Using Your StudioLive™ Mixer as an Audio Interface with Universal Control

Reference Manual

PreSonus®

www.presonus.com

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1.1   Introduction

Universal Control

StudioLive™ Series III and AI-series mixers are more than just powerful digital mixers, they are flexible multi-channel recording interfaces as well. While they offer many advanced, integrated features with Studio One, StudioLive mixers are the perfect companion to any DAW recording environment. Whether you're recording live or in the studio, or mixing track in- or out-of-the-box, your StudioLive will turn your studio into a professional recording and mixing environment.

1.2   About This Manual

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

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

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

- **StudioLive Series III console mixers:** StudioLive 16, StudioLive 24, and StudioLive 32

- **StudioLive Series III rack mixers:** StudioLive 16R, StudioLive 24R, and StudioLive 32R

- **StudioLive AI-Series mixers:** 16.4.2AI, 24.4.2AI, 32.4.2AI, RM16AI, RM32AI, RML16AI, and RML32AI

- **StudioLive AI-Series console mixers:** 16.4.2AI, 24.4.2AI, and 32.4.2AI

- **StudioLive AI-Series RM/RML mixers:** RM16AI, RM32AI, RML16AI, and RML32AI

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

Hardware Guides:

- **StudioLive Series III Console Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive Series III console mixer (StudioLive 32, StudioLive 24, StudioLive 16).

- **StudioLive Series III Rackmount Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive Series III rackmount mixer (StudioLive 32R, StudioLive 24R, StudioLive 16R).

- **StudioLive AI-Series Console Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive AI-Series console mixer (StudioLive 32.4.2AI, StudioLive 24.4.2AI, StudioLive 16.4.2AI).

- **StudioLive AI-Series Rackmount Mixer Owner's Manual.** Use this reference guide to understand all the hardware functions on your StudioLive AI-Series rackmount mixer (StudioLive RM/RML32, StudioLive RM/RML16).

Software Guides:

- **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.

- **UC Surface Reference Manual.** This guide describes the features and functions UC Surface with every StudioLive mixer model.

- **QMix-UC Reference Manual.** This guide describes the features and functions of QMix-UC with every StudioLive mixer model.

- **Capture 2 Reference Manual.** Included with StudioLive mixers is Capture, a digital-audio multitrack-recording application designed to make recording quick and easy.

- **Studio One Integration Reference Manual.** Studio One Artist is included with every StudioLive mixer. In addition to being a powerful DAW, Studio One provides unique routing and integration features. This manual will help you get the most from your StudioLive mixer when used with Studio One or Studio One Artist.

Additional Resources:

- **StudioLive Series III AVB Networking Guide.** This manual covers advanced AVB audio networking configuration for the StudioLive Series III mixers.

- **StudioLive Series III Stage box Mode Addendum.** The StudioLive Series III rackmount mixers (StudioLive 32R, StudioLive 24R, StudioLive 16R) can be used as advanced stageboxes for StudioLive Series III console mixers (StudioLive 32, StudioLive 24, StudioLive 16).

- **StudioLive Series III Studio One DAW Control Addendum.** StudioLive Series III console mixers (StudioLive 32, StudioLive 24, StudioLive 16) can be used to control Studio One and Studio One Artist.

1.3   Technical Support

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

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

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

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

Advanced troubleshooting guides can be found at http://answers.presonus.com/.

2   Universal Control
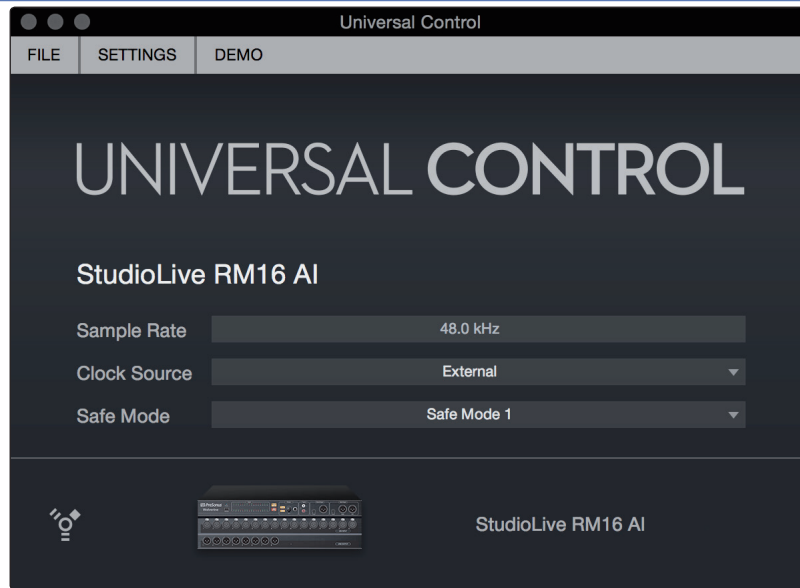
Universal Control is a single application that can communicate with any PreSonus audio interface product. Universal Control acts as the driver control panel, firmware updater app, and host application for UC Surface.

