



**PreSonus**  
**CONTRACTOR**

## StudioLive™ 32.4.2AI

32-input live performance and recording digital mixer

The PreSonus® StudioLive™ 32.4.2AI is a 32-channel (32x4x2) digital mixer that is designed for live events, live and studio recording, and corporate, institutional, and other installations.

### PreSonus Active Integration

PreSonus Active Integration products combine advanced DSP processing and networkability. In the StudioLive 32.4.2AI, this is accomplished with the Texas Instruments OMAP-L138 processor, a 32-bit, up to 96 kHz processor that operates at 456 MHz and features integrated USB 2.0 and 100 Mb Ethernet connections.

AI products can be directly, wirelessly remote controlled by iOS devices and OS X and Windows computers when connected to the same wireless router network. The StudioLive 32.4.2AI's processor runs a Linux kernel that allows support for the included USB wireless module and enables the included Ethernet connection to connect directly to a standard LAN network.

The speed of the DSP also allows for extensive dynamics and effects processing. The 32.4.2AI is capable of running 54 highpass filters, 60 noise gates, 60 compressors, 60 4-band parametric EQs, 60 limiters, 16 graphic EQs, 2 reverbs, and 2 delays simultaneously.

### Channel Input Features

Each channel features an XLR mic input and high-headroom Class A XMAX™ mic preamp, individually switched 48V phantom power, 1/4" balanced line input, and insert point. Channel, subgroup, and main levels are set with 100 mm faders.

### Buses, Scenes, and Graphic EQ

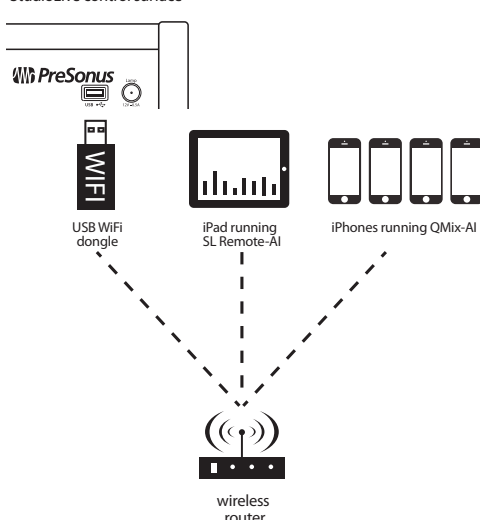
The StudioLive 32.4.2AI has 14 aux buses, 4 subgroups, a talkback section with Class A XMAX™ preamp, extensive LED metering, mixer scene save and recall, eight Quick Scene buttons that save and recall scenes directly from the mixing surface, and channel-strip save/recall/copy/paste.

Eight dual-mono (16 total), 31-band, graphic EQs are available and are assignable in pairs to the subgroups, the aux sends, and the Main output bus.

### Networking and Communications

The mixer incorporates an option slot that ships with a 48x34 FireWire recording/playback interface and has two FireWire S800 (IEEE 1394b) ports. In addition to providing computer connectivity, the ports permit pass-through for connecting a hard drive.

StudioLive control surface



An included Ethernet port on the option-slot card enables the mixer to be hardwire-networked to a desktop or laptop computer. The mixer can also be networked wirelessly by connecting a Wi-Fi-equipped router directly to the Ethernet port or by using the mixer's top-panel USB 2.0 control port and included Wi-Fi LAN adapter to wirelessly connect to the router.

*text continued on page 5*

- 32 mic/line channel inputs with 100 mm faders, insert sends/returns, and direct outputs
- 33 Class A XMAX™ solid-state mic preamplifiers (32 ch. + talkback)
- 4 subgroups and 14 auxiliary buses
- 4 stereo effects processors (2 reverbs, 2 delays)
- Fat Channel processing on all channels and buses: highpass filter, 4-band fully parametric EQ, compressor, gate, and limiter
- Two sets of Fat Channel EQ and dynamics settings with A/B comparison
- Wireless and wired networking via Ethernet port; wireless networking via USB 2.0 control port with Wi-Fi LAN adapter (requires router)
- Optional I/O cards: Thunderbolt-FireWire S800-S/PDIF Out and Ethernet/Dante-FireWire S800-S/PDIF Out
- 48-in/34-out FireWire S800 recording interface (24-bit/44.1 kHz and 48 kHz)
- Scene and individual settings store and recall, including 8 Quick Scenes
- Eight dual-mono, 31-band graphic EQs
- Bundle for Mac® and Windows® includes Studio One® Artist DAW, Capture™ recording software, Virtual StudioLive™-AI control software
- Free StudioLive™ Remote-AI iPad® control software and QMix™-AI iPhone®/iPod® touch aux-control software



The StudioLive Software Library ships free with the StudioLive 34.4.2AI!



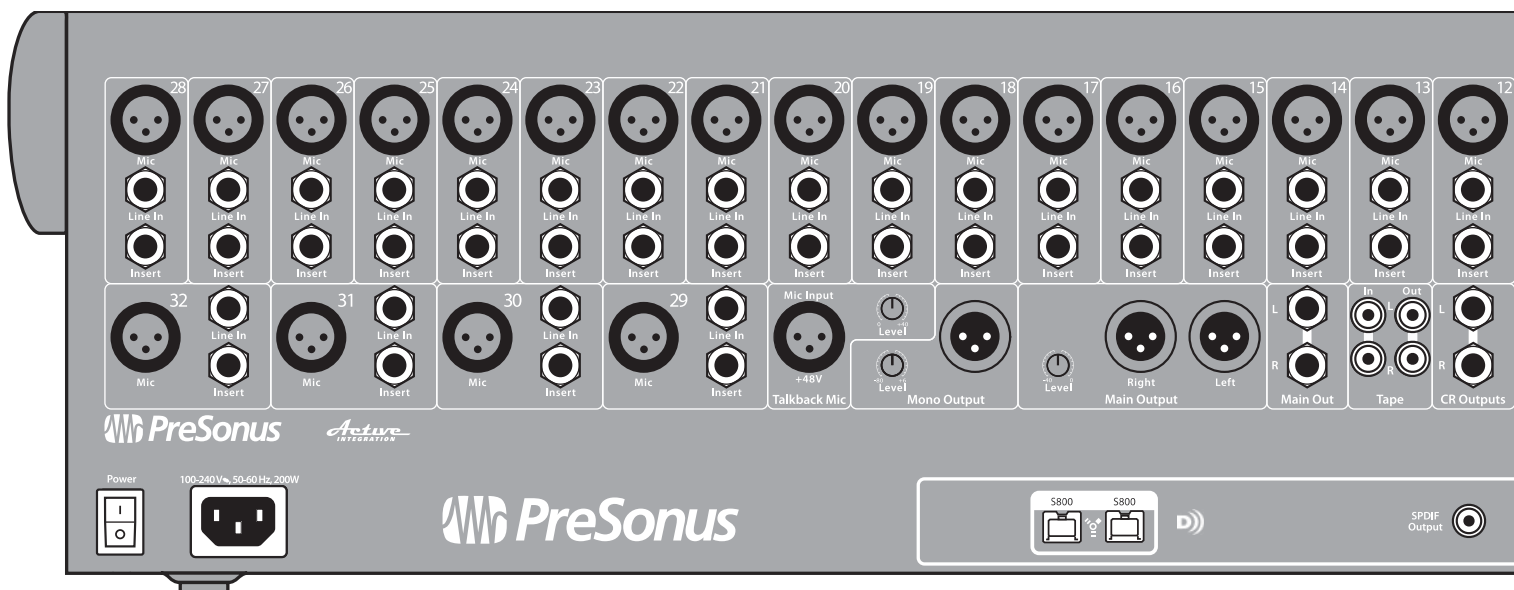
### Capture™ 2 Multitrack Recording

- Automatically scales to fit StudioLive mixer (up to 66 tracks)
- One-click recording (Record Now button)
- Records at up to 32-bit, 96 kHz
- Prerecord captures audio up to a minute before you press Record
- Auto-Save at user-definable intervals
- Automatic session and file recovery
- Sessions store metadata, enabling automatic session naming
- Soundcheck mode—virtually soundcheck using previously recorded material
- Session Lock prevents accidental keyboard access
- Essential editing (cut, copy, paste, etc.)
- Big Meter mode turns your monitor into a gigantic meter bridge
- Stereo Playback mode—use Capture with any computer soundcard
- Peak LED-style meter bridge with clip indicators
- Marker placement and recall



