tone at the offending frequency. "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.

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 Mix output of the stage monitor you are ringing out.
3. Open the Graphic EQ by pushing the GEQ button.
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 line peak on the RTA.
6. Lower the GEQ gain control 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.

12 Home



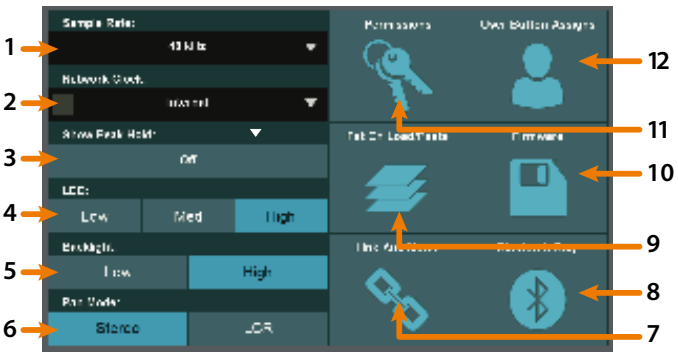
When you press the Home button, the Home screen opens on the Touch Display. This screen gives you access to settings and functions related to system configuration and troubleshooting.



1. Channel Source. Displays currently selected channel's input source. Press to open the Digital Patching screen. For more information, see Section 6.10.3.
2. Settings. Opens the Channel or Bus Settings screen. For more information, see Section 6.8.2.
3. System. Lets you adjust the display brightness, and a host of other useful settings and utilities. For more information, see Section 12.1.
4. User Profiles. Lets you create custom profiles and grant access to select feature to certain users while locking others. For more information, see Section 12.2.
5. Capture. Lets you record and play back multi-track audio, recorded to SD card or a connected computer. For more information, see Section 8.3.
6. Utils. Lets you run a variety of tests, to help locate hardware faults in the occasion of a problem. For more information, see Section 12.4.
7. Soft Power. Pressing Soft Power automatically engages Autostore to save all your mixer settings prior to powering down. You will also be given the option to log out of the current User Profile. For more information, see Section 12.5.
8. Audio Routing. Lets you configure audio signal routing for networked audio devices, SD card/USB audio, and signals from compatible AVB networkable devices. For more information, see Section 12.3.
9. Talkback Edit. Opens the Talkback Edit page. For more information, see Section 4.5.1.
10. Digital Patching Options. The digital patching options screen allows you to reset Input Sources, Analog ends, AVB Sends, USB Sends, and SD Card Sends to default. From this screen, you can reset all Digital Patching options to default routing.
11. Selected Channel. Displays currently selected channel or bus.
12. Current Parameter. Displays current parameter.

12.1 System Screen

The System screen gives you access to many useful settings and functions that let you choose how your StudioLive looks and operates. The following functions are available:



1. Sample Rate. Sets the mixer's sample rate. StudioLive Series III mixers can operate at 48 kHz or 44.1 kHz.
2. Network Clock. Allows you to select the clock master when configuring complex AVB networks. For most applications this can be set to "PTP Clock (Default). For more information, please review the Advanced AVB Integrator Application Guide.
3. Show Peak Hold. Toggle this option on to enable peak hold mode for the various meters throughout StudioLive. When enabled, an indicator segment is lit on each meter, showing the highest point in the amplitude scale that the related signal has reached.
4. LED Brightness. Gives you a range of brightness settings for the LEDs. Choose Low, Mid, or High brightness for each.
5. Backlight Brightness. Sets the brightness for the displays on your StudioLive (scribble-strip and touch). Choose between Low of High.
6. Pan Mode. Sets the mode of operation for the Mono bus. For more information, see Section 5.6.
7. Link Aux Mutes. Lets you select a mode of operation for linking mute buttons between channels and aux sends. For more information, see Section 12.1.5.
8. Bluetooth Registration. Click to view important regulatory information regarding your StudioLive's Bluetooth module.
9. Fat Channel Load/Paste Filters. Lets you choose which parameters are included when you load a Fat Channel preset or copy/paste Fat Channel settings between channels. For more information, see Section 12.1.3.
10. Firmware. Shows the currently installed version of the StudioLive firmware, and offers functions for installing firmware updates. For more information, see Section 12.1.4.
11. Permissions. Lets you configure StudioLive control permissions for any connected compatible controllers. For more information, see Section 12.1.1.
12. User Button Assigns. Lets you set the functions of the User Buttons. For more information, see Section 12.1.2.

    Note: This feature is not available on the StudioLive SE 16, 32SC and StudioLive 16.

12.1.1 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 your mixer 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.

From the System menu press the Permissions button to set the level of control available to each user. You can also reach these settings from the UCNET screen. For more information on setting mixer permissions, see Section 9.4.2.

12.1.2 User Buttons Assigns

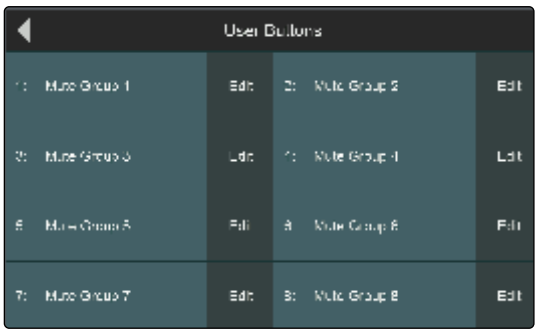


Every StudioLive Series III mixers feature eight user-assignable buttons. These buttons can control the following functions: Mute Groups 1-8, Tap Tempo A-D, Quick Scenes 1-8, Scene Navigation, or DAW Navigation. By default, these buttons are assigned to Mute Groups 1-8.

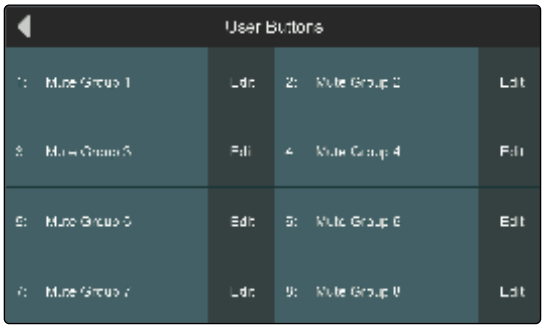
Note: Because of their compact form fact, this feature is not available on the StudioLive SE 16, 32SC and StudioLive 16.



From the System menu, touch the User Assign button to set custom functions to the User Buttons. When you first see this screen, you see the current assignments of each User Button, each with its own Edit button:



Press the Edit button that corresponds to the User Button you want to edit, and you'll see a function assignment screen.



In this screen, you can choose the function to assign to the chosen button, in the following categories:

- Mute Groups. Lets you create stored sets of mute settings that correspond with the current state of the mixer, recallable at the press of the chosen User Button. Once a User Button is configured as a Mute Group, you can edit the Mute Group by pressing and holding the User Button until both it and all the Select buttons flash red. Add or remove channels to the Mute Group by pressing their Select buttons. Release the User Button to store.
- Tap Tempo. Lets you assign the chosen User Button to act as a tap tempo button for any delay effects currently assigned to the effects buses. Only effects buses with a delay effect assigned are shown. When a User button is assigned to Tap Tempo, it will flash in time with tempo of its assigned delay.
- Quick Scene. Lets you create stored sets of mixer settings that correspond with the current state of the mixer, recallable at the press of the chosen User Button. Once a User Button is configured as a Quick Scene, you can edit it by pressing and holding the User Button until it begins to flash. This will store the current state of the mixer to the selected Quick Scene.
- Scene Navigation. Lets you assign a Scene navigation function to the current User Button. The options include Previous Scene, Next Scene, Scene Recall, and Store Scene.

12.1.3 Fat Channel Load/Paste



To choose which types of Fat Channel parameter settings are applied when you load a Fat Channel preset or copy and paste Fat Channel settings between channels, touch the Fat Channel Load/Paste button from the System menu.



Touch Copy/Paste to set copy/paste filter settings.

The following categories of settings are available to toggle on or off:

- Preamp. (Filtered by default)
- +48V. (Filtered by default)
- Polarity. (Filtered by default)
- Pan.
- Channel Type.
- Channel Name.
- Alt A/B Settings.
- Bus Assignments. (Filtered by default)
- Aux/FX Send/Pan. (Filtered by default)
- Mutes. (Filtered by default)
- Faders. (Filtered by default)

12.1.4 Firmware Update



From the System menu, you can check the current firmware version and check for firmware updates by pressing the Firmware button.



Press the Check for Updates button to install the latest firmware version. Firmware can be updated from an SD card or Universal Control. To update using an SD Card, log into your My Fender account and download the new firmware version. Save the firmware file to an SD card and insert the card into your StudioLive mixer. Touch Update to complete the firmware update, or press Cancel to cancel the update. For information on updating firmware using Universal Control, please review the Universal Control for StudioLive Mixers User Manual.

12.1.5 Link Aux Mutes



Pressing the Link Aux Mutes button from the System menu lets you select between four linking modes that choose the way channel mutes and Aux send mutes interact:

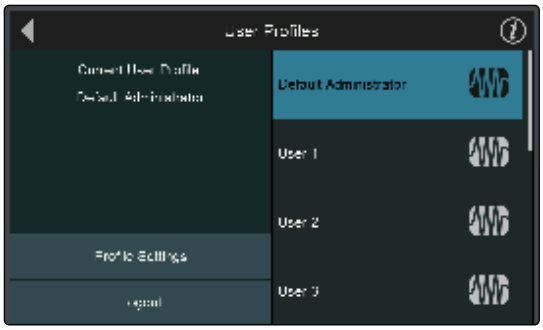
- Unlinked. When this mode is selected, channel mutes can be independently controlled in each Aux Mix and the Main Mix.
- Main Mute Auxes. When this mode is selected, muting a channel in the main mix will mute it in every aux mix. However, channels can be muted and unmuted independently from each aux 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.

12.2 User Profiles



User Profiles allow you to create custom settings limiting access to certain functions. Specific scenes 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 Scene.

12.2.1 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.



Several customized settings can be added to the Default Administrator profile. Press the Profile Settings button to open these options.



1. Profile Type. This setting cannot be changed for the Default Administrator account. For more information on Profile Types, see Section 12.2.2.
2. Default Project. Tap to open a list of all available projects. Once a project is selected, you will be ask if you'd like to load it when you log in as the Default Administrator.
3. Default Scene. Tap to open a list of all availble Scenes for the Default Project.

   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.
4. Add Password. Tap 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. To remove the Default Administrator password, hold the Master Mute button while powering up your mixer. Once the progress bar appears on the screen, the password will be deleted.
5. Reset Profile. Resets profile to default state.

12.2.2 Creating a New Profile



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



To customize any profile, select it from the list and tap Profile Settings.

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

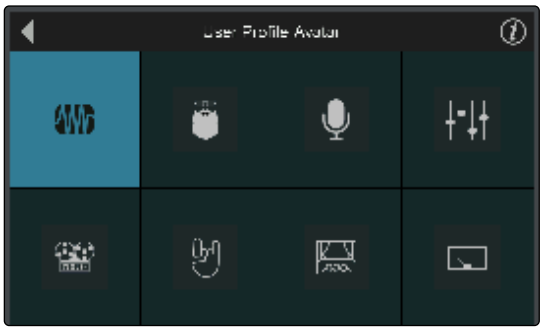
Select a Name



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

Touch the Enter button when done. Touch Cancel to leave the name unchanged.

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

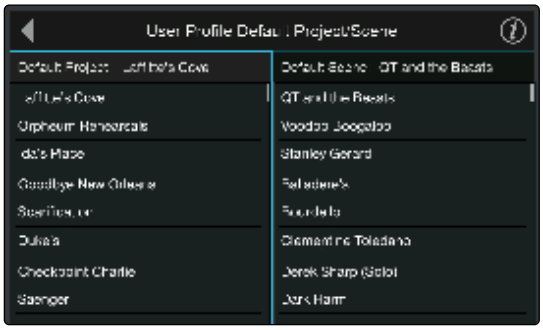


You can create two different Profile Types: Admin and User. Admin profiles are given access to every function and parameter. User profiles can have their permissions limited. For more information on setting User Permissions, see Section 12.2.3.

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 or Scene from the Profile Settings screen will open the User Profile Default Project/Scene screen. 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.

Level Limit

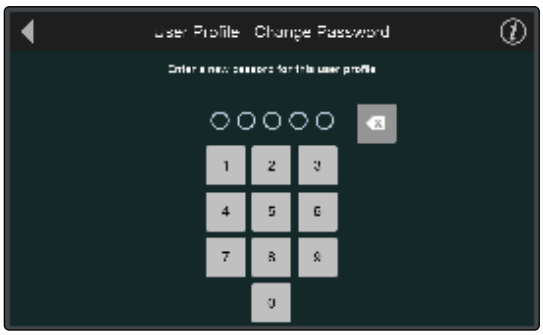


Use this to set the maximum level for the Main bus.

Change Password (Optional)



5-digit numeric passwords can be set for any User Profile. Administrators can access the settings for any User profile with or without the password simply by logging into an Admin account.

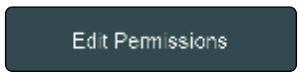


Reset Profile



To reset a profile to factory default, select Reset Profile. You will be prompted to confirm this choice.

12.2.3 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.

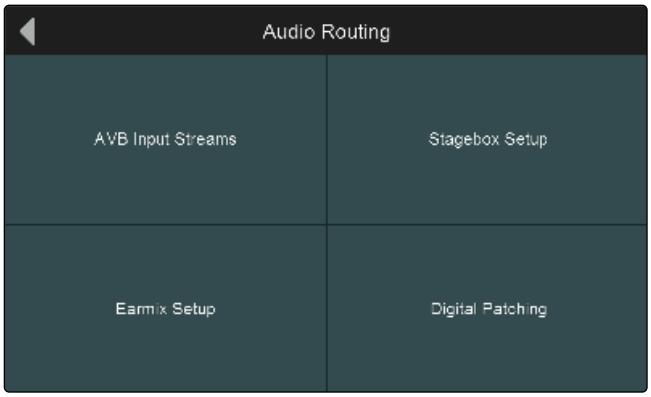


Whenever a User attempts to access a function to which they do not have permission a lock icon will be presented to them either in the upper righthand corner of the Touch Display or on the function itself in the Touch Display.

12.3 Audio Routing and the Digital Patching Screen



Pressing the Audio Routing button in the Home screen will give you access to audio routing options for networked audio devices, USB sources, SD card recordings, and special settings for networked PreSonus devices.



- AVB Input Streams. Touch to route available network sources to your StudioLive mixer's AVB Inputs. See the Advanced AVB Integrator Application Guide for more information.
- Stagebox Setup. Touch to configure NSB-series Network Stage Boxes or StudioLive Series III rack mixers as stage boxes with your StudioLive. See the NSB-series User Manual and StudioLive Series III Rack Mixer Stage Box Addendum for more information.
- EarMix Setup. Touch to add an EarMix 16M Personal Monitor Mixer to your StudioLive. See the EarMix 16M User Manual for more information.
- Digital Patching. Touch to open the Digital Patching screen. Note: The rest of this section will provide information on Digital Patching.



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 freely route audio to your AVB network and record anything you'd like via USB.



