Boom User's Guide

Version 1.0

Contents

Overview

Introduction

Apogee BOOM is made for passionate creators that pursue their craft without compromise. Whether you're a musician, podcaster, video producer or live streamer, take your project to the next level with studio-quality sound by Apogee.

Capture your performance through class-leading mic preamps and high-end digital conversion, then use on-board hardware DSP processing to enhance your source. Dive into the power and detail of all your recordings through the audiophile-quality headphone output.

Create your complete podcast and streaming production environment with the on-board Mixer and Loopback mode.

Connect BOOM directly to your Mac, iPad Pro, or Windows laptop - No external power required to get your ideas flowing.

Features

- Built-in hardware DSP - Print through the Symphony ECS Channel Strip plugin
- Inputs
    - 1 balanced ¼" instrument/line input
    - 1 balanced combi mic/line/instrument input
- Outputs
    - 1 ¼" Zero ohm Headphone output
    - BalancedLeft/Right speaker outputs
- Totally portable and bus powered
- Apogee Loopback feature makes live streaming multiple audio sources easy
- Includes Apogee Control 2 software for macOS, iOS and Windows
- Includes Ableton Live Lite DAW (free license + download with registration)

Navigating This User's Guide

A computer-based audio production system built around the Boom includes the following components:

- Boom Hardware Interface
- Apogee Control 2 software application
- Integrated Symphony ECS Channel Strip plugin
- Mac, Windows or iOS device plus a Digital audio workstation (DAW) software application
- Microphones and instruments for recording plus speakers and headphones for listening

This User's Guide will take you through the following steps to integrate the components of your system into a powerful and efficient audio production environment. When text is highlighted in blue, it may be clicked to link to further information in this Guide.

- Download and run the Boom Installer, which installs the Apogee Control 2 application (and driver if required) on your computer (link).
- Configure your computer's operating system (OS) to use Boom for audio input and output (link).
- Configure your DAW to use Boom for audio input and output (link).
- Connect microphones, instruments, headphones, speakers and other audio hardware to Boom (link).
- Use Boom front panel Control Knob to adjust gain on the Inputs and level for the headphones and speaker outputs. The Control Knob can also be set to toggle between i/o and mute outputs. (link).
- Use Apogee Control 2 software to navigate all settings, including direct monitor mixing and FX (link).
- Choose a Monitoring workflow and configure your DAW and Boom (link).
- Set up FX Processing according to your preference (link).

In the Box

- Boom
- USB-C Cable with included USB-C to USB-A adapter
- Warranty Booklet

Included Software

- Ableton Live Lite - Requires registration
- Apogee Control 2 - macOS and Windows
- Apogee Control 2 - iOS

System Requirements

- macOS 10.14.6 or greater
- Windows 10 Anniversary update or later
- iOS 13 or greater
- Mac & Windows: 4GB minimum RAM, 8GB Recommended

Register your Product

- Access Apogee's expert Technical Support for free
- Receive important product update information by email
- Take the Customer Satisfaction Survey for a chance to win Apogee gear!

Register Now: www.apogeedigital.com/support/register

Boom Front Panel Tour

IN1, IN2, OUT = Control Knob Focus
FX1, FX2 = DSP Status

1/4" Instrument/Line Input

Input & Output Meter

Combi Input
Mic/Line/Instrument

Control Knob

Boom Rear Panel Tour

1/4" Headphone Output

Analog Outputs L & R

USB-C Port

Kensington Lock
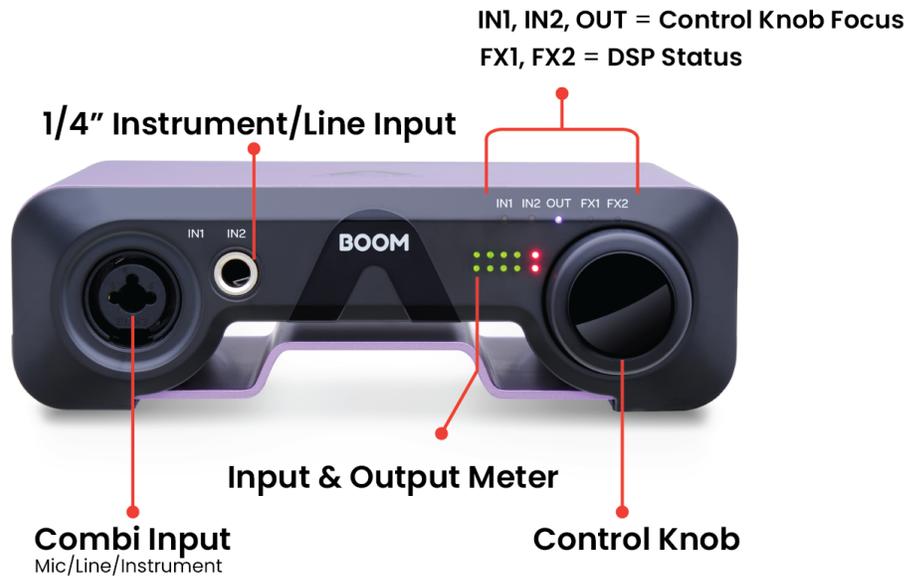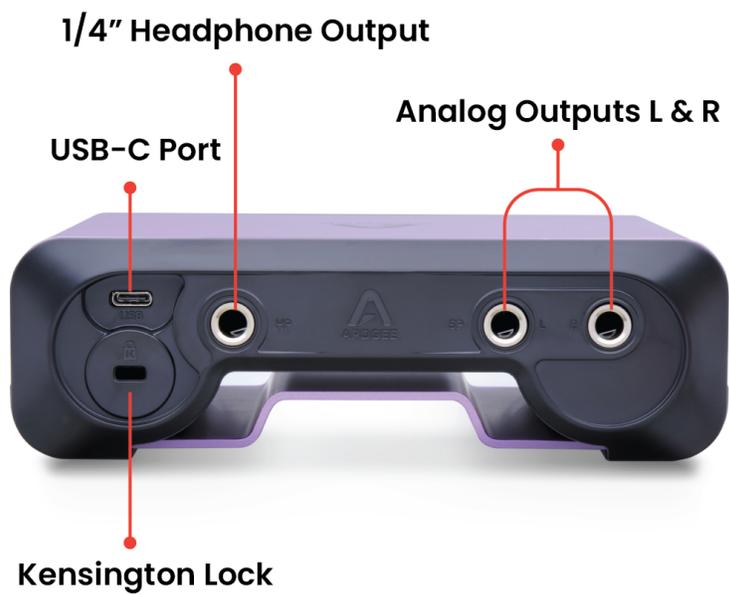
Getting Started

Installing Apogee Control 2 Software

To register your product and receive the Boom Installer, learn the most up-to-date information on new releases, and view Interactive tutorials, click the link below.

www.apogeedigital.com/support/boom

Once you've registered your Boom, you'll receive an email with links to Mac and Windows versions of the Boom Installer download.

macOS Installer

Once downloaded, double-click the .dmg file to display the contents:
- Apogee Control 2 Software Installer
- User's Guides
- Apogee Control 2 Uninstaller