### Virtual StudioLive-AI Remote Control

- Remote control of all main StudioLive 32.4.2 mixer functions via FireWire-connected computer
- Easy drag-and-drop workflow
- Drag presets directly to channels
- Drag parts of presets directly to components in the Fat Channel
- Adjust the Fat Channel gate, compressor, and EQ and the graphic EQs and effects in a huge popup window
- Quickly drop entire scenes to the mixer for instant recall of all channel, effects, and graphic EQ settings
- Load effects quickly by simply dragging presets into the GUI
- Integrates Smaart audio analysis and correction technology
- Makes StudioLive as easy to use as Studio One
- Use the mouse to quickly assign channels to multiple buses, mute, solo, etc.
- Timestamp backups of the entire board





## Studio One® Artist 2 DAW

- Elegant single-window work environment
- Powerful drag-and-drop functionality
- Content browser with convenient sort options and preview player
- Most intuitive MIDI-mapping system available
- Unlimited audio tracks, MIDI tracks, virtual instruments, buses, and FX channels
- Real-time audio time-stretching and resampling
- Automatic delay compensation
- Advanced automation
- Instantly configures to PreSonus interfaces
- Compatible with ASIO-, Windows Audio-, and Core Audio-compliant interfaces
- 25 Native Effects™ 32-bit effects and virtual instrument plug-ins
- 4+ GB of third-party software, loops, and instruments
- Mac®- and Windows®-compatible



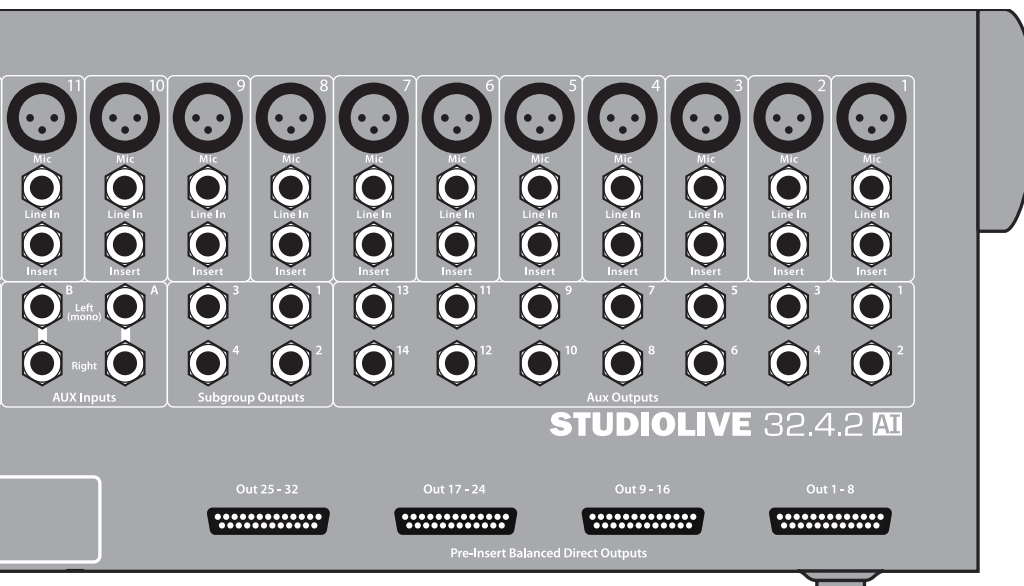
## StudioLive Remote-AI

- Provides wireless control over any StudioLive 32.4.2AI digital mixer
- Overview displays levels, mutes, panning, EQ curves, and Fat Channel processing for multiple channels at once
- Aux view shows the levels, panning, and Fat Channel processing for the Aux sends and internal FX buses
- GEQ view lets you adjust the graphic EQs
- Control Talkback on/off, routing assignments, and Scene recall for hard-drive-based scenes
- Portrait view shows every parameter for a single channel
- Control any StudioLive 32.4.2AI mixer on the wireless network from one iPad
- Multiple iPads can control the same StudioLive 32.4.2AI
- Set permissions in the StudioLive system menu so each iPad can control FOH (all functions) or aux mix only or access can be denied
- Free from the Apple App Store



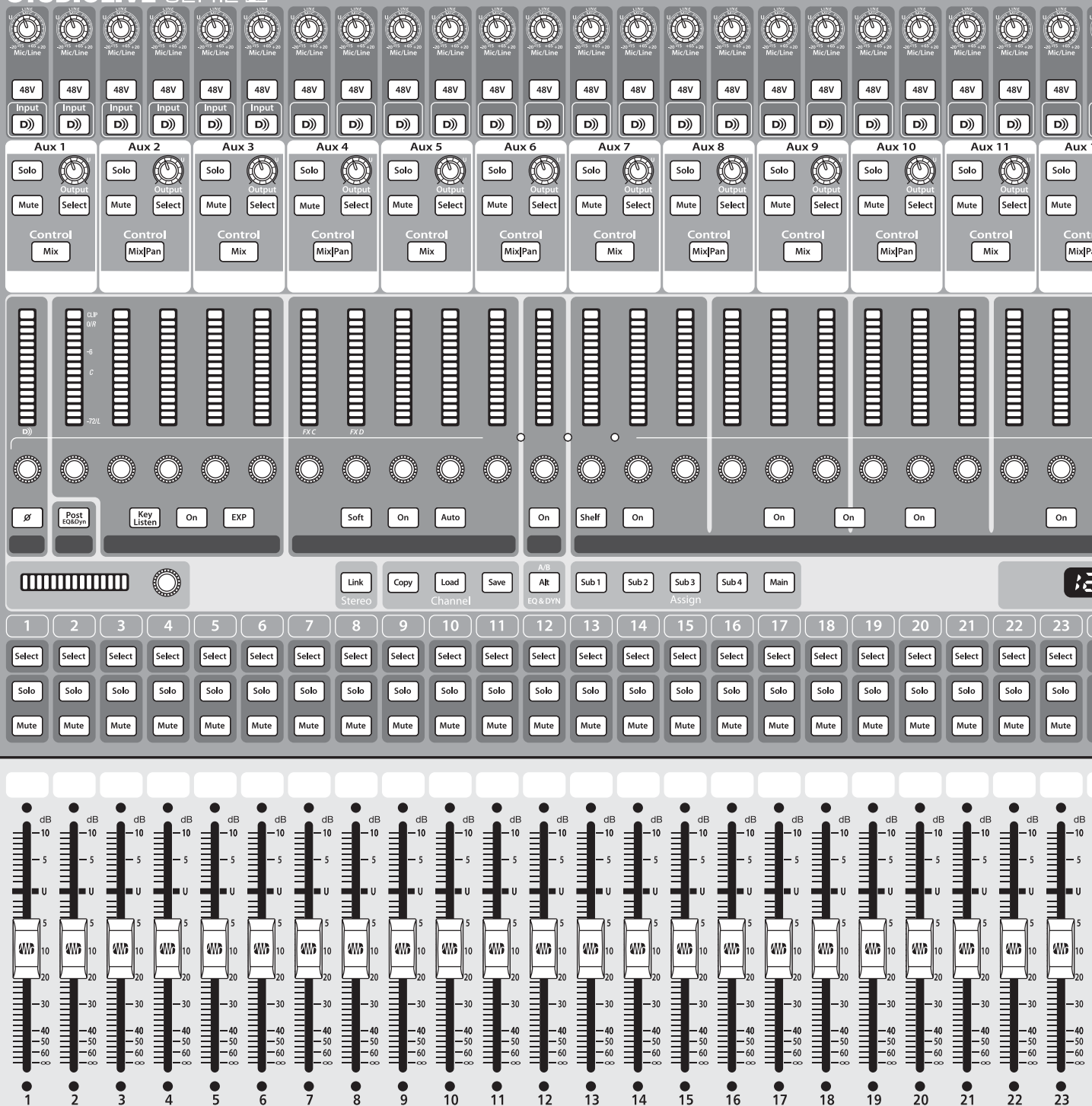
## QMix™-AI

- Provides wireless control over aux mixes on any StudioLive 32.4.2AI digital mixer on the wireless network from an iPhone or iPod touch
- Portrait view shows Wheel of Me, where you can select multiple “Me” channels and control their levels simultaneously
- Landscape view provides control of all aux-send levels and panning (for linked auxes)
- Aux mixes can be named (up to 10 characters)
- Multiple iPhones and iPod touches can control the same StudioLive 32.4.2AI
- Set permissions in the StudioLive system menu so each iPhone and iPod touch can control only one specific aux mix or access can be denied
- Free from the Apple App Store