This single installer includes ASIO/WDM (Windows) and Core Audio (macOS drivers) for StudioLive AI-series mixers. StudioLive Series III mixers are class compliant devices and do not require a driver installation on macOS. UC Surface is also included in Universal Control installer.

PreSonus has designed the Universal Control installer to be as simple and easy to follow as possible, and it will take you through each step of the installation process. Please read each message carefully to ensure Universal Control, the StudioLive driver (if applicable), and UC Surface are properly installed. In particular, be careful not to connect your StudioLive to the computer too soon.

Please visit www.presonus.com for the latest system requirements and an updated list of compatible hardware. It is recommended that you check your recording software's system requirements.

Power User Tip: As part of our commitment to the quality of our products, PreSonus continually updates its product drivers and software. The latest version of Universal Control and all companion software accessory applications can be downloaded directly from your My PreSonus account as soon as you register your StudioLive mixer. My PreSonus is also your portal to support, the PreSonus Shop, and more. Download the My PreSonus app for iOS or Android on your mobile device and get updates about your product as soon as they are available.

2.1   Installation for Windows

Before beginning the Universal Control installation setup, please quit all applications, including antivirus software, and disconnect the StudioLive from your computer.
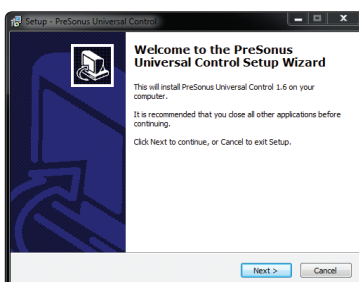
Follow the onscreen instructions to complete the installation. When the installer has finished, it will prompt you to reboot your computer.
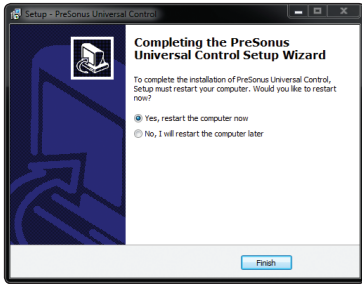
Click "Finish" to automatically restart your PC. Once your computer has rebooted, connect the StudioLive. When the Found New Hardware wizard launches, follow the "Recommended" steps.

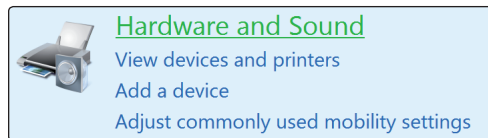Your StudioLive is now synced to your computer and ready to use!

2.1.1   Using the StudioLive for System Sound

You can configure your StudioLive mixer as the audio interface for computer system audio (for YouTube playback, Skype, etc.) from the System Preferences menu.
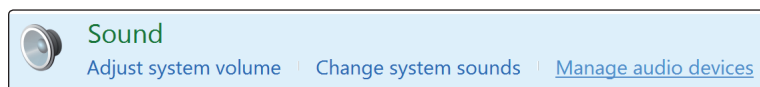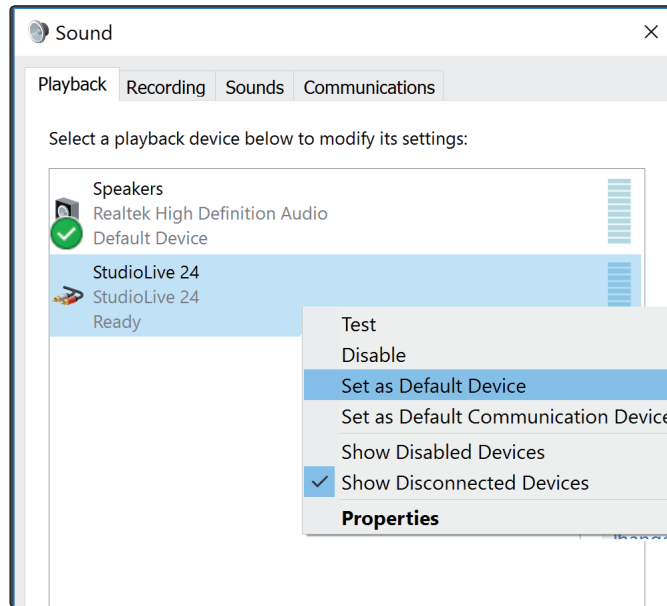
1. Open the Windows Control Panel.
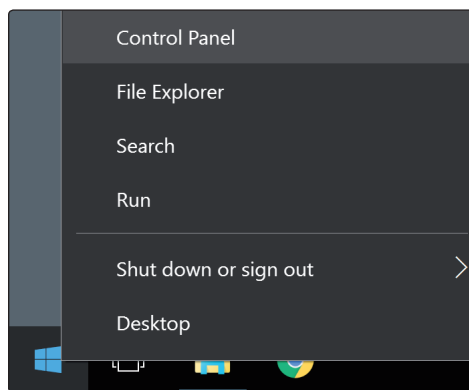
2. Click or Tap on Hardware and Sound.