To install Apogee Control 2 Software:
1. Double-click the Apogee Control 2 Software installer.
2. A dialog box will appear with a series of steps to complete the installation.
3. You will be required to restart your computer.
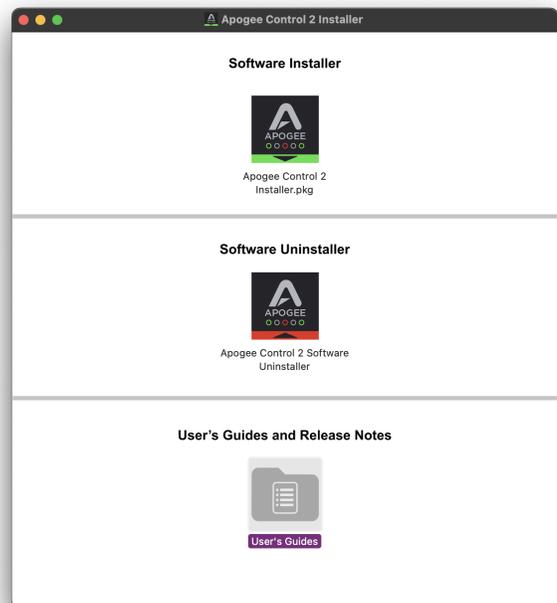
Windows 10 Installer

1. In your Downloads folder, double-click the .zip file to extract it, then double-click the .exe file to start the installation process.
2. Click Next through all steps, then click Finish at the final step.
3. You should restart your computer immediately.
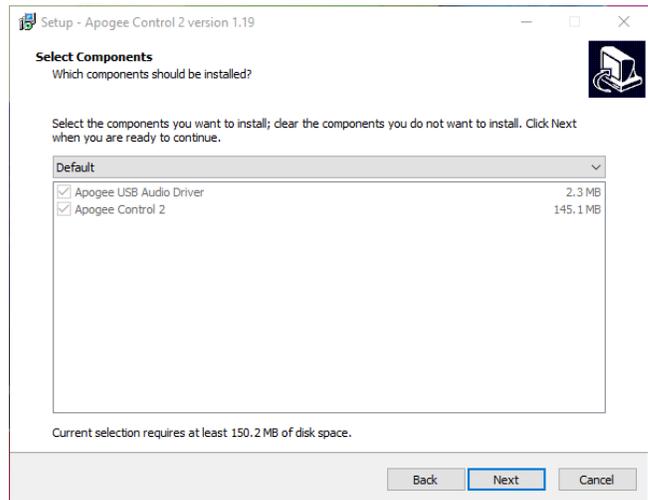
Firmware Update

If Boom's firmware requires a firmware update, the notification at right is displayed after the installation.

1. Quit Apogee Control 2 and any audio apps.
2. Disconnect Boom's USB cable from the computer.
3. Press and hold down Boom's Control knob while re-connecting its USB cable to the computer.

A new version of firmware is available for BOOM

1. Quit Apogee Control 2 and any audio applications that you might have open.
2. Disconnect BOOM's USB cable from this computer.
3. Press down and hold on the BOOM's controller knob while you reconnect BOOM's USB cable to this computer.
4. Once the firmware update dialog appears, you can stop pressing down on the controller knob. Click 'Yes' in the firmware update dialog to begin the update.

Close

4. Once the "Found Boom in firmware update mode" dialog appears, release the Control knob.

Found Boom in firmware update mode.
Start firmware update?

No   Yes
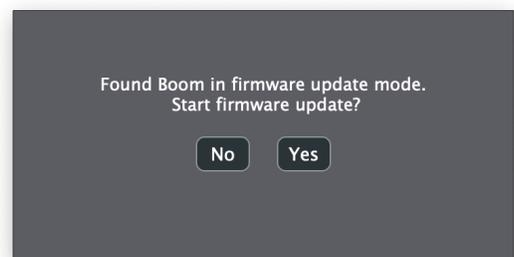
5. Click "Yes" in the "Found Boom…" dialog. Once the "Firmware update complete!" dialog appears, click Ok. Boom will re-initialize.

Firmware update complete!

Ok
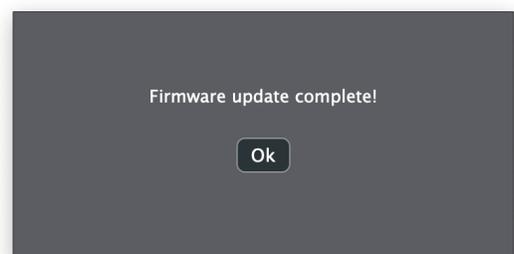
Setting Up Boom

Connecting to a Mac or Windows computer

Note: the supplied USB-C to USB-C/USB-A cable includes an integrated USB-C to USB-A adaptor`.
Remove the USB-A adaptor to connect to USB-C devices.

Using the supplied cable, connect Boom's USB-C port to a USB port on your Mac or Windows
computer.

Connecting to an iPad Pro (USB-C connector)

Using the supplied USB-C to USB-C/USB-A cable, connect Boom''s USB-C port to the iPad Pro's
USB-C connector.
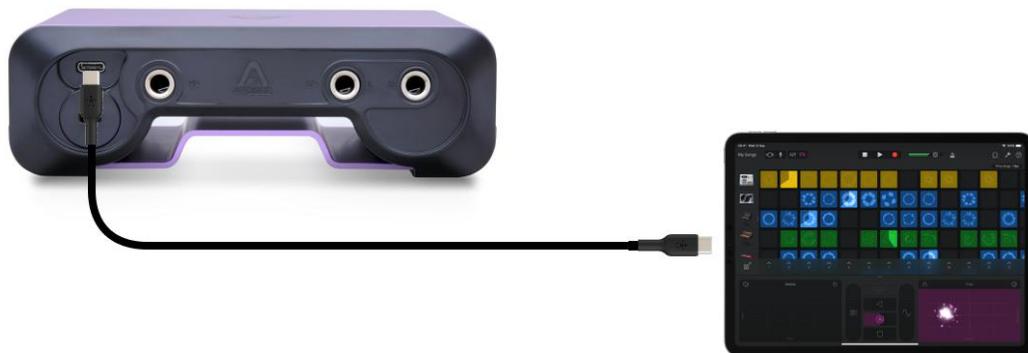
Connecting to an iOS Device (Lightning connector)

Using the supplied USB-C to USB-C/USB-A cable, connect Boom's USB-C port to a powered USB hub (sold separately). Connect the Apple Camera Connection Kit (sold separately) to the powered USB hub and your Lightning iOS device. Connect the USB hub to a power source.

Connecting BOOM to an iPhone with Lightning connector via powered USB hub/Camera Connector Kit

Connecting BOOM to an iPad with Lightning connector via powered USB hub/Camera Connector Kit

Configure OS to use BOOM for Audio I/O

macOS

To choose Boom as the audio interface for Mac applications that don't have specific audio hardware preferences, such as Safari, Spotify, Voice Memos and others:

1. Open System Preferences by choosing Apple menu > System Preferences.
2. Click the Sound icon to open the Sound preferences panel.
3. Click the Output tab, then click BOOM in the devices list.
4. Click the Input tab, then click BOOM in the devices list.
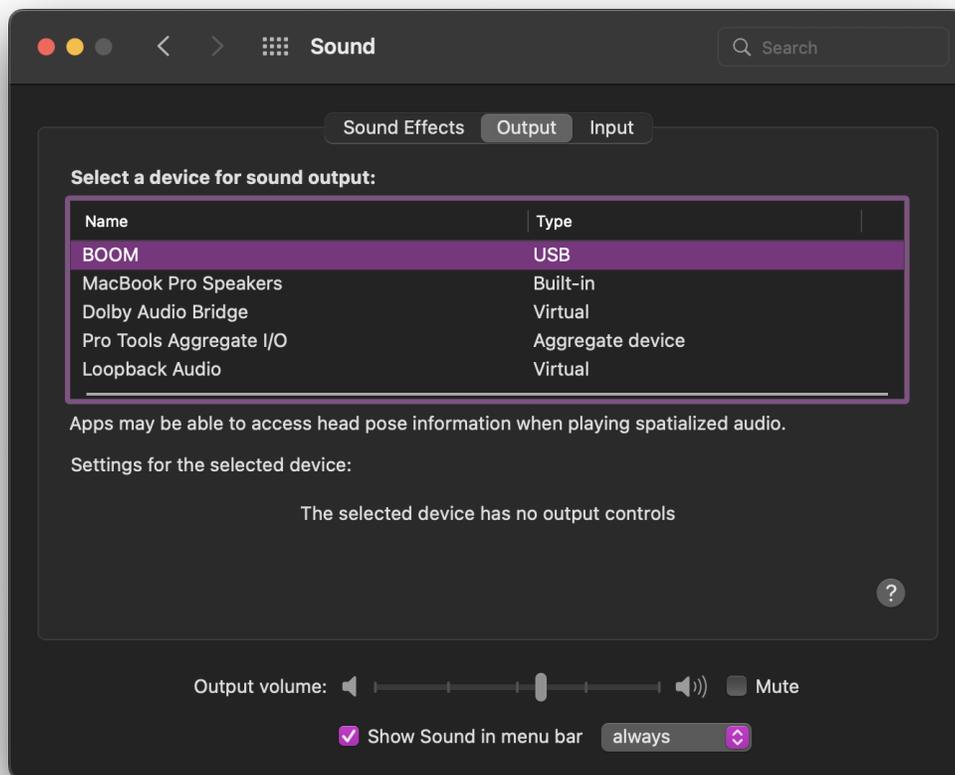
Windows 10