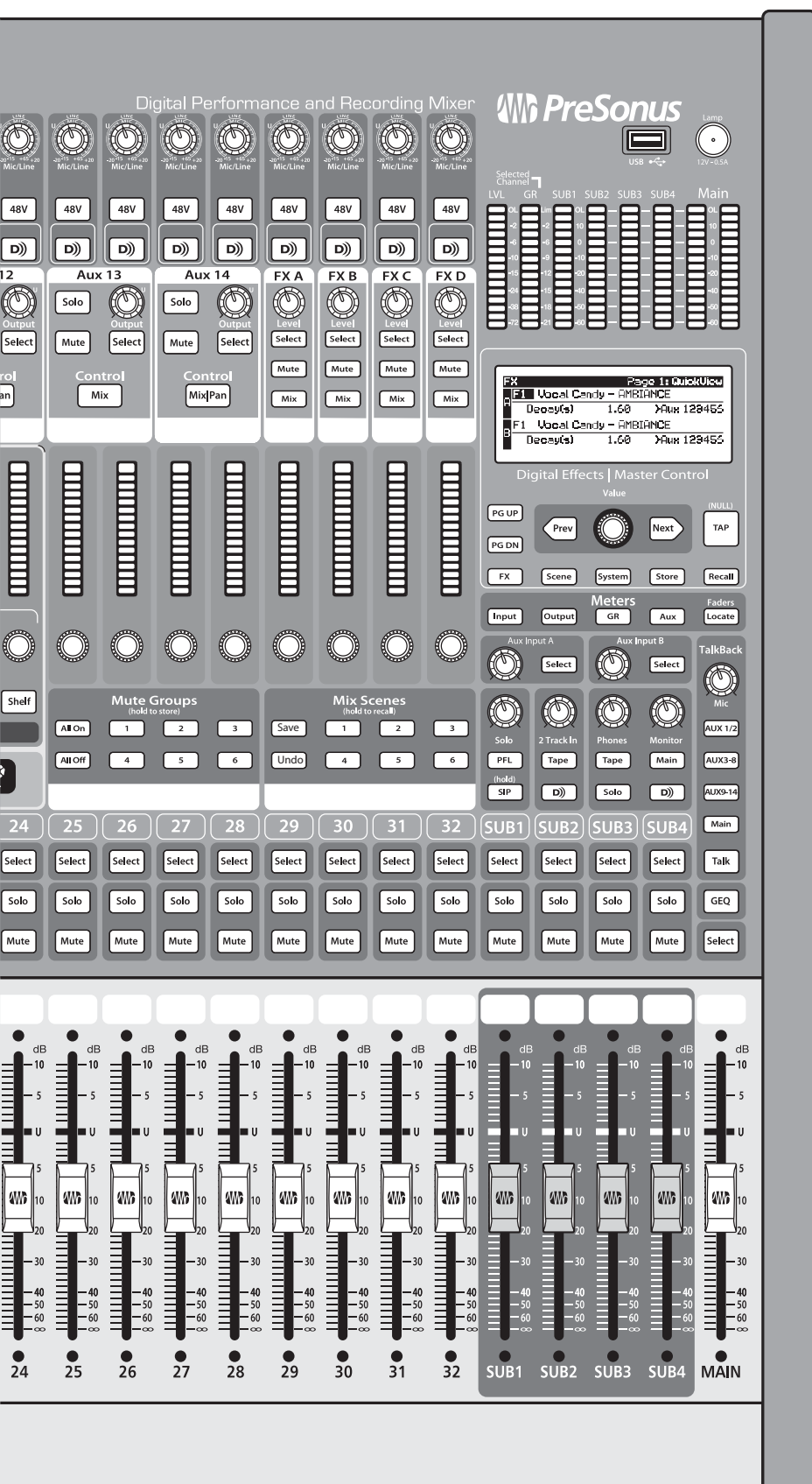




# STUDIOLIVE 32.4.2 AI







Using either wireless connection, the mixer can be directly controlled from a laptop or iPad®, and the aux mixes can be controlled from an iPhone® or iPod touch®; a FireWire connection to a computer is not required.

## Muting and Soloing

Every channel, subgroup, and aux bus has Solo and Mute buttons, and the four FX buses have Mute buttons. A Solo in Place button is provided, and the Cue bus is switchable between AFL and PFL. The Solo and Main bus, Tape Input, and Main Digital return can be monitored via the Control Room Outputs. Six Mute Groups are provided and include All On and All Off buttons.

All buttons on the mixing surface glow gently when inactive and brightly when selected for easy viewing in low-light conditions. The mixer also offers a 12 VDC, BNC lamp socket.

## Audio Outputs

Main outputs are on both XLR and balanced ¼" jacks, and a full-range XLR Mono output is provided. All Main Outputs can be used at the same time and are controlled by the Main bus fader. The levels for the XLR Mono output and the stereo XLR and TRS outputs can be adjusted using two volume pots on the back panel. The signal can be attenuated to -40 dB and boosted up to +10 dB.

The Subgroup, Aux Send, and Control Room outputs are balanced ¼" jacks, as are the two stereo Aux returns. The stereo tape sends and returns use RCA jacks. Pre-insert, analog direct outputs are provided on DB25 connectors. A stereo coax S/PDIF digital output is included.

## Processing: Fat Channel and Effects

The StudioLive 32.4.2AI's Fat Channel™ processing section offers a 4-band fully parametric EQ with switchable shelving on the low and high bands, individual band on/off switches, and global EQ on/off; full-featured compressor; limiter with variable threshold; and expander/gate with Key Listen and Key Filter on every channel, aux, and subgroup.

Two complete sets of EQ and dynamics-processor settings can be saved for every channel and bus and can be A/B-compared using the Alt button.

The Fat Channel also provides a high-pass filter on each channel, aux, and effects bus. In addition, the Fat Channel provides panning, subgroup and main assigns; sends to each aux and effects bus; and phase reverse for each channel. The Fat Channel's 16-segment, multipurpose LED meters offer 4 modes for visually monitoring the levels of all 24 inputs: post-gain and pre-dynamics and fader; post-dynamics and fader; the amount of gain reduction; or the fader settings for a saved scene. These meters can also be used to display the output volume of each of the 14 aux sends and four FX buses, as well as displaying the boost/cut for each band of the graphic EQ.

Channels can be linked in stereo as odd-even pairs (Ch. 1-2, 3-4, etc.), and a horizontal LED Pan meter displays the pan position for the selected channel or linked channels. The Fat Channel can be inserted anywhere there is a blue Select button; when a Select button is fully lighted, the Fat Channel is active on that channel, aux, etc.

Delay and reverb are delivered by four stereo, 32-bit floating-point effects processors—two for delay and two for reverb—that are assigned to dedicated effects buses and come with 50 user-editable factory presets and 49 empty locations for user-created presets. An LCD display gives access to the effects parameters, graphic EQ, scene store/recall, channel strip store/recall, and system settings.

### Metering and Power

In addition to the multifunction meters in the Fat Channel, the StudioLive 32.4.2AI has a main metering section featuring 15-segment LED meters that display the levels of the currently selected channel or bus, the four subgroups, and the left and right channels of the Main bus. This section features the same metering modes as the Fat Channel: pre-dynamics and fader, post-dynamics and fader, the amount of gain reduction applied to each subgroup and the Main bus, or the fader settings for a saved Scene. In addition, the main meter section offers a dedicated Gain Reduction meter for the currently selected channel.

The StudioLive 32.4.2AI operates on 100-240 VAC and employs a standard IEC power connector.

### Bundled Recording and Remote-Control/Editor/Librarian Software

Bundled software includes PreSonus' Capture™ multitrack audio-recording application (primarily intended for recording live events), PreSonus Studio One® Artist digital audio workstation (for audio and MIDI production), and PreSonus Virtual StudioLive™-AI bidirectional mixer-control application, which provides editor/librarian features and enables real-time adjustment of the most commonly used mixer settings. VSL-AI incorporates Smaart Measurement Technology™, which provides advanced audio analysis, feedback suppression, and sound-system optimization functions.

### SL Remote-AI: iPad Remote Control

The StudioLive 32.4.2AI can be wirelessly controlled from an Apple iPad® using PreSonus StudioLive Remote-AI, and any aux bus can be wirelessly controlled from an iPhone® or iPod® Touch using PreSonus QMix™-AI.