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

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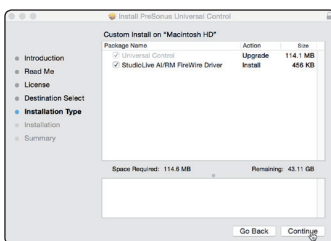

2.2   Installation for macOS

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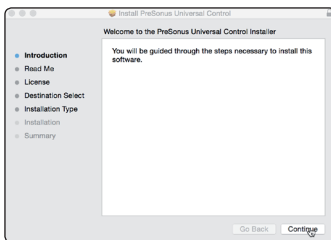

1. After launching the installer, you will be directed to the Welcome screen. Click "Continue" and follow the onscreen instructions.

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

    Whether you are connecting your StudioLive Series III mixer to your computer via USB or a LAN network, you do not need to install the FireWire driver.
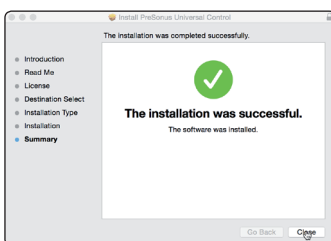
3. When the installation is completed, you will be prompted to reboot your computer. After your Mac has restarted, connect your StudioLive with the appropriate transport cable and power it on.


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

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

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2.2.1   Using the StudioLive for System Sound

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

1. Open System Preferences.
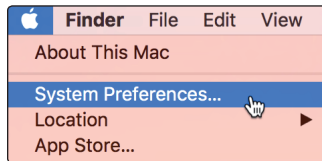
2. Open your System Sound Preferences.

3. Select your StudioLive mixer from the Outputs list. If you would like to use your StudioLive mixer for System input as well, select it from the Inputs tab as well.
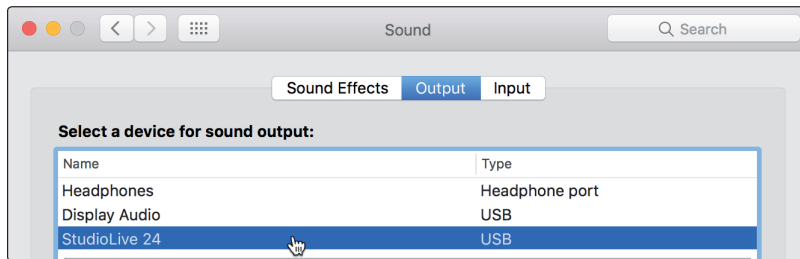
By default, your System sound will come back to Digital Returns 1 and 2. If you would like to change this, you can do so from Audio MIDI Setup.
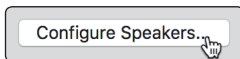
To change the output, click on the Configure Speakers button and select the output pair you would prefer to use.

2.3   Universal Control

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

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

Sample Rate (StudioLive AI-series). Changes the sample rate.