To choose BOOM as the audio interface for Windows applications that don't have specific audio hardware preferences, such as Google Chrome, Spotify, and others:

1. Type Control Panel in the Windows search bar to open the Control Panel. Double-click the Sound icon.
2. Click the Playback tab and select Speakers-Boom.
3. Click Properties, then click the Advanced tab.
4. Uncheck Exclusive Mode checkboxes. When using a DAW and apps like Spotify simultaneously, match the Default Format sample rate with the rate of the DAW session.
5. Click Apply.
6. Click the Recording tab and repeat steps 2-5
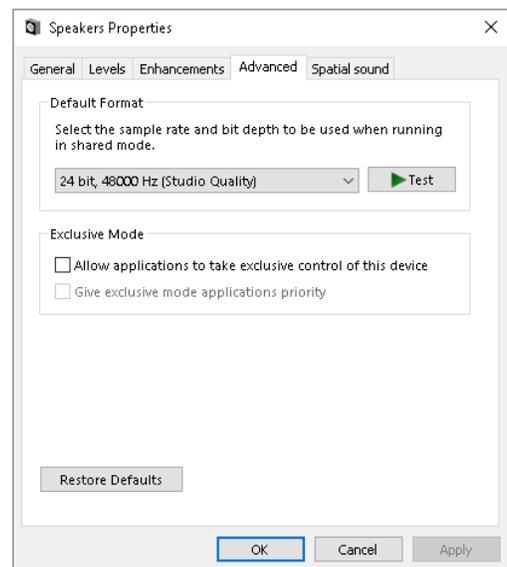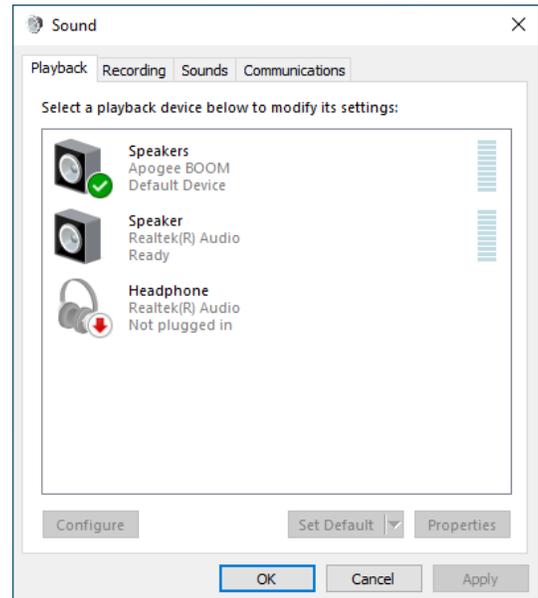
Apple iOS

Apple iOS automatically chooses the most recently connected audio interface as the audio I/O device for all applications. Simply connect BOOM to your iOS device's Lightning or USB-C port as described above.

Connecting Your Studio

On the Boom back panel, connect your studio monitors to the left and right ¼" **SP** (Speaker) outputs. Connect headphones to the ¼" **HP** (Headphone) output. If your speakers are equipped with XLR inputs, use a ¼" TRS (tip-ring-sleeve) to XLR male adaptor cable. If using passive speakers, connect the Speaker outputs to the speaker's amplifier inputs.

Important - Only one output is active at a time.
- When headphones are connected, the headphone output is active.
- When headphones are not connected, the speaker output is active.

Connect microphones, guitars, keyboards, line-level audio devices and other sources to the front panel connectors.

Connect your microphone to the front panel **IN1** XLR Combi jack.

1. Open Apogee Control 2 software, then set Analog IN 1 Analog Level to Mic.
2. When using condenser mics, be sure to click 48V to engage phantom power.
3. If the input level is too high even when Gain is set to 0 dB (for example when recording loud sources like drums or guitar amps), click the PAD -10dB button.

Connect guitars, synthesizers and other instruments to the **IN1** ¼"
Combi jack and the **IN2** ¼" jack.

1. In Apogee Control, set Analog Level to Instrument.
2. If the input level is too high even when Gain is set to 0 dB (as
   may be the case with modern synths), click the PAD button.

For the more technically minded - when the Pad is engaged, the
Instrument input impedance is 3.2kOhm, suitable for modern
keyboards and guitars and basses with active (low impedance)
pickups.

When the Pad is not engaged, the Instrument input impedance is
1MOhm, suitable for guitars and basses with passive pickups or
contact pickups.

Connect line-level sources such as audio interfaces, consumer
stereo units and mixing consoles to the **IN1** ¼" Combi jack and the
IN2 ¼" jack.

1. In Apogee Control, set Analog Level to +4 dBu or -10 dBV,
   based on the nominal output level of the source. As a
   general rule, set to +4 dBu for pro devices like mixing
   consoles; set to -10 dBV for consumer "hi-fi" sources.

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BOOM Front Panel Features

Control Knob & Focus LEDs

With Boom's front panel Control knob, you have the most important settings right at your fingertips. Set Input gain, Speaker and headphone listening level.

Tap the front panel Control knob to toggle the Control Knob Focus LEDs through this sequence:

1. **IN1** - set the Combi XLR/ ¼" (Analog IN 1) input gain
2. **IN2** - set the ¼" (Analog IN 2) input gain
3. **OUT** - set the currently active Output (Speaker or Headphone). Only one output is active at a time - when headphones are connected, the headphone output is active; when headphones are not connected, the speaker outputs are active.

4. Press and hold the Control knob to mute/unmute the currently active output. When the output is muted, the **OUT** LED blinks.
5. DSP Status - When the Symphony ECS Channel Strip DSP processing is enabled on Analog IN 1 or Analog IN 2, the FX1 or FX2 LED lights.

Front Panel Meters

The signal level of the selected Control Knob Focus is displayed by the front panel meters:

- **IN1** - recording level of the Combi XLR/ ¼" (Analog IN 1) input
- **IN2** - recording level of the ¼" (Analog IN 2) input
- **OUT** - signal level of the currently active Output source (Speaker or Headphone). Route different sources to the Speaker and Headphones outputs in Apogee Control 2.

When Control Knob Focus is set to **OUT**, the Control knob volume setting is displayed by the meters as you rotate the knob. This allows you to visualize the current output level setting. The volume setting is displayed as shown below.

Apogee Control 2 Software

The Apogee Control 2 application provides access to all settings, including System setup, direct monitor mixing, hardware DSP and Monitor controller functionality.