StudioLive Remote-AI for iPad, available free from the Apple App Store, provides direct wireless control over the StudioLive 32.4.2AI digital mixer.

StudioLive Remote-AI's Overview displays the parameters for multiple channels at once. Tap for a close-up view of Fat Channel processing, and navigate between the gate, compressor, EQ, and so on with the flick of a fingertip. Control talkback on/off and routing assignments, as well as scene recall.

The Aux view shows the levels, panning, and Fat Channel processing for the Aux sends and internal FX buses, while the GEQ view lets you adjust the graphic EQ.

Hold the iPad in Portrait position to see every parameter for a single channel. StudioLive Remote-AI can control any StudioLive 32.4.2AI mixer on the wireless network, and multiple iPads can control the same StudioLive 32.4.2AI.

In the StudioLive 32.4.2 system settings, you can set permissions so that users can control FOH, all auxes, or only one aux mix. You also can block access entirely. When Channel Rename is enabled, channels, auxes, and subgroups can be renamed remotely.

### QMix-AI: Wireless Aux- Mix Control

With free PreSonus QMix™-AI software, up to ten musicians can simultaneously control their StudioLive™ 32.4.2AI monitor (aux) mixes using an iPhone® or iPod touch®. Each musician can control one of 14 different aux mixes or have control over all mixes.

When each iPhone connects to the new network, QMix-AI will discover all StudioLive AI-series mixers on the network. In this way, each musician can quickly and easily create an aux mix that includes all mixer channels.

In the StudioLive 32.4.2AI system settings, you can set permissions so that each iPhone user can only control one specified aux mix (or all mixes), and you can block access entirely. You can also name the aux mixes.

On the Me page, the musicians select the mixer channels they want to instantly control in their personal monitor mix. With this done, the Wheel of Me, a virtual thumbwheel, adjusts the volume of the “Me” channels in relation to the rest of the monitor mix. You can have as much “Me” as you want: If you push “Me” levels past Unity Gain level, QMix-AI simply reduces the level of the other mix channels.

Unless permissions are set to Wheel Only, you can rotate the iPhone to Landscape view, which provides control of the aux-mix send level and pan position (for linked auxes) for each channel and aux. You can also set permissions to make you the designated onstage monitor-mix engineer, with access to all of the QMix-AI monitor mixes.

### Smaart Measurement Technology™

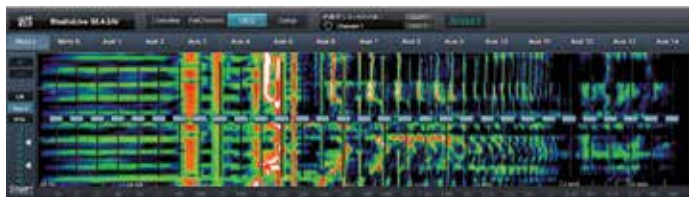
**Smaart**  
Measurement Technology

Rational Acoustics' Smaart Measurement Technology™ is integrated into PreSonus' Virtual StudioLive-AI remote-control/editor/librarian software for StudioLive 32.4.2AI mixers. Smaart is a set of advanced audio-analysis tools for Mac® and Windows® that is designed for professional audio engineers.



Working with Rational Acoustics, PreSonus has streamlined Smaart's Response™ and Locator™ modules to make it easy to view a PA system's frequency response, providing all information necessary to adjust the sound system using the StudioLive's parametric EQs. Smaart's Spectra™ RTA and Spectrograph can be viewed on top of each output's graphic EQ or parametric EQ and is also available on every channel's parametric EQ so you can analyze a mix, easily spot troubling frequencies on a channel, or quickly ring out floor monitors. The implementation is accessible and intuitive, so that inexperienced clients can make basic adjustments to the system, and experienced users can adjust the system quickly and precisely.

### The Smart Spectra Spectrograph



The Smart Spectra Spectrograph shows level versus frequency versus time. It graphs a continuous series of spectrum measurements with frequency on one axis, time on another, and level indicated by colors. The display lets your view five seconds of spectral information so you can view long term trends in your mix or input channel.

When a frequency band in the spectrum is above the lower threshold, it shows up on the plot, starting with a dark blue color at lower levels, and transitioning through green, yellow, orange, and red with higher levels — eventually showing up as white if the level reaches or exceeds the upper threshold. This is particularly useful for quickly identifying feedback frequencies—a constant feedback tone stands out vividly as a vertical line—so that you can quash them with StudioLive graphic or parametric EQs.

### Smaart System Check Wizards

Using three Smaart System Check Wizards and a pink-noise generator built into Virtual StudioLive-AI, StudioLive 32.4.2AI users can easily view the frequency-response trace of a venue, calculate and set delay-system timing, and verify output connectivity.

To use these tools, you need to connect a measurement microphone to the StudioLive mixer's Talkback input. PreSonus offers the PRM1 precision measurement microphone for this purpose but any quality measurement microphone can be used.

### Smaart Room Analysis Wizard



The Smart Room Analysis (SRA) Wizard is an automated process that guides you through the steps of acquiring a

frequency-response trace and then overlays the resulting trace on the parametric EQ so you can immediately make adjustments to remove unwanted anomalies in the room. This measurement is calculated using Rational Acoustics' transfer function, a set of proprietary algorithms that compare the signal from a measurement mic to computer-generated pink noise.

The SRA Wizard offers two analysis types. Basic Analysis takes a single measurement of your system. When analysis is complete, the wizard will continue to output pink noise through your system while you EQ, allowing you to view the effects of your filters in real-time. Advanced Analysis takes three separate measurements, with the mic in different positions, and will generate a more accurate frequency-response trace of your system by averaging the measurements together.

Since Smaart is integrated into Virtual StudioLive-AI, the software recognizes stereo-linked outputs and treats them accordingly.

### Smaart System Delay Wizard

The Smaart System Delay (SSD) Wizard calculates and sets the correct amount of delay time between two full-range speaker systems, using the StudioLive 32.4.2AI subgroup-output delays. This helps you to time-align the outputs of secondary (e.g., side and rear) speaker systems with the output of the main front speakers in a front-of-house PA system. You can time-align multiple secondary systems using this tool and the StudioLive mixer's four subgroup outputs.



### Smaart Output Check Wizard

The Smaart Output Check (SOC) Wizard helps you to quickly verify that the StudioLive 32.4.2AI system outputs are routed correctly and are passing signal.

