StudioLive™ ARc-Series

Audio Interface/Analog Mixer/Stereo SD Recorder

Owner's Manual



PreSonus® www.presonus.com

English

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1 Overview

1.1 Introduction



Thank you for purchasing a PreSonus® StudioLive™ ARc-series audio interface analog mixer, the world's most advanced analog recording system. PreSonus Audio Electronics has designed the StudioLive ARc-series mixers utilizing high-grade components to ensure optimum performance. Loaded with high-headroom XMAX microphone preamplifiers; a built-in USB-C™ compatible USB 2.0 recording and playback engine; parametric EQ on every channel; onboard Bluetooth™ playback; integrated stereo SD recording and playback; a multi-effects processor with a dedicated mix bus; monitor mixes; extensive LED metering; and more, StudioLive ARc breaks new boundaries for studio recording and live performance. All you need are a few microphones and cables, speakers, and your instruments, and you are ready to mix and record in the studio or in front of a live audience!

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.

For technical support, ***please see Section 9.1: Troubleshooting***.

1.2 About This Manual

We suggest that you use this manual to familiarize yourself with the features, applications, and connection procedures before using your StudioLive ARc-series mixer. This will help you avoid problems during installation and setup. This manual covers the hardware functions and features of all three StudioLive ARc-series mixers. When functional differences are called out, the AR16c will be mentioned first, followed by the AR12c, and then the AR8c.

Licenses and installers for Universal Control, Capture™ and Studio One® Artist can be found in your My PreSonus user account.

Throughout this manual you will find Power User Tips. These tips provide mixing tricks, some of which are unique to the StudioLive ARc mixers, as well as explanations of various audio terms. In addition, you will find an assortment of audio tutorials throughout this manual.

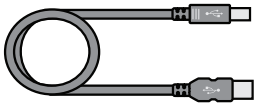
Thank you, once again, for buying our product. We are confident that you will enjoy your StudioLive ARc mixer!

1.3 What is in the Box

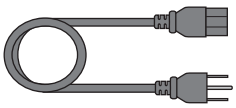
In addition to this manual, your StudioLive package contains the following:



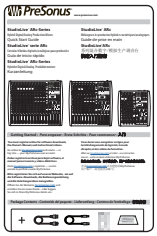
- PreSonus StudioLive AR16c, AR12c, or AR8c Audio Interface / Analog Mixer / Stereo SD Recorder



- 6-foot (1.8-meter), USB cable



- IEC power cord



- StudioLive ARc-series Quick Start Guide

1.4 What is in your My PreSonus Account

Once you register your StudioLive AR mixer at My.PreSonus.com, you will find the following software available for download in your user account:

- StudioLive ARc-Series Owners Manual
- Universal Control
- Capture multitrack-recording software
- Studio One Artist DAW software and bundled content

2 Getting Started

Before you begin, here are a few general rules of thumb:

- Always turn down the Main, Control Room, and Phones level controls before making connections.
- Before plugging or unplugging a microphone while other channels are active, mute the channel to which you are connecting.
- Channel levels 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 signal indicators and make sure the red Clip indication illuminates rarely, if ever. Clipping (overloading) the inputs can result in digital distortion, which sounds terrible.

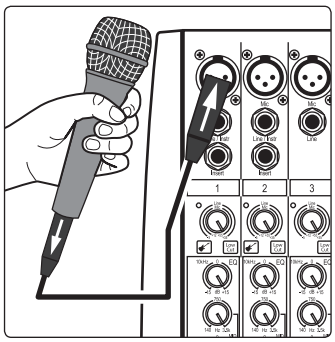
Warning: *Engaging phantom power or connecting sources without muting the channels can result in a very loud pop that can potentially damage your sound equipment. Always mute your channels before engaging Phantom power or connecting sources.*

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

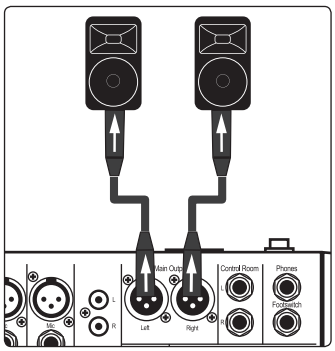
- Sound sources (keyboards, direct boxes, microphones, etc.) connected to the StudioLive ARc inputs
- StudioLive ARc mixer
- Computer (if applicable)
- Power amplifiers or powered monitors

When it's 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 some audio going!

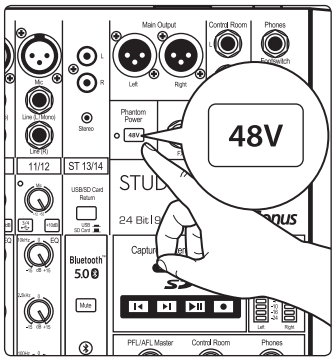
2.1 Level-Setting Procedure



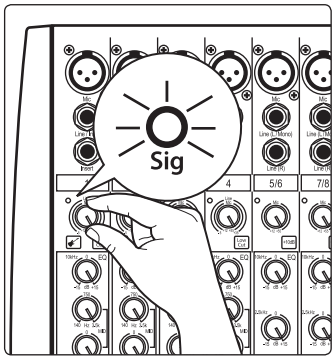
1. Grab a microphone and a mic cable and plug them into the Channel 1 mic input.



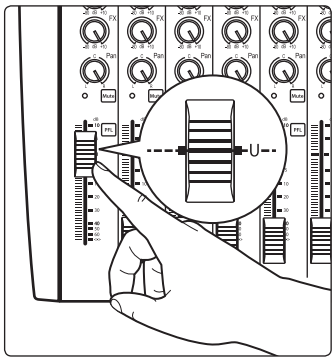
2. Connect the Main outputs of your StudioLive ARc to your power amplifier or powered monitors.
3. Bring down all the level controls on your StudioLive ARc to the lowest setting.
4. Make sure that the Mic/Line knob on Channel 1 is turned all the way counter-clockwise.
5. Plug your StudioLive ARc-series mixer into a power outlet and turn it on.



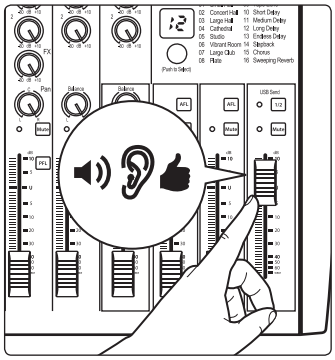
6. If your microphone requires phantom power, engage the 48V button on your StudioLive ARc mixer.
7. Turn on your amplifier or powered monitors.
8. Speak or sing into your microphone at approximately the same volume you expect during the performance.



9. Turn the trim knob on Channel 1 clockwise while watching the signal indicator. Adjust the Channel 1 trim knob until the signal/clip indicator is red, then back down until it is green and just below clipping at the loudest input level.



10. Raise the Channel 1 level control to unity gain (denoted with a "U").



11. Bring up the Main level until you can comfortably listen to your microphone through your speakers.
12. Sculpt the sound by adding EQ to taste.

3 Hookup

3.1 Connections and Controls

3.1.1 Inputs



Microphone Inputs. Your StudioLive ARc-series mixer is equipped with high-gain XMAX microphone preamplifiers for use with all types of microphones.



48-volt Phantom Power. The StudioLive ARc mixers provide global 48V phantom power for all microphone inputs.

WARNING: Phantom power is required for condenser microphones but can severely damage some dynamic mics, especially ribbon mics. Therefore, unless the manufacturer of your dynamic mics clearly states that phantom power will not damage them, you should use condenser mics only, with phantom power on, or dynamic mics only, with phantom power off.

Power User Tip: *Dynamic microphones and ribbon microphones are generally lower-output devices and require no external power source. The most important thing to note about ribbon microphones is that they very rarely require phantom power. In fact, unless a ribbon microphone calls specifically for phantom power, sending phantom power to it can cause severe damage. Condenser microphones are generally more sensitive than dynamic and ribbon microphones and typically require external +48V phantom power. Always review your microphone's documentation to ascertain the manufacturer's recommended operating practices.*



Line-level Inputs. Each channel of your StudioLive ARc-series mixer has a ¼-inch, balanced TRS connection for line-level input. Typical examples of line-level connections are synthesizer outputs, CD/DVD-player outputs, and (with exceptions) signal-processor inputs and outputs.

Note: *As with any mixer, plugging in a microphone or a line-level input device, or turning phantom power on or off, will create a momentary spike in the audio output of your StudioLive ARc mixer. Because of this, it is highly recommended that you mute or turn down the channel trim before changing connections or turning phantom power on or off. This simple step will add years to life of your audio equipment.*

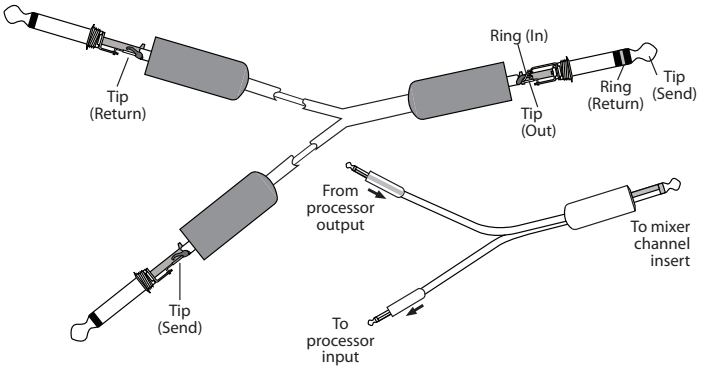


Instrument Inputs. Channels 1 and 2 are equipped with an input that can be switched between line and instrument. Use these ¼-inch connections for instruments that don't have internal preamps (guitar, bass, etc.). ***See Input Source button in Section 3.2 for more information***.

Power User Tip: *Active instruments have an internal preamp and a line-level output. This type of instrument should be plugged into a line input, rather than an instrument input. Plugging a line-level source into an instrument input risks damage to the input and results in a very loud and often distorted audio signal.*



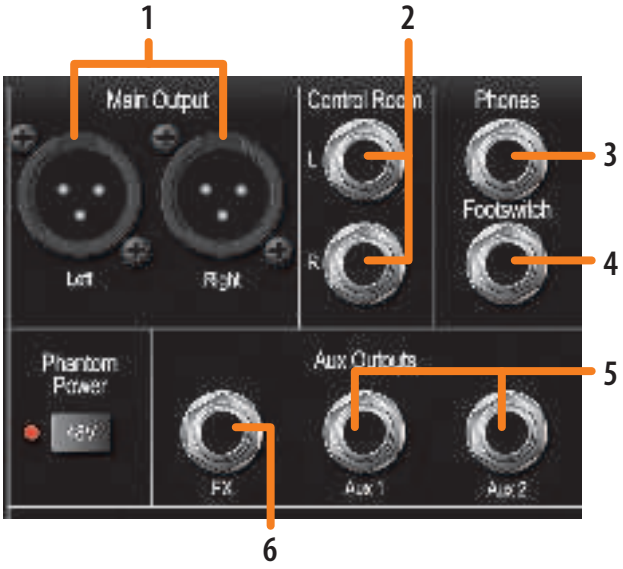
Insert (AR16c and AR12c). Channels 1 and 2 on the StudioLive AR16c and AR12c also have inserts. These unbalanced, ¼-inch connectors can be used to connect external processors (such as compressors, EQs, de-essers, and filters) to the channel inputs.



Insert-connector wiring:

Tip = send (output to inserted device)
Ring = return (input from inserted device)
Sleeve = common ground

3.1.2 Outputs



1. **Main.** The StudioLive ARc-series mixers feature with XLR main outputs.

2. **Control Room.** These are the balanced control-room outputs. The Control Room knob on the top panel controls the level.

3. **Phones.** This ¼-inch TRS connection is for use with headphones. The Phones knob on the top panel controls the level.

4. **Footswitch.** This connection allows you to use an external footswitch (not included) to mute the effects return.

   Power User Tip: *Your StudioLive will follow the behavior of the type of footswitch you use. A latching footswitch allows you to mute the effects return until you engage the footswitch a second time. A momentary footswitch will allow you to mute the effects return only while the footswitch is depressed.*

5. **Aux.** The StudioLive ARc-series mixers are equipped with 2/2/1 aux mix outputs. Aux mixes are routed to these outputs. ***See Section 3.4*** for more information on creating Aux mixes for monitoring.

6. **FX.** The FX send mix is routed to this output, allowing you to create an additional monitor mix. When this output is engaged, the internal effects processor is bypassed. More information about creating effects mixes and the effects processor can be found in ***Section 3.5***.

3.1.3 Rear Panel Connections



USB-C™ compatible connection. Use this port to connect your StudioLive ARc-series mixer to a USB port on your computer when using the mixer as an audio interface. ***See Section 5*** for further information. Your StudioLive ARc mixer is a USB 2.0 device and is compatible with nearly all USB connections.

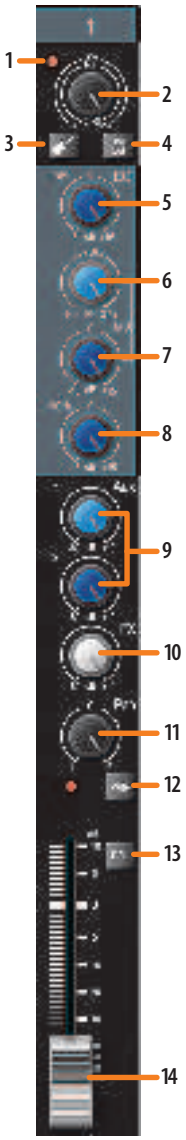


Power-input. Plug in the provided IEC power cable here.



Power switch. Push the top part of the switch to turn on your StudioLive ARc mixer. Push the bottom part of the switch to turn it off.

3.2 Channel Controls



1. **Input-signal indicator.** Each channel features an LED next to the trim control that illuminates green whenever an input signal is present. The LED color will change to red if the signal (pre- or post-EQ) reaches -3 dB.

2. **Input Gain control.** These knobs provide 43 dB of variable gain for mic inputs and 40 dB of variable gain for line inputs (mono channels only).

3. **Input Source button.** Channels 1 and 2 offer an Input Source button that lets you select instrument- or line-level for the ¼-inch inputs on these channels. Press this button to engage the instrument preamp when connecting guitars or a passive bass.

   Note: *Engaging the Instrument preamp will disable the microphone preamp on the XLR connection.*

4. **Low Cut Filter (Mono channels only).** When engaged, all frequencies below 100 Hz will be attenuated (cut) at a slope of -18 dB/octave.

Power User Tip: *Use the Low Cut filter to remove unwanted low-frequencies from your source signal, rather than trying to EQ them out.*



The stereo channels are equipped with a **+10 dB Boost**. When engaged, this raising the level of both the mic and the line inputs by +10 dB.

5. **High shelving EQ Gain control.** Sets the level of the high-band center frequency (10 kHz) from -15 to +15 dB.

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.*

6. **Mid peaking EQ frequency control (AR16c and AR12c, mono channels only).** Sets the center frequency of the Mid EQ. You can adjust the center frequency from 140 Hz to 3.5 kHz. This control is available on the Mono input channels only.

7. **Mid peaking EQ gain control.** Sets the level of the mid-band center frequency from -15 to +15 dB. The center frequency can be adjusted on the mono inputs of the AR16c and AR12c. All other inputs and the AR8c have fixed center frequency at 2.5 kHz.

8. **Low shelving EQ gain control.** Sets the level of the low-band center frequency (100 Hz) from -15 to +15 dB.

   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.*

9. **Aux sends.** These are the level controls for each channel to the corresponding aux mix. The AR16c and AR12c provide two aux mixes, and the AR8c provides one Aux mix. ***See Section 3.4*** for more information on using the aux bus to create a monitor mix.

10. **FX send.** This is the level control for each channel for the effects mix. ***See Section 3.5*** for more information on creating effects mixes.

11. **Pan.** This sets the channels position in the Main stereo mix.

    Power User Tip: *Panning can be a great way to achieve better separation in your main mix. Using pan in conjunction with level will allow you to create more definition and space between each channel's signal.*

12. **Mute button and indicator.** This button mutes its channel in all outputs. The LED to the left of it will illuminate red when the channel is muted.

13. **PFL (Pre-Fader Listen) button.** This button will solo its channel to the Control Room and Headphone outputs, pre-fader. When no PFL button is engaged, the Main mix is routed to these outputs.

    Power User Tip: *If you can't hear the main mix or a channel in your headphones, make sure that PFL is not engaged on an unused channel.*

14. **Channel level.** Controls the overall level of the channel.

3.2.1 Digital Returns



The last stereo channel (15/16, 11/12, 5/6) provides a digital playback streaming option. The Digital Return button routes playback streams 3 and 4 from your audio software to this channel. When engaged, the analog source will be bypassed; however, the signal will still be routed to the digital send so that it can be recorded or processed by a plug-in. For more information, ***see your StudioLive ARc-series Software Reference Manual*** in your My PreSonus account.

3.3 The Super Channel



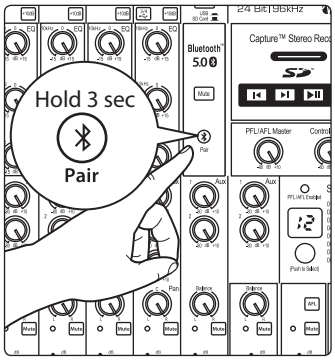
Each StudioLive ARc-series mixer features a unique Super Channel that allows you to connect several analog and digital sources at once so you can get the most out of your mixer.

1. **RCA inputs.** These unbalanced inputs allow you to connect a stereo line-level device, such as a Blu-ray player or karaoke machine.
2. **1/8-inch stereo input.** This is an unbalanced, stereo, 1/8-inch connection for line-level devices such as smartphones and tablets.
3. **USB / SD Card Return.** By default, playback for the onboard SD recorder is routed to the Super Channel. Engaging this button will route USB playback streams 1-2 to the Super Channel instead. More information on using your StudioLive ARc-series mixer as an audio interface can be found in the ***Section 5***.
4. **Bluetooth Mute.** Press this button to mute the Bluetooth source for your ARc mixer.
5. **Bluetooth pairing.** Use this button to pair your Bluetooth device with your ARc-series mixer. ***See Section 3.3.1 for pairing instructions***.