Primary Window

The Apogee Control 2 software interface consists of the following sections:

Toolbar
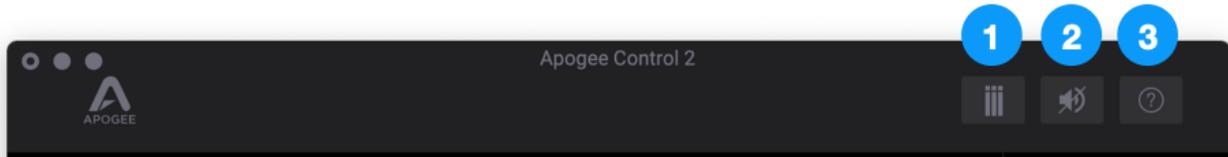
1. Clear Meters
2. Mute All Outputs
3. Open the Hover Help window

System Settings Sidebar

Provides System-wide settings that apply to your recording system as a whole.

1. System Status Display - Displays the status of the connected hardware.
   - **Green** - System is ready: Hardware is connected and recognized over USB.
   - Red - No compatible hardware is detected.
2. Device - When multiple Apogee devices are connected to the same host, select the device in focus (i.e. under control of the software) in the Device dropdown.
3. Sample Rate - Set Boom's sample rate. In some cases this setting may be overridden by software running on the computer (e.g. when a DAW session is open).
4. Peak Hold - Set the time that peak indications are held on the level meters.
5. Over Hold - Set the time that over indicators are held on the level meters.
6. Mixer View - Show/hide the Direct mixer in the Primary window.

Channel Section

This portion of the Primary window displays channels for Analog and Playback inputs.
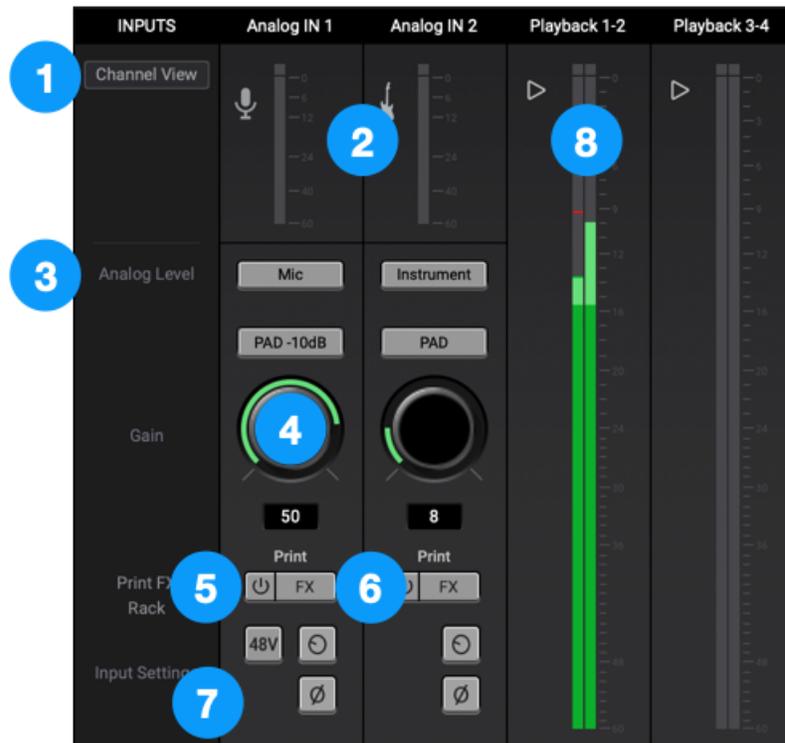
General Settings

1. Channel View Button - click to show/hide Analog In and Playback channels.
2. Input Channel Level Meter - displays the digital signal level of the channel. The Analog IN channel levels are post A/D conversion.

Analog IN Channels 1-2

Analog IN channels represent inputs from microphones, instruments and other analog sound sources.
- Analog inputs are routed to software (DAW) inputs 1-2 and simultaneously to Mixer inputs.

3. Analog Level - choose the analog reference level for Analog inputs 1-2.
    - Choose Mic (Analog IN 1 only) when connecting microphones or direct boxes to the Combi XLR input.
    - Choose Instrument when connecting a guitar,bass, keyboard or other instrument to the 1/4" inputs.
    - Choose +4dBu when connecting "pro" gear with a nominal +4 dBu output level (such as an external mic pre, compressor, or EQ) to the XLR input.

- Choose -10dBV when connecting "semi-pro", hi-fi, or musical instrument gear with a nominal -10dBV dBu output level to the XLR input.

4. Gain Control - Adjust the gain of the preamp, when Analog Level is set to Mic or Instrument. Gain Control is hidden when Analog Level is set to +4dBu or -10 dBV line input.
   - Mic or Instrument input - If the input level is too high even when Gain is set to 0 dB (for example when recording loud sources like drums or active guitars/basses), click the PAD button.
5. ECS FX On/Off - Toggle on/off the ECS FX plugins.
6. Show/Hide ECS FX window - Click to show/hide the ECS FX window.
7. Input Settings - Provides options for the various inputs:
   - 48V - Enable 48 volt phantom power on the corresponding Analog In channel. Visible only when Analog Level is set to Mic. Most condenser mics require 48 volt phantom power to operate.
   - Group - Link the Gain Controls for each Analog In channel. Visible only when Analog Level is set to Mic or Instrument. Gain offsets that exist before grouping channels are preserved.
   - Polarity Invert - Invert the polarity of the analog input signal. When a single sound source is picked up with 2 transducers, inverting the polarity of one transducer results in a fuller sound. For example, if a drum is captured with a mic on each drumhead, inverting the polarity of one mic results in a fuller sound with more low end. The same principle applies when capturing an electric instrument with a miked amp and a direct injection feed.

Playback Channels

8. Playback channels represent the playback signal from your audio software (DAW) outputs. Boom offers two stereo Playback inputs, which can be used to set up various workflows:
   - Send different monitor mixes to Boom's Speaker and Headphone outputs. In your DAW, create a mix using the primary faders and route to Playback 1-2, then create an alternate mix using pre-fader sends routed to Playback 3-4. Next, in Apogee Control 2, set Speaker source to Playback 1-2 and Headphone source to Playback 3-4.
   - Stream a mix of live and playback sources - set Assign to SW Inputs to Software Inputs 1-2, route apps like Spotify and Skype to Playback 1-2 (in the OS audio settings) and route DAW playback to Playback 3-4 (in the DAW output settings).

Symphony ECS Channel Strip Window

1. EQ Section In/Out - Toggle the EQ section on or off
2. High Pass to EQ or Side Chain - toggle the high pass filter between two possible signal paths.
   - HP > EQ - The high pass filter is inserted into the EQ signal chain, processing audio throughput.
   - HP > SC - The high pass filter is inserted into the compressor side chain, making the compressor less sensitive to low frequencies.
3. High Pass Frequency - Set the frequency of the high pass filter. The slope is fixed at 18 dB per octave.
4. Lo Shelf Gain - Set the gain of the Lo Shelf band in the range of -15 dB to +15 dB.
5. Lo Shelf Frequency - Set the frequency of the Lo Shelf band.