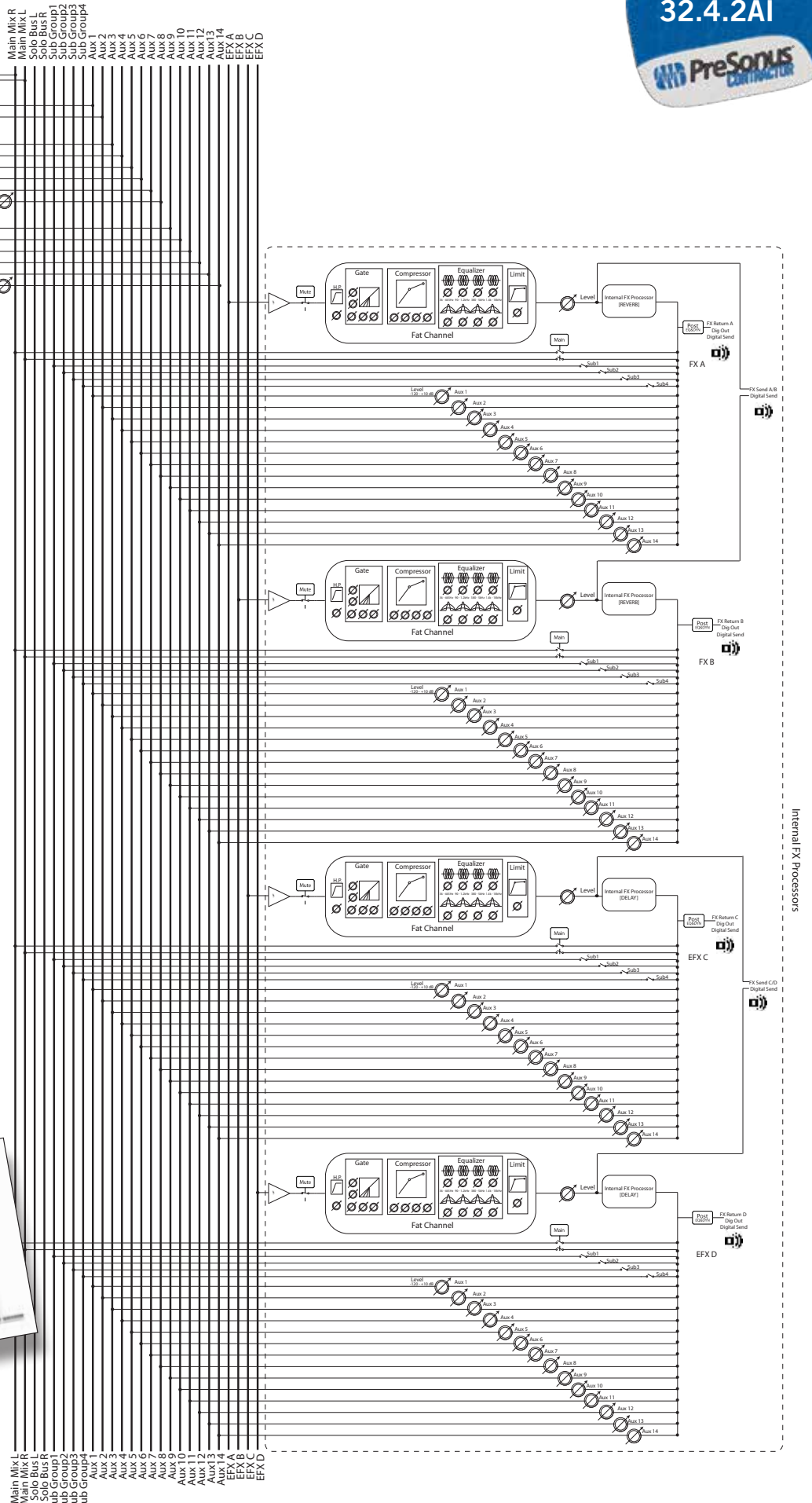
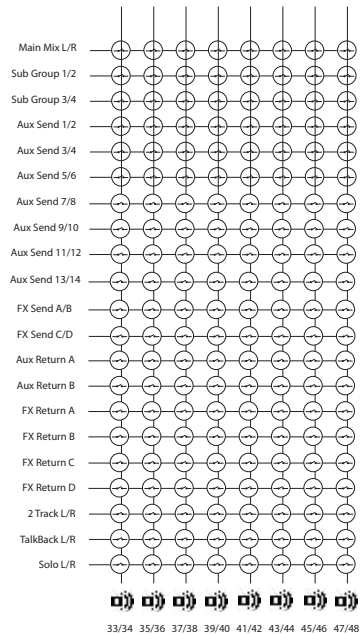


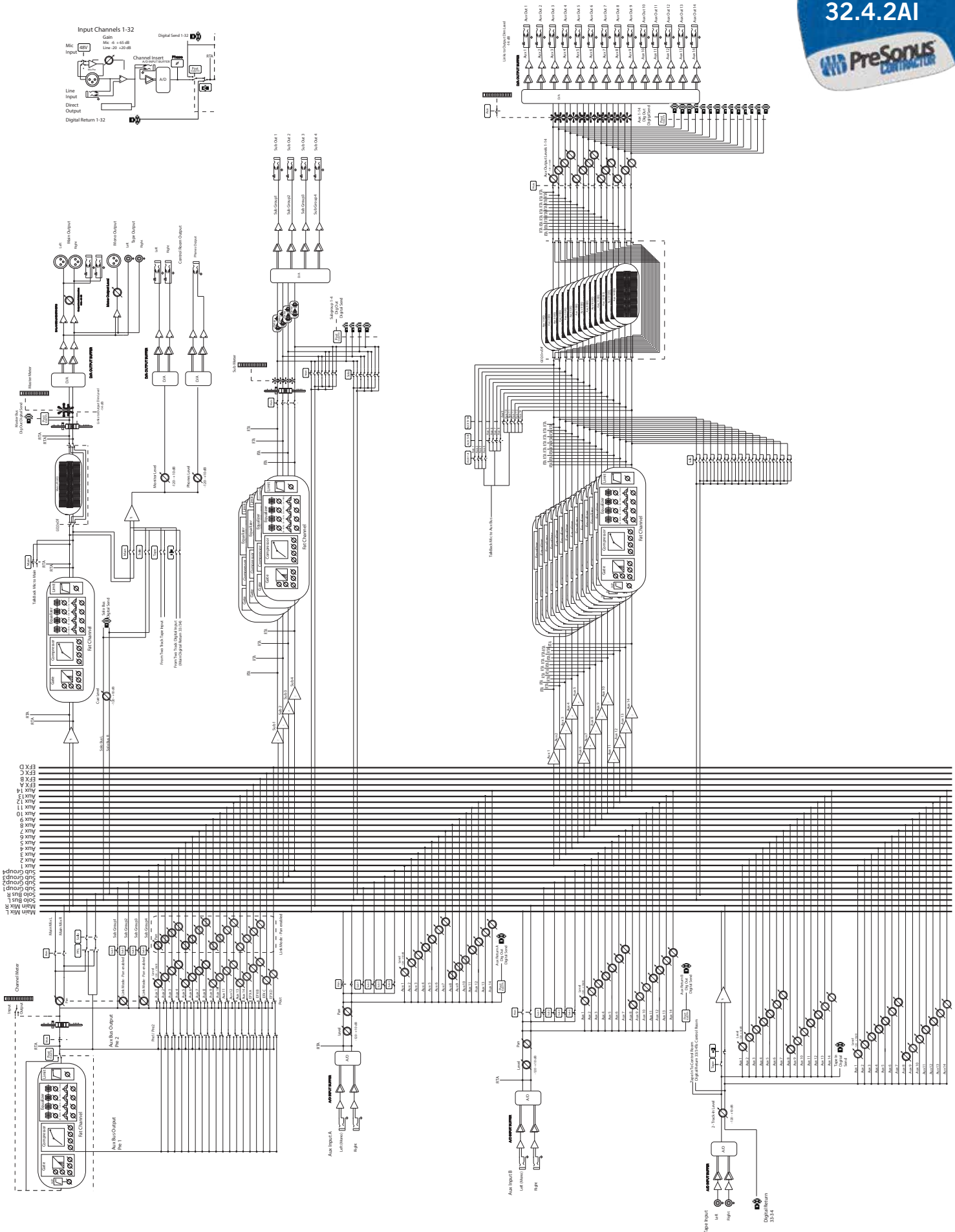
### iPad Remote Control

At any step in any of the Wizards, simply click the Go Remote button and grab an iPad. StudioLive Remote-AI (free from the Apple App Store) will launch at the same step in the Wizard process, and you can continue the Wizard wirelessly. Give your iPad FOH permission in Virtual StudioLive-AI, and you can launch the Smaart Wizards remotely.



**StudioLive™  
32.4.2AI**





# StudioLive 32.4.2AI Architect & Engineering Specifications

Also available as a Word document:

PreSonus\_StudioLive\_32.4.2\_AE.doc

## 1. GENERAL CONFIGURATION.

The mixer shall be a digital mixer and shall accommodate 32 line and/or 32 microphone signals, channels 1–32; and shall include 32 analog Send/Return channel inserts; 32 channel Direct Outputs; 2 stereo pairs of Aux Return inputs; 1 stereo pair of RCA-type phono Tape inputs; 2 stereo pairs of Main mix outputs; 1 Main mix mono output; 1 stereo pair of Control Room outputs; 4 Subgroup outputs; 14 Aux Send outputs; 1 stereo pair of RCA-type phono Tape outputs; 1 stereo Headphones output; 1 stereo S/PDIF coaxial digital output; and two FireWire S800 ports that can connect to a Mac or Windows PC for recording and control and to act as a pass-through for attaching an external storage drive. The mixer shall be capable of placement on a table and shall be fitted with 1 rocker-type Power switch; 1 3-pin IEC power receptacle that accepts 100–240 VAC; 1 BNC socket, providing 12 VDC at 0.5A for fitting an external lamp (not included); and shall be entirely self-contained.