Power User Tip: *All available sources are summed into the Super Channel. Because this channel only selects line-level devices, the majority of which have onboard level controls, you can use this channel to expand the input flexibility of your StudioLive ARc-series mixer.*

3.3.1 Pairing a Bluetooth Device

To pair a new device to your StudioLive ARc-series mixer:



1. Press and hold the Bluetooth pairing button for three seconds.
2. The Bluetooth button will flash once every second.
3. Search for new Bluetooth devices from the device to which you'd like to pair (smartphone, tablet, etc).
4. Select "StudioLive AR16c/AR12c/AR8c" from the available Bluetooth devices list on the pairing device.
5. The Bluetooth button will illuminate solid when paired successfully.

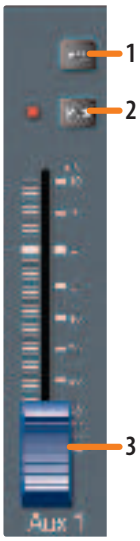
Note: *If previously paired, your StudioLive ARc mixer will connect automatically. The Bluetooth pairing button will flash rapidly (two to three times per second) while the Bluetooth module detects connected devices and will illuminate solid when it is successfully paired.*

3.4 Aux Buses

The aux bus provides outputs to route auxiliary mixes that are separate from the main mix. StudioLive ARc-series mixers are equipped with 2/2/1 aux buses, which have physical output jacks, and one internal effects bus.

Aux buses can be used for many applications, the two most common of which are creating monitor mixes and inserting external effects processors into the mix.

3.4.1 Monitor Bus Controls



1. **AFL button.** This button will solo the aux bus to the aux outputs after the fader.

   Power User Tip: *Using this control to listen in on a performer's monitor mix can be a great way to quickly dial in just the right amount of each signal and get to a great monitor mix more quickly.*

2. **Mute button.** This button will mute or unmute its aux bus. The LED to the left of it will illuminate red when the aux bus output is muted.

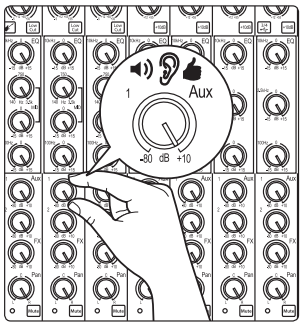
   Power User Tip: *Muting an aux bus output during performance breaks is a quick and easy way to prevent accidental signal spikes or feedback.*

3. **Output level.** Adjusts the master level of the aux output.

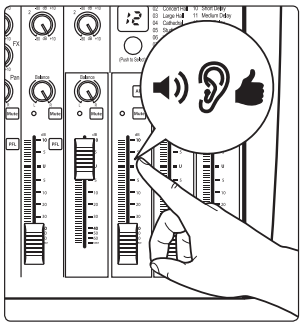
3.4.2 Creating Monitor Mixes

Creating custom monitor mixes is critical. If musicians can't hear themselves or their bandmates, their performances 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 is 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.

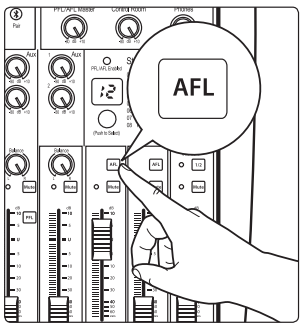
As an example, let's create a mix for Aux Bus 1:



1. The Aux 1 send control for each channel sets the send level in the Aux 1 mix. Use these knobs the same way that you use the output level controls to dial in your main mix. Ask your musicians what they would like in their monitor mix and use their requests as a starting point.



2. Use the Aux 1 Output control to adjust the overall output level.



3. Press the Aux 1 AFL button to listen to the mix through the headphone or control room outputs as you make final adjustments to the mix.

3.5 Internal FX Bus

Each StudioLive ARc-series mixer is equipped with an internal effects processor with 16 effects presets. This section will cover each preset, as well as how to add and use effects in your mix.

3.5.1 Effects Presets

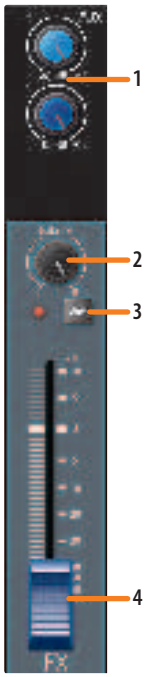


To select an effects preset, simply turn the encoder until the desired preset number is displayed and press the encoder.

Preset Descriptions and Uses

No.	Name	Description	When to Use
1	Small Hall	Adds a medium reverb time to emulate a small concert hall	• Gives vocals and instruments a "big" vibe • Adds a greater sense of space
2	Concert Hall	Emulates a large concert hall with softer surfaces	• Adds rich fullness to acoustic instruments and solo vocals
3	Large Hall	Provides long pre-delay and reverb time	• Gives acoustics instruments and vocals a "larger than life" feel
4	Cathedral	Emulates a large cathedral by adding long pre-delays and reflections	• Adds a rich, ethereal feel to any instrument
5	Studio	Emulates an acoustically treated studio room to provide a more intimate and warmer tone	• Soften harsh instruments • Gives vocals a lush vibe • Adds subtle ambience to a mix
6	Vibrant Room	Emulates the sound of large room with hard surfaces to provide many early reflections	• Adds life to a flat room • Helps a vocal or instrument stand out in a mix
7	Large Club	Warm and full reverb to emulate the sound of a large acoustic venue	• All purpose reverb for overall mixes
8	Plate	Emulates a vintage plate reverb by providing many early reflections without pre-delay	• Fattens up percussion and backing vocals
9	Tape Echo	This medium-length, clean delay emulates the traditional tape echo	• Great for vocals and guitars for a retro vibe
10	Short Delay	Provides 300 ms delay	• Helps a vocal or guitar cut through a mix
11	Medium Delay	Provides 380 ms delay	• Adds drama to a vocal or sample
12	Long Delay	Provides 480 ms delay	• Subtle, dreamy effect for vocals and instruments
13	Endless Delay	Combines a large room reverb with a long delay	• Because Purple Rain
14	Slapback	Adds a single, relatively quick delay of the original signal to emulate vintage tape-based delay units	• Vintage sound for guitars • Fun effect for vocals
15	Chorus	Plays with the phase of the signal to create a modulated, sweeping effect	• Good effect for electric guitar and key-boards for a vintage vibe
16	Sweeping Reverb	Adds a rich reverb to a chorus effect	• Thickens and enhances instruments

3.5.2 Internal FX Bus Return



The internal FX return allows you to adjust the amount of the effects output you would like in your main and monitor mixes.

1. **Aux sends.** These are the level controls for the effects output in each aux mix. The AR16c and AR12c provide two aux mixes; the AR8c provides one aux mix. ***See Section 3.4.2*** for more information on creating aux mixes.

2. **Balance.** This sets the FX return's position in the main stereo mix.

3. **Mute button.** This button will mute or unmute the FX return. The LED to the left of it will illuminate red when the monitor output is muted.

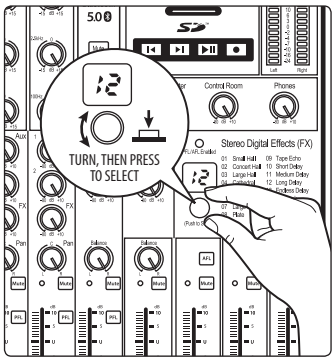
   Power User Tip: *Mute the FX return during performance breaks while the band is speaking to the audience to create a more professional show.*

4. **FX level.** Adjusts the master level of the effects output in your main mix.

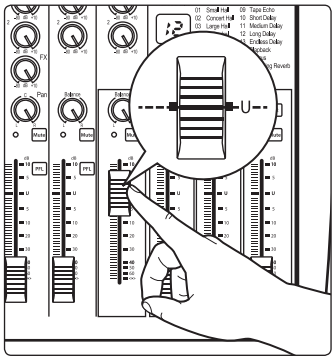
3.5.3 Creating Internal Effects Mixes

There are at least two main advantages to creating an effects mix, rather than inserting an effect in 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 create a cohesive sound in your mix. The second advantage of creating an effects mix is that 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.

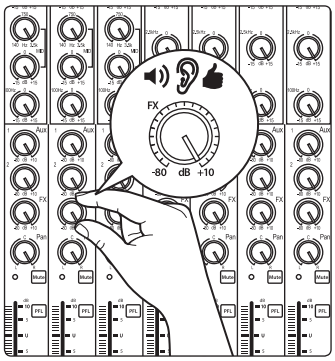
Your StudioLive ARc-series mixer's internal effects bus is used much in the same way the monitor buses are used to create monitor mixes.



1. To begin, select the effects preset you would like to use by turning the Effects encoder to the desired number and pressing the encoder.



2. Raise the FX return output level to unity.



3. Use the FX send controls on each channel the same way that you use the faders to set the output level to your main mix. The higher a channel's level is in the effects mix, the more processed ("wetter") it will sound.

   Let's say that you are using reverb to liven up a relatively dead room. You might send a little bit of each input to the reverb, but you probably will not want much of the drums and bass to be processed, as too much reverb could reduce their impact and leave your mix without a sturdy foundation. So rather than turning the FX-send level for the kick drum channel all the way up, turn it to the 8 or 9 o'clock position, so that its saturation is between 20% and 30%. This way, only a small portion of the kick-drum input will be affected by the reverb.

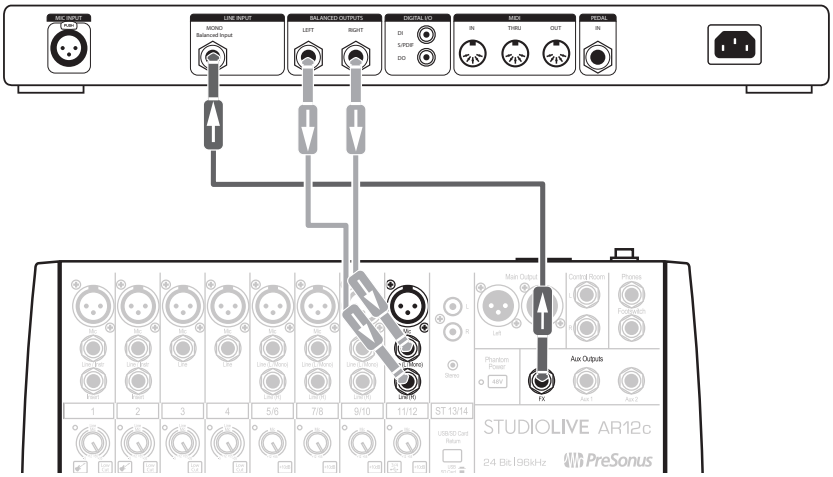
4. Use the FX return level fader to increase or decrease the overall effects mix in the Mains to taste.

5. To send the FX return mix to a monitor mix, adjust the FX return's monitor send control to taste.

3.5.4 Using an External Effects Processor

This section will detail how to use an external effects processor, bypassing your StudioLive ARc mixer's internal processor.

1. To begin, connect the FX output to the input of your external effects processor and connect the outputs of your processor to a stereo channel on your StudioLive ARc mixer.



2. Turn up the output level of the stereo channel to unity.

3. Use the FX send controls on each channel the same way that you use the faders to set the output level to your main mix. The higher a channel's level is in the effects mix, the more processed ("wetter") it will sound.

4. Use the stereo channel's Level control to increase or decrease the overall effects mix in the Mains to taste.

5. To send the FX return mix to a monitor mix, adjust the stereo channel's monitor send control to taste.

Power User Tip: *You can also use the FX output to create an additional monitor mix when multiple monitor mixes are of greater importance than adding effects.*

3.6 Master Section Controls



1. **USB 1-2 Send.** By default, the main mix can be recorded to your computer on the last USB send pair (17-18 / 13-14 / 7-8). If you are only recording the main mix on your computer, engaging the USB 1-2 Send button will simplify setup in most situations.

   Note: *When this button is enabled, Channels 1 and 2 cannot be recorded individually, although they will still be a part of the Main mix.*

2. **Main Mute button.** This button will mute or unmute the Main bus. The LED to the left of it will illuminate red when the main outputs are muted.

   Power User Tip: *Muting the main mix during performance breaks is a quick and easy way to prevent accidental signal spikes or feedback.*

3. **Output-level control.** Adjusts the master level of the Main output.



4. **Main output meters.** These peak meters display the output levels of the main stereo bus. These meters are scaled from -24 to +15 dBu. For best performance, the highest level of your mix should stay between the "0" and "+6" indicators.

   Because the StudioLive ARc mixer main outputs are electrical, rather than digital, it is more advantageous to meter them relative to voltage. The Main meters display signals from -24 to +15 dBu (-42 to -3 dBFS). This means that if you play back a digital signal over USB or from the SD card at -18 dBFS, it will register in the Main meters as 0 dBu. Conversely if you record a signal over USB that registers at 0 dBu in the Main Meters, it will display at -18 dBFS in any application that meters in dBFS.

3.6.1 Control Room Levels

StudioLive ARc-series mixers feature a headphone output and control-room outputs, allowing you to listen to the main mix and the Solo bus. Whenever a channel is soloed, it will automatically be routed to the control room and headphone outputs. When no channel is soloed, the main mix will be heard through these outputs.

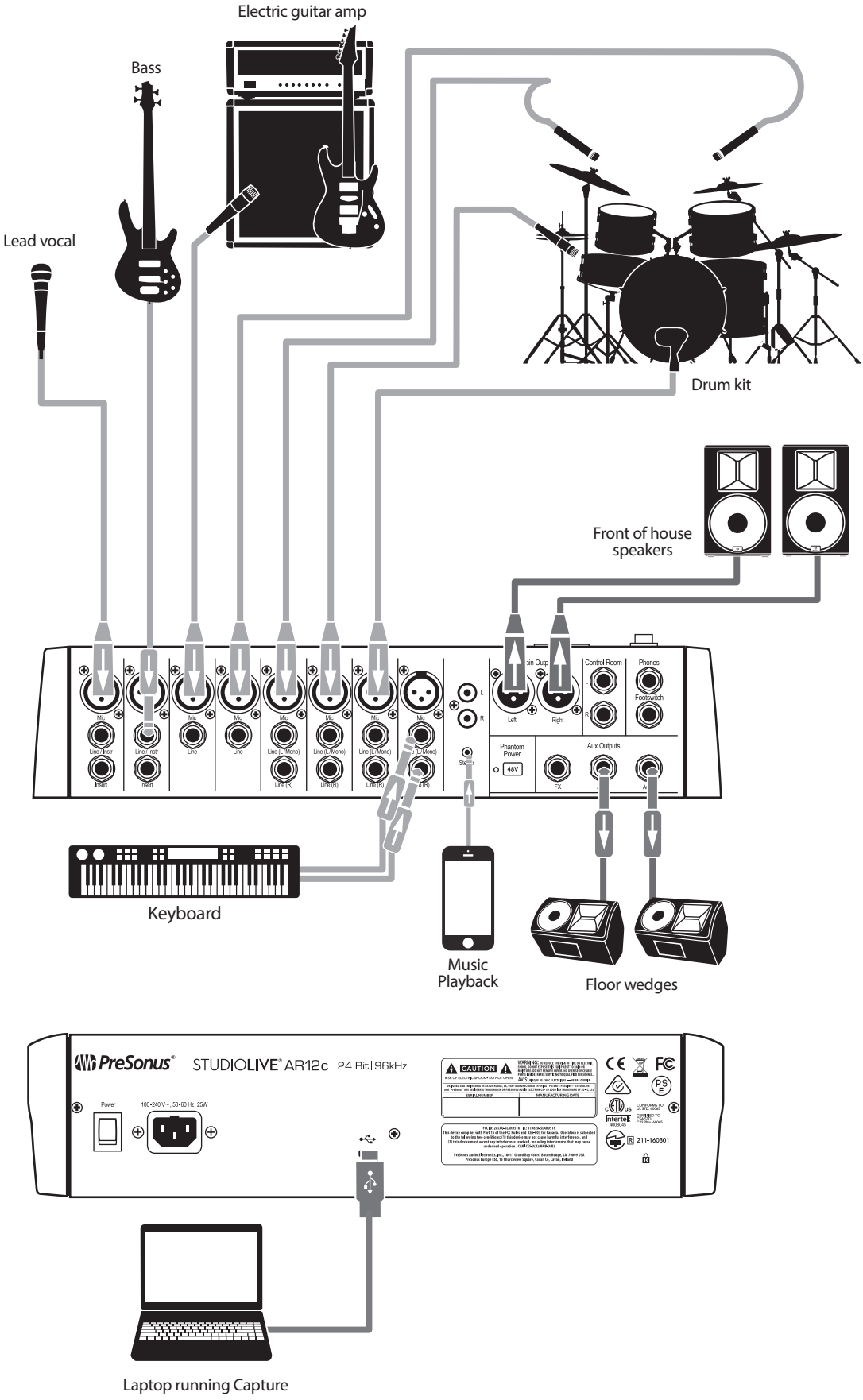


1. **PFL / AFL Master knob.** Adjusts the overall level of the Solo bus.