Press Master Reset to revert all Digital patching for the entire mixer to the default settings.



Use the Reset button to revert an individual patch.

Power User Tip: Both Master Reset and Reset Sources provide you with the opportunity to confirm the change. Resetting an individual patch to default does not.

12.3.1 Digital Patching: Input Source



Selecting the Input Source menu will allow you to patch any source to any channel.

From the Assigned Source menu, select the type of source you would like routed to a channel:



- Analog. Analog Inputs.



- Network. AVB Returns.



- USB. USB Playback Returns.



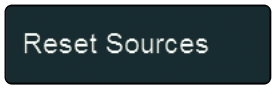
- SD Card. SD Multitrack Playback Returns.

Whatever source type you've selected, a corresponding list of inputs will open in the Available Source menu. From this menu, you can, for example, route Analog Input 10 to Channel 1.



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

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.



Press Reset Sources while Input Source is active to revert to the default settings.

12.3.2 Digital Patching: Analog Sends



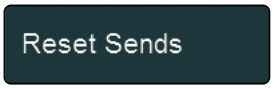
Selecting the Analog Sends menu will allow you to patch any mix to any FlexMix output. Select the output to which you'd like to route your mix first. Then, select the mix from the Available Source list to the right.



Press the Reset button to repatch the default routing.

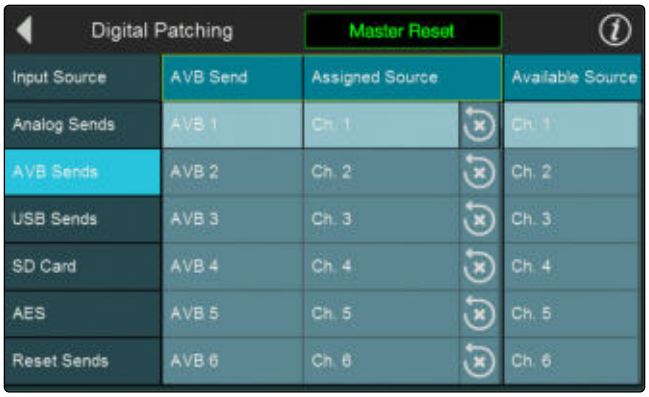
You can route any of the following mixes to physical mix outputs on your StudioLive mixer:

- FlexMixes
- FX Send Mixes (pre-effects processor)
- Subgroups A-D (32-channel models only)
- Main L/R Mix
- Main Mono/Center bus (StudioLive 64S only)
- Solo L/R Bus



Press Reset Sends while Analog Sends is active to revert to the default settings.

12.3.3 Digital Patching: AVB Sends



Selecting the AVB Sends menu will allow you to patch any channel send or mix to any AVB send. Select the send to which you'd like to route your audio first. Then, select the channel or mix from the Available Source list to the right.

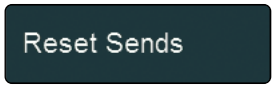


Press the reset button to repatch the default routing.

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

- Inputs
- Aux In A L and R
- Aux In B L and R
- Tape In L and R
- Talkback
- FlexMixes

- FX Send Mixes (pre-effects processor)
- Subgroups A-D (32-channel models only)
- Main Mix L and R
- Mono bus (StudioLive 64S only)
- Solo L and R



Press Reset Sends while AVB Sends is active to revert to the default settings.

12.3.4 Digital Patching: USB Sends



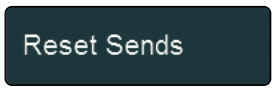
Selecting the USB Sends menu will allow you to patch any channel send or mix to any USB driver send. Select the USB driver send to which you'd like to route your audio first. Then select the channel or mix from the Available Source list to the right.



Press the reset button to repatch the default routing.

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

- Inputs
- Aux In A L and R
- Aux In B L and R
- Tape In L and R
- Talkback
- FlexMixes
- FX Send Mixes (pre-effects processor)
- Subgroups A-D (32-channel models only)
- Main Mix L and R
- Mono bus (StudioLive 64S only)
- Solo L and R



Press Reset Sends while USB Sends is active to revert to the default settings.

12.3.5 Digital Patching: SD Card



StudioLive 64S users. Selecting the SD Card menu will allow you to patch any input or mix to any of the 34 SD Card recording inputs. Select the SD Card recording input to which you'd like to route your audio first. Then select the channel or mix from the Available Source list to the right.

All other users. Selecting the SD Card menu will allow you to patch any mix to the last stereo pair of SD Card recording inputs (33-34).



Press the reset button to repatch the default routing.

12.3.6 Digital Patching: AES



Selecting the AES menu will allow you to patch any mix to the AES Output.



Press the reset button to repatch the default routing.

12.4 Utilities



Your StudioLive is equipped with a variety of utilities that allow you to test the functionality of your mixer. Pressing the Utility button from the Home screen will open this menu.



The following test modes are available:

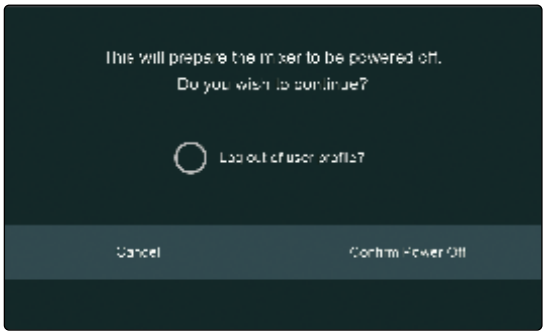
- Mardi Gras. Causes all faders, LEDs, and displays to cycle through their ranges of motion, color, and brightness.
- All Buttons. Causes all meters and button LEDs to cycle through their ranges of color and brightness.
- RGB Buttons. Causes all color-changing buttons to cycle through their ranges of color and brightness.
- Scribble Strip. Causes all scribble strip displays to cycle through a range of color test patterns.
- Master Control Screen. Causes the Touch Display to cycle through a range of color test patterns.

When you are done with a particular test mode, press anywhere on the Touch Display to return to the Test Modes screen.

12.5 Soft Power



When powering down your mixer, you have the option to engage Soft Power. This will automatically engage Autostore to save all your mixer settings prior to powering down when "Confirm Power Off" is selected.. You will also be given the option to log out of the current User Profile .



13 Resources

13.1 Networking Overview

Networking your StudioLive Series III mixer involves both hardware and software components. The entire installation and configuration procedure is given in this manual, but before beginning, you must download and install Universal Control touch-control software onto a macOS or Windows computer or an iPad, as described in the Universal Control for StudioLive Mixers User Manual.

Computer Control and Audio Data Connections

Two types of data flow between your Series III mixer and your computer. We will describe them first, then show you different scenarios for connecting the Series III mixer to a computer.

Control: This is the primary connection between your StudioLive, your computer, your mobile device, and your iPad. From these external device, you can use Universal Control or QMix-UC (iOS and Android) to mix remotely and control most of your mixer settings or add a second screen to your system.

More information on Control Networking options can be found in Section 9.4.

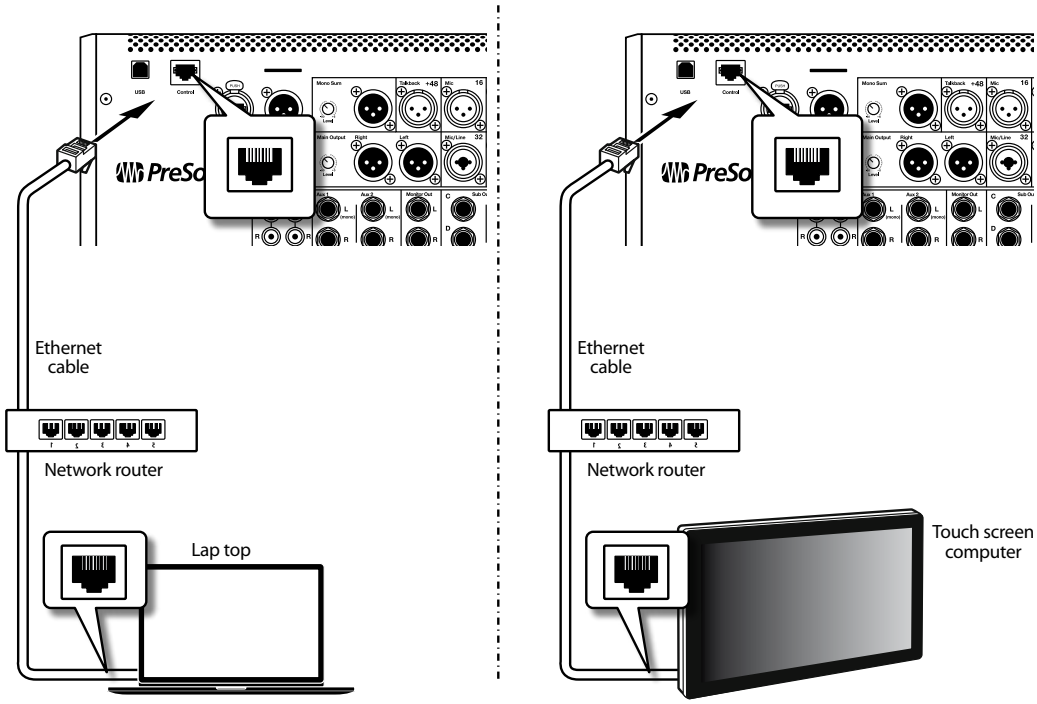
Audio: Using the AVB connection on your StudioLive mixer allows you to record and playback audio from your Mac running macOS 10.11 or later. This connection is not necessary for mixing live sound. A single computer can be used both to control and to record from the StudioLive, or separate computers can be used for control and audio.

Most of the networking discussion in this manual concerns the control data connection, as this is most common application for networking your StudioLive.

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

13.1.1 Wired Ethernet Control Setup

A wired Ethernet setup is the simplest:

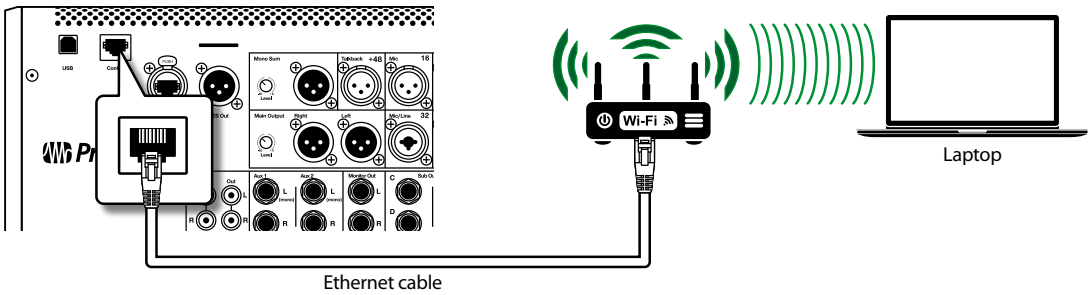


1. Connect standard CAT5e or CAT6 Ethernet cables from your computer's Ethernet port to an Ethernet router, and from the router to the Control port on the StudioLive's rear panel.
2. Launch Universal Control on the computer (macOS or Windows) that is connected to the router.
3. When Universal Control launch window appears. Tap on your mixer's icon to launch Universal Control.

For more information on Universal Control, see the the Universal Control for StudioLive Mixers User Manual.

13.1.2 Wireless Ethernet Control Setup

Using a wireless router, you can also connect your computer wirelessly:



Windows 7+ and later

1. Click on the network icon in the notification area to open the Connect to Network Control Panel.
2. Select the name of the wireless network you set for your wireless router.
3. Enter the password.
4. Click Connect.

macOS 10.8 and later

1. On the Menu bar click on the Wireless Status icon.
2. Select the name of the wireless network you set for your wireless router.
3. Enter the password.
4. Click Join.

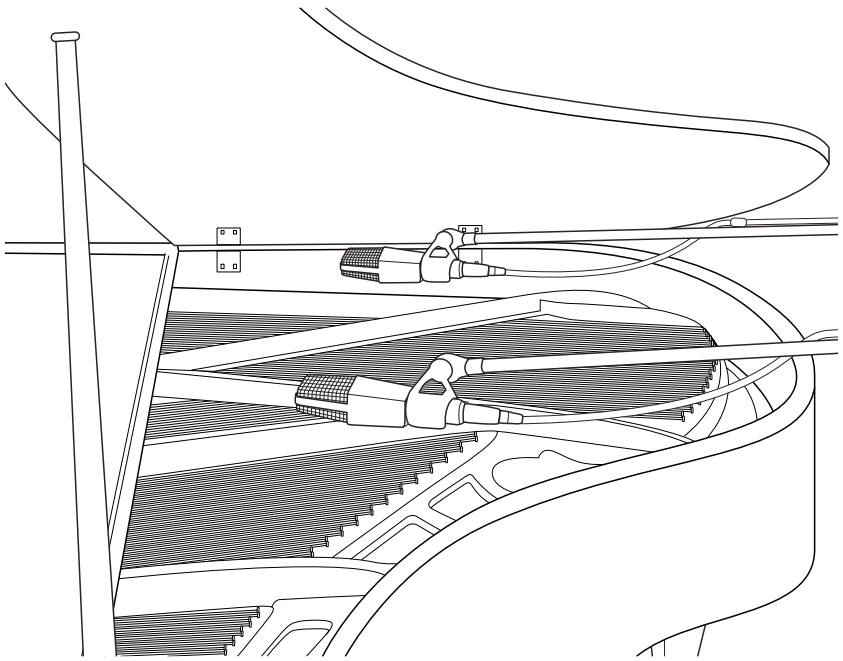
Note: Information on connecting your iOS device to the wireless network can be found in the Networking for StudioLive Remote Control User Manual.

See Section 9.4.4 for information on customizing IP settings.

13.2 Stereo Microphone Placement

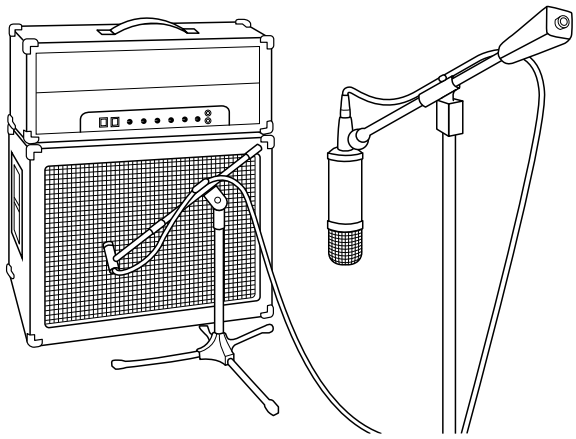
The following are a few recording applications to help you get started with your StudioLive. These are by no means the only ways to record these instruments. Microphone selection and placement is an art. For more information, visit your library or local bookstore, as there are many books and magazines about recording techniques. The Internet is also a great source of recording information, as are instructional videos. Some of these microphone-placement suggestions can be used in live applications, as well as for studio recording.

13.2.1 Grand Piano



Place one microphone above the high strings and one microphone above the low strings. Experiment with distance (the farther back the more room you will capture). This technique can be used for live and studio applications.