When connected to a StudioLive® AI-series mixer, the sample rate can be set to 44.1, 48, 88.2 or 96 kHz. A higher sample rate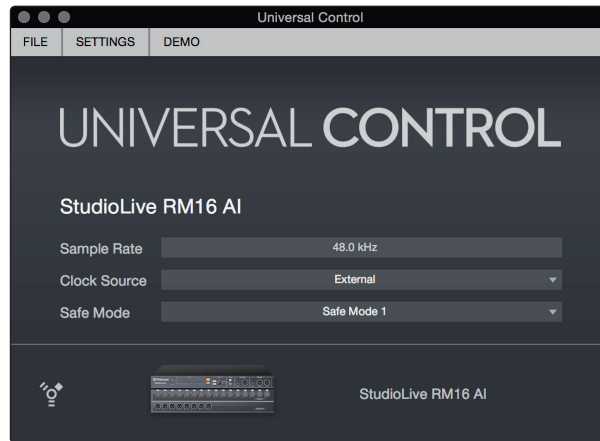 will increase the fidelity of the recording but will increase the file size and the amount of system resources necessary to process the audio.

When 88.2 or 96 kHz is selected, your StudioLive AI-series mixer will enter HD mode, and the following functions will be disabled:

• **Output Bus Fat Channel Processing.** Fat Channel processing on the Main, Aux, Subgroup, and FX buses.

• **FX B and FX D Buses and Processors.** Both the bus and processor will be disabled.

• **Cascading.** Mixers in HD mode cannot be cascaded.

• **AVB Audio.** AVB Audio is not available at these higher sample rates.

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

Block Size. Sets the buffer size.

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

A Note for StudioLive Series III users on Windows: When adjusting the block size, the Safe mode will automatically change to provide the best performance.
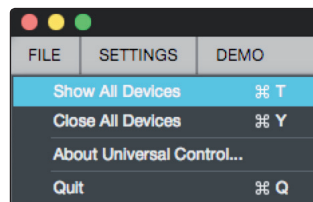
File Menu. Manages devices connected to Universal Control.

• **Show All Devices.** Launches all control windows for all supported devices connected to your computer's network or host transport (USB or FireWire).

• **Close All Devices.** Closes all open control windows.

• **About Universal Control.** Displays version and build date information.

• **Quit.** Quits the Universal Control application and all hardware control windows.
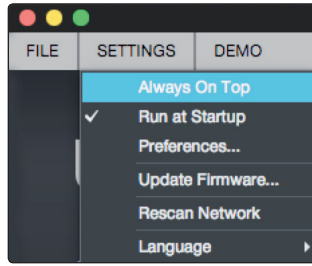
Settings Menu. Provide customization options to personalize your Universal Control experience.

- **Always on Top.** Keeps the Universal Control Launch window on top whether it is the currently active application or not.

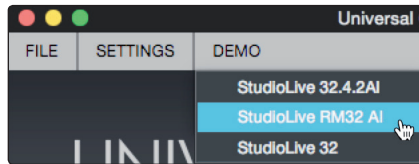- **Run at Startup.** Launches Universal Control automatically when your computer boots.

- **Preferences.** Sets language and appearance options (see below).

- **Rescan Network.** Scans the network and local transport bus (USB or FireWire) for all supported PreSonus products.

- **Language.** Sets the language (English, French, German, Korean, Simplified Chinese, or Spanish).

Demo. Allows you to launch a virtual connection to a StudioLive 32.4.2AI or StudioLive RM32AI.

Preferences. Sets language and appearance options.

- **General.** Sets the language preference for Universal Control and UC Surface.

- **Appearance.** Allows you to adjust the overall brightness of UC Surface. Choose between Default, Light, and Bright.

| Default | Light | Bright |

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

2.3.1   **TUIO Setup (macOS)**
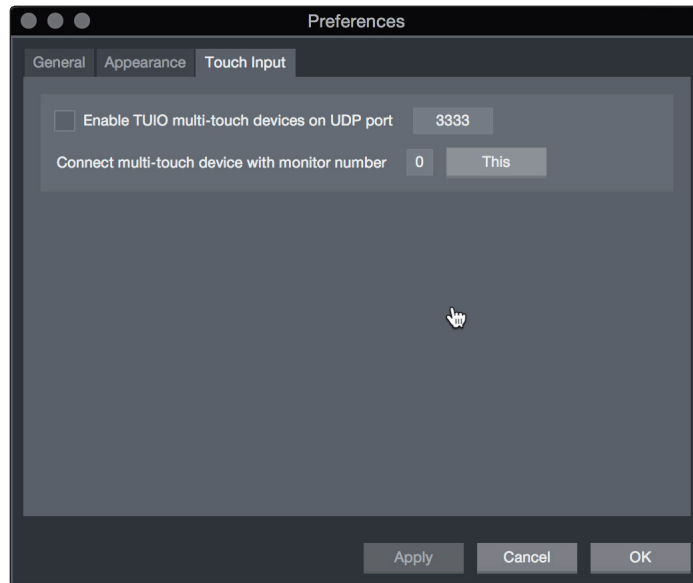
TUIO allows multi-touch displays to connect to macOS. If you would like to use a multi-touch display with your Apple computer, check the box next to "Enable TUIO."