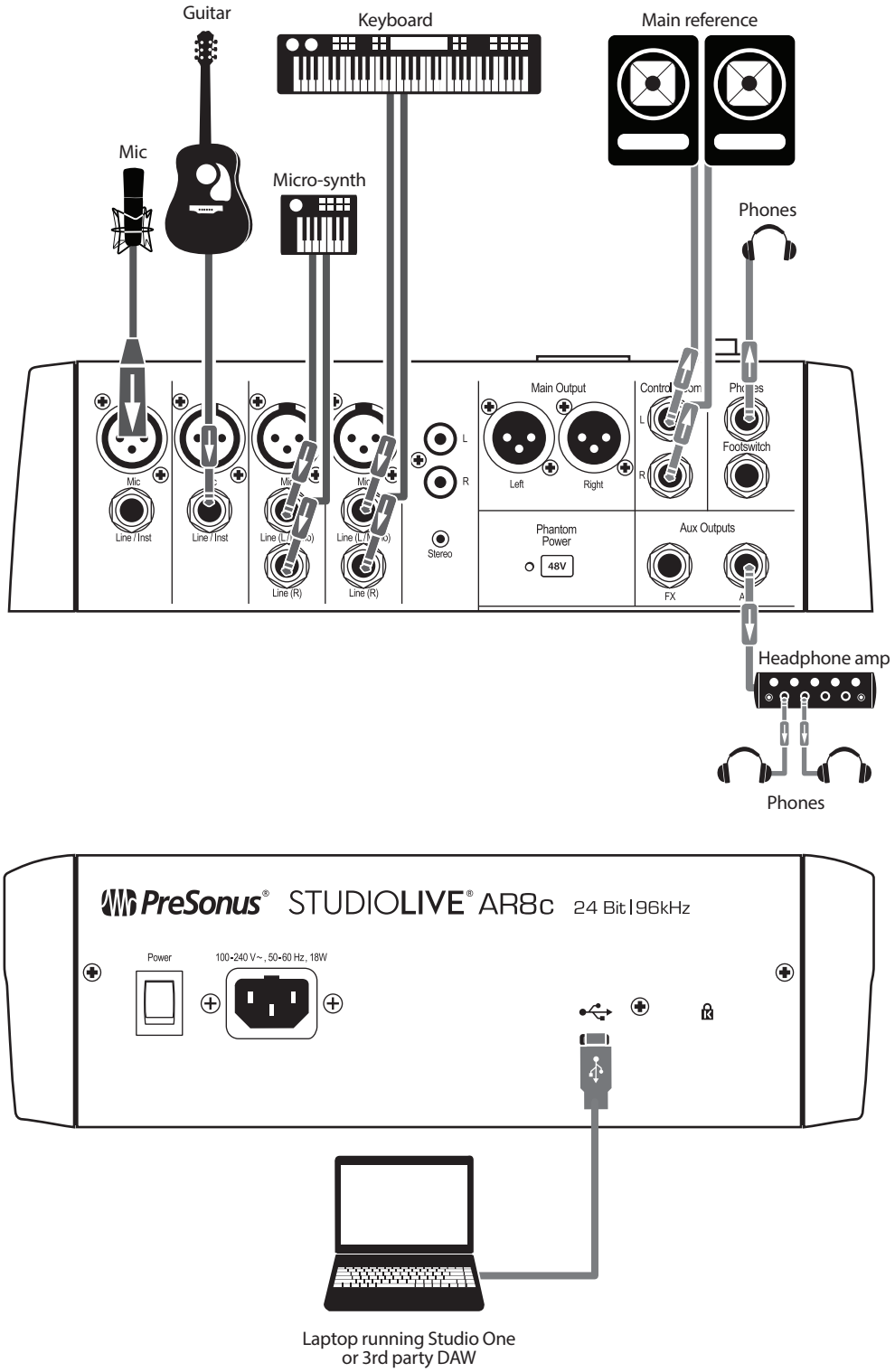
2. **Control Room knob.** Adjusts the overall level of the control-room monitor outputs.

3. **Phones knob.** Adjusts the overall level of the headphone output.

3.7 Typical Band Setup Diagram



3.8 Typical Home Studio Setup Diagram

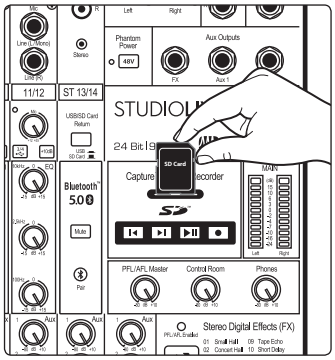


4 SD Recording and Playback

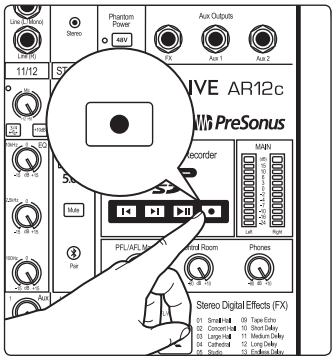
StudioLive ARc-series mixers are equipped with an onboard stereo SD recorder that allows you to record the main mix as a stereo WAV file to any FAT16-formatted SD card or FAT32-formatted SDHC card. You can also load stereo WAV and MP3 files onto an SD or SDHC card to play audio during a show.

4.1 SD Recording

This section explains on how to record the main mix as a stereo WAV file:



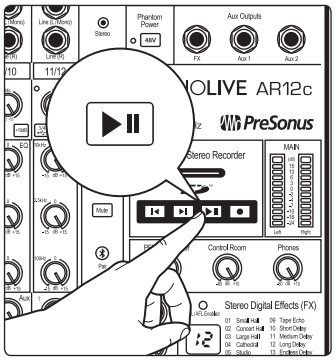
1. Insert a FAT16-formatted SD card or FAT32-formatted SDHC card into your StudioLive ARc mixer. An SD card will provide up to 2 GB of storage space. An SDHC card will provide up to 32 GB.



2. Press the Record button.

3. Recording will begin when the Play/Pause and Record buttons are both illuminated.

   If no SD card is recognized, the Record button will flash three times.



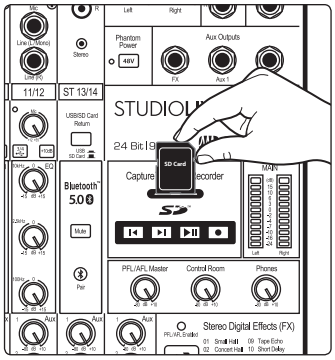
4. Press the Play/Pause button to stop the recording.

   Once complete, you can transfer your recordings onto your computer by inserting the SD card into your computer's SD card reader and copying the files to your computer's hard drive. Each file will be labeled with an "SL-ARc" heading, followed by a number.

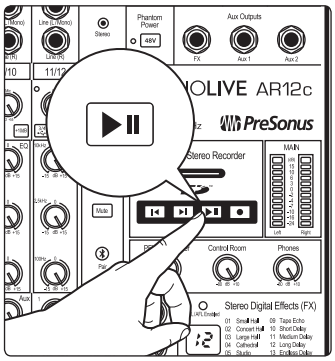
4.2 SD Playback

Playing files from the SD card is a great way to listen to a performance right away, and it can be useful during a performance. SD cards can be preloaded with backing tracks for performance or rehearsal. Or load an SD card with your favorite break music and never be caught without the right adapter or cable again.

To play audio from your SD recorder:

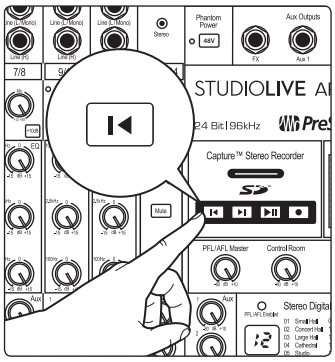


1. Insert into your StudioLive ARc mixer a FAT16-formatted SD card or FAT32-formatted SDHC card that has been pre-loaded with WAV or MP3 files or that you have recorded to using your StudioLive ARc mixer.

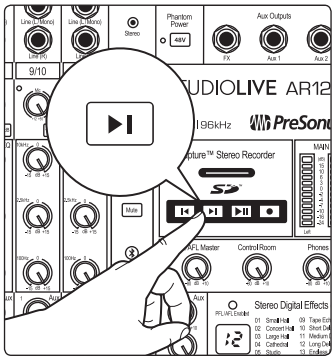


2. Press the Play/Pause button. The current stereo audio file will begin to play at the last position. Playback will continue through all files, in alphanumeric order, until the end of the last file has been reached; then playback will stop automatically.

3. Press the Play/Pause button again to pause playback at the current file position.



4. Press the Return to Zero button to restart the current audio file. Press again to move to the beginning of the previous file.



5. Press the Go to End button to advance playback to the end of the current audio file. Press again to move to the end of the next file.

5 Connecting to a Computer

Connecting your StudioLive ARc mixer to your computer is quick and easy. For Mac users, just connect your mixer to a free USB connection on your computer and you're ready to go. For Windows users, you must first install Universal Control. This will install both the ASIO/WDM driver and the control panel for your StudioLive ARc-series mixers. We made this installer as simple and easy to follow as possible, and it will take you through each step of the installation process. Please read each message carefully to ensure the StudioLive driver and the control panel are properly installed. In particular, be careful not to connect your StudioLive mixer to the computer too soon.

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

Power User Tip: *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.*

5.1 Installation for Windows

Before beginning the installation setup, please quit all applications, including antivirus software, and disconnect the StudioLive mixer 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!

5.1.1 Universal Control (Windows only)



Sample Rate. Changes the sample rate.

You can set the sample rate 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.

Safe Mode. Adjusts the Input Buffer Size.

These modes allow you to adjust the input buffer size to optimize performance for your computer.

When adjusting the safe mode, the block size will be adjusted automatically to provide the best performance.

Block Size. Sets the buffer size.

From this menu, you can set the buffer size from 16 to 4,096 samples (Mac), or 64 to 8192 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.

Note: *When adjusting the block size, the Safe Mode will automatically change to provide the best performance.*

5.1.2 Loopback Recording (Windows only)

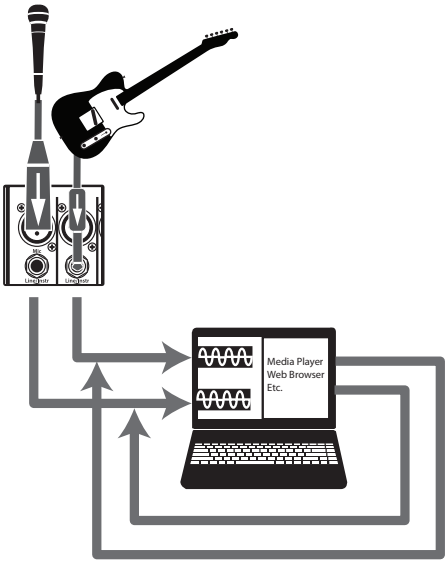
The windows drivers for the StudioLive ARc-series mixers provide two virtual streams that allow you to record the output of on audio application in another application. Loopback can be useful in a variety of situations:

- Recording the audio from a video game or YouTube video for a podcast or livestream.
- Recording a vocal in real time over a karaoke track played from a web browser or media player.

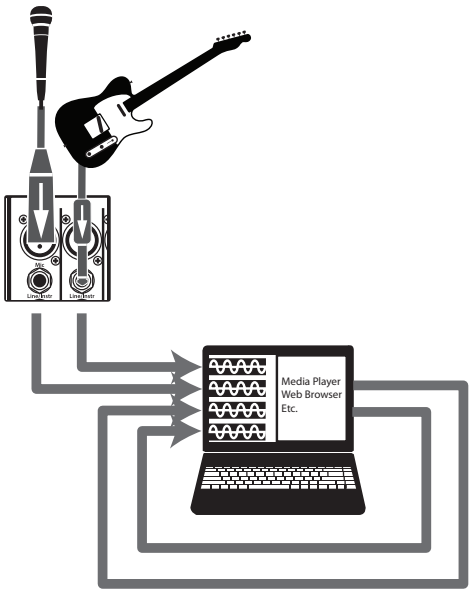
Power User Tip: *Because the StudioLive ARc-series mixers are class compliant Core Audio devices, these virtual streams are not available in macOS. However, there are several third-party applications that provide this functionality in macOS.*

From Universal Control, you can enable or disable Loopback and pick the streams on which the loopback audio will be recorded.

When Loopback is enabled and "Merge Loopback with 1/2" is selected, the audio from another application will be recorded with the audio source connected to analog inputs 1 and 2 on your StudioLive ARc-series mixer.



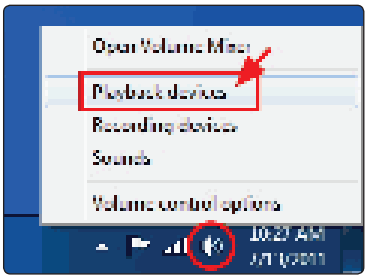
When Loopback is enabled and "Dedicated Loopback Inputs" is selected, the audio from another application will be recorded on the last pair of driver inputs (AR8c: 9/10, AR12c: 15/16, AR16c: 19/20).



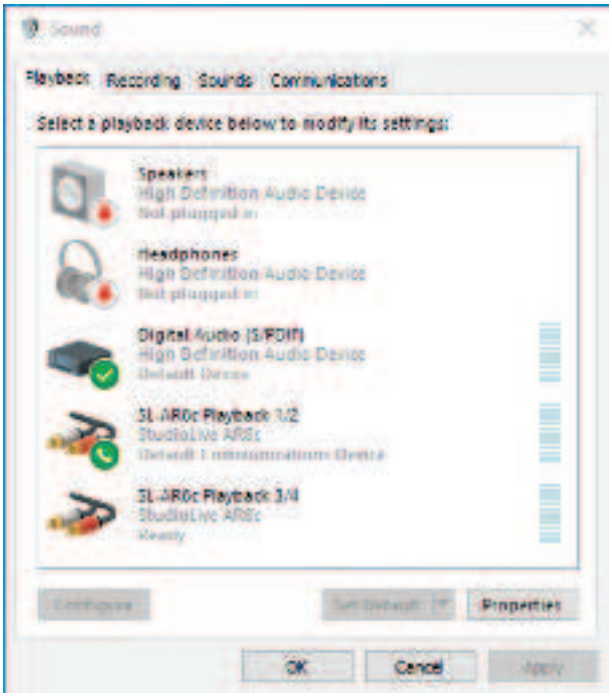
Power User Tip: *When using either option, you will need to select Outputs 1 and 2 in the audio application your want to record. Make sure to select Outputs 3 and 4 in the audio application in which your recording to avoid a feedback loop.*

5.1.3 Using the StudioLive for System Sound

Click on the small speaker icon in the bottom right corner of the screen and select "Playback Devices."

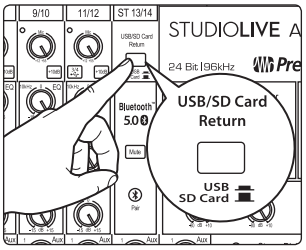


Select StudioLive ARc playback channels 1/2. This will route your system audio to the USB return on the Super Channel of your mixer. Select "Set Default" at the bottom of the screen and click OK.



Now that your StudioLive ARc-series mixer is setup as the default playback device for your computer's operating system you can use it for basic playback from your computer via your media player or from your Internet browser.

To playback system audio from your computer through your mixer, press the USB/SD Card Return button on the Super Channel and make sure it is in the down position.



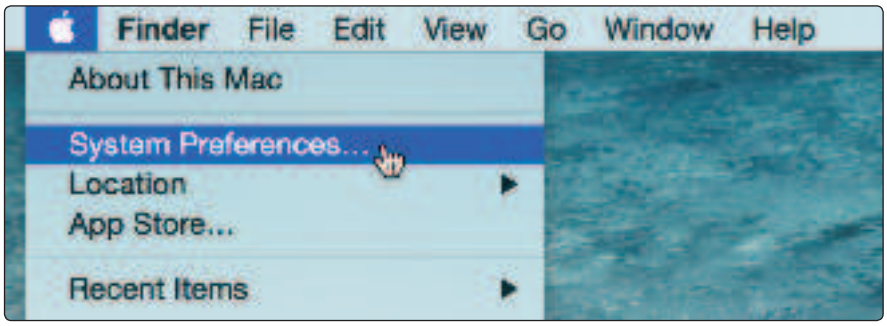
5.2 Installation for macOS

The StudioLive ARc mixers are class compliant audio devices in macOS. No installation is required. Just connect your mixer to a free USB connection

5.2.1 Using the StudioLive for System Sound

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

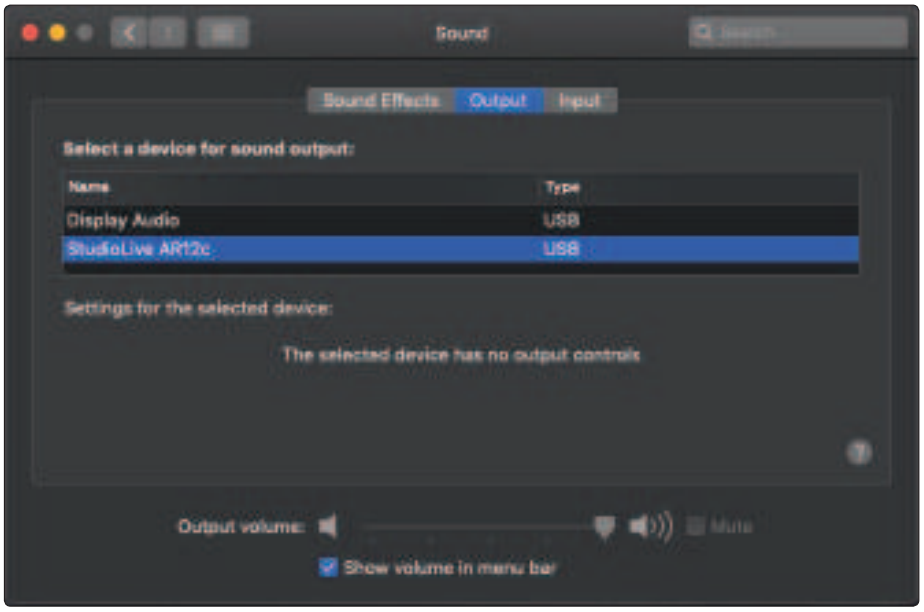
1. Open System Preferences

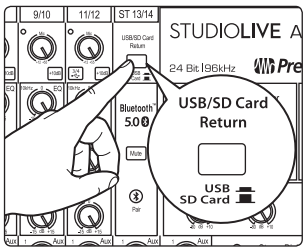




2. Open your System Sound Preferences

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





To playback system audio from your computer through your mixer, press the USB/SD Card Return button on the Super Channel and make sure it is in the down position.