13.2.2 Electric Guitar



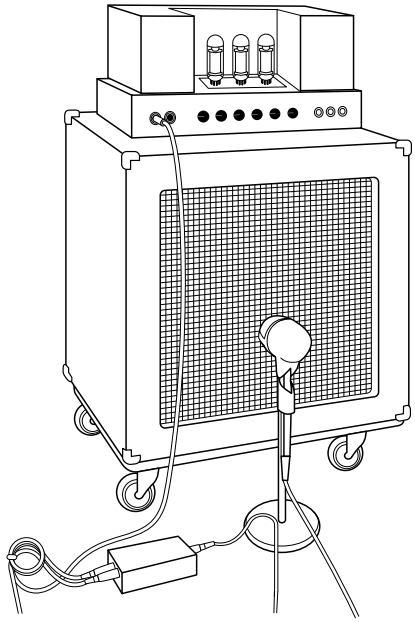
Place a dynamic microphone an inch or two away from the speaker of the guitar amplifier. Experiment with exact location. If you are recording an amp with multiple speakers, experiment with each one to see if one sounds better than the others. Place a condenser microphone approximately six feet away, pointed at the amp. Experiment with distance. Also experiment with inverting the phase of the room microphone to check for phase cancellation and reinforcement (Select the "fuller"-sounding position). To use this technique in a live application, omit the condenser microphone.

13.2.3 Acoustic Guitar



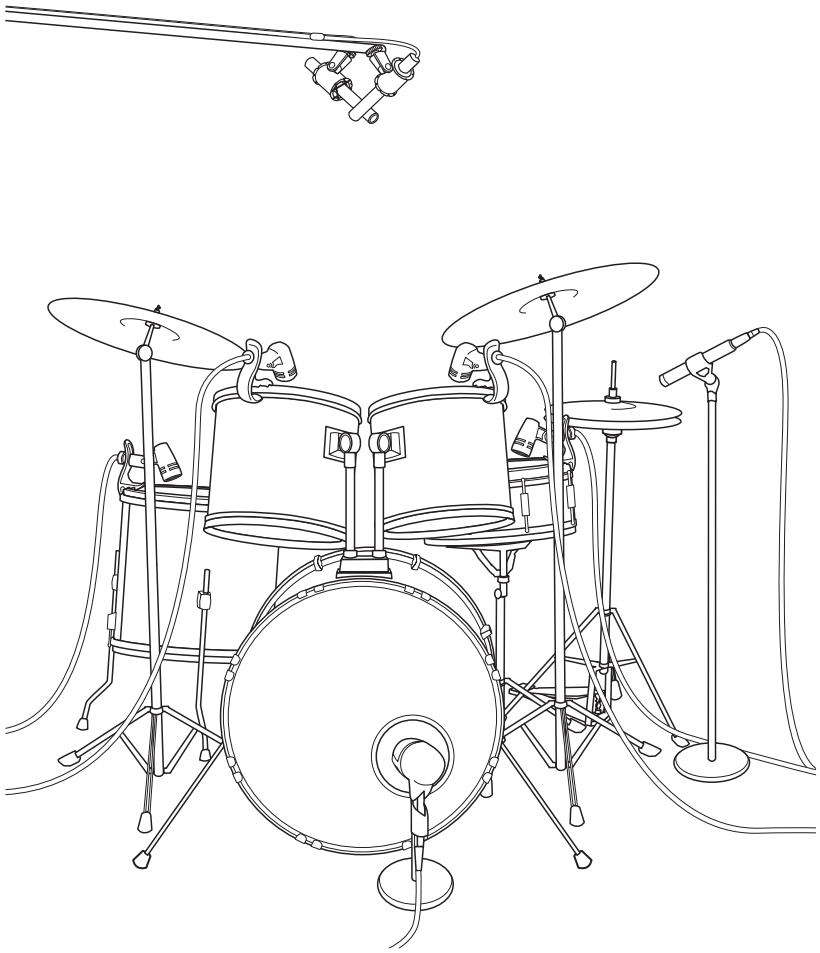
Point a small-diaphragm condenser microphone at the 12th fret, approximately 8 inches away. Point a large-diaphragm condenser microphone at the bridge of the guitar, approximately 12 inches from the guitar. Experiment with distances and microphone placement. Another popular method is using an XY microphone placement with two small-diaphragm condenser microphones. (See drum-overheads picture on the next page.)

13.2.4 Bass Guitar (Direct and Speaker)



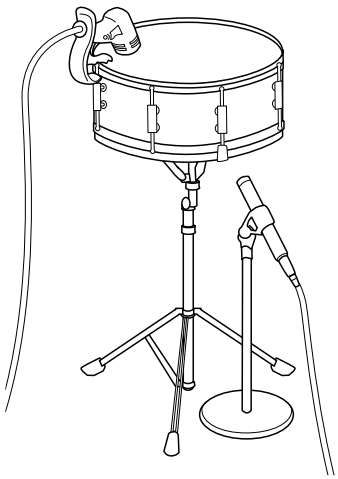
Plug the electric bass guitar into a passive direct box. Connect the instrument output from the passive direct box to a bass amplifier. Place a dynamic microphone an inch or two away from the speaker and connect it to a StudioLive microphone input. Connect the line output from the passive direct box to a line input on a different channel of the StudioLive. For recording, place these signals on separate tracks. During mixing, you can blend the direct and amplifier signal to taste. This technique can also be used in live applications.

13.2.5 Drum Overheads (XY example)



Place two small-diaphragm condenser microphones on an XY stereo-microphone holder (bar). Position the microphones so that each one is at a 45-degree angle, pointed down at the drum kit, approximately 7 or 8 feet above the floor or drum riser. Experiment with height. This technique can be used in live applications as well.

13.2.6 Snare Drum (top and bottom)



Point a dynamic microphone at the center of the snare, making sure it is placed so that the drummer will not hit it. Place a small-diaphragm condenser microphone under the drum, pointed at the snares. Experiment with the placement of both microphones. Also experiment with inverting the phase of the bottom microphone. This technique can be used in live applications.

13.3 Compression Setting Suggestions

The following are the compression presets that were used in the PreSonus BlueMax. We have included them as a jumping-off point for setting up compression on the StudioLive.

13.3.1 Vocals

Soft. This is an easy compression with a low ratio setting for ballads, allowing a wider dynamic range. It's good for live use. This setting helps the vocal "sit in the track."

THRESHOLD	RATIO	ATTACK	RELEASE
-8.2 dB	1.8:1	0.002 ms	38 ms

Medium. This setting has more limiting than the Soft compression setting, producing a narrower dynamic range. It moves the vocal more up front in the mix.

THRESHOLD	RATIO	ATTACK	RELEASE
-3.3 dB	2.8:1	0.002 ms	38 ms

Screamer. This setting is for loud vocals. It is a fairly hard compression setting for a vocalist who is on and off the microphone a lot. It puts the voice "in your face."

THRESHOLD	RATIO	ATTACK	RELEASE
-1.1 dB	3.8:1	0.002 ms	38 ms

13.3.2 Percussion

Snare/Kick. This setting allows the first transient through and compresses the rest of the signal, giving a hard "snap" up front and a longer release.

THRESHOLD	RATIO	ATTACK	RELEASE
-2.1 dB	3.5:1	78 ms	300 ms

Left/Right (Stereo) Overheads. The low ratio and threshold in this setting gives a "fat" contour to even out the sound from overhead drum mics. Low end is increased, and the overall sound is more present and less ambient. You get more "boom" and less "room."

THRESHOLD	RATIO	ATTACK	RELEASE
-13.7 dB	1.3:1	27 ms	128 ms

13.3.3 Fretted Instruments

Electric Bass. The fast attack and slow release in this setting will tighten up the electric bass and give you control for a more consistent level.

THRESHOLD	RATIO	ATTACK	RELEASE
-4.4 dB	2.6:1	45.7 ms	189 ms

Acoustic Guitar. This setting accentuates the attack of the acoustic guitar and helps maintain an even signal level, keeping the acoustic guitar from disappearing in the track.

THRESHOLD	RATIO	ATTACK	RELEASE
-6.3 dB	3.4:1	188 ms	400 ms

Electric Guitar. This is a setting for "crunch" electric rhythm guitar. A slow attack helps to get the electric rhythm guitar "up close and personal" and gives punch to your crunch.

THRESHOLD	RATIO	ATTACK	RELEASE
-0.1 dB	2.4:1	26 ms	193 ms

13.3.4 Keyboards

Piano. This is a special setting for an even level across the keyboard. It is designed to help even up the top and bottom of an acoustic piano. In other words, it helps the left hand to be heard along with the right hand.

THRESHOLD	RATIO	ATTACK	RELEASE
-10.8 dB	1.9:1	108 ms	112 ms

Synth. The fast attack and release on this setting can be used for synthesizer horn stabs or for bass lines played on a synthesizer.

THRESHOLD	RATIO	ATTACK	RELEASE
-11.9 dB	1.8:1	0.002 ms	85 ms

Orchestral. Use this setting for string pads and other types of synthesized orchestra parts. It will decrease the overall dynamic range for easier placement in the mix.

THRESHOLD	RATIO	ATTACK	RELEASE
3.3 dB	2.5:1	1.8 ms	50 ms

13.3.5 Stereo Mix

Stereo Limiter. Just as the name implies, this is a hard limiter, or "brickwall," setting—ideal for controlling the level to a two-track mixdown deck or stereo output.

THRESHOLD	RATIO	ATTACK	RELEASE
5.5 dB	7.1:1	0.001 ms	98 ms

Contour. This setting fattens up the main mix.

THRESHOLD	RATIO	ATTACK	RELEASE
-13.4 dB	1.2:1	0.002 ms	182 ms

13.3.6 Effects

Squeeze. This is dynamic compression for solo work, especially electric guitar. It gives you that glassy "Tele/Strat" sound. It is a true classic.

THRESHOLD	RATIO	ATTACK	RELEASE
-4.6 dB	2.4:1	7.2 ms	93 ms

Pump. This is a setting for making the compressor "pump" in a desirable way. This effect is good for snare drums to increase the length of the transient by bringing the signal up after the initial spike.

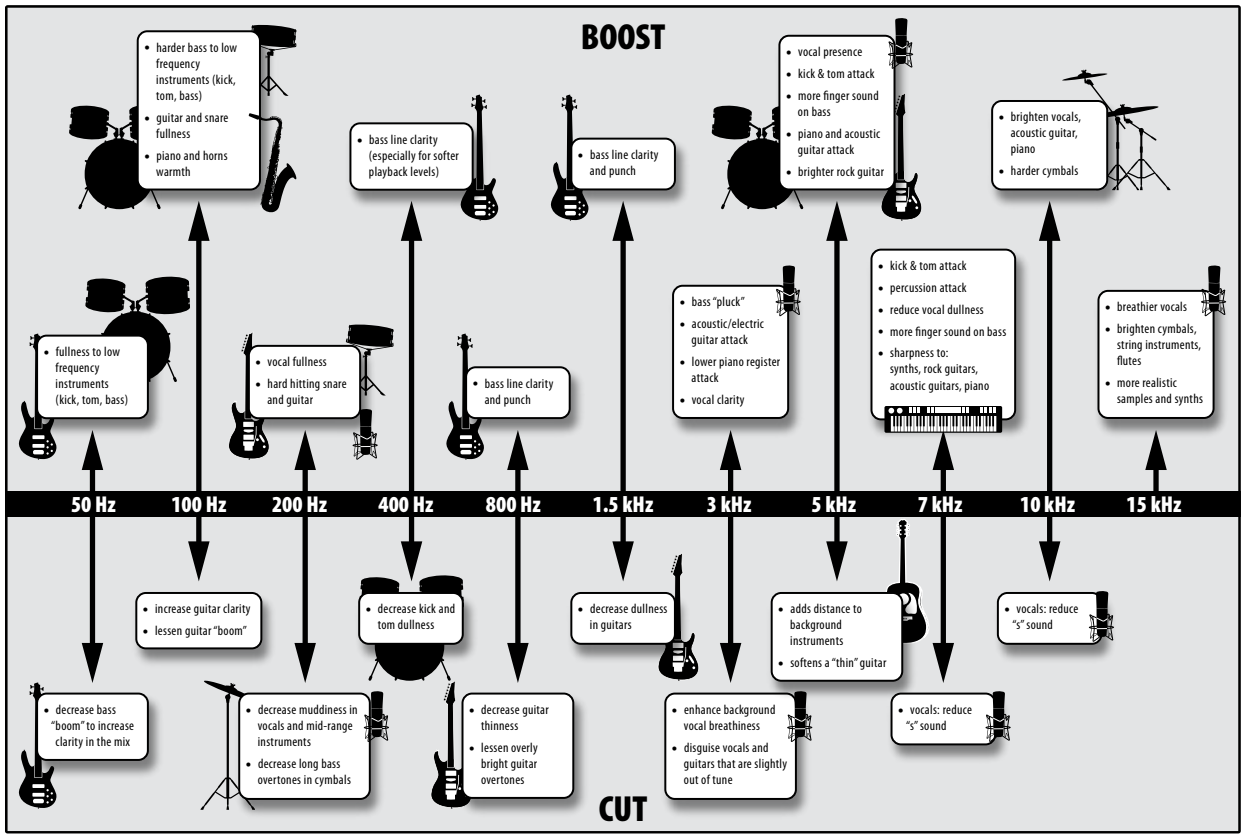
THRESHOLD	RATIO	ATTACK	RELEASE
0 dB	1.9:1	1 ms	0.001 ms

13.4 EQ Frequency Guides

13.4.1 What Frequencies to Cut and Boost

Instrument	What to Cut	Why to Cut	What to Boost	Why to Boost
Human Voice	7 kHz 2 kHz 1 kHz 80 Hz and below	Sibilance Shrill Nasal Popping P's	8 kHz 3 kHz and above 200-400 Hz	Big sound Clarity Body
Piano	1-2 kHz 300 Hz	Tinny Boomy	5 kHz 100 Hz	More presence Bottom end
Electric Guitar	1-2 kHz 80 Hz and below	Shrill Muddy	3 kHz 125 Hz	Clarity Bottom end
Acoustic Guitar	2-3 kHz 200 Hz	Tinny Boomy	5 kHz and above 125 Hz	Sparkle Full
Electric Bass	1 kHz 125 Hz	Thin Boomy	600 Hz 80 Hz and below	Growl Bottom end
String Bass	600 Hz 200 Hz	Hollow Boomy	2-5 kHz 125 Hz and below	Sharp attack Bottom end
Snare Drum	1 kHz	Annoying	2 kHz 150-200 Hz 80 Hz	Crisp Full Deep
Kick Drum	400 Hz 80 Hz and below	Muddy Boomy	2-5 kHz 60-125 Hz	Sharp attack Bottom end
Toms	300 Hz	Boomy	2-5 kHz 80-200 Hz	Sharp attack Bottom end
Cymbals	1 kHz	Annoying	7-8 kHz 8-12 kHz 15 kHz	Sizzle Brilliance Air
Horns	1 kHz 120 Hz and below	Honky Muddy	8-12 kHz 2 kHz	Big sound Clarity
String section	3 kHz 120 Hz and below	Shrill Muddy	2 kHz 400-600 Hz	Clarity Lush and full

13.4.2 Instrument Ranges



13.5 EQ Setting Suggestions

Included with your StudioLive is a library of Fat Channel presets. Section 6.1.2 discusses how to load these presets onto a channel or bus and how to create your own presets. For an idea of where to start, check out the following generic EQ settings for several different instruments. As with the compression settings in Section 13.3, the right EQ setting for any given instrument will depend upon the room and the tonality of the instrument.