## 2. MIXER INPUTS.

**CHANNELS 1–32:** Each channel shall include an electrically balanced, mono microphone input, using an XLR-3-F-type connector, accepting nominal levels from -30 dBu to +16 dBu via a rotary Trim control. Each channel shall include one XMAX™ Class A solid-state microphone preamplifier. Phantom power shall be individually enabled/disabled for each channel via a button-type switch. Thirty-two balanced line inputs shall be wired using ¼" TRS phone jacks and shall accept nominal levels from -10 dBV to +4 dBu and maximum input levels of +22 dBu. Each channel shall include a pre-fader Insert point, using ¼" TRS phone jacks (tip=send, ring=return, sleeve=ground), delivering and accepting nominal levels from -10 dBV to +4 dBu and maximum input levels of +18 dBu. In addition, each channel shall accept an input signal from the digital return bus. The input of each channel shall be switchable between the analog inputs and the digital (FireWire or optional Thunderbolt or Dante) input, using a button-type switch. Each channel, subgroup, and auxiliary bus shall have a Solo switch and a Mute switch. Each channel shall have a dedicated, 100 mm level-control fader with marked increments at ∞, -60, -50, -40, -30, -20, -10, -5, 0, +5, and +10 dB.

**OTHER INPUTS:** The mixer shall include 4 balanced Aux Return inputs, forming 2 stereo pairs, using ¼" TRS phone jacks, accepting nominal levels from -10 dBV to +4 dBu and maximum input levels of +18 dBu; a Talkback microphone input that shall include one XMAX™ Class A solid-state microphone preamplifier with 48V phantom power always present, plus a rear-panel rotary level control; and 1 stereo pair of Tape Input jacks, using unbalanced RCA-type phono jacks, accepting nominal levels from -10 dBV to +4 dBu. The Tape Input source shall be switchable between the analog Tape Input and the Digital (FireWire) Input, using a button-type switch. The Tape Input level shall be controllable using a rotary encoder.

## 3. MIXER OUTPUTS.

**MAIN OUTPUTS:** The mixer's Main mix-bus stereo outputs shall be fitted in three ways: Using balanced XLR jacks, delivering a maximum output of +24 dBu, with an output impedance of 100Ω; using balanced ¼" TRS phone jacks, delivering a maximum output of +24 dBu; and using unbalanced RCA-type phono jacks (labeled Tape Out), delivering nominal levels from -10 dBV to +4 dBu. Output level for both the XLR and TRS Main mix-bus outputs shall be controllable using a single rear-panel knob. The Main mix-bus Mono output shall be fitted with one balanced XLR jack, delivering nominal levels from -10 dBV to +4 dBu and a maximum output of +24 dBu, with an output impedance of 100Ω; and it shall include a rear-panel rotary level control.

**OTHER OUTPUTS:** Channels 1–32 shall include pre-insert, balanced, analog Direct Outputs, using four sub-DB25 jacks (channels 1–8, 9–16, 17–24, and 25–32), delivering nominal levels from -10 dBV to +4 dBu. The mixer shall include 4 Subgroup outputs, using balanced ¼" TRS phone jacks, delivering a maximum output level of +18 dBu and nominal levels from -10 dBV to +4 dBu, with an output impedance of 100Ω; 1 stereo pair of Control Room outputs, using balanced ¼" TRS phone jacks, delivering a maximum output level of +18 dBu and nominal levels from -10 dBV to +4 dBu, with an output impedance of 100Ω; 14 Aux Send outputs using balanced ¼" TRS phone jacks, delivering a maximum output level of +18 dBu and nominal levels from -10 dBV to +4 dBu, with an output impedance of 100Ω; and 1 stereo Headphones output,

using an unbalanced ¼" TRS phone jack (tip=left, ring=right, sleeve=ground), and with a maximum output level of 150 mW.

## 4. AUXILIARY SEND SECTION.

In addition to the controls listed in section 2 (MIXER INPUTS), the mixer shall include 14 sets of Aux Send controls, each of which shall have a pre/post switch, a Solo switch, a Mute switch, an Output level control that employs a rotary encoder, and a Select switch for controlling the Fat Channel processing section for the selected Aux Send.

A set of six assignable mute groups with All On and All Off buttons shall mute any combination of channels, subgroups, and aux buses.

## 5. DYNAMICS PROCESSING, PARAMETRIC EQ, AND BUS ASSIGNMENT.

All input channels, aux sends, subgroups, and the Main bus shall be routed to a section called the "Fat Channel" when their associated Select buttons are pressed. The Fat Channel shall provide the following digital signal-processing: highpass filter and polarity invert (input channels only), switchable gate/expander, compressor, limiter, pan, and four-band fully parametric equalizer (EQ).

The gate/expander shall include Key Filter, Key Listen, Threshold, Range, Attack, and Release parameters. The compressor shall have sweepable Threshold, Ratio, Attack, Release, and Gain; shall include an Auto Attack and Release feature; and shall be switchable between hard and soft knee. The limiter shall have a sweepable Threshold.

The four-band parametric EQ shall be a second-order shelving filter. The Low band shall have a sweepable frequency from 36 Hz to 465 Hz, ±15 dB and shall be switchable between shelf and peaking. The Low Mid band shall have a sweepable center frequency from 90 Hz to 1.2 kHz, ±15 dB. The High Mid EQ shall have a sweepable center frequency from 380 Hz to 5 kHz, ±15 dB. The High band shall have a sweepable frequency from 1.4 kHz to 18 kHz, ±15 dB and shall be switchable between shelf and peaking. Each band shall have a sweepable Q ranging from 0.1 to 4 and shall be individually switchable on/off; a separate switch shall allow the entire parametric EQ to be enabled/disabled.

The mixer shall be able to store two complete sets of Fat Channel EQ and dynamics-processor settings for every channel and bus; an Alt button shall enable A/B-comparison between the two sets for a given channel or bus.

In addition, the Fat Channel shall enable signals to be assigned to the subgroups and Main bus and shall enable adjacent odd-even channels (e.g., channels 1-2, 3-4, etc.) to be linked in stereo. The Fat Channel also shall provide button switches that enable channel settings to be copied, loaded, and saved to and from onboard memory.

The Fat Channel also shall include eight Quick Scene buttons for creating and recalling a scene without storing it to permanent memory and giving it a name.

## 6. MIXER OUTPUT SECTION.

The mixer shall have 1 stereo 100 mm fader for the Main bus, providing up to 10 dB gain, and 4 mono 100 mm Subgroup faders, each providing up to 10 dB gain. These 5 faders shall be marked at ∞, -60, -50, -40, -30, -20, -10, -5, 0, +5, and +10 dB. The mixer shall have a Solo bus that shall include a rotary Cue Mix volume control; a button switch that shall toggle between After-Fader Listen (AFL) and Pre-Fader Listen (PFL); and a Solo-In-Place (SIP) mode, which shall be engaged using a button switch. The mixer shall have a Monitor bus that feeds the Control Room and Headphone outputs. The Headphone output level and Control Room output level shall be controllable with dedicated rotary encoders. The Tape Input, Solo bus, Main bus, and main L/R FireWire returns shall each be assignable to the Monitor bus using dedicated button-type switches. The mixer shall have a Talkback mic section that shall include a rotary level control; four buttons that assign the Talkback mic to Aux Sends 1-2, 3-6, and 7-14 and to the Main bus; and a latching Talkback (Talk) on/off button.

## 7. EFFECTS AND GRAPHIC EQ.

The mixer shall include four stereo, 32-bit effects processors, two of which shall be dedicated to reverb effects and two dedicated to delay effects, and shall include an onboard library of effects presets. The effects library and effects parameters shall be accessed using an FX button.

The mixer shall also include 8 dual-mono (16 channels), 31-band, 1/3-octave graphic equalizers with curve-fitting algorithm. The graphic EQs shall be assignable to the Main mix bus, the subgroups, or the aux sends. Gain attenuation shall be ±15 dB. A "GEQ" switch shall display the Graphic EQ menu on the LCD screen, providing fast access to the GEQ settings.

## 8. MEMORY AND GENERAL SETTINGS.

The mixer shall provide digital memory (storage) for the status of all digital mixer parameters but not for the status of the

analog channel trims.

The mixer shall enable storage of up to 80 global scenes, 48 channel-strip scenes, and 50 presets for instruments and vocals. The mixer shall permit settings to be copied between channels. Memory shall also be provided for effects settings.

The mixer shall include a Digital Effects I Master Control section that includes an LCD display and controls that provide access to systems settings and the graphic equalizer and that enables store and recall of mixer scenes and Fat Channel and effects settings. These controls shall include a rotary Value encoder, Previous and Next buttons, Page Up and Page Down buttons, an FX button for accessing the effects, and Scene, System, Store, and Recall buttons. This section also shall include a Tap button, the primary purpose of which is setting tempo for the delay effects described in Section 7 (EFFECTS AND GRAPHIC EQ).