6. Mid Peak Q - Switch the Q (or bandwidth) of the Mid Peak band to Wide (up) or Narrow (down).
7. Mid Peak Gain - Set the gain of the Mid Peak band in the range of -15 dB to +15 dB.
8. Mid Peak Frequency - Set the frequency of the Mid Peak band.
9. High Shelf Gain - Set the gain of the High Shelf band in the range of -15 dB to +15 dB.
10. High Shelf Frequency - Set the frequency of the High Shelf band.
11. Compressor Section In/Out - Toggle the Compressor section On or Off
12. Compressor Threshold - Set the Threshold (the level at which gain reduction commences)
13. Compressor Ratio - Set the ratio of gain reduction once the signal is above the threshold. For example, with a 3:1 ratio, the compressor output increases 1 dB for every 3 dB the compressor input increases.
14. Compressor Dry/Wet Mix - Set the percentage of Wet (compressed) signal at the compressor output. Set to 100% (fully clockwise) to output the compressed signal only. Try a Mix value of 50% for parallel compression on drums and other sources with large transient peaks.
15. Gain Reduction Meter - Displays the amount of gain reduction.
16. Drive - Increase the level of Drive from subtle saturation to distortion. The Drive circuit comes after EQ and Compression and before the Output Level.
17. Output Level - Adjust the output level of the plugin.
18. Preset Save/Recall - Load, save and toggle through Factory or User presets.
19. A > B - Click A or B to toggle the ECS plugin between two snapshots of all settings. To load the A or B snapshot, click the letter. To copy a snapshot from A to B, click A, then click the arrow. To copy a snapshot from B to A, click B, then click the arrow. Use these functions to refine settings, copy them to the other snapshot for further refinement, then compare the options until you've arrived at your perfect setting.

To reset controls to their Default setting, Option-click (Mac) the control.

To enter a numerical value, double-click the control. To enter frequencies 1kHz and above, type the frequency in the format "1200" or "1.2k".

Mixer Section

The mixer section provides a mixer for blending Analog and Playback inputs.
- Route mixer outputs to Main and headphone outputs for low latency direct monitoring while recording;
- With the Assign to SW Inputs setting, route mixer outputs directly to audio software inputs.
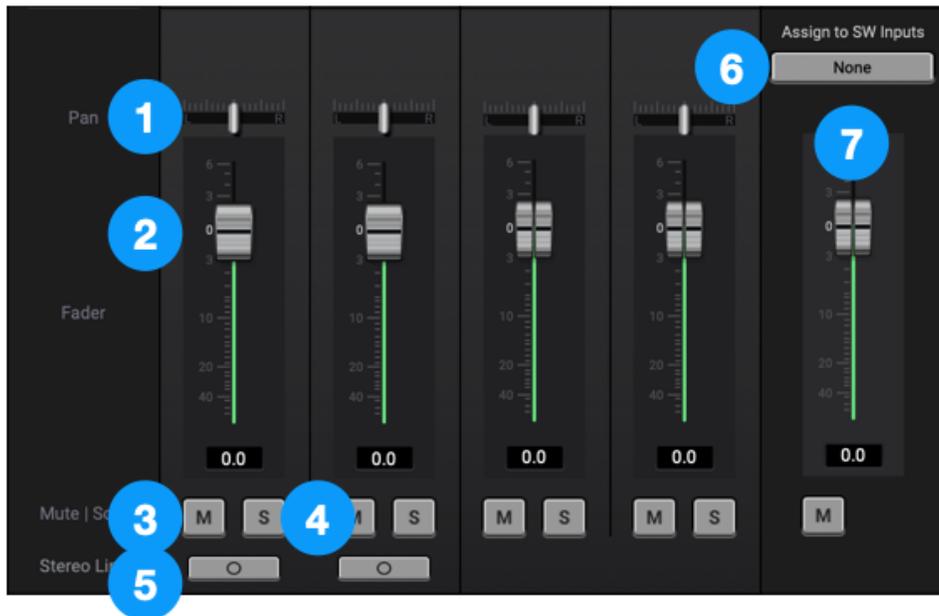
1. Channel Pan Control - Set the left-right placement of the channel signal in the mixer stereo output.
   - Option-click to reset the pan to center (0)
   - Option+Command-click to set all pans in the mixer to center (0).
2. Channel Fader - Set the level of the channel signal in the mixer stereo output.
   - Option-click to reset the fader to 0dB.
   - Option+Command-click to set all faders to 0dB.
3. Channel Mute button - Mute the signal to the mixer stereo output.
   - Command-click to mute all channels
4. Channel Solo button - Solo the channel - all other channels are muted (unless their Solo button is engaged).
   - Command-click to solo all channels.
   - Control-click the Solo button to engage Solo-Safe mode, where the channel remains unmuted regardless of the Solo status of other channels.
5. Stereo Link
6. Assign to SW Inputs
   - Assign the output of the Mixer to software inputs. Signal from the Mixer Master output is routed to DAW inputs, replacing the signal from Analog In 1-2.
7. Mix Master Output Fader - Set the output level of the Mixer.

Monitor/Output Section

In the Monitor/Output Section, select the signals to be routed to the Main and Headphone outputs, then control their volume. Output Level Meters display the presence of signal at the outputs, useful as a diagnostic tool.

Even though only one output is active at a time, it's still possible to set different Source settings and output levels for the Headphone and Speaker outputs.

1. Output Level Meters - Displays the level of the Main or HP outputs' digital source.

The following settings are available for the Main and HP outputs:

2. Source - choose the signal source for the output (Main or HP).
   ● SW Playback - route the selected stereo Playback signal from audio software to the HP output.
   ● Direct Mixers - route the stereo signal from the selected mixer to the HP output.
   ● HW:Inputs - route the selected mono or stereo signal from the selected hardware input(s) to the HP output.
3. Mute - mute the output
4. Dim - dim (reduce) the output by 15 dB;
5. Sum to Mono - Collapse left and right signals to mono at the output. This combined signal is sent through both Left and Right Outputs and is useful for verifying the mono-compatibility of a stereo mix.
6. Output Level Control - Set the listening level of the output.

Choose Your Boom Workflow

In the previous sections of this User's Guide, the individual components of Boom have been described in detail. This section describes how these components work together to form a sophisticated and efficient audio production environment.

All of us - producers, engineers and artists - have their preferences when recording and mixing, so Boom offers a variety of compelling workflow options.

A Glossary of Importantds Workflow Concepts

With a better understanding of some important workflow concepts, you'll get the most from your Apogee interface.

Latency - If you've done any recording at all with your computer or iPad, you've probably encountered that annoying delay that makes recording your performance difficult - it's like you're trying to record over a transatlantic phone call - that's latency!

What is latency and why do you have to deal with it? Well, it starts with the fundamental process of digital audio - to convert audio waveforms to numbers for editing, processing, mixing and more, then convert numbers back into audio waveforms for listening. At each stage of your digital audio system - analog to digital conversion, recording & playback in your audio software, plugin processing - computations are performed on the digital audio that require time. Add up the total time from microphone input to headphone output, and the delay can significantly distract a performer as they record.

Buffer, aka IO Buffer, H/W Buffer - Most Digital Audio Workstation (DAW) software applications have a buffer setting, which is potentially the largest source of latency in your system. The buffer setting offers a range from 32 to 2048 samples* to specify the amount of time the app spends to pass audio from the hardware interface, record it, process it through plugins and mixing, and finally pass it back to the interface for listening. Why wouldn't you set the buffer to the lowest time, 32 samples? Then you'd get the lowest latency!

At the lowest setting, you're giving the DAW the least amount of processing time. As your session grows and you add tracks, plugins and virtual instruments, the DAW won't have enough time to complete the processing before the allotted time, and you'll get clicks, pops and other symptoms of a DAW application under stress.

* Buffer settings may vary by DAW and sample rate.