13.5.1 Vocals

Pop Female Vocals

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	130	0.6	-2	ON	465	0.6	-2

HIGH MID ON/OFF	HI MID FREQ (kHz)	HIGH MID Q	HIGH MID GAIN	HIGH ON/OFF	HIGH SHELF	HIGH FREQ (kHz)	HIGH Q	HIGH GAIN
ON	2.4	0.4	+2	ON	OFF	6.0	0.3	+8

Rock Female Vocals

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	ON	155	N/A	+4	ON	465	0.4	+6

HIGH MID ON/OFF	HI MID FREQ (kHz)	HIGH MID Q	HIGH MID GAIN	HIGH ON/OFF	HIGH SHELF	HIGH FREQ (kHz)	HIGH Q	HIGH GAIN
ON	1.4	0.6	+6	ON	OFF	4.2	0.5	+2

Pop Male Vocals

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	225	0.3	-2	ON	960	0.3	0
HIGH MID ON/OFF	**HI MID FREQ (kHz)**	**HIGH MID Q**	**HIGH MID GAIN**	**HIGH ON/OFF**	**HIGH SHELF**	**HIGH FREQ (kHz)**	**HIGH Q**	**HIGH GAIN**
ON	2.0	0.6	+2	ON	OFF	7.2	0.5	+4

Rock Male Vocals

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	155	0.5	+2	ON	265	0.3	-6
HIGH MID ON/OFF	**HI MID FREQ (kHz)**	**HIGH MID Q**	**HIGH MID GAIN**	**HIGH ON/OFF**	**HIGH SHELF**	**HIGH FREQ (kHz)**	**HIGH Q**	**HIGH GAIN**
ON	2.4	0.6	-2	ON	ON	7.2	0.6	+4

13.5.2 Percussion

Snare

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	130	0.6	-4	ON	665	0.5	+4
HIGH MID ON/OFF	**HI MID FREQ (kHz)**	**HIGH MID Q**	**HIGH MID GAIN**	**HIGH ON/OFF**	**HIGH SHELF**	**HIGH FREQ (kHz)**	**HIGH Q**	**HIGH GAIN**
ON	1.6	0.3	+4	ON	ON	4.2	N/A	+4

Left/Right (Stereo) Overheads

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	108	0.6	-2	ON	385	0.6	-2
HIGH MID ON/OFF	**HI MID FREQ (kHz)**	**HIGH MID Q**	**HIGH MID GAIN**	**HIGH ON/OFF**	**HIGH SHELF**	**HIGH FREQ (kHz)**	**HIGH Q**	**HIGH GAIN**
ON	2.9	0.3	0	ON	ON	8.0	N/A	+4

Kick Drum

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	108	0.4	+4	ON	265	2.0	-4
HIGH MID ON/OFF	**HI MID FREQ (kHz)**	**HIGH MID Q**	**HIGH MID GAIN**	**HIGH ON/OFF**	**HIGH SHELF**	**HIGH FREQ (kHz)**	**HIGH Q**	**HIGH GAIN**
ON	1.6	0.6	0	ON	OFF	6.0	2.0	+4

13.5.3 Fretted Instruments

Electric Bass

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	ON	36	N/A	-8	ON	130	0.4	+4
HIGH MID ON/OFF	**HI MID FREQ (kHz)**	**HIGH MID Q**	**HIGH MID GAIN**	**HIGH ON/OFF**	**HIGH SHELF**	**HIGH FREQ (kHz)**	**HIGH Q**	**HIGH GAIN**
ON	2.0	0.6	+4	ON	ON	4.2	N/A	+1

Acoustic Guitar

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	155	0.4	+4	ON	665	2.0	+2

HIGH MID ON/OFF	HI MID FREQ (kHz)	HIGH MID Q	HIGH MID GAIN	HIGH ON/OFF	HIGH SHELF	HIGH FREQ (kHz)	HIGH Q	HIGH GAIN
ON	2.0	0.3	0	ON	ON	6.0	N/A	+4

Distorted Electric Guitar

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	OFF	320	0.5	+6	ON	960	0.4	0

HIGH MID ON/OFF	HI MID FREQ (kHz)	HIGH MID Q	HIGH MID GAIN	HIGH ON/OFF	HIGH SHELF	HIGH FREQ (kHz)	HIGH Q	HIGH GAIN
ON	3.5	1.0	+4	ON	ON	12	N/A	0

13.5.4 Keyboards

Piano

LOW ON/OFF	LOW SHELF	LOW FREQ (Hz)	LOW Q	LOW GAIN	LOW MID ON/OFF	LOW MID FREQ (Hz)	LOW MID Q	LOW MID GAIN
ON	ON	108	N/A	-2	ON	665	0.2	+2

HIGH MID ON/OFF	HI MID FREQ (kHz)	HIGH MID Q	HIGH MID GAIN	HIGH ON/OFF	HIGH SHELF	HIGH FREQ (kHz)	HIGH Q	HIGH GAIN
ON	2.9	0.4	+2	ON	OFF	7.2	0.6	+4

13.6 Using Input Delay

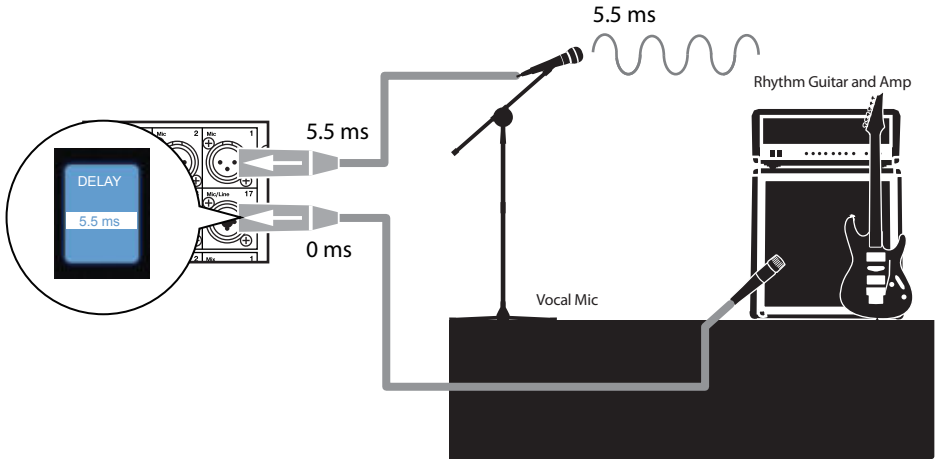
When one of the input channels is selected, you can set an input delay up to 85 ms in 0.1 ms increments. An input delay has many uses.

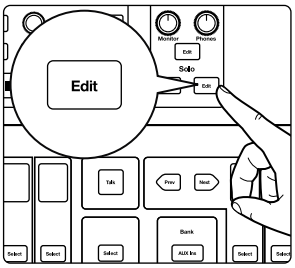
On small stages where the guitar amp and the kick and snare mics can be clearly heard in the vocal mic, an input delay can "move up" the backline. Delaying the backline so that the close mic'd signals and the bleed in the vocal mic align with one another at the mixer will decrease comb filtering that blurs in the mix. This will tighten the overall mix and give it more clarity and punch.

In large venues, the bottom snare mic can be aligned with the top mic, or the bass-cabinet mic can be aligned with the direct signal to create a more coherent signal. This is especially useful to prevent phasing problems.

13.6.1 Aligning the Backline with Vocal Mic

In this example, we will delay the guitar amp's close mic to its arrival at the vocal mic. In general, snare drums and guitar amps are the most common culprits of backline bleed. Depending on where your vocalist is standing, either one or both could need to be delayed to compensate for whatever amount of comb filtering is present.

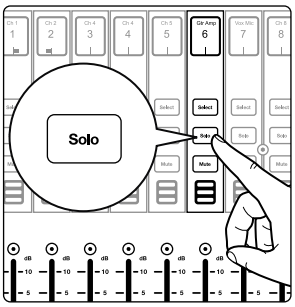




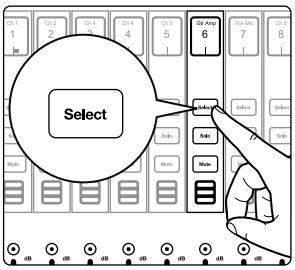
1. To begin, press the Solo edit button.



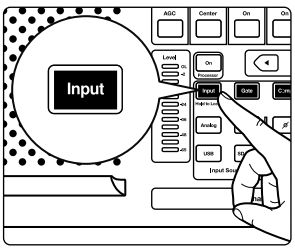
2. On the Touch Display, select Solo In Place and Latching Solo mode.



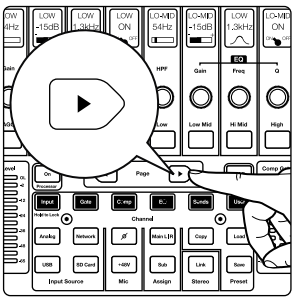
3. Solo the guitar and vocal channels; notice that all other channels are muted.
4. Measure the distance from the guitar cabinet to the vocal mic. Sound travels at a rate of 1,130 feet per second. This means you need to set 1.1 ms of delay for every foot of distance. For our example, let's say the guitar amp is 5 feet from the vocal mic.



5. Press the guitar channel's Select button.

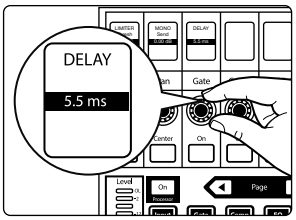


6. Press the Input button in the Fat Channel.



Press the Next Page button in the Fat Channel to move to the second page of the Fat Channel Input layer.

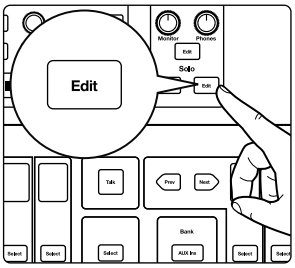
Note: StudioLive SE 24, SE 16, 32SX and 32SC users must set the Input Delay from the Touch Display.



7. Use the third encoder to the input delay to 5.5 ms.
8. Ask your guitarist to play a staccato pulse and listen for any remaining flamming. Move up or down 0.1 ms until you hear the tightest sound.

13.6.2 Aligning Direct and Mic'd Signals

When combining a direct input signal with a mic'd signal from a single source, the direct sound will arrive earlier than the microphone's signal because the latter's source has to travel some distance through the air before reaching the microphone. This results in the two signals being out of phase with respect to each other. This problem can sometimes be corrected by alternatively flipping polarity on the direct and microphone channels to find which combination of the two signals provides the desired result. However, by using input delay it is possible to achieve a closer, more accurate phase relationship.





1. To begin, press the Solo edit button.
2. On the Touch Display, select Solo In Place and Latching Solo Mode.
3. Solo both the Direct Input channel and the microphone channel.
4. Set the pan position of both channels to the center. This will sum both signals mono and allow you to better hear the phase differences between the channels.
5. Press the Direct Input Channel's Select button.
6. Press the Input Button in the Fat Channel.
7. Increase the delay time on the Direct Input channel. This is the easiest way to hear the change in phase between the two signals. Listen to both till you find a happy medium between the combined signals.

Power User Tip: The final result may not be perfectly in time but this is not necessarily your goal. Adjusting the phase relationship between the direct and mic'd signals can help to create space in a mix and keep the sounds coherent.

13.7 Using Output Delay

When one of the output buses is selected, you can set an output delay up to 170 ms in 0.1 ms increments. When speakers are placed apart from one another, listeners will hear the sound from the closest source before they will hear it from the furthest. This is because electricity travels much faster to each loudspeaker than the acoustic waves travel from each loudspeaker to the listener. This can also be an issue when the acoustic level of an instrument or amplifier on stage can be heard over the same instrument or amplifier being reproduced by a loudspeaker. This 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 speakers closest to the listener.

In small venues where the guitar amp and the drum kit can be clearly heard over the Main Front-of-House system, an output delay can "move back" the Front-of-House system to the backline. This will sharpen the attack of the instruments and prevent phasing issues.

In large venues that push the limits of the Front-of-House system's coverage, using delay speakers distributed throughout the room, each delayed to the main system, allows you to create listening zones for more even coverage and better intelligibility.

Sound travels at a rate of 1,130 feet per second (with some variation due to temperature, humidity, and elevation). Therefore, it takes 1.1 ms for sound to travel one foot. For example, it takes about 11 ms for sound to travel 10 feet. So if you are aligning your Front-of-House system is 10 feet from your drum kit, you need to delay the signal going to that system by 11 ms.

There are professional software products that can calculate the exact alignment times, but with a little math and little careful listening, this can be dialed in without extra accessories.

13.7.1 Front-of-House

In a small venue with a relatively small stage, both the main speaker system and the acoustic level of guitar amps and the drum kit on stage can be heard by listeners in the audience. For example, this can reduce the intelligibility of the speaker system because the mic'd snare signal and the acoustic snare signal are arriving at the listener's ear at different times. This is where output delays come in.

The first thing you will need to do is to find the loudest instrument on the stage. In general, this is the snare drum, but it could be the guitar amp, so let your ears do the deciding.

Measure the distance from the snare drum to the mid-frequency drivers of your main Front-of-House system and divide it by 1.1 (if measured in feet) or 0.34 (if measured in meters).

1. On your StudioLive mixer, select the Main mix and set the Output delay to the result of your calculation.
2. Bring up the level of the snare channel on your mixer to unity and have your drummer play single hits on the snare, about one hit every second. Make sure he or she plays at the level they will play during the performance.
3. Use your Main mix level to set the level on the Front-of-house system as closely to the acoustic level of the snare drum as possible.
4. Listen closely to the speakers and the snare and make minor adjustments to the output delay until the attack times sound as coherent as possible.

13.7.2 Delay Systems

In most situations, a PA system relies on a main speaker system, positioned at the front of the room, to reproduce audio for the entire performance space. As a result, the level of the system is considerably louder at the front of the room then it is at the mix position.

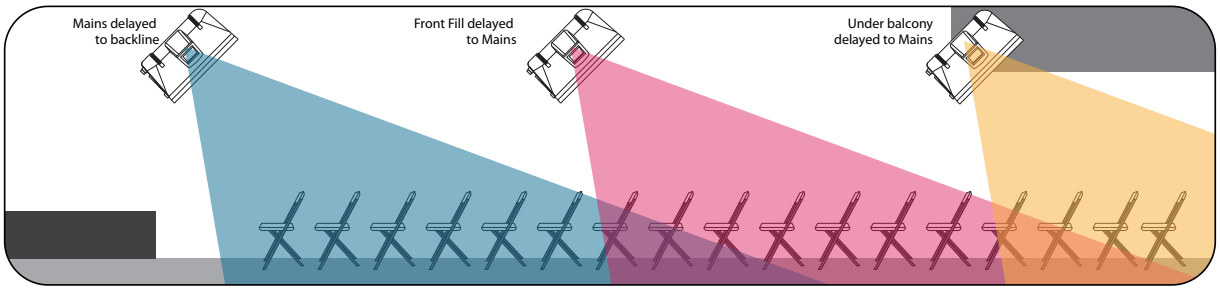
In situations where sound must be reproduced outside of the main system's optimum range, well-placed delay systems can extend the intelligibility of the front-of-house system. By creating listening zones throughout the room, your front-of-house system only needs to be loud enough to cover the front of the room. As a result, you can lower the mains level, give the front-row listeners' ears a break, and get better fidelity from your speakers.