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

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

3	**Using the StudioLive with Popular Audio Applications**

The section describes the basic driver-setup instructions for several popular audio applications. Complete setup instructions for PreSonus Studio One Artist and a brief tutorial on its features are located in the ***Studio One Integration Reference Manual for StudioLive Mixers***. If your audio application is not listed in this section, please consult your application's user documentation for information on selecting an audio device driver.

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

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

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

3.1	**Steinberg Cubase 4+**

1. Launch Cubase.

2. Go to Devices | Device Setup.

3. Select "VST Audio System" from the Devices column in the Device Setup.

4. Select StudioLive 32, StudioLive 32R, StudioLive 24, StudioLive 24R, StudioLive 16, StudioLive 16R, or PreSonus FireStudio from the ASIO Driver dropdown list.

5. Click "Switch" to begin using the StudioLive Driver.

6. Once you have successfully changed the driver, go to Devices | VST Connections to enable your input and output buses.

3.2	**Ableton Live 5+**

1. Launch Ableton Live.

2. Go to Options | Preferences | Audio.

3. Choose Driver Type: ASIO | Audio Device: StudioLive 32, StudioLive 32R, StudioLive 24, StudioLive 24R, StudioLive 16, StudioLive 16R, or PreSonus FireStudio

4. Go to Input Config : Enable and select the desired Input channels.

5. Go to Output Config : Enable and select the desired Output channels.

6. You may now select the StudioLive's inputs and outputs for each track created in Live.

3.3	**Apple Logic Pro/Express 7+**

1. Launch Logic Pro/Express.

2. Go to Logic | Preferences | Audio.

3. Click on the Devices Tab.

4. Select StudioLive 32, StudioLive 32R, StudioLive 24, StudioLive 24R, StudioLive 16, StudioLive 16R, or PreSonus FireStudio from the device menu.

5. You will be asked if you'd like to relaunch Logic. Click "try (re)launch."

6. Your StudioLive features custom I/O labels for faster work flow. To enable these labels for use in Logic, go to Options | Audio | I/O Labels.

7. The second column in the pop-up window will be named "Provided by Driver." Activate each of these labels for your StudioLive. When you are done, close this window.

8. You are now ready to use your StudioLive.

3.4   Avid Pro Tools 9+

1. Launch Pro Tools.

2. Got to Setup | Hardware and select StudioLive 32, StudioLive 32R, StudioLive 24, StudioLive 24R, StudioLive 16, StudioLive 16R, or PreSonus FireStudio from the Peripherals list. Click OK.

3. Go to Setup | Playback Engine and select StudioLive 32, StudioLive 32R, StudioLive 24, StudioLive 24R, StudioLive 16, StudioLive 16R, or PreSonus FireStudio from the menu at the top of the window. Click OK.

3.5   Cakewalk Sonar 6+

1. Launch Sonar.

2. Go to Options | Audio... and click on the Advanced tab.

3. Change the Driver Mode to "ASIO."

4. Click the "OK" button.

5. Restart Sonar.

6. Go to Options | Audio... and click on the Drivers tab.

7. Highlight all input and output drivers beginning with "StudioLive 32", "StudioLive 32R", "StudioLive 24", "StudioLive 24R", "StudioLive 16", "StudioLive 16R", or "PreSonus FireStudio"

8. Go to Options | Audio... and click on the General tab.

9. Set the Playback Timing Master to StudioLive 32...Channel 1", "StudioLive 32R... Channel 1", "StudioLive 24...Channel 1", "StudioLive 24R...Channel 1", "StudioLive 16...Channel 1", "StudioLive 16R...Channel 1", or "PreSonus FireStudio ... Channel 1"

10. Set the Recording Timing Master to "StudioLive 32...Channel 1", "StudioLive 32R... Channel 1", "StudioLive 24...Channel 1", "StudioLive 24R...Channel 1", "StudioLive 16...Channel 1", "StudioLive 16R...Channel 1" or "PreSonus FireStudio ... Channel 1"

4   Using the StudioLive as an Audio Interface

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

Any input and bus with a Select button, and, on some models the Solo bus, tape input, and talkback mic, can be recorded.