Thus, the Buffer setting is always a compromise between lower latency and more processing power.
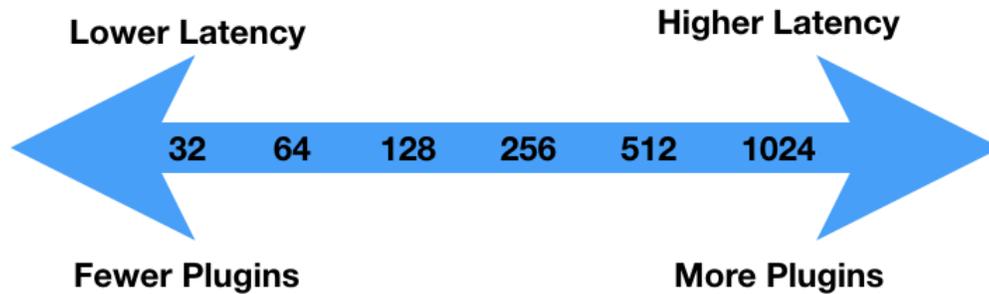
Monitoring - One of the fundamental workflow choices you'll make is input monitoring - that is, how performers hear themselves while recording. Boom offers two monitoring workflows, Software monitoring and Direct monitoring, which are described below in greater detail.

Native DSP Processing - When you open and run plugins in your DAW software, they use your computer's native CPU processing power to perform the required DSP, and are said to be **native** plugins. If you've set the DAW Buffer to its maximum setting, you can run virtually thousands of Apogee plugins from a reasonably recent computer - there's really a lot of native DSP processing power available from your computer!

Hardware DSP Processing - Even though you can open thousands of plugins running natively on your computer, hardware DSP allows you to process an interface input before it's sent to your DAW, so you can sculpt your sound and record the results.

DAW (Audio Software) - The digital audio workstation, or DAW, is a specific type of audio software that offers sophisticated functionality, including the ability to choose an audio interface independently of the OS (operating system), manage multiple channels of input/output, support software or direct monitoring, support software plugins, and offers adjustable throughput latency.

Many software applications (Spotify, Youtube, for example) include audio input/output but don't offer the critical functionality for completely supporting Boom workflows. Nevertheless, these apps can work with Boom when the OS is configured to use Boom for audio input/output, as described here.

Monitoring Workflows

The two basic monitoring workflows, Software monitoring and Direct monitoring, are described below.

Software Monitoring

When your system is set up for Software monitoring, the audio that the performer hears while recording is routed through the DAW, including plugins and mixers, and thus incurs the maximum latency of the system, as shown below.
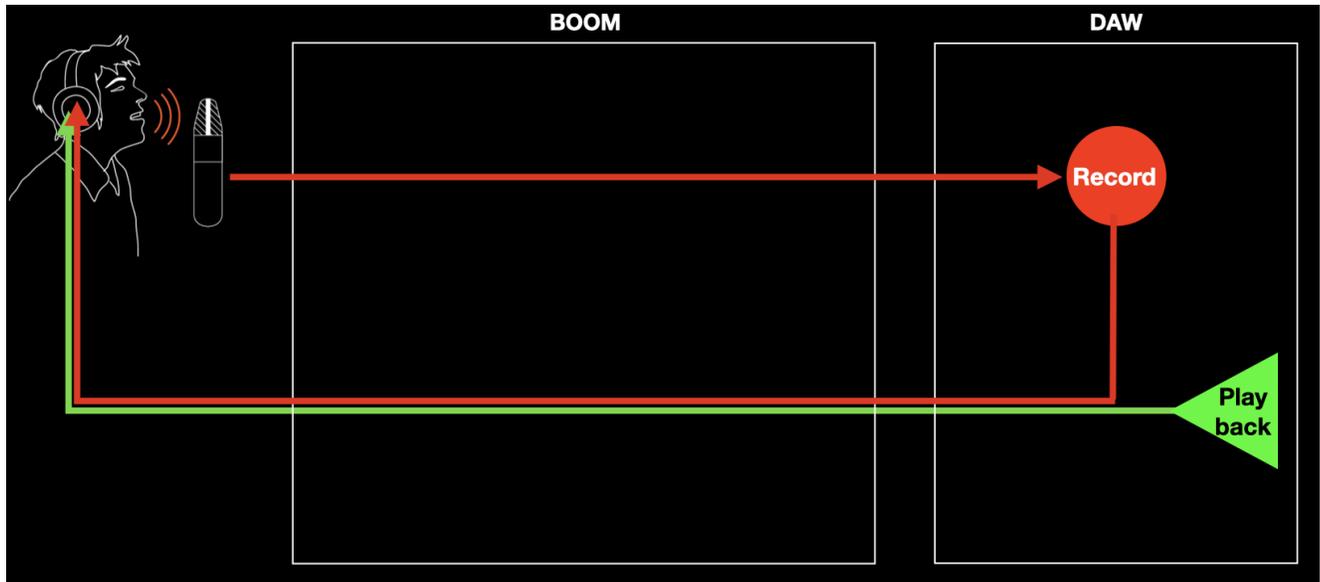
- Pros - This is the simplest monitoring workflow, where most settings are made in the DAW window.
- Cons - It's necessary to set the DAW IO Buffer setting to a compromise between lower latency and maximum CPU plugin processing - the lower the latency, the fewer native plugins may be run.

If you have a powerful computer and your sessions use a moderate amount of plugin processing, you may be able to find a Buffer setting that's low enough that latency isn't a problem but high enough that processing is completed without issues.

To configure your system for software monitoring:
1. In Apogee Control, set the Speaker and HP outputs to Playback 1-2.
2. Configure your DAW for software monitoring, as described here.
3. Set up a DAW channel for recording, then use the DAW mixer to create the desired balance between the track being recorded and tracks being played back.

Direct Monitoring

Direct Monitoring, aka Low Latency Mixing - When the processing demands of your session require a higher buffer setting that causes disruptive latency, Direct monitoring lets performers hear themselves through a separate mixer running on hardware DSP and controlled in Apogee Control 2 software. The Direct mixer avoids the latency-inducing round trip through the DAW. To avoid double monitoring, the DAW must be configured so incoming audio to be recorded is NOT monitored through the DAW.
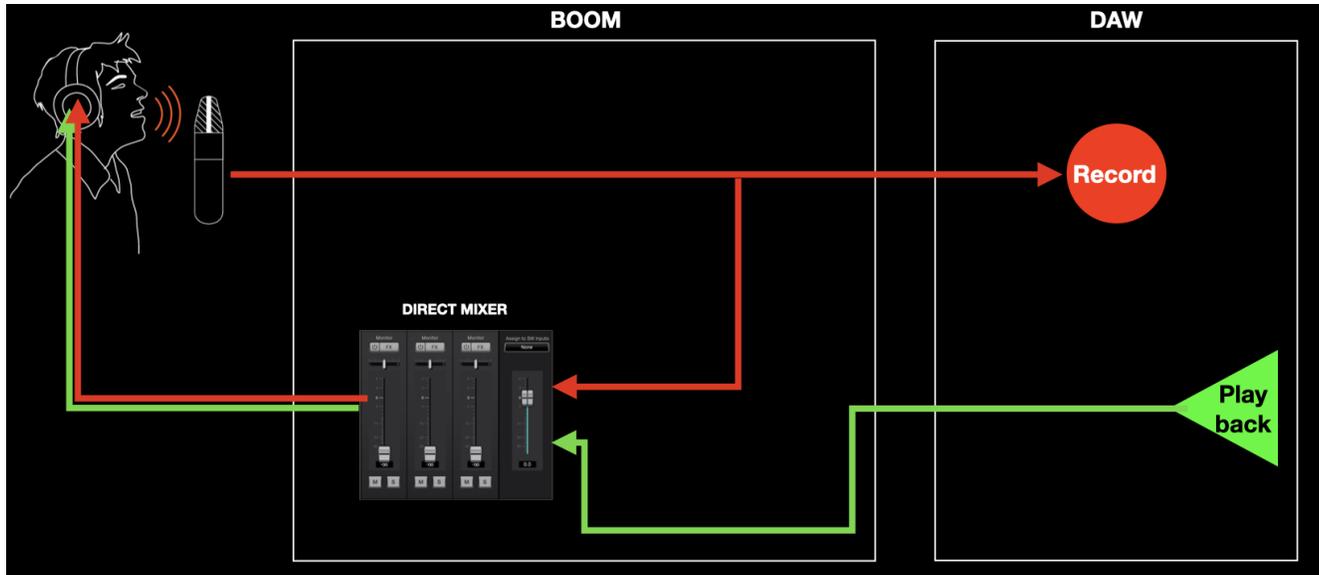
- Pros - Low latency and maximum plugin power - the DAW IO Buffer may be set to its maximum value for the greatest number of native plugins without an effect on latency. Latency remains virtually non-existent through the direct monitoring mixer.
- Cons - Direct monitoring can be more complicated, as there are two separate signal paths to manage, one from your DAW, the other in Apogee Control 2.