When placing delay systems, place delay systems where the main system's intelligibility falls apart as it is overcome by environmental obstacles:

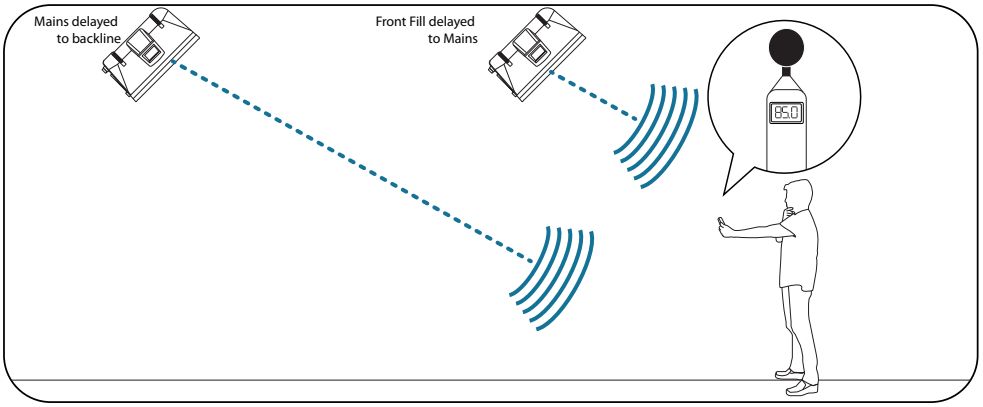
Inside. Indoors, you are trying to overcome the direct-to-reverberant reflections. Your goal is to find where the direct signal-to-reverberation ratio has reached about 50/50. At this point, the reflections in the room are at an equal level to the direct sound of the P.A., and vocal intelligibility is lost.

Outside. Outdoors, you are trying to maintain level as the noise floor of the crowd begins to be at equal level to the P.A. in the intelligibility range. At this point, the main system needs more support in order to deliver the same perceived loudness as you get further from the source.

The goal of distributed sound is for the people in the back row have the same listening experience as the people in the front, but it isn't as easy as just bringing an extra pair of speakers. To create a distributed sound system, you need to delay the signal going to the additional speakers.



1. Once you have positioned your delay systems, measure the distance from the left front-of-house speaker to the closest delay speaker (most likely, the left side delay speaker). Divide the distance by 1.1 (if measured in feet) or 0.34 (if measured in meters).
2. On your StudioLive mixer, select the FlexMix driving the output connected to your left side delay speaker and configure it as a Subgroup.
3. Set the Output delay on your newly created subgroup to the result of your calculation.
4. Repeat steps 1-3 with the right side of the system.
5. Once you have positioned and delayed your satellite system, use an SPL meter to match the output of the main and delay systems at the measurement point. For example, if you are standing 30 feet from the left side of the main system and 10 feet from the left side of the delay system, and the output of the main system is 85 dB, then the output of the delay system should also be 85 dB.

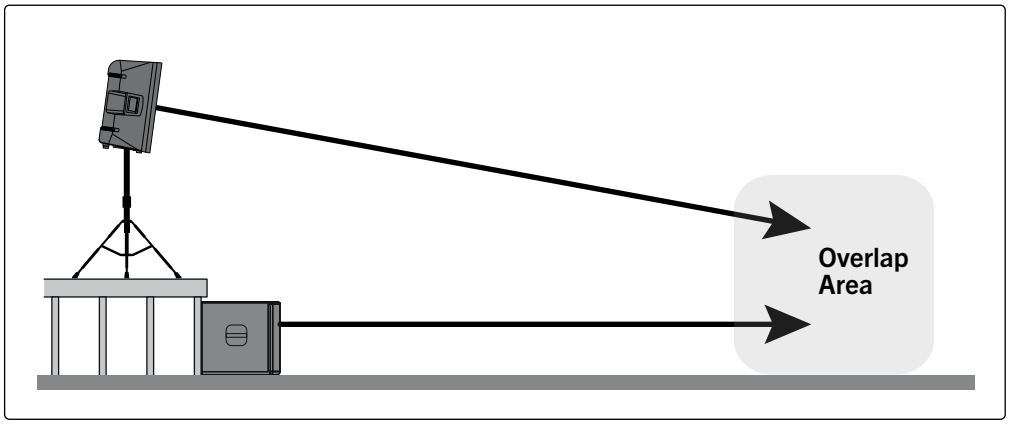


It should be noted that frequencies in the sub-bass range of a delay system do not require distribution. In fact, a delay system's high pass filter should be rolled up as high as 300 to 400 Hz to avoid sound going back toward the stage as low frequencies become omnidirectional.

13.7.3 Aligning Subs to Mains

When your subwoofer and your full-range loudspeaker are placed some distance apart, low-frequency cancellation or reinforcement can occur when the same frequencies are reproduced by both systems. Using an alignment delay on your subwoofer system will compensate for this. To set the correct delay for a custom installation, you will need to do some calculating:

1. Find the spot in the room where coverage from the main speakers and the subwoofers overlap.



2. Measure the distance from the overlap area to each speaker location.
3. Subtract the smaller distance (the distance to the subwoofer) from the larger distance (the distance to the full-range loudspeaker).
4. Divide the distance by 1.1 (if measured in feet) or 0.34 (if measured in meters) and apply that delay value to the Aux mix driving the subwoofer. Keep in mind that the overlap area may be behind front-of-house.

13.8 Sidechaining

Both the Compressor and the Gate on the Input channels can be triggered from another channel. Sidechaining has many uses. This section will explain how sidechaining can help to solve many common mixing problems.

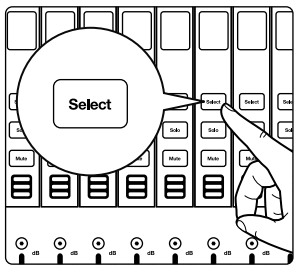
13.8.1 Sidechaining the Gate

As previously mentioned, the Gate's key filter can be sidechained to another channel. This allows you to select a different channel as the trigger source for your StudioLive Gate's Key Filter. Sidechaining has many uses:

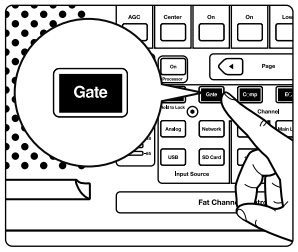
- Tighten up a Rhythm Section. You can use a sidechained key filter to tighten up a rhythm section by sidechaining the kick drum channel to the bass channel and setting the gate to open at the frequency of the kick drum. This, combined with a fast attack and release, will make your rhythm section more cohesive. Increase the release time to loosen the feel.
- Rhythmic Effect. Another great use for a sidechain is as an effect in EDM 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.

This tutorial will guide you through the first use case. 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.

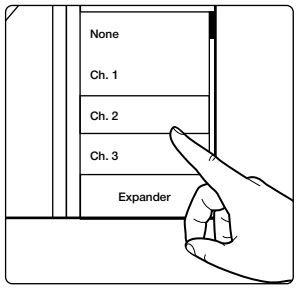
For this purposes of this tutorial, we'll use the dynamics of the kick drum on Channel 1 to trigger the gate for the bass on Channel 15.



1. Press the Select button on the bass channel, to bring it into focus in the Fat Channel.



2. Press the Gate button in the Fat Channel, to access gate/expander controls for the bass channel.



3. Select the kick drum channel as the Key Source or by using the Key Source selector on the Touch Display.

4. Adjust the Threshold, Attack, and Release controls to create the gating effect you're looking for.

If you want to break the sidechain connection, set Key Source for the gate back to "None."

13.8.2 Sidechaining the Compressor

Sidechaining a compressor allows you to reduce the level of one input source to make room for another. This is especially useful in live broadcast or application where music and commentary are happening simultaneously. In recording applications, this is generally accomplished with careful level automation. Compressor sidechaining allows you to achieve a similar result without having to ride the faders.

Below are two of the most common uses:

- Dialogue Ducking. This is probably the most well-known compressor sidechaining application. Consider a common House of Worship situation where the pastor is leading a meditation while the piano or pre-recorded music is being played. Apply a compressor on the stereo music track with a fairly low threshold, high ratio, a fast attack and a long release time, using the pastor's microphone channel as the key source for the compressor. Now the compressor will react to level fluctuations from the pastor's microphone, allowing the music to naturally rise and fall in counterpoint to the speech pattern.
- Bringing Out the Kick Drum. In some instances, a synth bass line, or a busy bass guitar part interferes with the kick drum presence and punch in the mix. For this application, you will apply a compressor to the bass channel, using the kick drum channel as the key source, allowing your kick drum to punch through the bass line.

13.9 Effect Types

Your StudioLive mixer is equipped with four stereo effects processors. Each of these processors has its own aux bus, allowing you to independently control the mix of channels feeding them. This section will guide you through the basics of several common effect types.

13.9.1 Reverb and its Parameters

Reverberation—or reverb, as it is more commonly known—is perhaps the most widely used effect. Natural reverb is created by sound waves reflecting off of a surface or many surfaces. For example, when you walk across the wooden stage in a large hall, thousands of reflections are generated almost instantaneously as the sound waves bounce off the floor, walls, and ceilings. These are known as early reflections, and their pattern provides psycho-acoustic indications as to the nature of the space that you are in, even if you can't see it. As each reflection is then reflected off of more surfaces, the complexity of the sound increases, while the reverb slowly decays.

The reason for the widespread use of reverb in audio recording is fairly self-evident: human beings don't live in a vacuum. Because our brains receive cues about the nature of the space around us based partially on audio reflections, a sense of space makes an audio recording sound more natural and, therefore, more pleasing.

Below are some of the most common reverb parameters for the reverb effects:

- Decay. Decay is the time (in seconds) required for the reflections (reverberation) to die away. In most modern music production, reverb decay times of between one and three seconds are prevalent. A reverb setting with strong early reflections and a quick decay are a great way to create a stereo effect from a mono source.
- Predelay. Predelay is the time (in milliseconds) between the end of the initial sound and the moment when the first reflections become audible. Imagine you're back on that stage in a large music hall. This time you stand on the very edge of the stage and shout "Hello world!" toward the center of the hall. There will be a brief pause before you hear the first noticeable reflections of your voice because the sound waves can travel much further before encountering a surface and bouncing back. (There are closer surfaces, of course—notably the floor and the ceiling just in front of the stage—but only a small part of the direct sound will go there, so those reflections will be much less noticeable.) Adjusting the predelay parameter on a reverb allows you to change the apparent size of the room without having to change the overall decay time. This will give your mix a little more transparency by leaving some space between the original sound and its reverb.
- Early Reflections. Early reflections are those that reach the listener a few milliseconds after the direct signal arrives. Your brain uses them to identify the size of the room you're in. If you are trying to simulate a specific type of room, this control will be extremely important. This control allows you to set the level (in decibels) of the early reflections. The louder the early reflections, the smaller the room will seem.

13.9.2 Delay and its Parameters

A delay essentially creates an echo, although you can often use delays to create more complex time-based effects. The source signal is delayed so that it is heard later than it actually occurred.

Below are some of the most common reverb parameters for the delay effects:

- Time. This is the time (in milliseconds) between the source signal and its echo. The simplest delay effect is a single repeat. A short delay between 30 and 100 ms can be used to create slap-back echo, while longer delay times produce a more distant echo. Delay times that are too short to hear as distinct echoes can be used to create thickening effects. Whether these echoes are timed with the tempo is a matter of stylistic choice.

  This is the parameter that is controlled by the Tap Tempo button. Using the Tap button on the StudioLive, you can speed up or slow down these repeats or, more commonly, time the repeats to occur with the tempo of the music.

  Power User Tip: While you have to select the Time parameter in order to use the Tap button, you only have to do this the first time you use the Tap button for that effect. Once the Tap button has been used to control the Time parameter, it will always control the time of that particular delay, no matter what page you are currently viewing. To assign the Tap button to control another delay, simply navigate to that delay's Time parameter and use the button to enter the desired delay time.
- Time X. Time X is the value of the beat you are using as a reference for the tempo. The basic unit of measure is a quarter note, so for example, if the beats you are tapping represent quarter notes in the music, you would set Time X to 1.00. If they are eighth notes, you would set Time X to 0.50; half notes would be 2.00; and so on. In this way, you can precisely synchronize or syncopate the delay echoes to the music in real time.
- Variable Feedback. Variable feedback, or regeneration, produces multiple decaying repeats. Increasing the feedback value increases the number of echoes, as well as the resonance that is created as one echo disappears into another.
- F_Frequency. Sets the center frequency in Hz for the Filter Delay. F_Gain. Sets the boost at the center frequency for the Filter Delay.
- F_Q. Sets the Q for the Filter Delay. 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.

13.9.3 Chorus and Flange

Close relatives of delay effects, modulation effects change the pitch and time of a delayed signal using a Low Frequency Oscillator or LFO. Two of the most common modulation effects are chorus and flange.

Created by mixing two identical signals together and delaying one of the signals by a constantly varying time, the flanger is perhaps the simplest of modulation effects. The resulting effect creates a kind of whooshing sound as the delay signal rises and falls in varying parts of the frequency spectrum.

Similar to a flanger, a chorus effect is created by mixing the source signal with one or more pitch-shifted copies of it. Each copy is then modulated by an LFO. A chorus is different from a flanger in several ways. First, the time between the modulated delay signal and the original source signal is longer in a chorus than it is in a flanger. Also, a flanger only has one delayed signal, whereas a chorus may have two or more. And finally, choruses do not feed any of the processed signal back into the processor.

Below are some of the most common parameters for the flanger and chorus effects:

- Rate. Sets the frequency of the LFO modulating the delayed signal.
- Width. Shifts the phase of the LFO modulating the delayed signal.
- Shape. Sets the type of wave form the LFO will use to modulate the delayed signal.
- Delay Offset. This is the time (in milliseconds) between the source signal and the delayed signal.
- Delay Modulation Amplitude. Sets the amplitude of the LFO modulating the delayed signal.
- Delay Feedback. Variable feedback, or regeneration, produces multiple decaying repeats. Increasing the feedback value increases the number of echoes, as well as the resonance that is created as one echo disappears into another.

13.10 Using the RTA While Mixing



The Standard EQ is equipped with a Real-time analyzer, or RTA, in which x = frequency and y = amplitude. An RTA provides a close visual representation of what you are hearing because it is a view of amplitude and frequency content over a specified plane in real time. It provides a view of the long-term spectrum of the signal—for example, the one- third-octave spectrum long-term average of a musical performance.

The ability to analyze frequency content—specifically, being able to visualize the exact frequencies you are hearing in order to hone in on problem areas— makes the RTA a secret weapon for many a mix engineer. The RTA also lends itself very well to ear training and gives you confidence that you are choosing the right frequencies when making adjustments.