5.3 Using the StudioLive with Popular Audio Applications

Below are basic driver-setup instructions for several popular audio applications. Complete setup instructions for PreSonus Studio One Artist and a brief tutorial on its features are located in **Section 7** of this manual.

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 PreSonus FireStudio from the ASIO Driver dropdown list.
5. Click "Switch" to begin using the StudioLive Driver.
6. Once you have successfully changed the driver, go to Devices | VST Connections to enable your input and output buses.

Ableton Live 5+

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

Apple Logic Pro/Express 7+:

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

Avid Pro Tools 9+

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

Cakewalk Sonar 6+

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

5.4 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 USB I/O is designed to work as an independent bus. You can route (send) signals from other buses to the USB bus, and its output (return) signal is hard-coded to designated mixer channels.

The StudioLive AR8c has 8 available sends and 4 returns.

The StudioLive AR12c has 14 available sends and 4 returns.

The StudioLive AR16c has 18 available sends and 4 returns.

5.4.1 Digital Sends

Each Mono and Stereo channel on the StudioLive ARc-series mixer has its own digital send. This allows you to record every channel input on its own track in Capture, Studio One Artist, or your favorite Core Audio and ASIO audio application.

The Main bus also features its own digital send on the final pair of digital sends (AR8c: 7/8, AR12c: 13/14, and AR16c: 17/18).

Note: *In Windows, these sends are the second to the last pair. The last pair of driver inputs are reserved for loopback functionality.* ***See Section 2.1.2*** *for more information.*



The Main bus can also be recorded on the first two digital sends by engaging the USB send 1/2 button on your StudioLive ARc-series mixer. When this button is engaged, Channels 1 and 2 cannot be recorded independently, but they will be recorded as part of the Main Mix. This is a great option for recording rehearsals and podcasts.

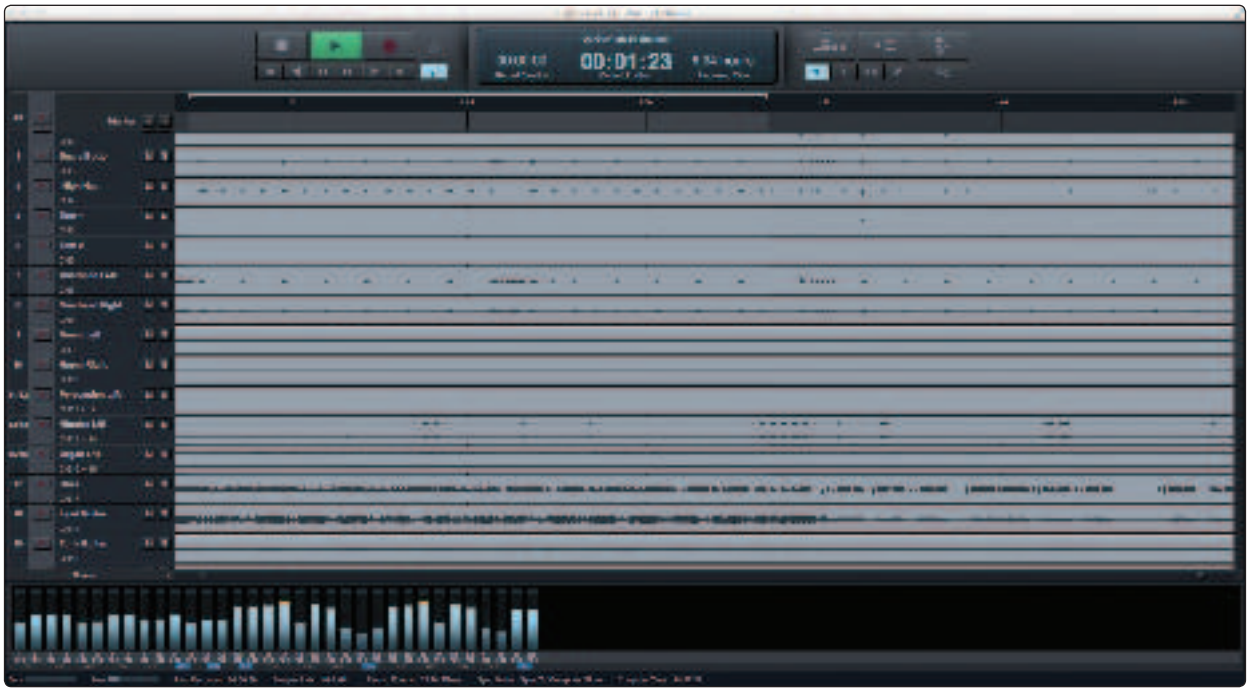
5.4.2 Digital Returns



The last two stereo channels on the StudioLive ARc mixers are hard-coded to receive two stereo digital returns. Digital returns 1/2 are available on the Super Channel, Digital returns 3/4 are routed to the last stereo channel (AR8c: 7/8, AR12c: 13/14, and AR16c: 17/18). Outputs 1 through 4 in your recording application route these playback streams to these channels on the StudioLive (that is, the software's Outputs 1/2 always go to StudioLive ARc Super Channel and Output 3/4 always go to the last stereo channel). 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.*

6 Capture 2



PreSonus® Capture™ 2.0 is a multitrack digital-audio recording application designed to make recording with StudioLive™ mixers quick and easy. With the look and feel of a digital multitrack hard-disk recorder, it is instantly familiar. It uses the same high-quality audio engine as PreSonus' groundbreaking Studio One® DAW, and its Session files can be opened directly in Studio One—no conversion or exporting required.

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

6.1 Installation Instructions

6.1.1 macOS

Installing Capture 2 on macOS machines is as simple as drag-and-drop.



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



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



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

6.1.2 Windows

The Windows installer for Capture 2 was designed with easy-to-follow onscreen instructions to make the installation process quick and simple.



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



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



3. By default, Capture 2 will install in the Program Files folder on your computer. It is highly recommended that you do not change this default location. Click "Install."



4. Once Capture 2 has been successfully installed on your computer, you can click "Finish" to exit the install wizard. You're ready to start recording!

6.2 Start Page

You will be taken to the Start page when Capture 2 is launched. The Start page allows you to create a new Session, open a Session stored on your computer, view recent Sessions, and verify that your StudioLive is properly communicating with its driver. In addition, you can begin recording instantly by just clicking the Record Now button.

6.2.1 Tagging and Organizing a Session



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

These tags also help to keep your files organized. Rather than throwing every Session into a single folder, all tagged Sessions will automatically be put into an organized folder hierarchy. By default, Capture 2 inserts the date of performance and creates subfolders. These options can be changed in the Options menu, ***see Section 6.2.5*** for details.

By default, the folder tree is Artist/Performance/Location. This structure is useful for regularly gigging bands that want to archive performances (e.g., Artist: PreSonus All Stars, Performance: Winter Tour 2017, Location: Baton Rouge – Manship Theatre). However, Capture 2 doesn't limit you to this folder structure. You can change the folder hierarchy from the Options menu. Here are other available Name Schemes:

- **Location/Artist/Performance.** This Name Scheme is especially useful for venue owners who are archiving the performances on their stage (e.g., Location: Manship Theatre/PreSonus All Stars/Winter Tour 2017.
- **Location/Performance/Artist.** Use this Name Scheme when recording an entire festival (e.g., PreSonuSphere/Stage 1/PreSonus All Stars).



As you archive your performances, Capture 2 stores a history of the names you have entered into each field. To use a name again, simply click on the pull-down menu for that field and select it from the list.



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



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

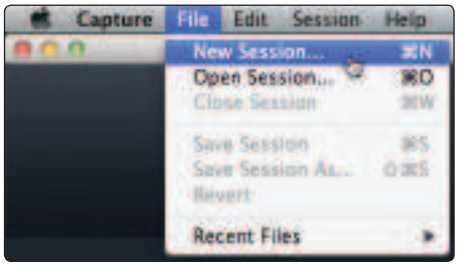
6.2.2 Creating a Session



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

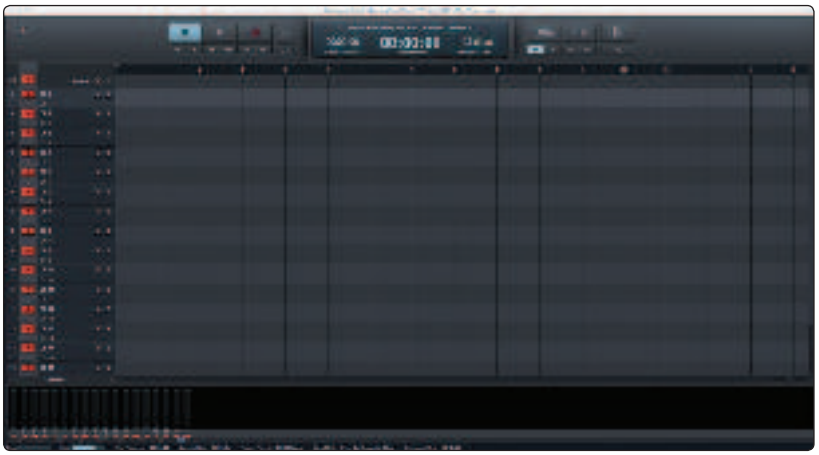
Power User Tip: *A Session is a Capture 2 file in which you record, arrange, and edit your audio files. Session files should not be confused with audio files. Think of a Capture 2 Session as you would a StudioLive scene. It is a snapshot of which audio files were recorded and how they were edited.*

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

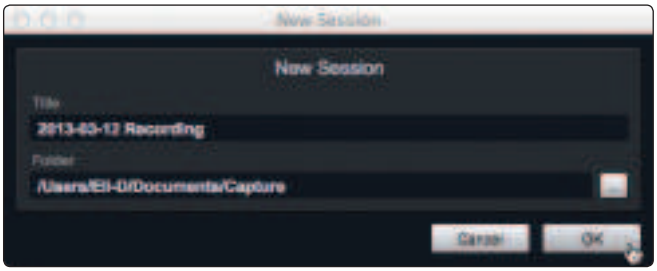


- Navigate to File/New Session.
- Press [Ctrl]/[Cmd]+N on the keyboard.

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



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



- **Session Title.** This will be the title of your Session and will be the Session filename, as well as the name of the new folder that contains all data related to your Session.
- **Session Folder.** This is where new Sessions and all related data will be saved. The Session location can be chosen each time you create a Session. By default, the new Session location will be the Capture 2 folder in your Documents folder.



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

Power User Tip: *The Name Scheme fields have been added to Capture 2 to help keep your Sessions organized and to make your archived library of live performances more easily searchable. Because of this, we highly recommend that you always take a moment to fill in these fields.*



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

6.2.3 Open a Session

The Capture 2 Start page provides two different ways to quickly open previous Sessions.

Open Session Button



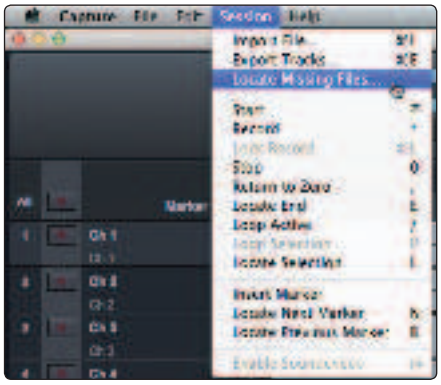
Clicking on the Open Session button will open a browser that will allow you to browse for, and open, an existing Session.

Recent Files List



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

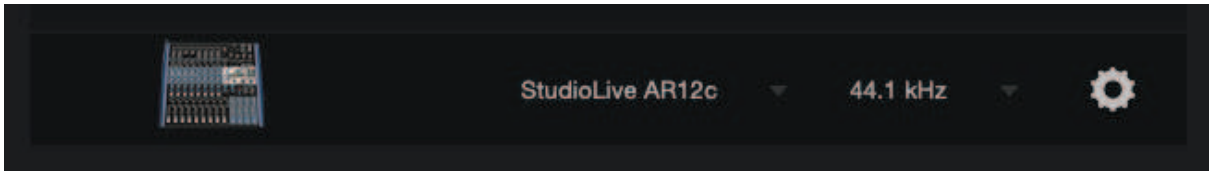
Locate Missing Files



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

6.2.4 Audio Device and Sample Rate

Capture 2 was created for use with PreSonus StudioLive-series mixers and fully functions only with that device. The Audio Device menu displays the currently selected audio driver. When a StudioLive ARc Mixer is connected, you should select "StudioLive AR16c/AR12c/AR8c" from the Audio Device list.



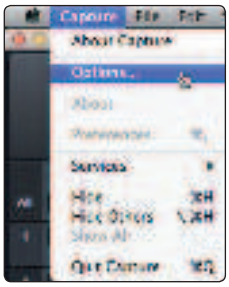
If the currently selected audio device has exactly two outputs (as with the built-in audio card in a Mac), Capture goes into Stereo mode. While in Stereo mode, Capture connects all tracks to the stereo output and adjusts the volume of the output automatically to account for stereo summing. Stereo mode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

The Sample Rate menu displays the currently configured sample rate.

6.2.5 Options Menu



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



This menu can also be accessed from Capture>Options.

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



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

Audio Options



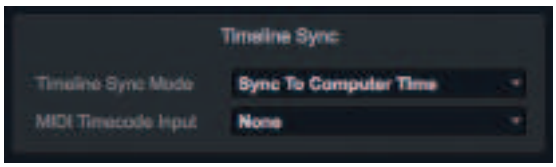
- **Audio Device.** At the top of the Audio Options, you will find the Audio Device menu. This is the same menu that is on the Start page. ***See Section 6.2.4 for information***.
- **Device Block Size.** This displays the buffer size. In general, the higher the buffer size is set, the more stable your recording environment will be.
- **Sample Rate.** The Sample Rate menu is also found on the Start page. ***See Section 6.2.4 for information***.
- **Record Format.** The Record Format menu allows you to choose the bit-depth of the recorded audio. You can select 16-bit WAV, 24-bit WAV, or 32-bit floating-point WAV.

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

- **Pre-Record.** Capture 2 allows you to set a Pre-Record buffer. This buffer starts recording audio before your click the Record button so you won't miss the beginning of a performance. The Pre-Record buffer time is user-selectable, between five seconds and one minute.

Power User Tip: *The higher the Pre-Record buffer is set, the more RAM Capture 2 will require. While this will not cause problems on modern systems that are equipped with copious amounts of RAM, it is highly recommended that the Pre-Record buffer be set as low as possible on systems with the minimum amount of required RAM (2 GB).*

Timeline Sync Options



- **Timeline Sync Mode.** Capture 2 features a Timeline Sync mode. This allows you to align the timeline in your recording Session to the time of day or to sync it to an external MIDI Time Code signal. This will also affect the timestamp information, which is written into the audio files.
  - **No sync.** The timeline will start at 0 and will display the length of your recording (in minutes and seconds only). This option is useful when you only want to track the length of your recording.
  - **Sync to computer time.** The timeline ruler will start at the exact time of day the recording began. This option is useful when recording multiple performances over the course of a day (e.g., at a festival stage).
  - **Sync to MTC.** Capture will align the timeline to incoming MIDI Time Code. This option is useful when recording audio for a live video.
- **MIDI Time Code Input.** To use the Sync to MTC option, you must provide Capture with an input for the source time code. You can select that source from this menu.

File Handling Options



As discussed in ***Section 6.2.1***, Capture 2 provides an assortment of useful tools to organize and label Capture Sessions.

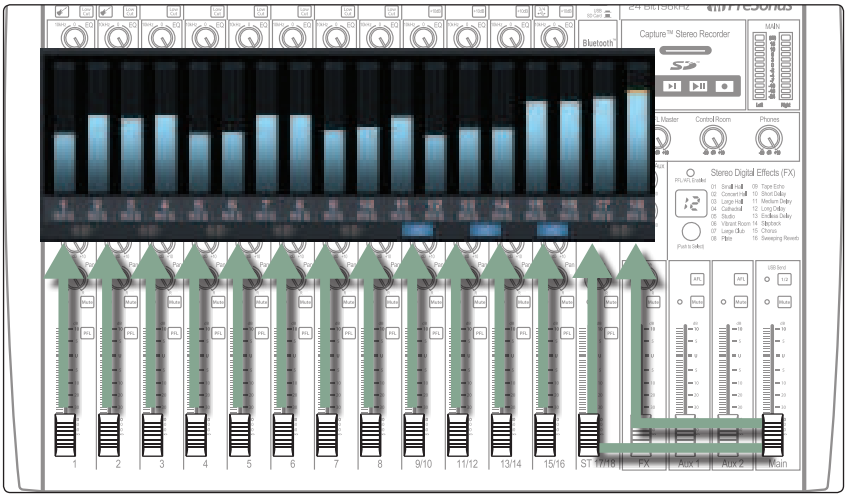
- **Storage Location.** By default, all Capture Sessions are stored in the Capture subfolder in your Documents folder. You can set a new default location by clicking on the "Change…" link. This will launch a browser window, allowing you to find a new location for your Capture Sessions.
- **Name Scheme.** ***Section 6.2.1*** discusses the various options for naming and organizing your files. This option enables you to select the order in which your files are categorized.
- **Create Subfolders.** Clicking the Create Subfolders options will create a folder for each of the three naming conventions: Artist, Performance, and Location. If this box is not checked, your Session and the resulting audio files will still be labeled using these tags but a folder hierarchy will not be created. This box is enabled by default.
- **Add Date to Path.** By default, Capture automatically adds the date of the Session to the Session name. You can remove the date by unchecking this option.