## 9. AUDIO INTERFACE.

The mixer shall provide a built-in computer interface for recording and playing back audio. The interface shall enable 48 audio streams to be sent to a Mac or PC computer and 34 streams to be returned from the computer to the mixer via FireWire S800, as described in Section 1 (GENERAL CONFIGURATION) and Section 2 (MIXER INPUTS). The interface shall support digital audio with up to 24-bit bit depth and (selectable) 44.1 or 48 kHz sample rate.

## 10. METERING.

**MAIN METERING:** The mixer shall provide individual level meters for the left and right channels of the Main bus and for each of the four subgroups; these 6 meters shall be 15-segment LED meters, each with labeled points at -60, -50, -40, -20, -10, 0, and +10 dB, with an additional point labeled "OL" (Overload). The Main and Subgroup meters shall be calibrated so that a 0 dBu signal at the Main or Subgroup output shall be indicated as 0 dB on the meters, ±1 dB. The mixer shall provide one 15-segment LED meter to display the level of the currently selected channel; this meter shall have labeled points at -72, -38, -24, -15, -10, -6, and -2 dB, with an additional point labeled "OL" (Overload). The mixer shall provide one 15-segment LED meter to display the gain reduction for the currently selected channel; this meter shall have labeled points at -21, -18, -15, -12, -9, -6, and -2 dB. Button switches shall be provided that turn PFL input metering on/off; turn post-fader output metering on/off; turn gain-reduction metering on/off; turn aux bus master output metering on/off, and turn fader-recall (Locate) metering on/off.

**MULTIPURPOSE METERING:** Multipurpose metering shall be provided in the Fat Channel section (described in Section 5, DYNAMICS PROCESSING, PARAMETRIC EQ, AND BUS ASSIGNMENT) that shall display the levels of all 32 inputs, post-gain and pre-dynamics, pre-EQ, and pre-fader; the levels of all 32 inputs, post-dynamics, post-EQ, and post-fader; the gain reduction for all 32 inputs; the output volume of each of the 14 aux sends; the gain levels for each band of any of the 31-band graphic EQs, or the fader settings for a saved scene. A horizontal LED Pan meter shall be provided that shall display the pan position for the selected channel or linked channels.

## 11. NETWORKING FEATURES.

The mixer shall include an Ethernet control port and a dedicated USB 2.0 control port that accepts an included USB Wi-Fi LAN adapter. Using either of these connections, the mixer shall be capable of being networked to a Mac or Windows computer and to an iOS device by any of the following methods:

- A wired Ethernet connection between the mixer and a Mac or Windows computer.
- A wired Ethernet connection between the mixer and a Wi-Fi-capable router that is networked wirelessly to a Mac or Windows computer and/or an iOS device.
- A wireless connection between the mixer's Wi-Fi LAN adapter and a Wi-Fi-capable router that is networked wirelessly to a Mac or Windows computer and/or an iOS device.

The mixer shall include an expansion-card slot that accepts optional I/O and networking cards. Options shall include a Thunderbolt-FireWire S800-S/PDIF Out card and an Ethernet/Dante-FireWire S800-S/PDIF Out card.

## 12. BUNDLED SOFTWARE.

The mixer shall ship with at least three software packages for Mac and Windows computers. These packages shall include:

- A multitrack audio-recording application primarily intended for recording live events.
- A digital audio workstation application that enables record-





ing, editing, and playback of both MIDI data and audio.

•A bidirectional mixer-control/editor/librarian application that provides preset- and scene-management features, enables real-time adjustment of the most commonly used mixer settings, and sets permissions for optional iOS wireless-control apps. The software shall also incorporate Smaart audio analysis and correction technology.

•The mixer shall also be wirelessly controllable from an Apple iPad®, and its Aux buses shall be controllable from an Apple iPhone® or iPod touch®, using dedicated applications when networked via Wi-Fi (802.11) directly to the mixer using a router or to a networked computer running VSL.

### 13. PHYSICAL CONFIGURATION.

The mixer shall be made of steel, with an aluminum armrest, and shall be painted gray, silver, and blue with black-and-white graphics. The mixer shall weigh 50 lbs, 0 oz (22.68 kg). Dimensions of the mixer shall be 21.31" (54.13 cm) in length, 31.58" (80.22 cm) in width, and 7.02" (17.82 cm) in depth.

### 14. SPECIFICATIONS.

In addition to specifications already cited, the mixer shall meet or exceed the following specifications:

#### Microphone Preamp

##### Input Type

Female, balanced

##### Frequency Response to Direct Output (at unity gain)

20-40 kHz,  $\pm 0.5$  dBu

##### Frequency Response to Main Output (at unity gain)

20-20 kHz,  $\pm 0.5$  dBu

##### Input Impedance

1 k $\Omega$

##### THD to Direct Output (1 kHz at unity gain)

0.007%, +4 dBu, 20-20 kHz, unity gain, unwtcd

##### THD to Main Output (1 kHz at unity gain)

0.005%, +4 dBu, 20-20 kHz, unity gain, unwtcd

##### ELN to Direct Output

125 dB unwtcd, 130 dB A-wtd

##### S/N Ratio to Direct Output

(Ref = +4 dB, 20 kHz BW, unity gain, A-wtd)

105 dB

##### S/N Ratio to Main Output

(Ref = +4 dB, 20 kHz BW, unity gain, A-wtd)

94 dB

##### Common Mode Rejection Ratio (1 kHz at unity gain)

65 dB

##### Gain Control Range ( $\pm 1$ dB)

-15 dB to +65 dB

##### Maximum Input Level (unity gain)

+22 dBu

##### Phantom Power ( $\pm 2$ VDC)

48 VDC

#### Line Inputs

##### Type

$\frac{1}{4}$ " TRS Female, balanced mono

##### Frequency Response to Direct Outputs (at unity gain)

10-40 kHz,  $\pm 0.5$  dBu

##### Frequency Response to Main Outputs (at unity gain)

20-20 kHz,  $\pm 0.5$  dBu

##### Input Impedance

10 k $\Omega$

##### THD to Direct Output (1 kHz at unity gain)

<0.007%, +4 dBu, 20-20 kHz, unity gain, unwtcd

##### THD to Main Output (1 kHz at unity gain)

<0.005%, +4 dBu, 20-20 kHz, unity gain, unwtcd

##### S/N Ratio to Direct Output

(Ref = +4 dBu, 20 kHz BW, unity gain, A-wtd)

105 dB

##### S/N Ratio to Main Output

(Ref = +4 dBu, 20 kHz BW, unity gain, A-wtd)

94 dB

##### Gain Control Range ( $\pm 1$ dB)

-20 dB to +20 dB

##### Maximum Input level (unity gain)

+22 dBu

#### Tape Inputs

##### Type

RCA Female, unbalanced (stereo pair)

##### Maximum Input Level

+22 dBu

#### Auxiliary Inputs

##### Type

$\frac{1}{4}$ " TRS Female, balanced (2 stereo pairs)

##### Maximum Input Level

+22 dBu

#### Main Outputs

##### Type

XLR Male, balanced (stereo pair);  $\frac{1}{4}$ " TRS Female, balanced (stereo pair); XLR Male, balanced (mono)

##### Rated Output Level

+24 dBu

##### Output Impedance

100 $\Omega$

#### Aux Outputs

##### Type

$\frac{1}{4}$ " TRS Female, balanced (mono)

##### Rated Output Level

+18 dBu

##### Output Impedance

100 $\Omega$

#### Subgroup Outputs

##### Type

$\frac{1}{4}$ " TRS Female, balanced (mono)

##### Rated Output Level

+18 dBu

##### Output Impedance

100 $\Omega$

#### Tape Outputs

##### Type

RCA Female, unbalanced (stereo pair)

##### Rated Output Level

+18 dBu

##### Output Impedance

100 $\Omega$

#### Control Room Outputs

##### Type

$\frac{1}{4}$ " TRS Female, balanced (stereo pair)

##### Rated Output Level

18 dBu

##### Output Impedance

100 $\Omega$

#### System Cross Talk

##### Input to Output (Ref = +4 dBu 20-20 kHz, unwtcd)

-90 dB

##### Adjacent Channels (Ref = +4 dBu 20-20 kHz, unwtcd)

-87 dB

#### Noise Gate / Expander

##### Threshold Range

-84 dB to 0 dB

##### Attack Time

0.02s to 500 ms / 0.5 ms

##### Release Time

0.05s to 2s

##### Expander Attenuation Range

2:1 (fixed)