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

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

4.1   Digital Sends and Returns

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

- The StudioLive 32, StudioLive 32R, StudioLive 24, StudioLive 24R, and StudioLive 16 have 34 available sends and 34 returns.

- The StudioLive 16R has 18 available sends and 18 returns

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

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

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

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

4.1.1   Channel Digital Sends

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

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

Figure 1: StudioLive AI-series console
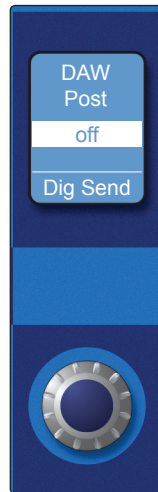
Figure 2: UC Surface

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Figure 3: StudioLive Series III console

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

4.1.2   Auxiliary Digital Sends (StudioLive AI-series)

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

- Main Mix Left / Right

- Subgroups

- Aux Mixes

- FX Send Mixes

- Stereo Aux Returns (console mixers only)

- Tape Input Left/Right

- Talkback Left/Right (console mixers only)

- Solo Left/Right

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

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

*Auxiliary Sends can be changed from UC Surface. **Please review the UC Surface reference manual for more information.***

4.1.3   Digital Returns

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

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

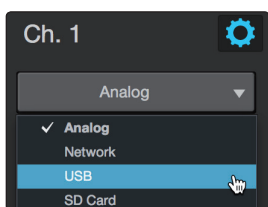*Figure 1: StudioLive AI-series console*

Figure 2: StudioLive Series III

Figure 3: UC Surface

4.1.4   Main Digital Return

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

*   These digital returns are selectable as the tape return source on both the StudioLive series III and StudioLive AI-series console mixers.

*   These digital returns are available as dedicated channels in each mix on StudioLive RM/RML mixers.

4.2   Using Plug-In Effects as Inserts

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

In this example, we will insert the Beat Delay plug-in from
PreSonus Studio One onto Channel 4 of the StudioLive.
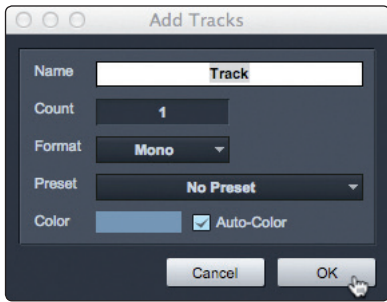
1. To begin, create a mono audio track in Studio One.

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

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

3. Once you have the routing set up in Studio One, drag-and-drop the Beat
    Delay plug-in onto your track and record-enable it. Software monitoring
   will be enabled automatically.
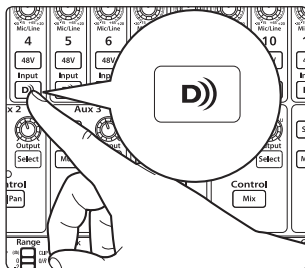
4. Enable the Digital Return on Channel 4 of your StudioLive. You can now
    monitor the analog signal from Channel 4 on your StudioLive with your
    inserted effect (in this case, Beat Delay).

    Power User Tip: *When using plug-ins as inserts, it is very important that you set
    as low a buffer size on your computer as possible without creating performance
    issues. For most new computers, this won't be an issue. A buffer size of 128 or less
    will provide low enough latency for most plug-in types; however, dynamics and
    EQ plug-ins and performance plug-ins such as amp-modelers may require lower
    latency settings. **See Section 4.1** for more information on buffer size settings.*
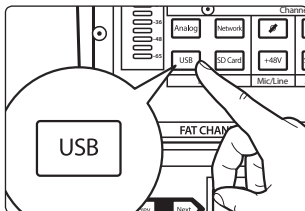
    Please note: *setting the buffer size too low on older or slower computers, or on a
    computer that has not been properly optimized, may result in poor
    performance. Always be sure to test the limits of your system before attempting
    CPU-intensive tasks in mission-critical situations.*
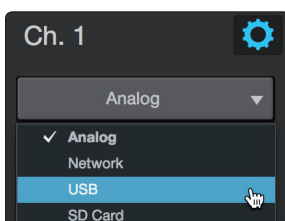
Added bonus: PreSonus' previously Top Secret recipe for…

Jambalaya

Ingredients:

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

Cooking Instructions:

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

Serves 20

Using Your StudioLive™ Mixer as an Audio Interface with Universal Control

Reference Manual

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