6.3 The Session Page

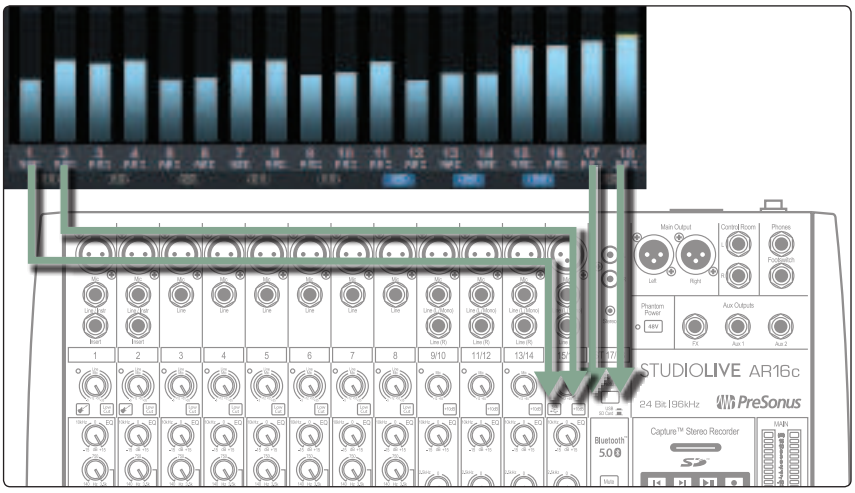
Capture 2 features a single-window user interface so you don't need to manage multiple windows and views. When a new Session is created, or an existing Session is opened, you will be taken to the Session page. This page contains all of the necessary tools to record and edit multitrack audio.

When you launch Capture 2, a recording track is created for each input channel on your StudioLive ARc mixer, including the Main bus. The Main bus track, in turn, is automatically patched to the first two digital returns located on the Super Channel on your StudioLive ARc mixer for playback. Channels 1 and 2 are routed to the Digital Returns 3/4 on the last stereo channel. The following diagrams show these configurations.

Capture 2 Recording Routing



Capture 2 Playback Routing



There is no need to set up audio inputs and outputs in Capture 2, as the software automatically detects which StudioLive model is connected and auto-configures for it. Each channel from the StudioLive ARc mixer is represented with a mono input track in the Track column of the Session and has a corresponding level meter in the meter bridge.

An additional stereo track will also be added to the Session for recording the main mix.

Power User Tip: *Unlike a DAW application, like Studio One Artist, Capture has no mix engine of its own, relying, instead, on the physical mixer connected to it to do the mixing and the summing. Because of this, once you're ready to mix your recordings, you will need to move you audio over to your favorite DAW application. If your favorite DAW is Studio One, you can simply open your Capture session from the Studio One Start page.* ***See Section 6.6.2*** *for details.*

6.3.1 Track Column



Along the left side of the Session page, you will find the Track column. The Track column contains a dedicated audio track for each audio input into Capture 2 from the StudioLive ARc mixer, plus a stereo audio track to record the main mix.

Track Naming.



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

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

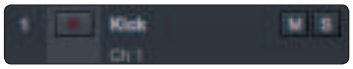
Power User Tip: *As with Studio One, you can press the Tab key to move to the next track's name field.*

Arm All.



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

Track Controls.



Each track in the Track column features the same controls.

Record Arm Button. Next to each track number is the Record Arm button. When this button is active, Capture 2 is ready to record audio that is routed to the track.

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

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

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

6.3.2 Transport



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



Stop. Stops playback.



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



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



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

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



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



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



Rewind. Rewinds as long as this button is enabled.



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



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

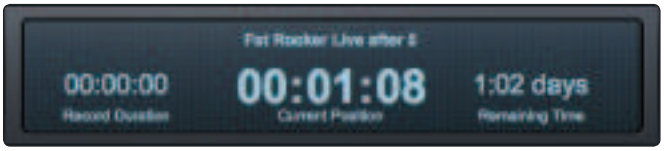


Go To End. Jumps the playback cursor to the end of the recorded audio.



Loop. Engages/disengages Loop mode. ***See Section 6.3.6.6*** for more information.

6.3.3 Time Display



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

Session Name. Displays the name of the current Session.

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

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

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

6.3.4 Timeline Ruler



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

As mentioned in ***Section 6.2.5***, you can set the Timeline Ruler to sync to your computer's clock or to an external MIDI Time Code source.

6.3.5 Navigating the Session

Zooming

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

To zoom, do one of the following:



- To zoom in or out, click-and-drag left or right on the Horizontal Zoom scroll bar in the lower right-hand corner of the Edit window.
- Press [Ctrl]/[Cmd]+[+] on the keyboard to zoom in slightly. Press [Ctrl]/[Cmd]+[-] on the keyboard to zoom out slightly.

- Click inside the Timeline Ruler at any point in time and drag down or up to zoom in or out.



- In the lower left-hand corner of the Edit window, you will find the vertical-zoom controls. These controls increase or decrease the height of the tracks and audio files.

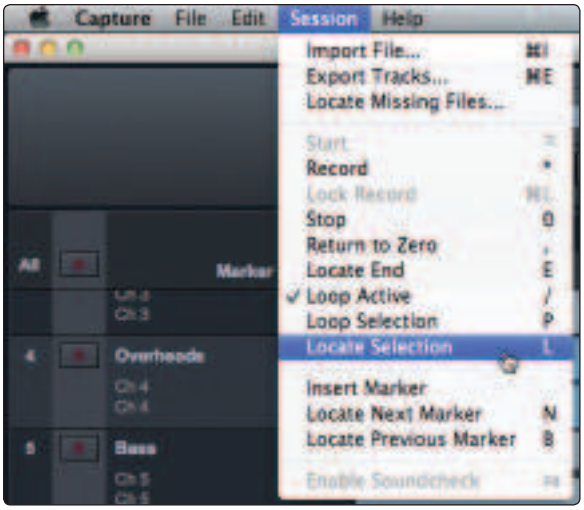
Scrolling



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

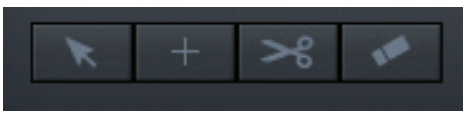
You can also scroll through your Session by clicking and dragging the Timeline Ruler left or right.

Locate Selection



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

6.3.6 Editing Tools



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

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

6.3.6.1 Arrow Tool



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

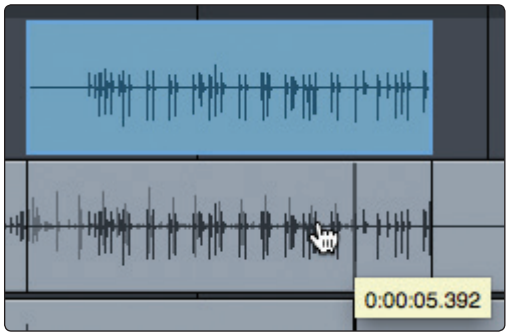
The Arrow tool can be used for the following purposes:

Move an Event.

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



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



Rearrange Tracks.

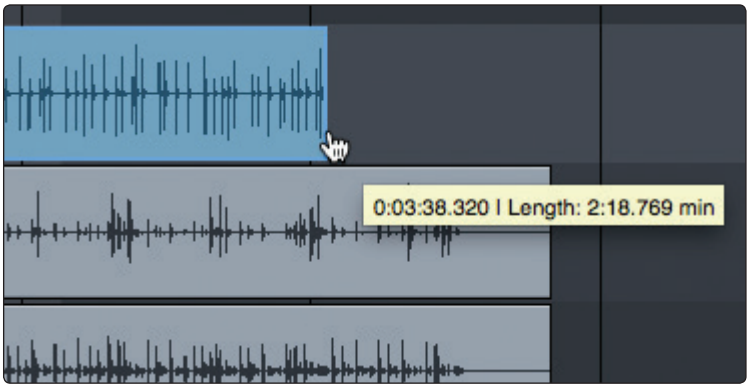
To rearrange tracks using the Arrow tool, click on the track you want to move and drag up or down in the Tracks list. You will notice a blue line following your mouse. When you drop the track, it will be inserted where the blue line is located.



Size an Event.

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

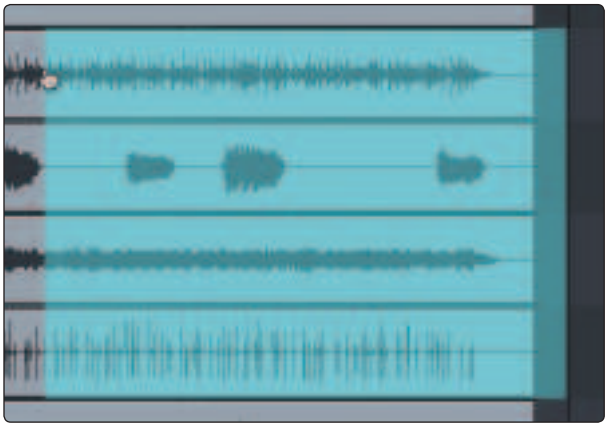
To size any event using the Arrow tool, float the mouse to the left or right edge of the event to reveal the Sizing tool. When this tool appears, click-and-drag left or right to size the event. Events can be sized and resized nondestructively any number of times.



Select Multiple Events.

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

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

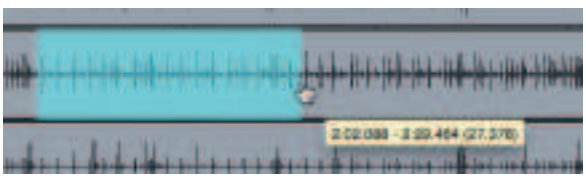


- Click on any event; then, while holding [Shift] on the keyboard, click on any other events to select them. This allows you to select multiple events that are not in close proximity to each other. All selected events can then be edited at once.

6.3.6.2 Range Tool



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



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

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

The Range tool can be useful in several ways:

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

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

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

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

6.3.6.3 Split Tool



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

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

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

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

6.3.6.4 Eraser Tool



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

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

6.3.6.5 Common Editing Actions

Like most software applications, Capture 2 supports basic cut, copy, and paste actions. Once you've selected an event, or a range of events, you can perform these actions as follows:

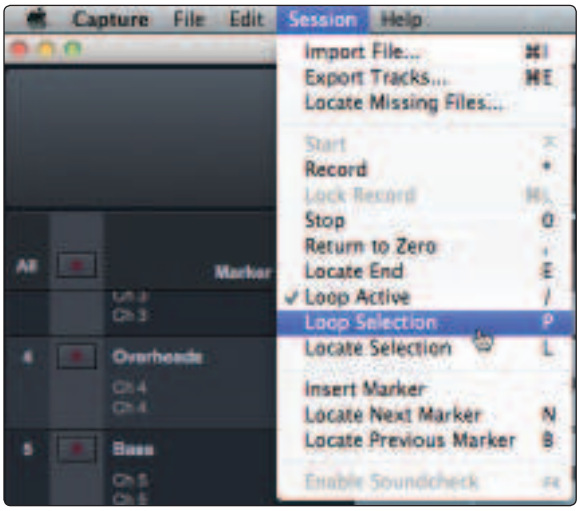
- **Cut:** Press [Ctrl]/[Cmd]+X on the keyboard to cut the current selection or select Edit>Cut.
- **Copy:** Press [Ctrl]/[Cmd]+C on the keyboard to copy the current selection or select Edit>Copy.

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

6.3.6.6 Looping

To loop the playback of any range of your Capture 2 Session, do one of the following:

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



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



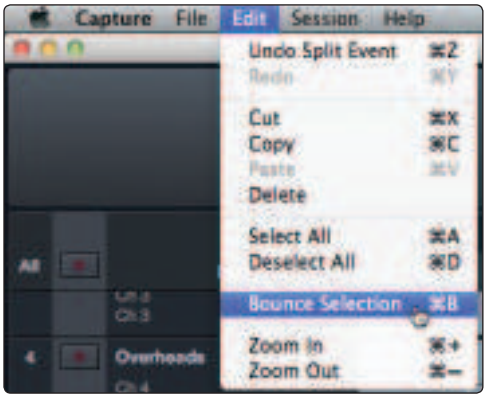


Once your loop range is set, you can click on the Loop button in the transport, or press [L] or [/] on the keyboard, to engage Loop mode.

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

6.3.6.7 Bounce Selection

Once you have edited an audio file, you may wish to create a new audio file that includes all of your edits. To do this, use the Range tool to select the events you would like to merge as described in ***Section 6.3.6.2*** and press [Ctrl]/[Cmd]+[B] on the keyboard or go to Edit>Bounce Selection.



6.3.7 Meter Bridge



Capture 2 provides input and output metering when a track is being recorded or played back. These peak-style meters at the bottom of the Session page feature clip indicators for each input into Capture 2 from the StudioLive ARc-series mixer.

Record Arm.



Below each meter, you will find another Record Arm button. This button provides the same functionality as the Record Arm button in the Track column. ***See Section 6.3.1*** for more information.

Link Button.

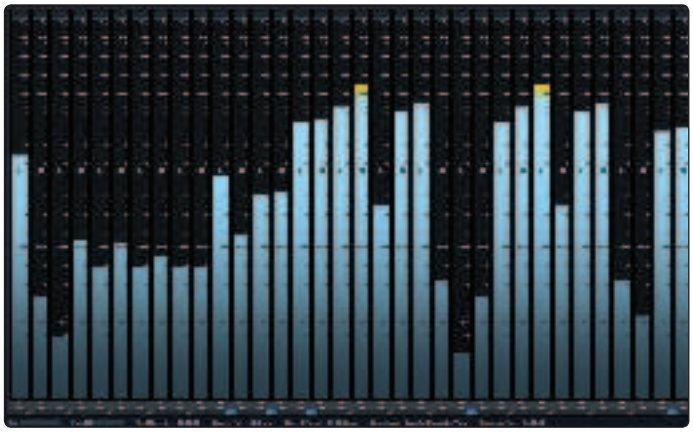


Between each meter you will find a Link button. When this button is active, Capture 2 will record that track as a stereo-interleaved file. By default, the mix mix track is stereo linked.

Big Meter Mode.



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



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

6.3.8 Markers and the Marker List

The Marker Lane.



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

In Capture 2, the Marker Lane is used to place markers at desired places in the timeline, after which navigation to the markers is easy. Markers are also helpful when exporting your Session to individual mixes or for editing in another recording application.

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

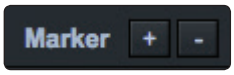
The Marker List.



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

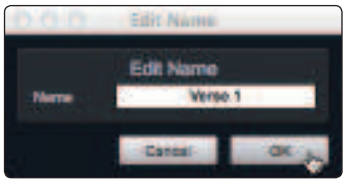
6.3.8.1 Inserting, Naming, Deleting, and Moving Markers

Marker Lane.



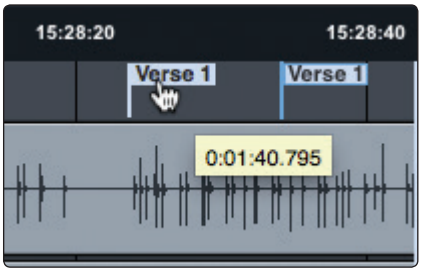
Adding/Deleting Markers. At the top of the Track column, you will see the Add/Remove Marker buttons. To insert a new marker into the Marker Lane, with playback running or stopped, click on the Add Marker (+) button, or press [Insert] on the keyboard. Each new marker will be numbered sequentially by default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

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



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

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

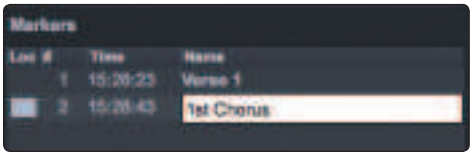


Marker List.

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



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



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

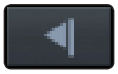
Moving Markers. Clicking on the Move Marker button will move the currently selected marker in the Marker List to the current playback position in the timeline.

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

6.3.8.2 Navigating Markers

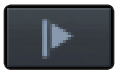
It is possible to quickly jump the playback cursor between markers in the Marker Lane. Jumping to markers during playback allows quick comparisons between different sections of your Session.

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



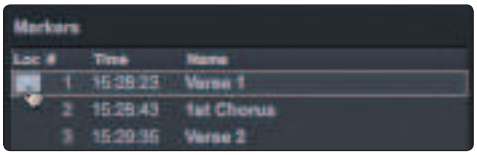
- Click on the Previous Marker button in the transport.
- Press [B] on the keyboard, to jump to the previous marker.

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



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

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



6.4 Recording a Session in Capture

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

If an input channel is not clipping on your StudioLive ARc-series mixer, you can be sure that it will not clip in Capture 2. ***Refer to Section 2.1*** for the proper level-setting procedure.

You will monitor live audio input on the StudioLive ARc-series mixer; there is no separate monitoring capability within Capture 2. ***Please refer to Section 3.4.2*** for information on creating monitor mixes.



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



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



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



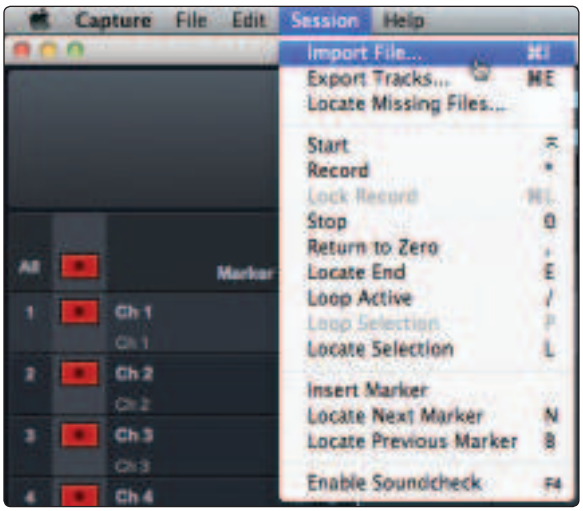
When you press Record, the Session automatically locks. This prevents you from accidentally stopping recording Session. You must disable Session Lock before you can stop recording.