##### Noise Gate Attenuation Range

-84 to 0 dB

##### Key Filter

2nd-order, resonant bypass; Q=0.7

##### Key Listen

Off, 40 Hz to 16 kHz

#### Compressor

##### Threshold Range

-56 dB to 0 dB

##### Ratio

1:1 to 14:1

##### Attack Time

0.2 ms to 150 ms

##### Release Time

40 ms to 1,000 ms

##### Auto Attack and Release

Attack = 10 ms, Release = 150 ms

##### Curve Types

hard and soft knee

#### Limiter

##### Threshold

-56 dB to 0 dB / -28 dBFS

##### Ratio

$\infty$ :1

##### Attack

20 ms

##### Hold

10 ms

##### Release

20 ms

#### Parametric EQ

##### Type

2nd-order shelving filter

##### Low (Lowpass or Bandpass)

36 to 465 Hz,  $\pm 15$  dB

##### Low Mid (Bandpass)

90 Hz to 1.2 kHz,  $\pm 15$  dB

##### High Mid (Bandpass)

380 Hz to 5 kHz,  $\pm 15$  dB

##### High (Highpass or Bandpass)

1.4 kHz to 18 kHz,  $\pm 15$  dB

##### Q (sweepable for each band)

0.1 to 4 / Low Q=0.55, Hi Q=2.0

#### Graphic EQ

##### 31-Band 1/3rd Octave Controls

Curve-fitting algorithm

##### Gain/Attenuation

$\pm 15$  dB

#### Digital Audio

##### ADC Dynamic Range (A-wtd, 48 kHz)

118 dB

##### DAC Dynamic Range (A-wtd, 48 kHz)

118 dB

##### FireWire

S800, 800Mb/s

##### Internal Processing

32-bit, floating point

##### Sampling Rate

44.1, 48 kHz

##### A/D/A Bit Depth

24

##### Reference Level for 0 dBFS

-18 dBu

#### Clock

##### Jitter

<20 ps RMS (20 Hz - 20 kHz)

##### Jitter Attenuation

>60 dB (1 ns in, 1 ps out)

#### Power

##### Connector

IEC

##### Input-Voltage Range

90 to 240 VAC

##### Power Requirements (continuous)

200W

#### Operating Temperature

##### Recommended Ambient Operating Temperature

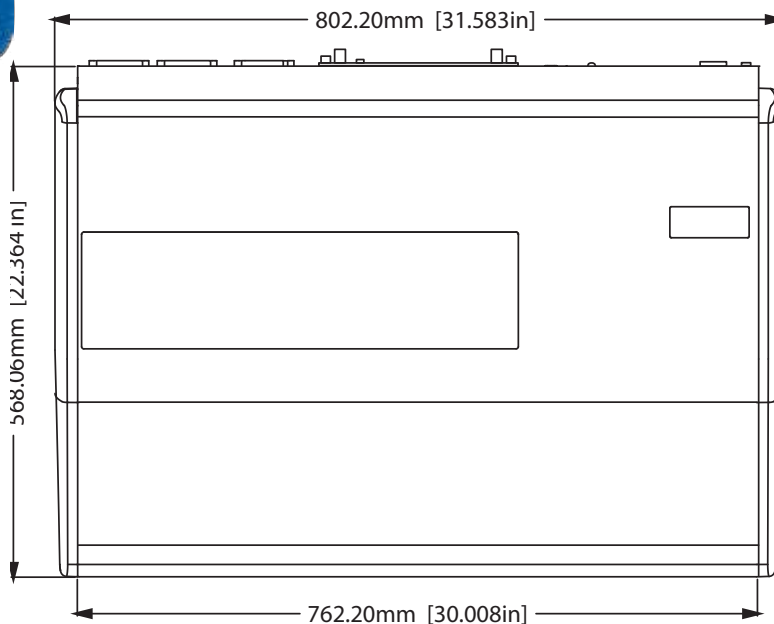
0° to 40° Celsius / 32° to 104° Fahrenheit

The mixer shall be a PreSonus®  
StudioLive™ 32.4.2AI.

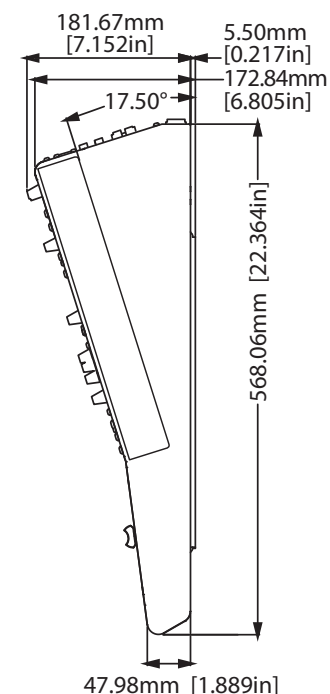
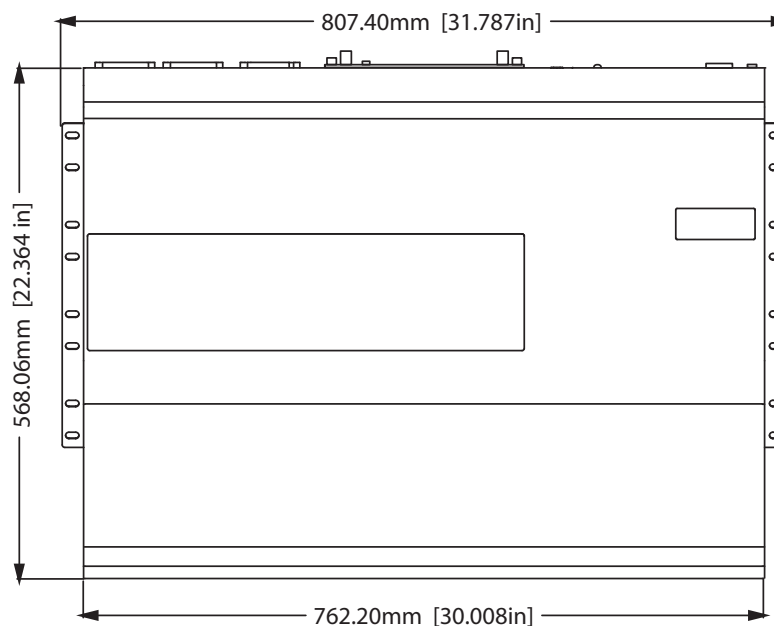
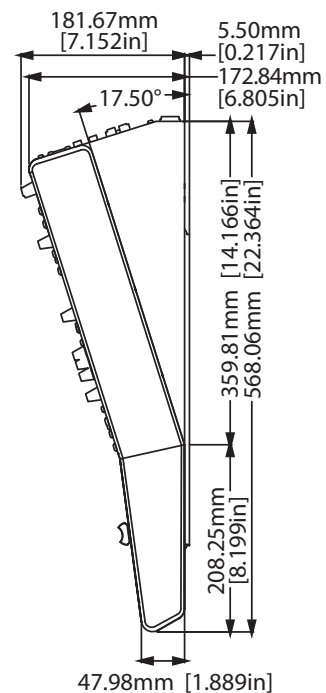




TOP VIEW



RIGHT VIEW



## RESOURCES

@[www.presonus.com/support/downloads/StudioLive-32.4.2AI](http://www.presonus.com/support/downloads/StudioLive-32.4.2AI)

This data sheet: PreSonus\_StudioLive\_32.4.2AI.pdf

CAD drawings: PreSonus\_StudioLive\_32.4.2AI.dxf

A&E Specs: PreSonus\_StudioLive\_32.4.2AI\_AE.doc

## RELATED PRESONUS PRODUCTS

Capture Recording Software (Mac® and Windows®)  
QMix™-AI Aux Send Control App (iPhone®/iPod® touch)  
PRM1 Precision Reference Microphone  
StudioLive™ 32.4.2 Canvas Dust Cover

StudioLive™ 24.4.2 Digital Mixer  
StudioLive™ 16.4.2 Digital Mixer  
StudioLive™ 16.0.2 Digital Mixer  
StudioLive™ Remote-AI Editor/Librarian/Control App (iPad®)  
Studio One® Artist DAW (Mac® and Windows®)  
Universal Control/Virtual StudioLive™-AI  
Control Software (Mac® and Windows®)

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