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.

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

Power User Tip: It should be noted that an RTA cannot be used as a substitute for careful listening. While these tools provide a great visual analysis of your mix, critical listening must always be your main guide.

14 Technical Information

14.1 Specifications

Microphone Preamplifier

Input Type	XLR Female, balanced
Frequency Response to Main Output (at unity gain)	20-20 kHz, ±0.5 dBu
Input Impedance	1 kΩ
THD to Main Output	<0.005%, +4 dBu, 20-20 kHz, unity gain, unwtd
S/N Ratio to Main Output (Ref = +4 dB, 20 kHz BW, unity gain, A-wtd)	94 dB
Common Mode Rejection Ratio (1 kHz at unity gain)	65 dB
Gain Control Range (±1 dB)	0 dB to +60 dB
Maximum Input Level (unity gain)	+12 dBu
Phantom Power (±2 VDC)	48 VDC, switchable per channel

Line Inputs

Type	¼" TRS Female, balanced
Frequency Response to Main Output (at unity gain)	20-20 kHz, ±0.5 dBu
Input Impedance	10 kΩ
THD to Main Output	<0.005%, +4 dBu, 20-20 kHz, unity gain, unwtd
S/N Ratio to Main Output (Ref = +4 dB, 20 kHz BW, unity gain, A-wtd)	94 dB
Maximum Input Level	+18 dBu

Tape Inputs

Type	RCA Female, unbalanced (stereo pair)
Maximum Input Level	+12 dBu, ±0.5 dBu

XLR Outputs

Type	XLR Male, balanced
Maximum Output Level	+24 dBu, ±0.5 dBu
Output Impedance	100Ω

Line Outputs

Type	¼" TRS Female, balanced
Maximum Output Level	+18 dBu, ±0.5 dBu
Output Impedance	100Ω

Tape Outputs

Type	RCA Female, unbalanced (stereo pair)
Maximum Output Level	+18 dBu, ±0.5 dBu
Output Impedance	100Ω

Headphone Output

Type	¼" TRS Female, active stereo
Maximum Output	100 mW/ch. @ 60Ω load
Frequency Response	20 Hz – 20 kHz (± 0.5 dB)
THD+N	0.01%, 1 kHz, max gain, 20 kHz BW, unwtd
S/N Ratio	96 dB, 1 kHz, max gain, 20 kHz BW, unwtd

System Crosstalk

Input to Output	-90 dB (Ref = +4 dBu, 20 Hz-20 kHz, unwtd)
Adjacent Channels	-87 dB (Ref = +4 dBu, 20 Hz-20 kHz, unwtd)

SDigital Audio and Control

ADC Dynamic Range	115 dB (A-wtd, 48 kHz)
DAC Dynamic Range	115 dB (A-wtd, 48 kHz)
USB Recording Port	USB 2.0, Type-B
Bluetooth® Input	4.1, stereo
AES/EBU Output	XLR Male
Network Control Port	RJ45
AVB Audio Network Port	Ethercon
Internal Processing	32-bit, floating point
Sampling Rate	48 kHz
A/D/A Bit Depth	24
Reference Level for 0 dBFS	+18 dBu
Total System Latency	1.9 ms (local routing, analog in-analog out, all processing active)

Clock

Jitter	<20 ps RMS (20 Hz - 20 kHz)
Jitter Attenuation	>60 dB (1 ns in, 1 ps out)

Power / Environmental

Connector	IEC
Input-Voltage Range	90 to 230 VAC (±10%)
Power Requirements (continuous)	85W
Recommended Ambient Operating Temperature	0˚ to 40˚ Celsius / 32˚ to 104˚ Fahrenheit

Physical

Height	7" (179 mm) All Consoles		
Width	**StudioLive SE 16:** 18" (457 mm)	**StudioLive SE 24:** 25.6" (650 mm)	**StudioLive SE 32 :** 32.5" (826 mm);
	StudioLive 32SC: 18" (457 mm)	**StudioLive 32SX:** 25.6" (650 mm)	**StudioLive 32S and 64S:** 32.5" (826 mm)
Depth	23" (584 mm) All Consoles		
Weight	**StudioLive SE 16:** 23 lbs. (10.5 kg)	**StudioLive SE 24:** 30 lbs. (13.6 kg)	**StudioLive SE 32:** 37.2 lbs. (16.9 kg);
	StudioLive 32SC: 23 lbs. (10.5 kg)	**StudioLive 32SX:** 30 lbs. (13.6 kg)	**StudioLive 32S and 64S:** 37.2 lbs. (16.9 kg)

14.2 Default Routing

14.2.1 Input Source

Input	StudioLive SE 32	StudioLive SE 24	StudioLive SE 16	StudioLive 64S	StudioLive 32S	StudioLive 32SX	StudioLive 32SC	StudioLive 32	StudioLive 24	StudioLIve 16
Channel 1	Analog 1	Analog 1	Analog 1	Analog 1	Analog 1	Analog 1	Analog 1	Analog 1	Analog 1	Analog 1
Channel 2	Analog 2	Analog 2	Analog 2	Analog 2	Analog 2	Analog 2	Analog 2	Analog 2	Analog 2	Analog 2
Channel 3	Analog 3	Analog 3	Analog 3	Analog 3	Analog 3	Analog 3	Analog 3	Analog 3	Analog 3	Analog 3
Channel 4	Analog 4	Analog 4	Analog 4	Analog 4	Analog 4	Analog 4	Analog 4	Analog 4	Analog 4	Analog 4
Channel 5	Analog 5	Analog 5	Analog 5	Analog 5	Analog 5	Analog 5	Analog 5	Analog 5	Analog 5	Analog 5
Channel 6	Analog 6	Analog 6	Analog 6	Analog 6	Analog 6	Analog 6	Analog 6	Analog 6	Analog 6	Analog 6
Channel 7	Analog 7	Analog 7	Analog 7	Analog 7	Analog 7	Analog 7	Analog 7	Analog 7	Analog 7	Analog 7
Channel 8	Analog 8	Analog 8	Analog 8	Analog 8	Analog 8	Analog 8	Analog 8	Analog 8	Analog 8	Analog 8
Channel 9	Analog 9	Analog 9	Analog 9	Analog 9	Analog 9	Analog 9	Analog 9	Analog 9	Analog 9	Analog 9
Channel 10	Analog 10	Analog 10	Analog 10	Analog 10	Analog 10	Analog 10	Analog 10	Analog 10	Analog 10	Analog 10
Channel 11	Analog 11	Analog 11	Analog 11	Analog 11	Analog 11	Analog 11	Analog 11	Analog 11	Analog 11	Analog 11
Channel 12	Analog 12	Analog 12	Analog 12	Analog 12	Analog 12	Analog 12	Analog 12	Analog 12	Analog 12	Analog 12
Channel 13	Analog 13	Analog 13	Analog 13	Analog 13	Analog 13	Analog 13	Analog 13	Analog 13	Analog 13	Analog 13
Channel 14	Analog 14	Analog 14	Analog 14	Analog 14	Analog 14	Analog 14	Analog 14	Analog 14	Analog 14	Analog 14
Channel 15	Analog 15	Analog 15	Analog 15	Analog 15	Analog 15	Analog 15	Analog 15	Analog 15	Analog 15	Analog 15
Channel 16	Analog 16	Analog 16	Analog 16	Analog 16	Analog 16	Analog 16	Analog 16	Analog 16	Analog 16	Analog 16
Channel 17	Analog 17	Analog 17	AVB 17	Analog 17	Analog 17	Analog 17	AVB 17	Analog 17	Analog 17	AVB 17
Channel 18	Analog 18	Analog 18	AVB 18	Analog 18	Analog 18	Analog 18	AVB 18	Analog 18	Analog 18	AVB 18
Channel 19	Analog 19	Analog 19	AVB 19	Analog 19	Analog 19	Analog 19	AVB 19	Analog 19	Analog 19	AVB 19
Channel 20	Analog 20	Analog 20	AVB 20	Analog 20	Analog 20	Analog 20	AVB 20	Analog 20	Analog 20	AVB 20
Channel 21	Analog 21	Analog 21	AVB 21	Analog 21	Analog 21	Analog 21	AVB 21	Analog 21	Analog 21	AVB 21
Channel 22	Analog 22	Analog 22	AVB 22	Analog 22	Analog 22	Analog 22	AVB 22	Analog 22	Analog 22	AVB 22
Channel 23	Analog 23	Analog 23	AVB 23	Analog 23	Analog 23	Analog 23	AVB 23	Analog 23	Analog 23	AVB 23
Channel 24	Analog 24	Analog 24	AVB 24	Analog 24	Analog 24	Analog 24	AVB 24	Analog 24	Analog 24	AVB 24
Channel 25	Analog 25	Analog 25	AVB 25	Analog 25	Analog 25	Analog 25	AVB 25	Analog 25	AVB 25	AVB 25
Channel 26	Analog 26	Analog 26	AVB 26	Analog 26	Analog 26	Analog 26	AVB 26	Analog 26	AVB 26	AVB 26
Channel 27	Analog 27	Analog 27	AVB 27	Analog 27	Analog 27	Analog 27	AVB 27	Analog 27	AVB 27	AVB 27
Channel 28	Analog 28	Analog 28	AVB 28	Analog 28	Analog 28	Analog 28	AVB 28	Analog 28	AVB 28	AVB 28
Channel 29	Analog 29	Analog 29	AVB 29	Analog 29	Analog 29	Analog 29	AVB 29	Analog 29	AVB 29	AVB 29
Channel 30	Analog 30	Analog 30	AVB 30	Analog 30	Analog 30	Analog 30	AVB 30	Analog 30	AVB 30	AVB 30
Channel 31	Analog 31	Analog 31	AVB 31	Analog 31	Analog 31	Analog 31	AVB 31	Analog 31	AVB 31	AVB 31
Channel 32	Analog 32	Analog 32	AVB 32	Analog 32	Analog 32	Analog 32	AVB 32	Analog 32	AVB 32	AVB 32
Channel 33	---	---	---	AVB 33	---	---	---	---	---	---
Channel 34	---	---	---	AVB 34	---	---	---	---	---	---
Channel 35	---	---	---	AVB 35	---	---	---	---	---	---
Channel 36	---	---	---	AVB 36	---	---	---	---	---	---
Channel 37	---	---	---	AVB 37	---	---	---	---	---	---
Channel 38	---	---	---	AVB 38	---	---	---	---	---	---
Channel 39	---	---	---	AVB 39	---	---	---	---	---	---
Channel 40	---	---	---	AVB 40	---	---	---	---	---	---

Input (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
Channel 41	---	---	---	AVB 41	---	---	---	---	---	---
Channel 42	---	---	---	AVB 42	---	---	---	---	---	---
Channel 43	---	---	---	AVB 43	---	---	---	---	---	---
Channel 44	---	---	---	AVB 44	---	---	---	---	---	---
Channel 45	---	---	---	AVB 45	---	---	---	---	---	---
Channel 46	---	---	---	AVB 46	---	---	---	---	---	---
Channel 47	---	---	---	AVB 47	---	---	---	---	---	---
Channel 48	---	---	---	AVB 48	---	---	---	---	---	---
Channel 49	---	---	---	AVB 49	---	---	---	---	---	---
Channel 50	---	---	---	AVB 50	---	---	---	---	---	---
Channel 51	---	---	---	AVB 51	---	---	---	---	---	---
Channel 52	---	---	---	AVB 52	---	---	---	---	---	---
Channel 53	---	---	---	AVB 53	---	---	---	---	---	---
Channel 54	---	---	---	AVB 54	---	---	---	---	---	---
Channel 55	---	---	---	AVB 55	---	---	---	---	---	---
Channel 56	---	---	---	AVB 56	---	---	---	---	---	---
Channel 57	---	---	---	AVB 57	---	---	---	---	---	---
Channel 58	---	---	---	AVB 58	---	---	---	---	---	---
Channel 59	---	---	---	AVB 59	---	---	---	---	---	---
Channel 60	---	---	---	AVB 60	---	---	---	---	---	---
Channel 61	---	---	---	AVB 61	---	---	---	---	---	---
Channel 62	---	---	---	AVB 62	---	---	---	---	---	---
Channel 63	---	---	---	AVB 63	---	---	---	---	---	---
Channel 64	---	---	---	AVB 64	---	---	---	---	---	---
Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R	Aux In 1 L/R
Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R	Aux In 2 L/R
Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R	Tape In L/R
Talkback	Talkback	Talkback	Talkback	Talkback	Talkback	Talkback	Talkback	Talkback	Talkback	Talkback
FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R	FX Return A L/R
FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R	FX Return B L/R
FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R	FX Return C L/R
FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R	FX Return D L/R
FX Return E L/R	---	---	---	FX Return E L/R	---	---	---	---	---	---
FX Return F L/R	---	---	---	FX Return F L/R	---	---	---	---	---	---
FX Return G L/R	---	---	---	FX Return G L/R	---	---	---	---	---	---
FX Return H L/R	---	---	---	FX Return H L/R	---	---	---	---	---	---
FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1
FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2
FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3
FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4
FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5
FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6
FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7

Input (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8
FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9
FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10
FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11	FlexMix 11
FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12	FlexMix 12
FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13	FlexMix 13
FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14	FlexMix 14
FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15	FlexMix 15
FlexMix 16	FlexMix 16	---	---	FlexMix 16	FlexMix 16	---	---	---	---	---
FlexMix 17	---	---	---	FlexMix 17	---	---	---	---	---	---
FlexMix 18	---	---	---	FlexMix 18	---	---	---	---	---	---
FlexMix 19	---	---	---	FlexMix 19	---	---	---	---	---	---
FlexMix 20	---	---	---	FlexMix 20	---	---	---	---	---	---
FlexMix 21	---	---	---	FlexMix 21	---	---	---	---	---	---
FlexMix 22	---	---	---	FlexMix 22	---	---	---	---	---	---
FlexMix 23	---	---	---	FlexMix 23	---	---	---	---	---	---
FlexMix 24	---	---	---	FlexMix 24	---	---	---	---	---	---
FlexMix 25	---	---	---	FlexMix 25	---	---	---	---	---	---
FlexMix 26	---	---	---	FlexMix 26	---	---	---	---	---	---
FlexMix 27	---	---	---	FlexMix 27	---	---	---	---	---	---
FlexMix 28	---	---	---	FlexMix 28	---	---	---	---	---	---
FlexMix 29	---	---	---	FlexMix 29	---	---	---	---	---	---
FlexMix 30	---	---	---	FlexMix 30	---	---	---	---	---	---
FlexMix 31	---	---	---	FlexMix 31	---	---	---	---	---	---
FlexMix 32	---	---	---	FlexMix 32	---	---	---	---	---	---
Main L/R	Main L/R	Main L/R	Main L/R	Main L/R	Main L/R	Main L/R	Main L/R	Main L/R	Main L/R	Main L/R
Mono/Center	---	---	---	Mono/Center	---	---	---	---	---	---