6.5 Importing and Exporting Audio Files

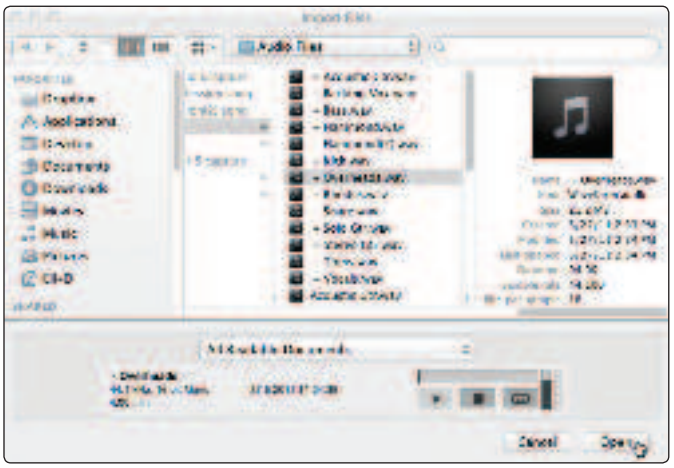
6.5.1 Importing Audio Files into Capture

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

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



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



3. Click on Open to import the file into your Session.

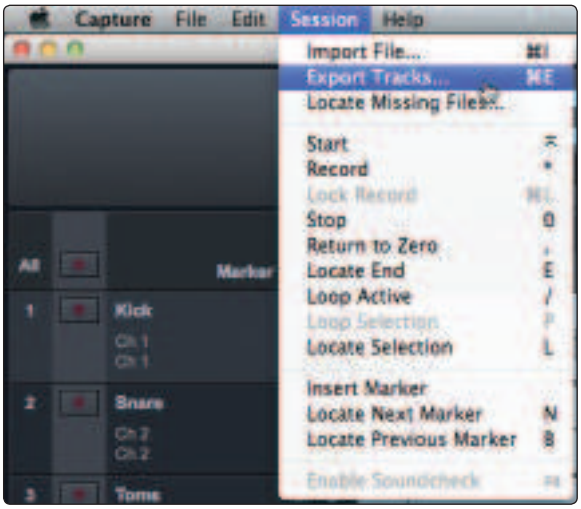
4. An audio event for the imported file will be created and placed on the currently selected track in your Session, at the current playback-cursor position.

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



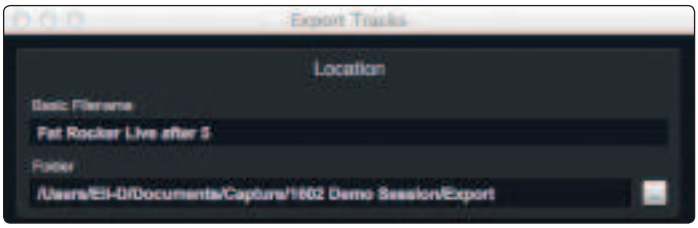
6.5.2 Export Audio Files

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



Location.

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



Click on the Browse button to choose a file location.

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

Format.

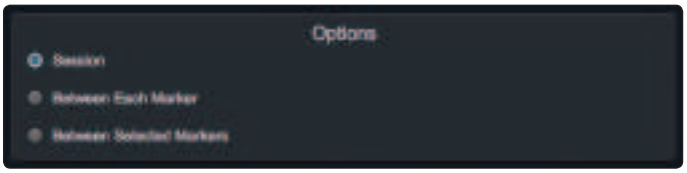
In the middle section of the Export Tracks menu, select the format of the mixdown audio file. Choose from WAV or AIFF, and then choose the desired resolution and sample rate.



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

Options.

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



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

6.6 Mixing Your Capture Sessions

6.6.1 Exporting Your Final Mix to an Audio File

The most common physical medium on which recordings are published is the audio CD. In order to put your final mix on an audio CD, the mix file must be a 16-bit, 44.1 kHz WAV file. Once you have recorded your final mix to the Auxiliary Stereo track in Capture 2, it is recommended you export the audio from the Auxiliary Stereo track to an audio file for this purpose. ***See Section 6.5.2*** for details on Exporting Audio Tracks in Capture 2.

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

6.6.2 Mixing a Capture 2 Session in Studio One

Many users want to use Capture 2 strictly as a track-recording tool and will mix and sweeten the recorded tracks later in a DAW. PreSonus has included a copy of Studio One Artist with your StudioLive for this purpose. All versions of Studio One can open Capture 2 Session files. All markers, edits, track names, etc., will be preserved, and no further effort is required. Simply launch Studio One and open your Capture 2 Session. ***See Section 7*** for more details.

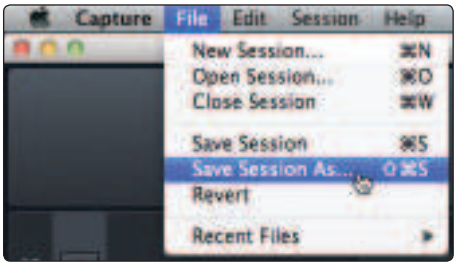
6.6.3 Mixing a Capture 2 Session in a Different Recording Application

For users who wish to mix their Capture 2 Session in a DAW other than Studio One, there are several ways in which to import your Capture 2 Session.

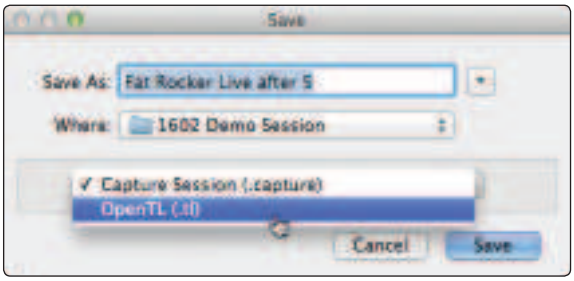
Save a Capture 2 Session as OpenTL

Many audio-recording programs can open OpenTL (Open Track List) files. An OpenTL file provides a reference for all of the audio tracks and audio events, with their corresponding positions, in a Capture 2 Session, so that another audio program can reconstruct your Session automatically. This makes it possible for you to open your Capture 2 Session and work as you normally do in your favorite recording application.

To save an OpenTL version of your Session, select Save Session As in the File menu of Capture 2.



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



Click on Save to save your Session as an OpenTL document and confirm the command by clicking Yes in the confirmation window. This file will be placed by default in your Session folder and will not overwrite the original Capture 2 Session file. Note that the OpenTL format will not save your markers.

Import Capture 2 Session Audio Files Directly

Some audio-editing applications (such as digital audio workstations, or DAWs) do not support the OpenTL format, which makes the options somewhat limited when importing Sessions created in other programs. In this case, you must manually import the audio events from your Capture 2 Session into the audio-editing application, using whatever means possible in that program. Refer to the documentation of your software for more information on this process.

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

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

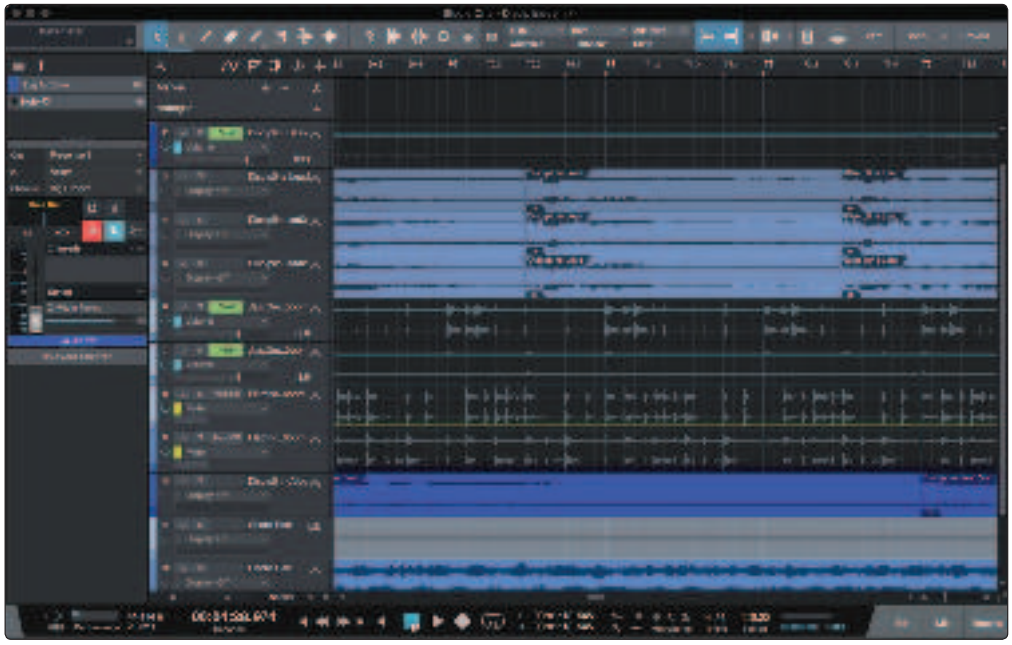
Once you have single, continuous audio files for each track, directly importing the files into an audio editor is much easier. All that is required to reconstruct your Capture 2 Session is to align each file at the same start time. For complete information on exporting tracks from Capture 2, ***please review Section 6.5.2***.

6.7 Capture 2 Key Commands

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

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

7 Studio One Artist Quick Start



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

Power User Tip: *As a valued PreSonus customer, you are eligible for a discount upgrade to Studio One Professional. For more details on the Studio One upgrade program for PreSonus customers, please visit* http://studioone.presonus.com/.

7.1 Installation and Authorization

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

Downloading and running the Studio One installer.

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



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

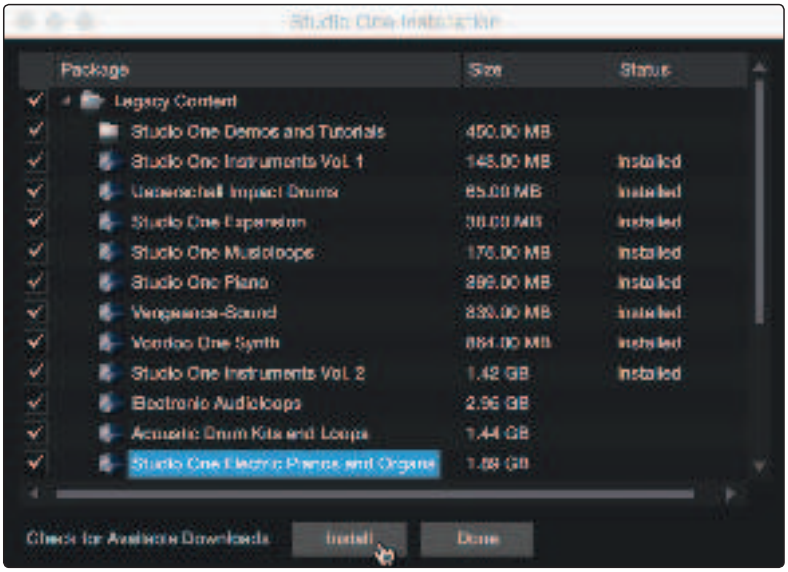
Authorizing Studio One

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

Installing bundled content for Studio One Artist.

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

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



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

7.2 Setting Up Studio One

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

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

7.2.1 Configuring Audio Devices

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



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



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

7.2.2 Configuring MIDI Devices

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

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

If you do not have any MIDI devices, please skip to Section 7.4.

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

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

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

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

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



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



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



4. You must specify which MIDI channels will be used to communicate with this keyboard. For most purposes, you should select all MIDI channels. If you are unsure of which MIDI channels to choose, select all 16.

5. Studio One allows you to filter out specific control functions. If you would like Studio One to ignore Aftertouch, Pitch Bend, Program Change, or All CC messages, enable filtering for any or all of these messages.

6. In the Receive From drop-down menu, select the MIDI interface input from which Studio One Artist will receive MIDI data (that is, the MIDI port to which your keyboard is connected).

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

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

8. Click OK.

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

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

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

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

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



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



3. Specify which MIDI channels will be used to communicate with this sound module. For most purposes, you should select all MIDI channels. If you are unsure of which MIDI channels to select, we suggest you select all 16.

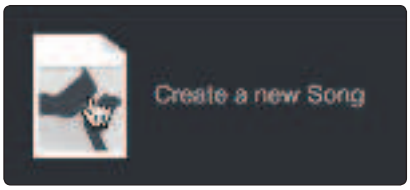
4. In the Send To menu, select the MIDI interface output from which Studio One Artist will send MIDI data to your sound module. Click OK and close the External Devices window. You are now ready to start recording in Studio One Artist.

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

7.3 Creating a New Song

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

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



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

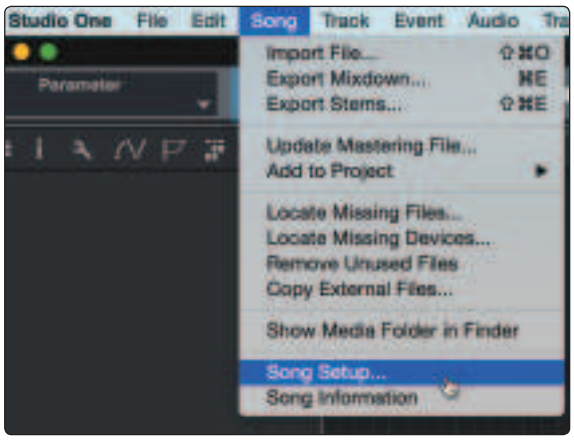


3. Select Empty Song from the Templates list. At this point, you should give your Song a name and select your preferred sample rate and bit depth for recording and playback. You can also set the length of your Song and the type of time format you would like the timeline to follow (notation bars, seconds,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

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

7.3.1 Configuring Your I/O

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



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



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



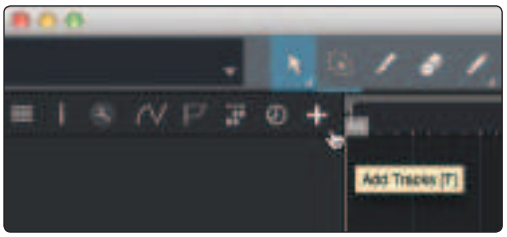
4. Click on the Outputs tabs to enable any or all of the outputs on your StudioLive ARc Mixer. In the lower right corner, you will see the Audition select menu. This allows you to choose the output from which you will audition audio files prior to importing them into Studio One Artist. In general, you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



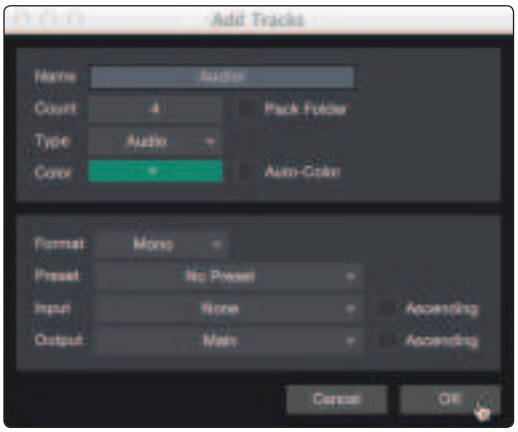
Power User Tip: *If you would like this I/O configuration to be the same every time you open Studio One, click the Make Default button.*

7.3.2 Creating Audio and MIDI Tracks

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

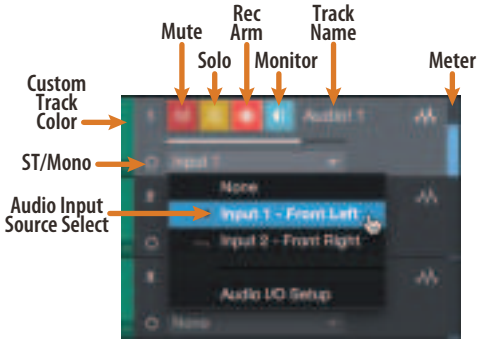


2. In the Add Tracks window, you can customize the track name and color, add a preset rack of effects, and set the physical source for the input and output of your audio tracks. Most important, you can select the number and type of tracks you'd like to create.



- **Audio.** Use this track type to record and playback audio files.
- **Instrument.** Use this track to record and playback MIDI data to control external MIDI devices or Virtual Instrument plug-ins.
- **Automation.** This track type lets you create automated parameter controls for your session.
- **Folder.** This track helps you to manage your session as well as to quickly edit multiple tracks at once.

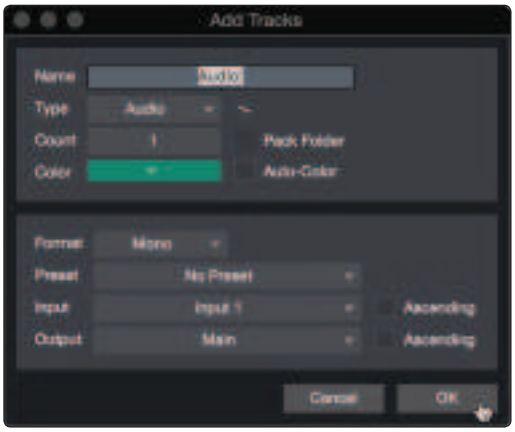
Power User Tip: *If you would like to add an audio track for each of the available inputs, simply go to Track | Add Tracks for All Inputs.*



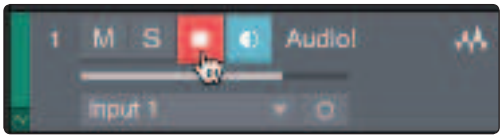
Note: *MIDI tracks are nearly identical to Audio tracks. The Input Source list for MIDI tracks lists available external MIDI devices as well as any virtual instruments that have been added to the Song.*

7.3.3 Recording an Audio Track

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



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



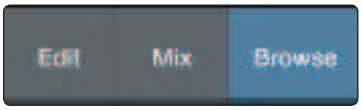
You are now ready to start recording. For complete instructions, please consult the Studio One Reference manual located in Help | Studio One Reference Manual.

7.3.4 Adding Virtual Instruments and Effects

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

Opening the browser.