14.2.2 Analog Sends

Output	StudioLive SE 32	StudioLive SE 24	StudioLive SE 16	StudioLive 64S	StudioLive 32S	StudioLive 32SX	StudioLive 32SC	StudioLive 32	StudioLive 24	StudioLIve 16
Mix Out 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1	FlexMix 1
Mix Out 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2	FlexMix 2
Mix Out 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3	FlexMix 3
Mix Out 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4	FlexMix 4
Mix Out 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5	FlexMix 5
Mix Out 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6	FlexMix 6
Mix Out 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7	FlexMix 7
Mix Out 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8	FlexMix 8
Mix Out 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9	FlexMix 9
Mix Out 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10	FlexMix 10
Mix Out 11	FlexMix 11	FlexMix 11	---	FlexMix 11	FlexMix 11	FlexMix 11	---	FlexMix 11	FlexMix 11	---
Mix Out 12	FlexMix 12	FlexMix 12	---	FlexMix 12	FlexMix 12	FlexMix 12	---	FlexMix 12	FlexMix 12	---
Mix Out 13	FlexMix 13	FlexMix 13	---	FlexMix 13	FlexMix 13	FlexMix 13	---	FlexMix 13	FlexMix 13	---
Mix Out 14	FlexMix 14	FlexMix 14	---	FlexMix 14	FlexMix 14	FlexMix 14	---	FlexMix 14	FlexMix 14	---

Output (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
Mix Out 15	FlexMix 15	FlexMix 15	---	FlexMix 15	FlexMix 15	FlexMix 15	---	FlexMix 15	FlexMix 15	---
Mix Out 16	FlexMix 16	FlexMix 16	---	FlexMix 16	FlexMix 16	FlexMix 16	---	FlexMix 16	FlexMix 16	---
Subgroup Out 1	Subgroup A	Subgroup A	---	Subgroup A	Subgroup A	Subgroup A	---	Subgroup A	---	---
Subgroup Out 2	Subgroup B	Subgroup B	---	Subgroup B	Subgroup B	Subgroup B	---	Subgroup B	---	---
Subgroup Out 3	Subgroup C	Subgroup C	---	Subgroup C	Subgroup C	Subgroup C	---	Subgroup C	---	---
Subgroup Out 4	Subgroup D	Subgroup D	---	Subgroup D	Subgroup D	Subgroup D	---	Subgroup D	---	---

14.2.3 AVB Sends

AVB Send	StudioLive SE 32	StudioLive SE 24	StudioLive SE 16	StudioLive 64S	StudioLive 32S	StudioLive 32SX	StudioLive 32SC	StudioLive 32	StudioLive 24	StudioLIve 16
AVB Send 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1
AVB Send 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2
AVB Send 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3
AVB Send 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4
AVB Send 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5
AVB Send 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6
AVB Send 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7
AVB Send 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8
AVB Send 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9
AVB Send 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10
AVB Send 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11
AVB Send 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12
AVB Send 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13
AVB Send 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14
AVB Send 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15
AVB Send 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16
AVB Send 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17
AVB Send 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18
AVB Send 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19
AVB Send 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20
AVB Send 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21
AVB Send 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22
AVB Send 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23
AVB Send 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24
AVB Send 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25
AVB Send 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26
AVB Send 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27
AVB Send 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28
AVB Send 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29
AVB Send 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30
AVB Send 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31
AVB Send 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32
AVB Send 33	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Channel 33	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left
AVB Send 34	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Channel 34	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right
AVB Send 35	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Channel 35	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left

AVB Send (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
AVB Send 36	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Channel 36	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right
AVB Send 37	Tape In Left	Tape In Left	Tape In Left	Channel 37	Tape In Left	Tape In Left	Tape In Left	Tape In Left	Tape In Left	Tape In Left
AVB Send 38	Tape In Right	Tape In Right	Tape In Right	Channel 38	Tape In Right	Tape In Right	Tape In Right	Tape In Right	Tape In Right	Tape In Right
AVB Send 39	Main Left	Main Left	Main Left	Channel 39	Main Left	Main Left	Main Left	Main Left	Main Left	Main Left
AVB Send 40	Main Right	Main Right	Main Right	Channel 40	Main Right	Main Right	Main Right	Main Right	Main Right	Main Right
AVB Send 41	Mix 1	Mix 1	Mix 1	Channel 41	Mix 1	Mix 1	Mix 1	Mix 1	Mix 1	Mix 1
AVB Send 42	Mix 2	Mix 2	Mix 2	Channel 42	Mix 2	Mix 2	Mix 2	Mix 2	Mix 2	Mix 2
AVB Send 43	Mix 3	Mix 3	Mix 3	Channel 43	Mix 3	Mix 3	Mix 3	Mix 3	Mix 3	Mix 3
AVB Send 44	Mix 4	Mix 4	Mix 4	Channel 44	Mix 4	Mix 4	Mix 4	Mix 4	Mix 4	Mix 4
AVB Send 45	Mix 5	Mix 5	Mix 5	Channel 45	Mix 5	Mix 5	Mix 5	Mix 5	Mix 5	Mix 5
AVB Send 46	Mix 6	Mix 6	Mix 6	Channel 46	Mix 6	Mix 6	Mix 6	Mix 6	Mix 6	Mix 6
AVB Send 47	Mix 7	Mix 7	Mix 7	Channel 47	Mix 7	Mix 7	Mix 7	Mix 7	Mix 7	Mix 7
AVB Send 48	Mix 8	Mix 8	Mix 8	Channel 48	Mix 8	Mix 8	Mix 8	Mix 8	Mix 8	Mix 8
AVB Send 49	Mix 9	Mix 9	Mix 9	Channel 49	Mix 9	Mix 9	Mix 9	Mix 9	Mix 9	Mix 9
AVB Send 50	Mix 10	Mix 10	Mix 10	Channel 50	Mix 10	Mix 10	Mix 10	Mix 10	Mix 10	Mix 10
AVB Send 51	Mix 11	Mix 11	Mix 11	Channel 51	Mix 11	Mix 11	Mix 11	Mix 11	Mix 11	Mix 11
AVB Send 52	Mix 12	Mix 12	Mix 12	Channel 52	Mix 12	Mix 12	Mix 12	Mix 12	Mix 12	Mix 12
AVB Send 53	Mix 13	Mix 13	Mix 13	Channel 53	Mix 13	Mix 13	Mix 13	Mix 13	Mix 13	Mix 13
AVB Send 54	Mix 14	Mix 14	Mix 14	Channel 54	Mix 14	Mix 14	Mix 14	Mix 14	Mix 14	Mix 14
AVB Send 55	Mix 15	Mix 15	Mix 15	Channel 55	Mix 15	Mix 15	Mix 15	Mix 15	Mix 15	Mix 15
AVB Send 56	Mix 16	Mix 16	Mix 16	Channel 56	Mix 16	Mix 16	Mix 16	Mix 16	Mix 16	Mix 16
AVB Send 57	---	---	---	Channel 57	---	---	---	---	---	---
AVB Send 58	---	---	---	Channel 58	---	---	---	---	---	---
AVB Send 59	---	---	---	Channel 59	---	---	---	---	---	---
AVB Send 60	---	---	---	Channel 60	---	---	---	---	---	---
AVB Send 61	---	---	---	Channel 61	---	---	---	---	---	---
AVB Send 62	---	---	---	Channel 62	---	---	---	---	---	---
AVB Send 63	---	---	---	Channel 63	---	---	---	---	---	---
AVB Send 64	---	---	---	Channel 64	---	---	---	---	---	---

14.2.4 USB Sends

USB Send	StudioLive SE 32	StudioLive SE 24	StudioLive SE 16	StudioLive 64S	StudioLive 32S	StudioLive 32SX	StudioLive 32SC	StudioLive 32	StudioLive 24	StudioLIve 16
USB Send 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1	Channel 1
USB Send 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2	Channel 2
USB Send 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3	Channel 3
USB Send 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4	Channel 4
USB Send 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5	Channel 5
USB Send 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6	Channel 6
USB Send 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7	Channel 7
USB Send 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8	Channel 8
USB Send 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9	Channel 9
USB Send 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10	Channel 10
USB Send 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11	Channel 11
USB Send 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12	Channel 12

USB Send (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
USB Send 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13	Channel 13
USB Send 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14	Channel 14
USB Send 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15	Channel 15
USB Send 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16	Channel 16
USB Send 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17	Channel 17
USB Send 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18	Channel 18
USB Send 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19	Channel 19
USB Send 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20	Channel 20
USB Send 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21	Channel 21
USB Send 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22	Channel 22
USB Send 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23	Channel 23
USB Send 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24	Channel 24
USB Send 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25	Channel 25
USB Send 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26	Channel 26
USB Send 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27	Channel 27
USB Send 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28	Channel 28
USB Send 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29	Channel 29
USB Send 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30	Channel 30
USB Send 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31	Channel 31
USB Send 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32	Channel 32
USB Send 33	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Channel 33	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left	Aux In 1 Left
USB Send 34	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Channel 34	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right	Aux In 1 Right
USB Send 35	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Channel 35	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left	Aux In 2 Left
USB Send 36	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Channel 36	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right	Aux In 2 Right
USB Send 37	Tape In Left	Tape In Left	Tape In Left	Channel 37	Tape In Left	Tape In Left	Tape In Left	Tape In Left	Tape In Left	Tape In Left
USB Send 38	Tape In Right	Tape In Right	Tape In Right	Channel 38	Tape In Right	Tape In Right	Tape In Right	Tape In Right	Tape In Right	Tape In Right
USB Send 39	Main Left	Main Left	Main Left	Channel 39	Main Left	Main Left	Main Left	Main Left	Main Left	Main Left
USB Send 40	Main Right	Main Right	Main Right	---	Main Right	Main Right	Main Right	Main Right	Main Right	Main Right
USB Send 41	---	---	---	---	---	---	---	---	---	---
USB Send 42	---	---	---	---	---	---	---	---	---	---
USB Send 43	---	---	---	---	---	---	---	---	---	---
USB Send 44	---	---	---	---	---	---	---	---	---	---
USB Send 45	---	---	---	---	---	---	---	---	---	---
USB Send 46	---	---	---	---	---	---	---	---	---	---
USB Send 47	---	---	---	---	---	---	---	---	---	---
USB Send 48	---	---	---	---	---	---	---	---	---	---
USB Send 49	---	---	---	---	---	---	---	---	---	---
USB Send 50	---	---	---	---	---	---	---	---	---	---
USB Send 51	---	---	---	---	---	---	---	---	---	---
USB Send 52	---	---	---	---	---	---	---	---	---	---
USB Send 53	---	---	---	---	---	---	---	---	---	---
USB Send 54	---	---	---	---	---	---	---	---	---	---
USB Send 55	---	---	---	---	---	---	---	---	---	---

USB Send (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
USB Send 56	---	---	---	---	---	---	---	---	---	---
USB Send 57	---	---	---	---	---	---	---	---	---	---
USB Send 58	---	---	---	---	---	---	---	---	---	---
USB Send 59	---	---	---	---	---	---	---	---	---	---
USB Send 60	---	---	---	---	---	---	---	---	---	---
USB Send 61	---	---	---	---	---	---	---	---	---	---
USB Send 62	---	---	---	---	---	---	---	---	---	---
USB Send 63	---	---	---	---	---	---	---	---	---	---
USB Send 64	---	---	---	---	---	---	---	---	---	---