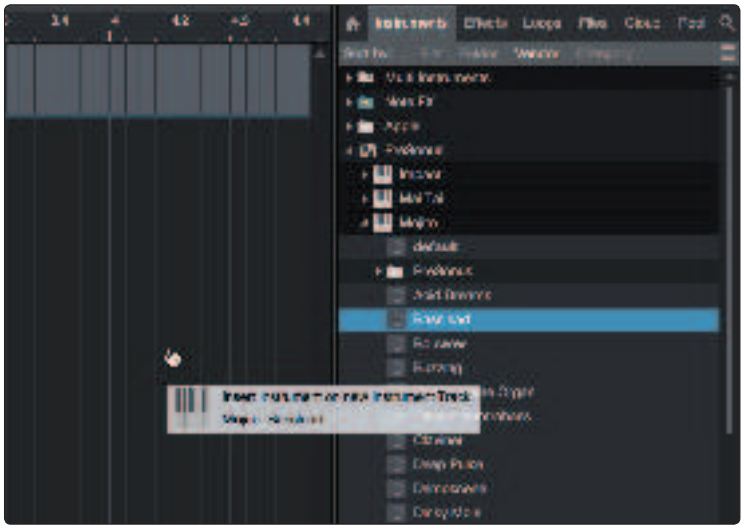
In the lower right corner of the Arrange window are three buttons:



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

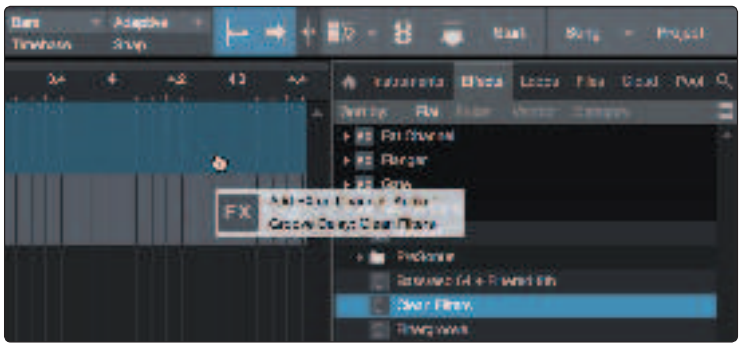
Drag-and-drop virtual instruments.

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



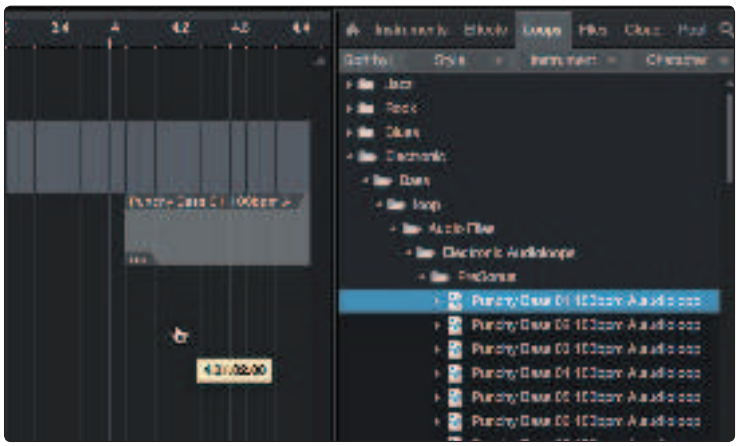
Drag-and-drop effects.

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



Drag-and-drop audio and MIDI files.

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



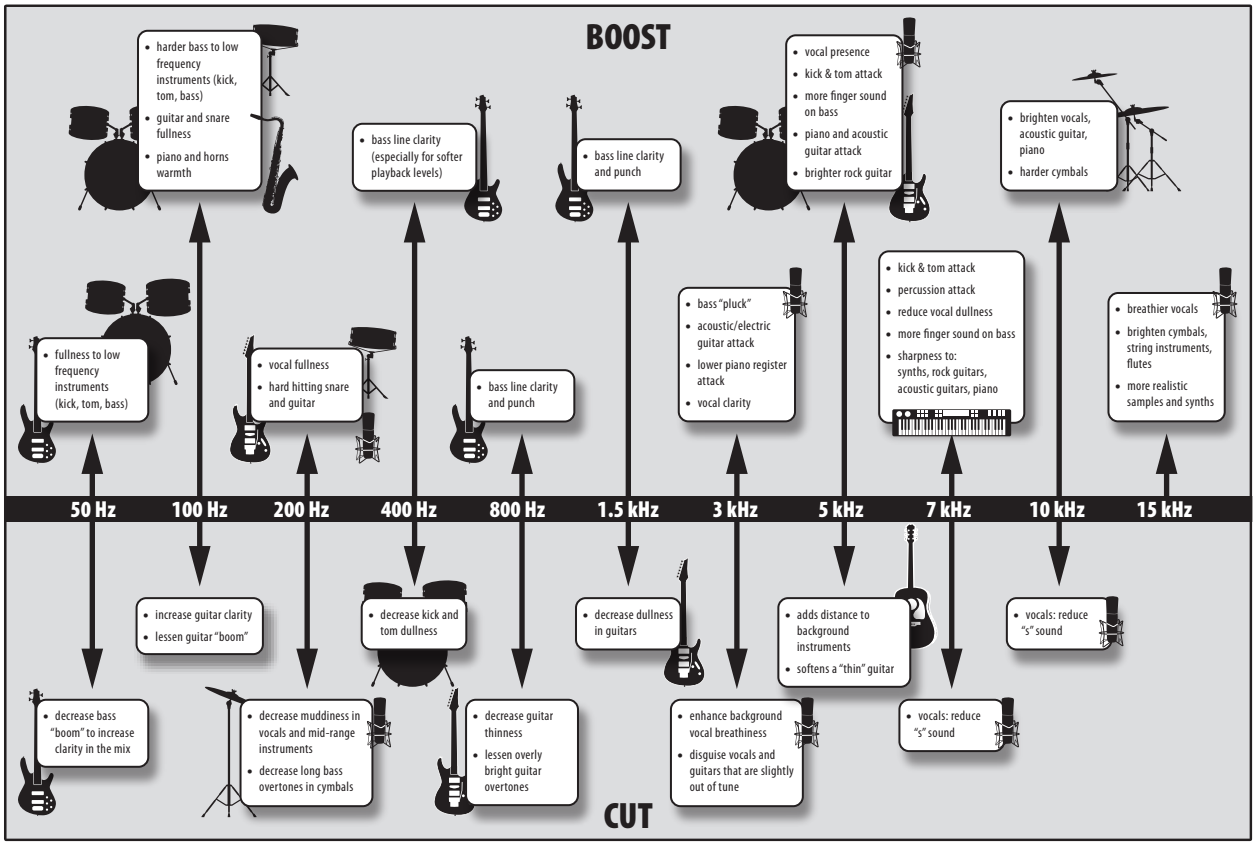
8 Resources

8.1 EQ Frequency Guides

Table 1

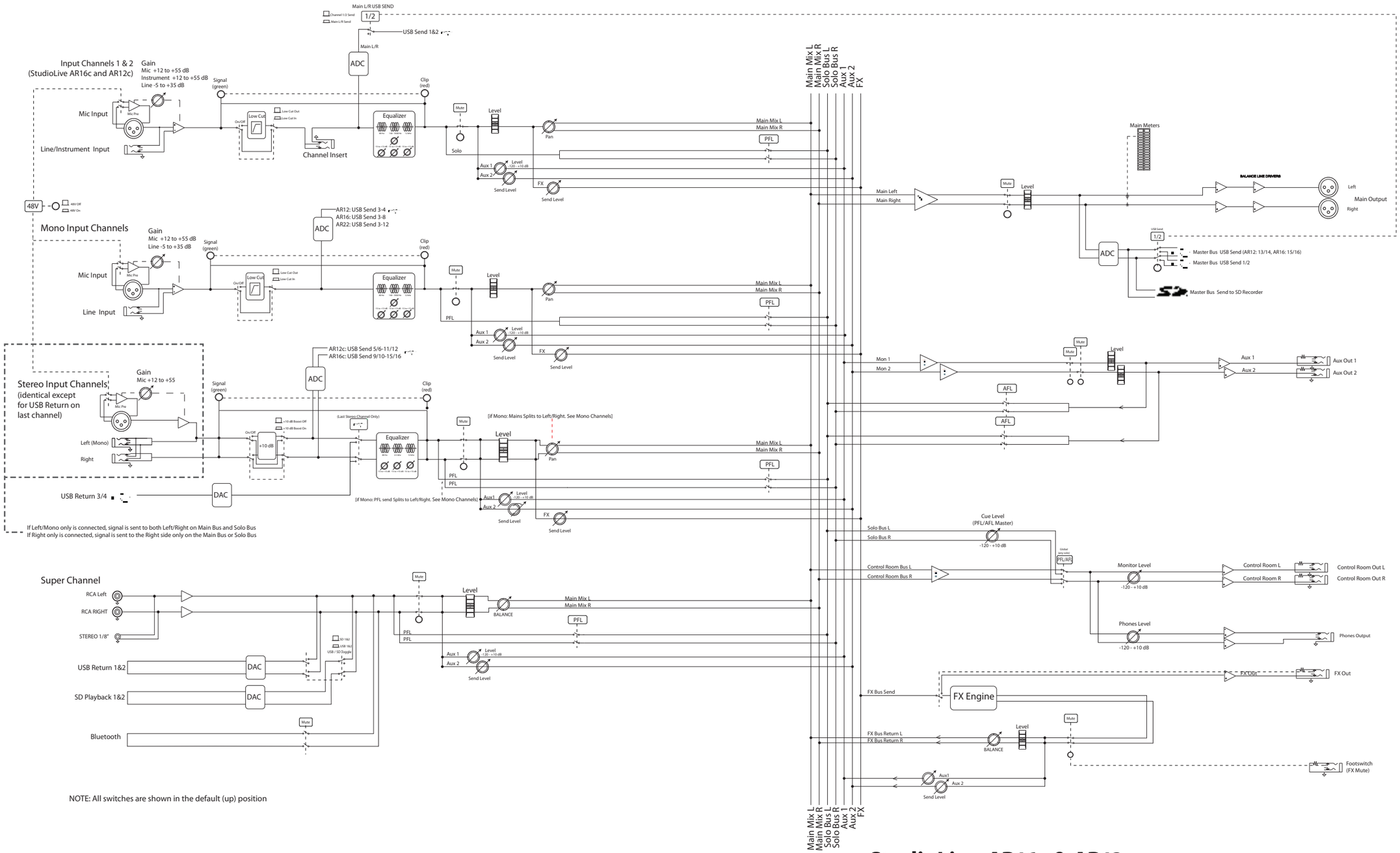
Instrument	What to Cut	Why to Cut	What to Boost	Why to Boost
Human Voice	7 kHz	Sibilance	8 kHz	Big sound
	2 kHz	Shrill	3 kHz and above	Clarity
	1 kHz	Nasal	200-400 Hz	Body
	80 Hz and below	Popping P's		
Piano	1-2 kHz	Tinny	5 kHz	More presence
	300 Hz	Boomy	100 Hz	Bottom end
Electric Guitar	1-2 kHz	Shrill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

Table 2


BOOST
• harder bass to low frequency instruments (kick, tom, bass)
• guitar and snare fullness
• piano and horns warmth
• bass line clarity (especially for softer playback levels)
• bass line clarity and punch
• vocal presence
• kick & tom attack
• more finger sound on bass
• piano and acoustic guitar attack
• brighter rock guitar
• brighten vocals, acoustic guitar, piano
• harder cymbals
• fullness to low frequency instruments (kick, tom, bass)
• vocal fullness
• hard hitting snare and guitar
• bass line clarity and punch
• bass "pluck"
• acoustic/electric guitar attack
• lower piano register attack
• vocal clarity
• kick & tom attack
• percussion attack
• reduce vocal dullness
• more finger sound on bass
• sharpness to: synths, rock guitars, acoustic guitars, piano
• breathier vocals
• brighten cymbals, string instruments, flutes
• more realistic samples and synths
50 Hz
100 Hz
200 Hz
400 Hz
800 Hz
1.5 kHz
3 kHz
5 kHz
7 kHz
10 kHz
15 kHz
• increase guitar clarity
• lessen guitar "boom"
• decrease kick and tom dullness
• decrease dullness in guitars
• adds distance to background instruments
• softens a "thin" guitar
• vocals: reduce "s" sound
• decrease bass "boom" to increase clarity in the mix
• decrease muddiness in vocals and mid-range instruments
• decrease long bass overtones in cymbals
• decrease guitar thinness
• lessen overly bright guitar overtones
• enhance background vocal breathiness
• disguise vocals and guitars that are slightly out of tune
• vocals: reduce "s" sound
CUT

8.2 Block Diagrams

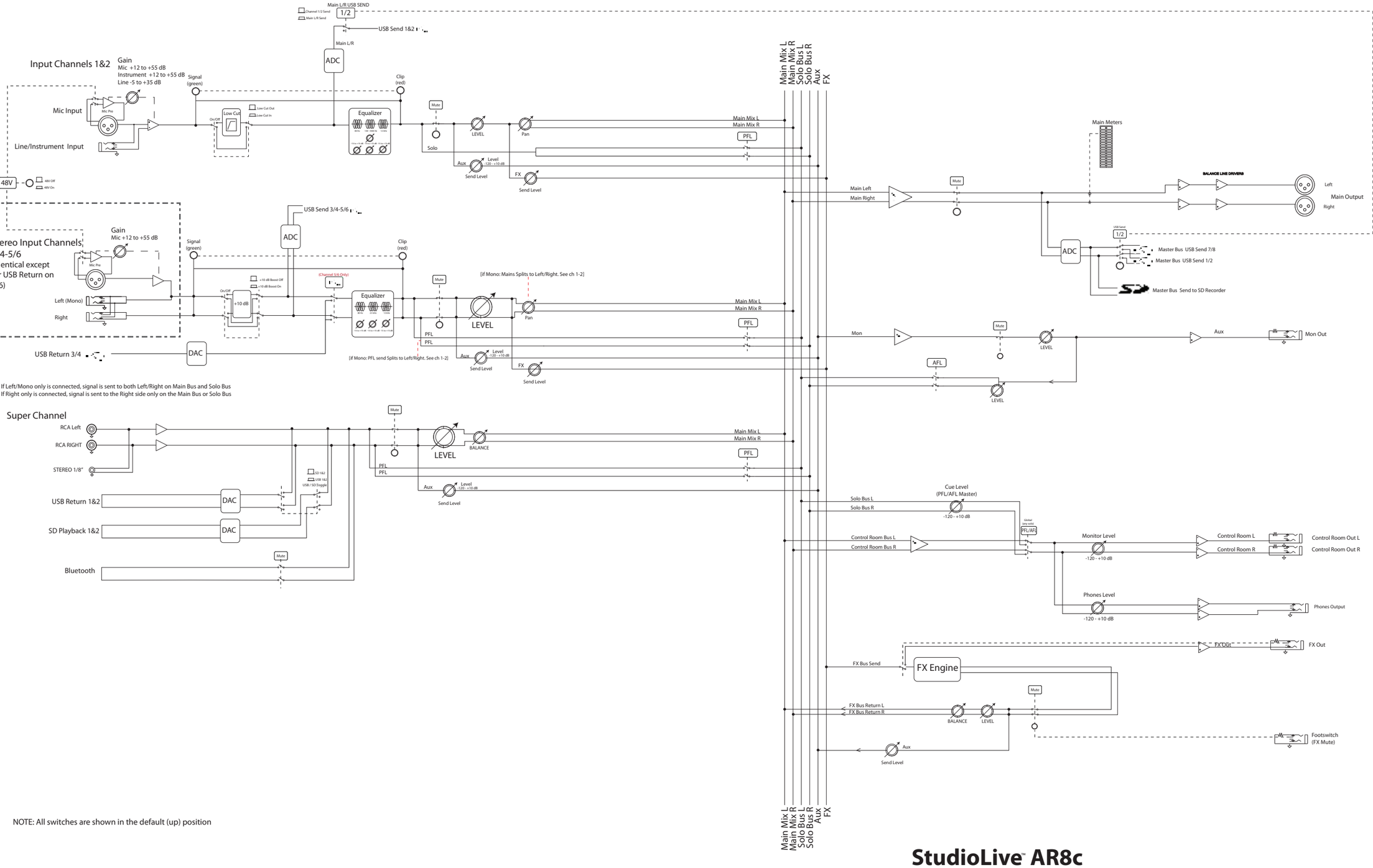
8.2.1 StudioLive AR16c, and AR12c Block Diagram