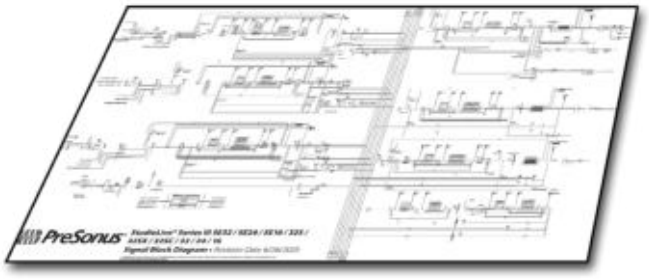
14.2.5 SD Card

SD Card Send	StudioLive SE 32	StudioLive SE 24	StudioLive SE 16	StudioLive 64S	StudioLive 32S	StudioLive 32SX	StudioLive 32SC	StudioLive 32	StudioLive 24	StudioLIve 16
SD Track 1	Ch. 1 (Fixed)	Ch. 1 (Fixed)	Ch. 1 (Fixed)	Channel 1	Ch. 1 (Fixed)	Ch. 1 (Fixed)	Ch. 1 (Fixed)	Ch. 1 (Fixed)	Ch. 1 (Fixed)	Ch. 1 (Fixed)
SD Track 2	Ch. 2 (Fixed)	Ch. 2 (Fixed)	Ch. 2 (Fixed)	Channel 2	Ch. 2 (Fixed)	Ch. 2 (Fixed)	Ch. 2 (Fixed)	Ch. 2 (Fixed)	Ch. 2 (Fixed)	Ch. 2 (Fixed)
SD Track 3	Ch. 3 (Fixed)	Ch. 3 (Fixed)	Ch. 3 (Fixed)	Channel 3	Ch. 3 (Fixed)	Ch. 3 (Fixed)	Ch. 3 (Fixed)	Ch. 3 (Fixed)	Ch. 3 (Fixed)	Ch. 3 (Fixed)
SD Track 4	Ch. 4 (Fixed)	Ch. 4 (Fixed)	Ch. 4 (Fixed)	Channel 4	Ch. 4 (Fixed)	Ch. 4 (Fixed)	Ch. 4 (Fixed)	Ch. 4 (Fixed)	Ch. 4 (Fixed)	Ch. 4 (Fixed)
SD Track 5	Ch. 5 (Fixed)	Ch. 5 (Fixed)	Ch. 5 (Fixed)	Channel 5	Ch. 5 (Fixed)	Ch. 5 (Fixed)	Ch. 5 (Fixed)	Ch. 5 (Fixed)	Ch. 5 (Fixed)	Ch. 5 (Fixed)
SD Track 6	Ch. 6 (Fixed)	Ch. 6 (Fixed)	Ch. 6 (Fixed)	Channel 6	Ch. 6 (Fixed)	Ch. 6 (Fixed)	Ch. 6 (Fixed)	Ch. 6 (Fixed)	Ch. 6 (Fixed)	Ch. 6 (Fixed)
SD Track 7	Ch. 7 (Fixed)	Ch. 7 (Fixed)	Ch. 7 (Fixed)	Channel 7	Ch. 7 (Fixed)	Ch. 7 (Fixed)	Ch. 7 (Fixed)	Ch. 7 (Fixed)	Ch. 7 (Fixed)	Ch. 7 (Fixed)
SD Track 8	Ch. 8 (Fixed)	Ch. 8 (Fixed)	Ch. 8 (Fixed)	Channel 8	Ch. 8 (Fixed)	Ch. 8 (Fixed)	Ch. 8 (Fixed)	Ch. 8 (Fixed)	Ch. 8 (Fixed)	Ch. 8 (Fixed)
SD Track 9	Ch. 9 (Fixed)	Ch. 9 (Fixed)	Ch. 9 (Fixed)	Channel 9	Ch. 9 (Fixed)	Ch. 9 (Fixed)	Ch. 9 (Fixed)	Ch. 9 (Fixed)	Ch. 9 (Fixed)	Ch. 9 (Fixed)
SD Track 10	Ch. 10 (Fixed)	Ch. 10 (Fixed)	Ch. 10 (Fixed)	Channel 10	Ch. 10 (Fixed)	Ch. 10 (Fixed)	Ch. 10 (Fixed)	Ch. 10 (Fixed)	Ch. 10 (Fixed)	Ch. 10 (Fixed)
SD Track 11	Ch. 11 (Fixed)	Ch. 11 (Fixed)	Ch. 11 (Fixed)	Channel 11	Ch. 11 (Fixed)	Ch. 11 (Fixed)	Ch. 11 (Fixed)	Ch. 11 (Fixed)	Ch. 11 (Fixed)	Ch. 11 (Fixed)
SD Track 12	Ch. 12 (Fixed)	Ch. 12 (Fixed)	Ch. 12 (Fixed)	Channel 12	Ch. 12 (Fixed)	Ch. 12 (Fixed)	Ch. 12 (Fixed)	Ch. 12 (Fixed)	Ch. 12 (Fixed)	Ch. 12 (Fixed)
SD Track 13	Ch. 13 (Fixed)	Ch. 13 (Fixed)	Ch. 13 (Fixed)	Channel 13	Ch. 13 (Fixed)	Ch. 13 (Fixed)	Ch. 13 (Fixed)	Ch. 13 (Fixed)	Ch. 13 (Fixed)	Ch. 13 (Fixed)
SD Track 14	Ch. 14 (Fixed)	Ch. 14 (Fixed)	Ch. 14 (Fixed)	Channel 14	Ch. 14 (Fixed)	Ch. 14 (Fixed)	Ch. 14 (Fixed)	Ch. 14 (Fixed)	Ch. 14 (Fixed)	Ch. 14 (Fixed)
SD Track 15	Ch. 15 (Fixed)	Ch. 15 (Fixed)	Ch. 15 (Fixed)	Channel 15	Ch. 15 (Fixed)	Ch. 15 (Fixed)	Ch. 15 (Fixed)	Ch. 15 (Fixed)	Ch. 15 (Fixed)	Ch. 15 (Fixed)
SD Track 16	Ch. 16 (Fixed)	Ch. 16 (Fixed)	Ch. 16 (Fixed)	Channel 16	Ch. 16 (Fixed)	Ch. 16 (Fixed)	Ch. 16 (Fixed)	Ch. 16 (Fixed)	Ch. 16 (Fixed)	Ch. 16 (Fixed)
SD Track 17	Ch. 17 (Fixed)	Ch. 17 (Fixed)	Ch. 17 (Fixed)	Channel 17	Ch. 17 (Fixed)	Ch. 17 (Fixed)	Ch. 17 (Fixed)	Ch. 17 (Fixed)	Ch. 17 (Fixed)	Ch. 17 (Fixed)
SD Track 18	Ch. 18 (Fixed)	Ch. 18 (Fixed)	Ch. 18 (Fixed)	Channel 18	Ch. 18 (Fixed)	Ch. 18 (Fixed)	Ch. 18 (Fixed)	Ch. 18 (Fixed)	Ch. 18 (Fixed)	Ch. 18 (Fixed)
SD Track 19	Ch. 19 (Fixed)	Ch. 19 (Fixed)	Ch. 19 (Fixed)	Channel 19	Ch. 19 (Fixed)	Ch. 19 (Fixed)	Ch. 19 (Fixed)	Ch. 19 (Fixed)	Ch. 19 (Fixed)	Ch. 19 (Fixed)
SD Track 20	Ch. 20 (Fixed)	Ch. 20 (Fixed)	Ch. 20 (Fixed)	Channel 20	Ch. 20 (Fixed)	Ch. 20 (Fixed)	Ch. 20 (Fixed)	Ch. 20 (Fixed)	Ch. 20 (Fixed)	Ch. 20 (Fixed)
SD Track 21	Ch. 21 (Fixed)	Ch. 21 (Fixed)	Ch. 21 (Fixed)	Channel 21	Ch. 21 (Fixed)	Ch. 21 (Fixed)	Ch. 21 (Fixed)	Ch. 21 (Fixed)	Ch. 21 (Fixed)	Ch. 21 (Fixed)
SD Track 22	Ch. 22 (Fixed)	Ch. 22 (Fixed)	Ch. 22 (Fixed)	Channel 22	Ch. 22 (Fixed)	Ch. 22 (Fixed)	Ch. 22 (Fixed)	Ch. 22 (Fixed)	Ch. 22 (Fixed)	Ch. 22 (Fixed)
SD Track 23	Ch. 23 (Fixed)	Ch. 23 (Fixed)	Ch. 23 (Fixed)	Channel 23	Ch. 23 (Fixed)	Ch. 23 (Fixed)	Ch. 23 (Fixed)	Ch. 23 (Fixed)	Ch. 23 (Fixed)	Ch. 23 (Fixed)
SD Track 24	Ch. 24 (Fixed)	Ch. 24 (Fixed)	Ch. 24 (Fixed)	Channel 24	Ch. 24 (Fixed)	Ch. 24 (Fixed)	Ch. 24 (Fixed)	Ch. 24 (Fixed)	Ch. 24 (Fixed)	Ch. 24 (Fixed)
SD Track 25	Ch. 25 (Fixed)	Ch. 25 (Fixed)	Ch. 25 (Fixed)	Channel 25	Ch. 25 (Fixed)	Ch. 25 (Fixed)	Ch. 25 (Fixed)	Ch. 25 (Fixed)	Ch. 25 (Fixed)	Ch. 25 (Fixed)
SD Track 26	Ch. 26 (Fixed)	Ch. 26 (Fixed)	Ch. 26 (Fixed)	Channel 26	Ch. 26 (Fixed)	Ch. 26 (Fixed)	Ch. 26 (Fixed)	Ch. 26 (Fixed)	Ch. 26 (Fixed)	Ch. 26 (Fixed)
SD Track 27	Ch. 27 (Fixed)	Ch. 27 (Fixed)	Ch. 27 (Fixed)	Channel 27	Ch. 27 (Fixed)	Ch. 27 (Fixed)	Ch. 27 (Fixed)	Ch. 27 (Fixed)	Ch. 27 (Fixed)	Ch. 27 (Fixed)
SD Track 28	Ch. 28 (Fixed)	Ch. 28 (Fixed)	Ch. 28 (Fixed)	Channel 28	Ch. 28 (Fixed)	Ch. 28 (Fixed)	Ch. 28 (Fixed)	Ch. 28 (Fixed)	Ch. 28 (Fixed)	Ch. 28 (Fixed)
SD Track 29	Ch. 29 (Fixed)	Ch. 29 (Fixed)	Ch. 29 (Fixed)	Channel 29	Ch. 29 (Fixed)	Ch. 29 (Fixed)	Ch. 29 (Fixed)	Ch. 29 (Fixed)	Ch. 29 (Fixed)	Ch. 29 (Fixed)
SD Track 30	Ch. 30 (Fixed)	Ch. 30 (Fixed)	Ch. 30 (Fixed)	Channel 30	Ch. 30 (Fixed)	Ch. 30 (Fixed)	Ch. 30 (Fixed)	Ch. 30 (Fixed)	Ch. 30 (Fixed)	Ch. 30 (Fixed)

SD Card Send (continued)	StudioLive SE 32 (continued)	StudioLive SE 24 (continued)	StudioLive SE 16 (continued)	StudioLive 64S (continued)	StudioLive 32S (continued)	StudioLive 32SX (continued)	StudioLive 32SC (continued)	StudioLive 32 (continued)	StudioLive 24 (continued)	StudioLIve 16 (continued)
SD Track 31	Ch. 31 (Fixed)	Ch. 31 (Fixed)	Ch. 31 (Fixed)	Channel 31	Ch. 31 (Fixed)	Ch. 31 (Fixed)	Ch. 31 (Fixed)	Ch. 31 (Fixed)	Ch. 31 (Fixed)	Ch. 31 (Fixed)
SD Track 32	Ch. 32 (Fixed)	Ch. 32 (Fixed)	Ch. 32 (Fixed)	Channel 32	Ch. 32 (Fixed)	Ch. 32 (Fixed)	Ch. 32 (Fixed)	Ch. 32 (Fixed)	Ch. 32 (Fixed)	Ch. 32 (Fixed)
SD Track 33	Main Left	Main Left	Main Left	Channel 33	Main Left	Main Left	Main Left	Main Left	Main Left	Main Left
SD Track 34	Main Right	Main Right	Main Right	Channel 34	Main Right	Main Right	Main Right	Main Right	Main Right	Main Right

14.3 Block Diagram

The block diagram for our StudioLive Series III mixers are too large to be included in this manual. Please visit our website for the latest Series III block diagram in Adobe PDF format.



14.4 Troubleshooting Information

Please check the PreSonus Web site (www.presonus.com) regularly for software information and updates, firmware updates, and support documentation, including frequently asked questions.

Online technical support is available to registered users through your My Fender account. Visit my.fender.com to register.

Fader Movements Have No Effect on Audio. Press the Main Mix button in the Mix Select section, then try moving channel faders up and down, to see if their movement affects the overall output volume, as shown by the main output meter. If not, make sure that your channels are assigned to the Main bus.

No Internal Effects in the Main Bus. Press the Aux button in the Metering section and verify the output levels of the internal FX buses. If the level is too low, use the effect return channel to increase the master level for the effects mix. Press the Select button for each FX bus and make sure it is assigned to the main output in the Assign section of the Fat Channel.

No Output on the Solo Bus While Monitoring. Verify that both the Solo volume and the headphone, or monitor, volume is at a reasonable level for comfortable listening. Make sure that you only have Solo selected in the Monitor section of your StudioLive.

Can't Hear Main Mix in Headphones. Verify that the Main mix is enabled as the source for the headphones and that the headphone output control is at a sufficient level.

Monitor Bus Controls Not Changing Routing. Verify that your monitors are connected to the Control Room outputs on the rear panel of your StudioLive, not the Main outputs.

Main Fader Doesn't Control Mix Level. Verify that your monitors are connected to the Main outputs on the rear panel of your StudioLive, not the Control Room outputs.

Added bonus: PreSonus' previously Top Secret recipe for…

Garfish Balls

Ingredients:

- 5 lbs ground garfish
- 4 white potatoes
- 1 large onion
- 2 celery stalks
- 1 bunch parsley
- 6 green onions
- 1 tsp cayenne pepper
- 1 tsp black pepper
- 2 tsp salt
- Flour

Cooking Instructions:

1. Peel potatoes and boil until tender. Set aside to cool.
2. Finely dice onion and celery and sauté in butter until tender. Set aside to cool.
3. Grind garfish in a meat grinder or food processor.
4. Mash potatoes with cooked vegetables.
5. Finely chop green onions and parsley.
6. Combine ground garfish with potato mixture, parsley, green onions, pepper, and salt. Mix well.
7. Form baseball-sized balls and set on a chilled cookie sheet.
8. Roll each ball in flour.
9. Heat 1/2-inch of cooking oil in skillet.
10. Set balls in cooking oil and flatten into patties with a spatula.
11. Cook for approximately 1-2 minutes and flip. Cook for another minute until cooked through.
12. Remove from oil and set aside to drain.
13. Serve with brown gravy over rice.

Serves 12

This recipe will make approximately 24 garfish balls. Balls can be frozen at step 8. Do not freeze cooked patties.

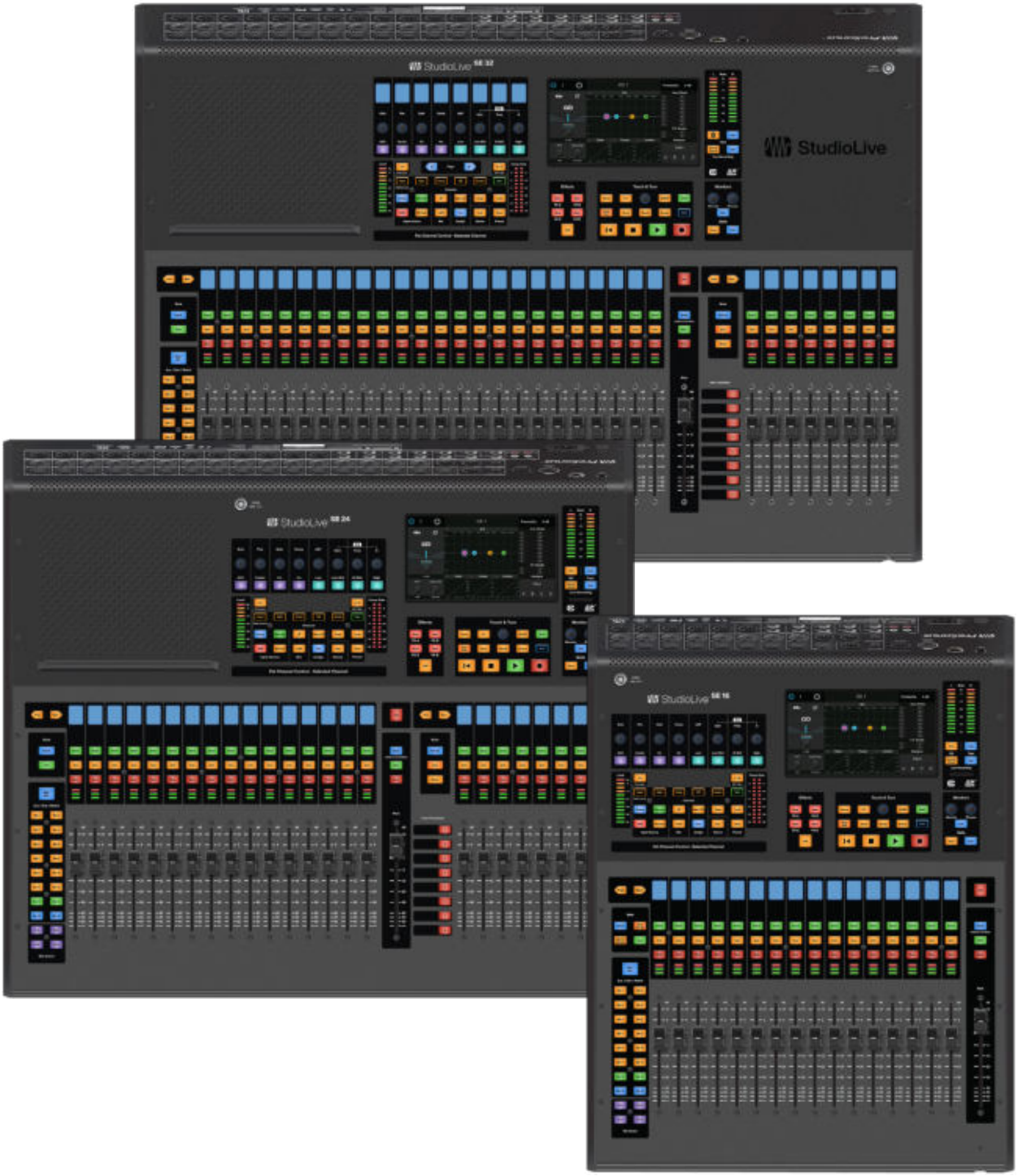
Garfish have a lot of bones that can be difficult to remove. It's recommended to request that it be deboned by your fish monger if possible. It can also be substituted for cod or whiting…but garfish is better.

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StudioLive® Series III SE Consoles

Digital Mixing Systems with Integrated Recording

Owner's Manual



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