NOTE: All switches are shown in the default (up) position

StudioLive™ AR16c & AR12c
BLOCK DIAGRAM
Rev Number 11/6/2019

8.2.2 StudioLive AR8c Block Diagram

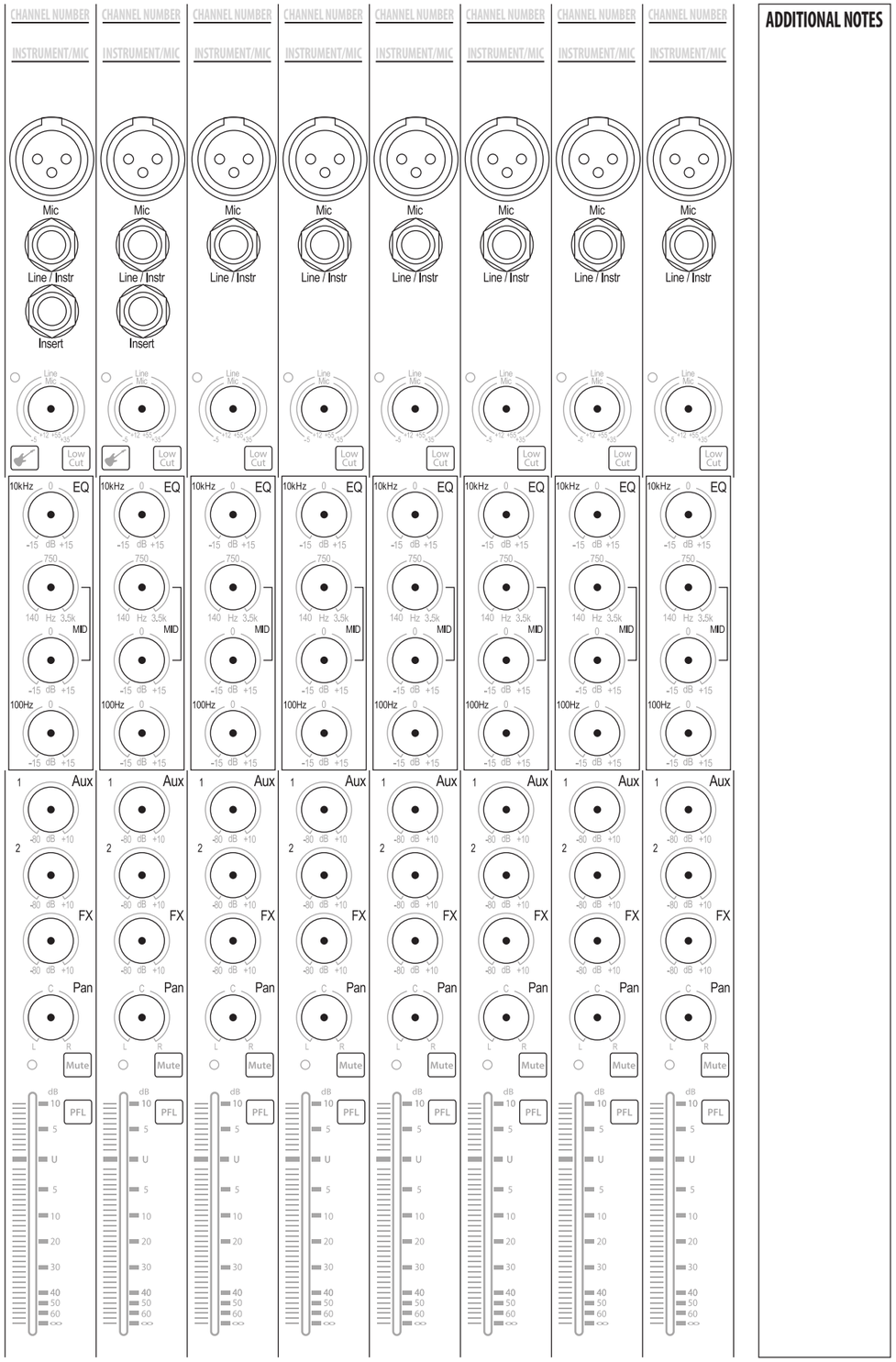


NOTE: All switches are shown in the default (up) position

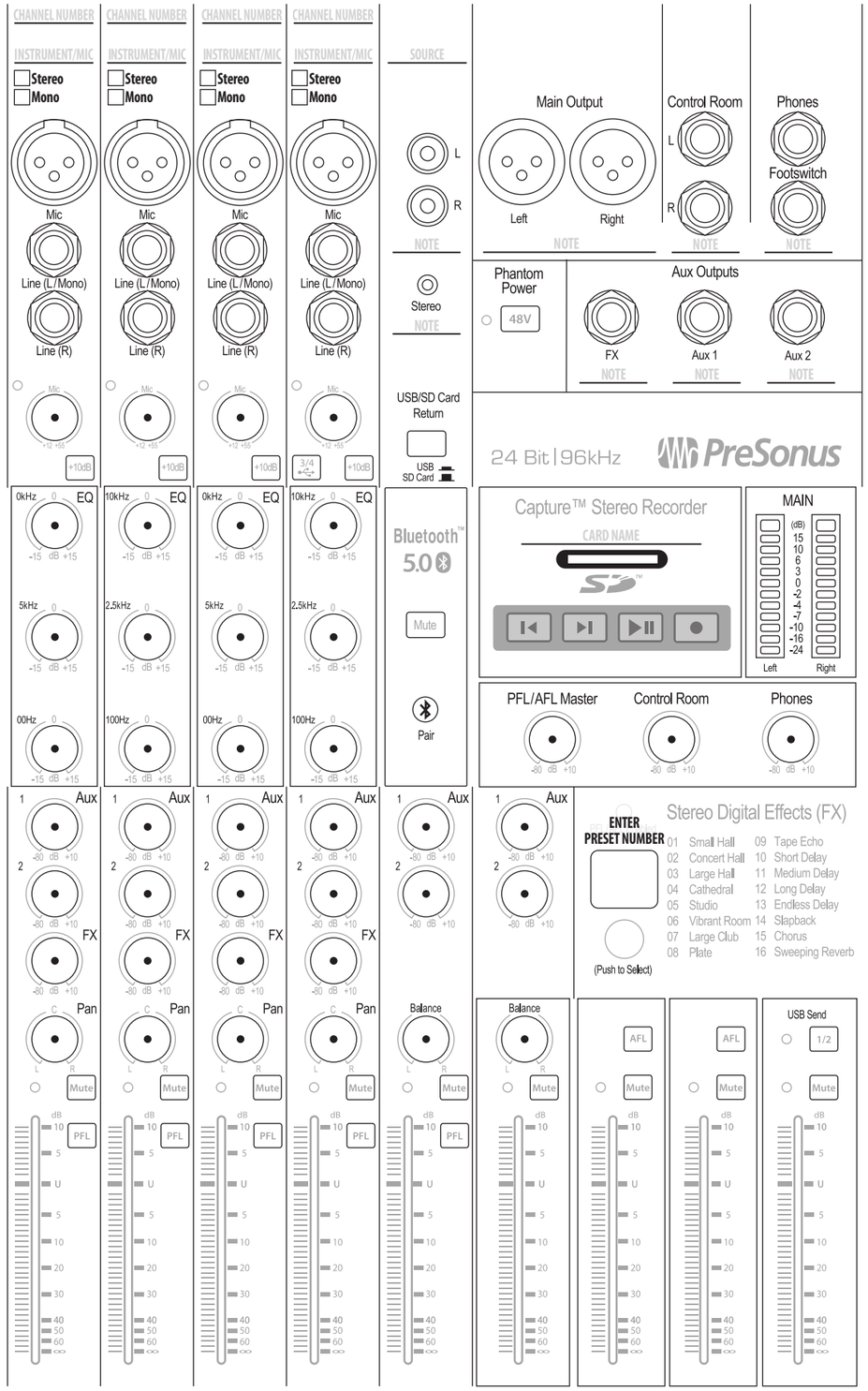
StudioLive™ AR8c
BLOCK DIAGRAM
Rev Number 11/6/2019

8.3 Recall Sheets

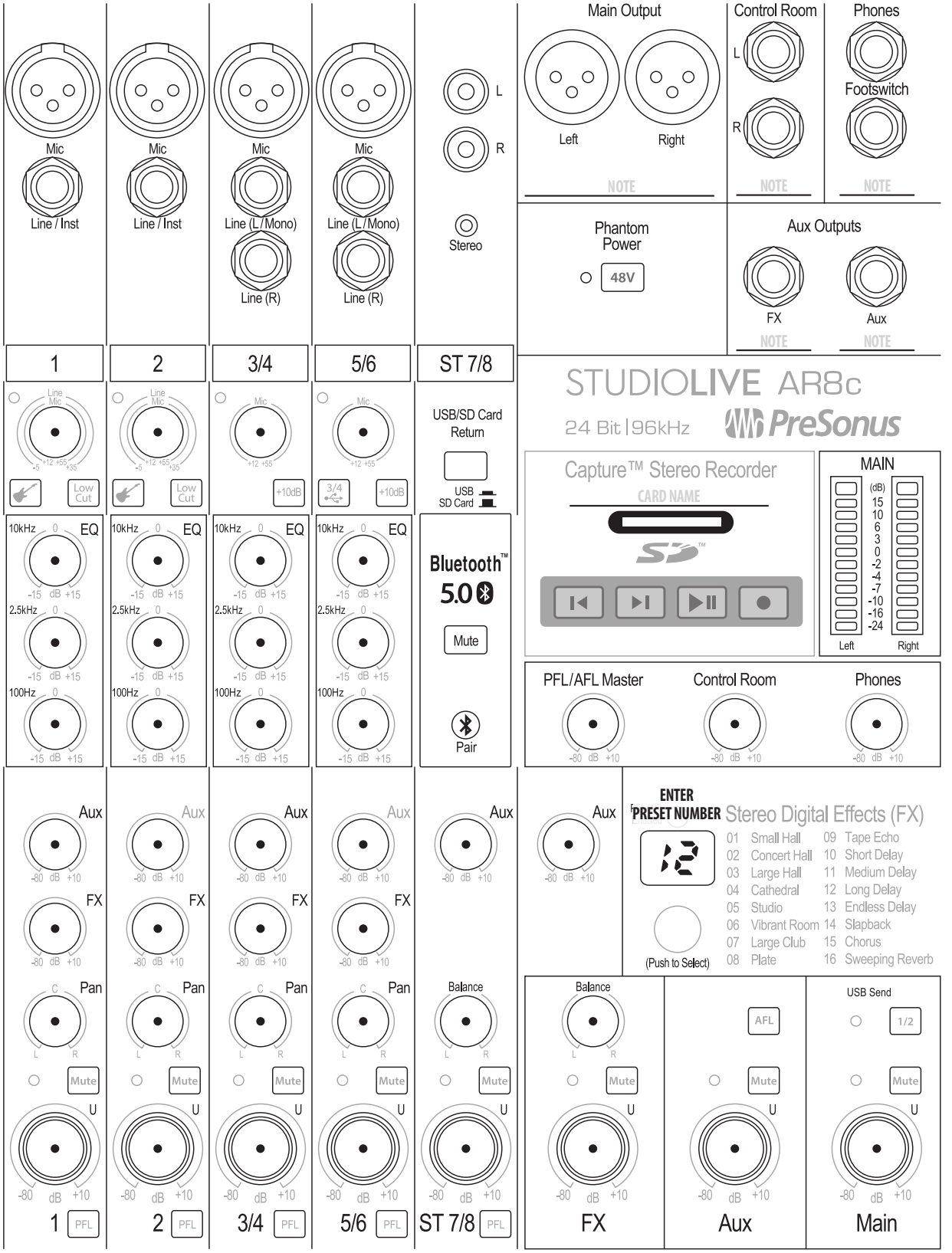
8.3.1 AR16c and AR12c Recall Sheet



ADDITIONAL NOTES



8.3.2 AR8c Recall Sheet



8.4 Technical Specifications

Microphone Preamp

Type	XLR Female, Class A XMAX
Maximum Input level (unity gain)	+9 dBu +/- 1.0 dB
Gain Control Range	43 dB (+12 to +55 dB)
Frequency Response to Analog Outputs	20 Hz to 20 kHz, +0.5/-1.5 dB
Frequency Response to USB (Direct)	20 Hz to 20 kHz, +0.5/- 1.5 dB
S/N Ratio to Outputs (+4 dBu)	94 dB
THD+N (min. gain, A-wtd)	< 0.01%
Input Impedance	1 kΩ
EIN (+55 dB gain, 150Ω input, 20 Hz-22 kHz, A-wtd)	< -128 dBu
Common Mode Rejection Ratio (1 kHz, +55 dB gain)	65 dB
Phantom Power	+48 V, ±3V, Global

*Note: All channel inputs sum through mic preamp.

Instrument Inputs

Type	¼"TS Female, Unbalanced, Hi-Z
Maximum Input Level (min. gain, 1 kHz@0.5% THD+N)	+9 dBu ±1.0 dB
Gain Control Range	43 dB (+12 to +55 dB)
Frequency Response to Analog Outputs	20 Hz to 20 kHz, +0.5/-1.5 dB
Frequency Response to USB (Direct)	20 Hz to 20 kHz, +0.5/-1.5 dB
Dynamic Range (min. gain, A-wtd)	> 105 dB
Dynamic Range (mid. Gain, unwtd)	> 108 dB
THD+N (1 kHz, -1 dBFS, A-wtd)	< 0.01%
THD+N (1 kHz, -1 dBFS, unwtd)	< 0.01%
Input Impedance	> 1 MΩ

*Note: All Channel Inputs sum through Mic preamp.

Line Inputs

Type	¼"TRS Female, Balanced
Maximum Input Level (min. gain, 1 kHz@0.5% THD+N)	+26 dBu +/- 1.0 dB
Gain Control Range	Mono Channels: 40 dB +/- 1.0 dB (-5 to +35 dB), Stereo Channels: 0 dB or +10 dB (+10 dB Boost)
Frequency Response to Analog Outputs	20 Hz to 20 kHz, +0.5/-1.5 dB
Frequency Response to USB (Direct)	20 Hz to 20 kHz, +0.5/-1.5 dB
S/N Ratio to Analog Outputs (+4 dBu)	85 dB
THD+N (1 kHz, -1 dBFS, A-wtd)	< 0.01%
Input Impedance (Balanced)	10 kΩ

Main, Control Room, Monitor, and FX Outputs

Type (Main Outputs)	XLR Male, Impedance Balanced
Type (Control Room, Monitor, FX Outputs)	¼"TRS Female, Balanced
Rated Output Level (Main Outputs)	+24 dBu, ±1.0 dB
Rated Output Level (Control Room, Monitor, FX Outputs)	+18 dBu
Frequency Response	20 Hz to 20 kHz, +0.5/-1.5 dB
Dynamic Range (A-wtd)	> 108 dB
THD+N (Bandwidth 20~20 kHz, -1 dBFS, unwtd)	< 0.01%
Output Impedance	100 Ω

Headphone Output

Type	¼"TRS Female, Stereo, Unbalanced
Maximum Output Level	150 mW/channel @ 56Ω
Frequency Response	20 Hz to 20 kHz, +0.5/-1.5 dB
Dynamic Range (a-wtd)	> 103 dB
THD+N (Bandwidth 20~20 kHz, -1 dBFS, unwtd)	< 0.01%

System Crosstalk

Input to Output (Ref = +4 dBu, 20 Hz to 20 kHz, unwtd)	-90 dBu
Adjacent Channels (Ref = +4 dBu, 20 Hz to 20 kHz, unwtd)	-85 dBu

Signal Level LED

Signal	-30 dBFS (pre-EQ)
Clip	-3.0 dB before clip (pre- or post-EQ)

Channel EQ

Low Cut	100 Hz, -18 dB/octave
High Shelving	±15 dB @ 10 kHz
Mid Peaking (Mono Channels: AR16c, AR12c)	±15 dB @ 140 Hz to 3.5 kHz (variable)
Mid Peaking (Stereo Channels: AR16c, AR12c, All: AR8c)	±15 dB @ 2.5 kHz
Mid-Band Q	Boost: 1.0, Cut: 2.5
Low Shelving	±15 dB @ 100 Hz

Audio Interface

Host Interface	USB 2.0
ADC Dynamic Range (Component)	114 dB
DAC Dynamic Range (Component)	114 dB
Signal to Noise (A-wtd):	-96 dB
Bit Depth	24-bit
Internally Supported Sample Rates	44.1, 48, 88.2, 96 kHz
Jitter	<80 ps RMS (20 Hz – 20 kHz)
Jitter Attenuation	>60 dB (1 ns in => 1 ps out)

SD Recorder

Supported Media Format	FAT16-formatted SD Card, FAT32-formatted SDHC Card
Media Storage Capacity	SD Card: 2 GB, SDHC Card: 32 GB
Recording File Format	Stereo WAV
Playback File Formats	Stereo WAV, MP3
Sampling Rate (WAV)	44.1 kHz
Bit Depth	Recording: 24-bit, Playback: 16- and 24-bit

Power

Connector	IEC
Input Voltage Range	90 to 240 VAC

Physical	AR16c	AR12c	AR8c
Length	15.6″ (397 mm)	15.6″ (397 mm)	12.3″ (313 mm)
Width (chassis only)	18.9″ (480 mm)	15″ (381 mm)	11″ (284 mm)
Maximum Height	3.5″ (89 mm)	3.5″ (89 mm)	3.5″ (89mm)
Weight	14.1 lbs (6.4 kg)	11.9 lbs (5.4 kg)	7.1 lbs (3.2 kg)

Global Warming

Recommended Ambient Operating Temperature 0˚ to 40˚ Celsius / 32˚ to 104˚ Fahrenheit

9 Troubleshooting

9.1 Troubleshooting

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 from within your My PreSonus account.

PreSonus telephone technical support is available to customers in the USA on Monday through Friday from 9 a.m. to 5 p.m. Central Time by calling 1-225-216-7887. Customers outside of the USA should contact their national or regional distributor for telephone technical support. A list of international distributors is provided at www.presonus.com/buy/international_distributors.

No Output on a Channel

Check the signal-present LED and verify that there is signal on that channel. If no signal is present, check the cable and the input source. Verify that the trim control is set at an appropriate level. Make sure the channel is not muted. Make sure that if your device requires phantom power, phantom power is engaged for the channel.

No Output on the Solo Bus While Monitoring

Verify that both the Cue volume and the headphone, or monitor, volume is at a reasonable level for comfortable listening and that the PFL button is engaged on the desired channels..

Can't Hear Main Mix in Headphones

Verify the headphone output control is at a sufficient level. Make sure that no PFL or AFL buttons are engaged.

Control Room Level Not Affecting Volume

Verify that your monitors are connected to the Control Room outputs of your StudioLive ARc, not the Main outputs.

Main Fader Doesn't Control Mix Level

Verify that your monitors are connected to the Main outputs, not the Control Room outputs.

Microphone Preamp 1 or 2 Doesn't Pass Audio

First, verify that the Instrument input button is not engaged. This disables the microphone preamp. Next, verify that your microphone cable is operational and that the trim control is set at an appropriate level.

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

Chicken and Andouille Gumbo

Ingredients:

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

Cooking Instructions:

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

Serves 12

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StudioLive™ AR-Series

Audio Interface/Analog Mixer/Stereo SD Recorder

Owner's Manual



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