To configure your system for direct monitoring:
4. In Apogee Control 2, set the Speaker and HP outputs to Mixer 1.
5. Set the Analog In 1 Mixer fader to 0 dB, panned to the center of the stereo field. Set the Playback Mixer fader and Mixer Master Fader to 0 dB.
6. Configure your DAW for direct monitoring, as described here.
7. Set up a DAW channel for recording.
8. Create a mix of playback tracks using the DAW mixer, then adjust the mix between Analog In 1 (the signal being recorded) with Playback 1-2 (playback) in the Apogee Control 2 mixer.
9. For consistency, set the DAW recording channel fader to the same fader and pan setting as Apogee Control 2. When the recorded signal is played back, the level should remain the same.

Working with Onboard Hardware DSP

With the ECS Channel Strip running on onboard hardware DSP, it's possible to add EQ, compression and saturation directly to Boom analog inputs.

ECS processing is printed to the audio that's sent to your DAW for recording and to streaming apps for online communication.

You can use the on-board ECS Channel Strip with both software or direct monitoring.
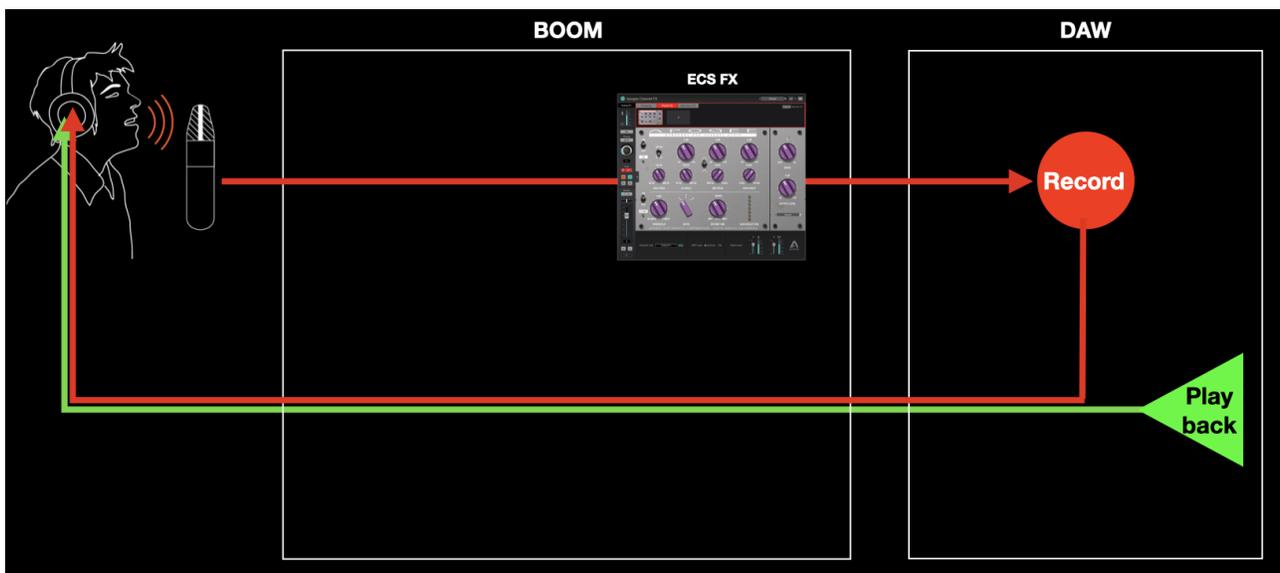
Assign to SW (Software) Inputs

With the Assign to SW Inputs feature, also sometimes known as Loopback, you can route the Mixer's stereo output to software inputs 1&2, in the place of the signal from Analog inputs 1&2. This offers the possibility to use the Analog and Playback inputs, Symphony ECS processing and Mixer features as a virtual production studio for recording and streaming.
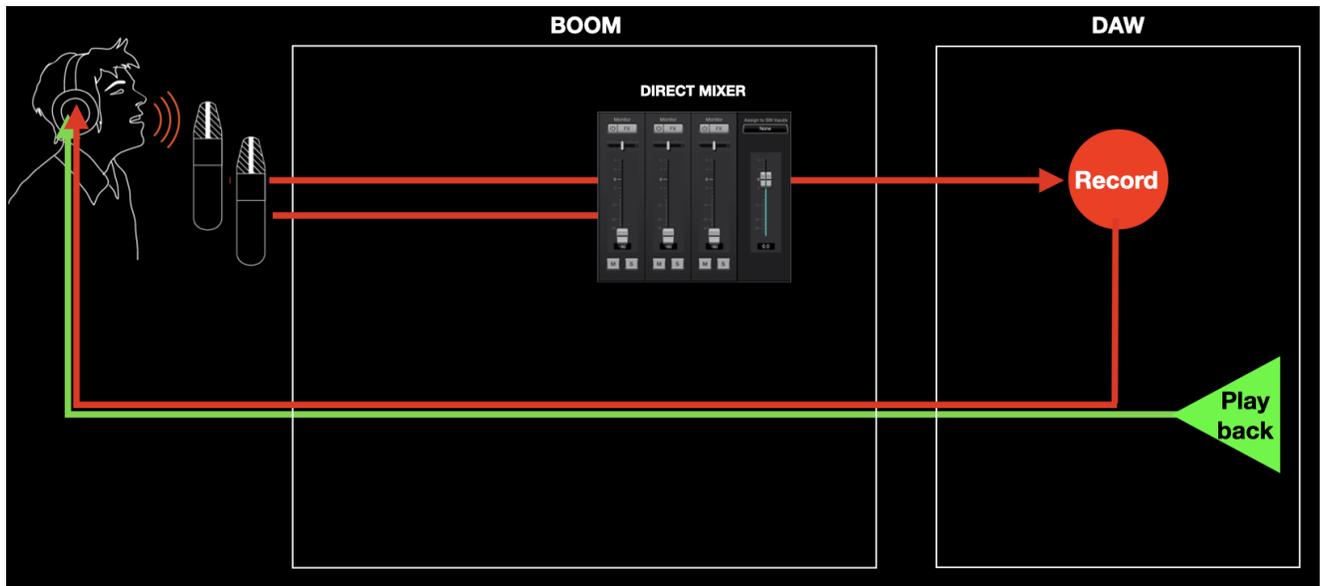
Configuring Your DAW

Find below detailed information to configure Boomwith popular DAWs:

Apple Logic Pro

To configure Apple Logic Pro to use Boom:

1. In the Logic Pro menu bar, choose Logic Pro > Preferences > Audio in the menu bar, then click the Device tab.
2. Check the Core Audio checkbox; set Output Device and Input Device to Boom.
3. Set Buffer Size to 128 Samples to start, adjust for lower latency or more plugin power.
4. Click Apply.
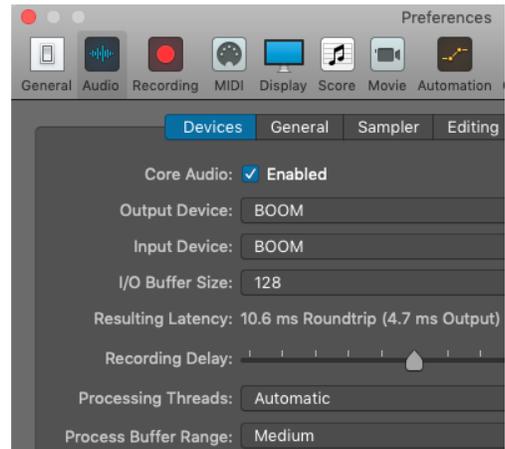
To configure Logic Pro for Direct or Software Monitoring Workflow:

1. In the Logic Preferences > Audio window, click the General tab
   - Check Software Monitoring for, uh, Software monitoring.
   - Uncheck Software Monitoring for Direct monitoring.
2. In Apogee Control 2, set Mixer View in the System Settings column.
   - Set to Off for Software monitoring.
   - Set to On for Direct monitoring.
3. In Apogee Control 2, set Main and Headphone Sources.
   - Set to Playback 1-2 for Software monitoring.
   - Set to Mixer for Direct monitoring.
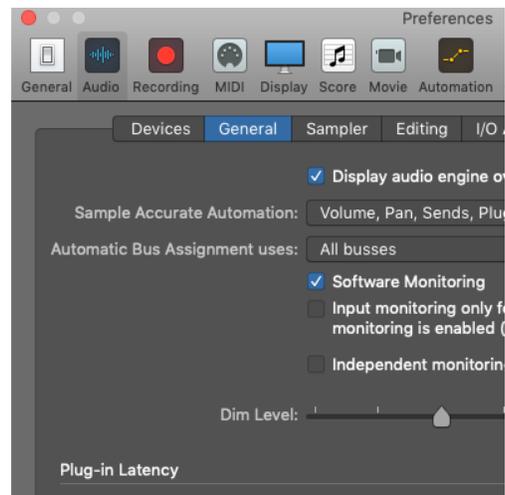
To access Boom inputs & outputs in Logic Pro:

1. From the Logic Pro menu bar, choose Mix > I/O Labels.
2. Choose the Provided by Driver labels by clicking on the first label, dragging your mouse down until all Boom labels are highlighted, then unclick.
3. Close the I/O labels window.
4. Select Boom inputs and outputs in any Logic Pro Channel Strip.

Avid Pro Tools

To configure Avid Pro Tools to use Boom:

1. Open Pro Tools, then choose Setup > Playback Engine in the menu bar.
2. Set Playback Engine to Boom.
3. Set H/W Buffer Size to 128 to start, adjust for lower latency or more plugin power.
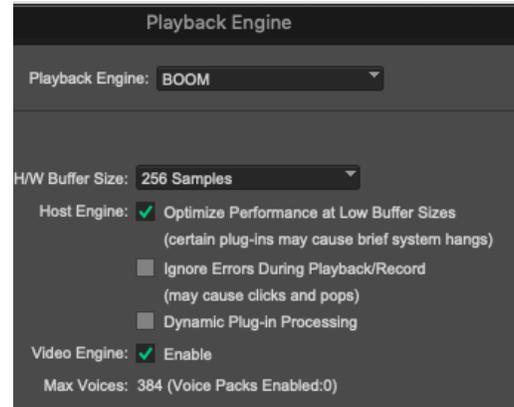
To configure Pro Tools for Direct or Software Monitoring Workflow:

1. In the Pro Tools menu bar, set Options > Low Latency Monitoring.
   ● Uncheck Low Latency Monitoring for Software monitoring.
   ● Check Low Latency Monitoring for Direct monitoring.
2. In Apogee Control 2, set Mixer View in the System Settings column.
   ● Set to Off for Software monitoring.
   ● Set to On for Direct monitoring.
3. In Apogee Control 2, set Main and Headphone Sources.
   ● Set to Playback 1-2 for Software monitoring.
   ● Set to Mixer for Direct monitoring.

To set channel Input & Output list labels:

1. In the Pro Tools menu bar, choose Setup > I/O.
2. In the IO Setup window, click the Input tab.
3. Select all inputs in the Name column, then click Delete Path. Then, click Default to reset the Names to Desktop defaults.
4. Repeat in the Output and Bus tabs.
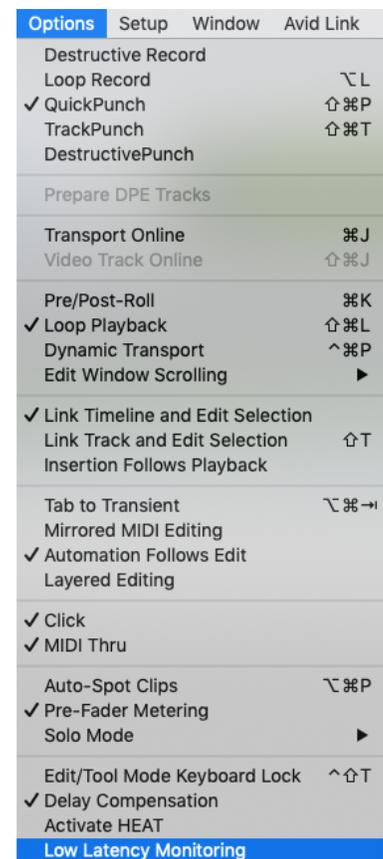
Pro Tools Preference Setting

1. To use native reverb while Direct monitoring, choose Pro Tools > Preferences to open the Preferences window; click the Mixing tab, then check "Allow Sends to persist during LLM" under Setup.

Ableton Live

To configure Ableton Live to use Boom:

1. In the Live menu bar, choose Live > Preferences and click the Audio tab.
2. Mac - set Driver Type to CoreAudio; Windows - set Driver Type to Apogee ASIO Driver.
3. Set Audio Input Device and Audio Output Device to Boom.
4. Set Buffer Size to 128 Samples to start, adjust for lower latency or more plugin power.
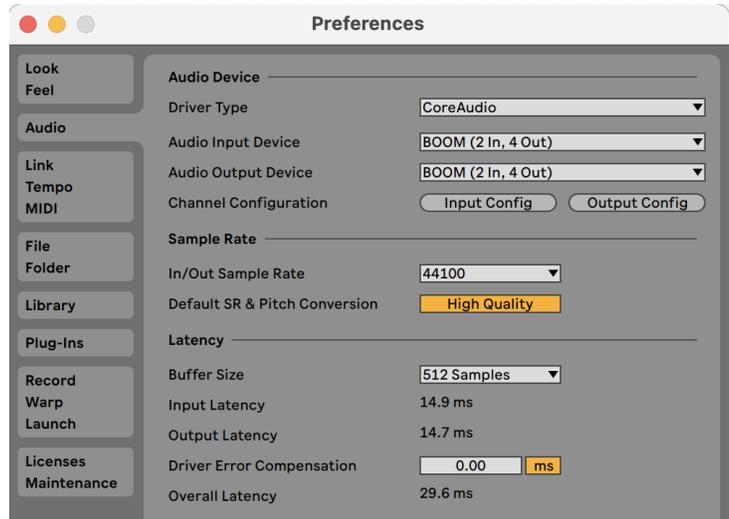
To configure Ableton Live for Direct or Software Monitoring Workflow:

1. Monitor settings in Ableton Live are configured for each channel individually.
2. In the Ableton menu bar, choose View and verify that In/Out is checked.
3. In each channel, set Monitor to Auto for Software monitoring or Off for Direct monitoring.
4. In Apogee Control 2, set Main and Headphone Sources.
   - Set to Playback 1-2 for Software monitoring.
   - Set to Mixer for Direct monitoring.
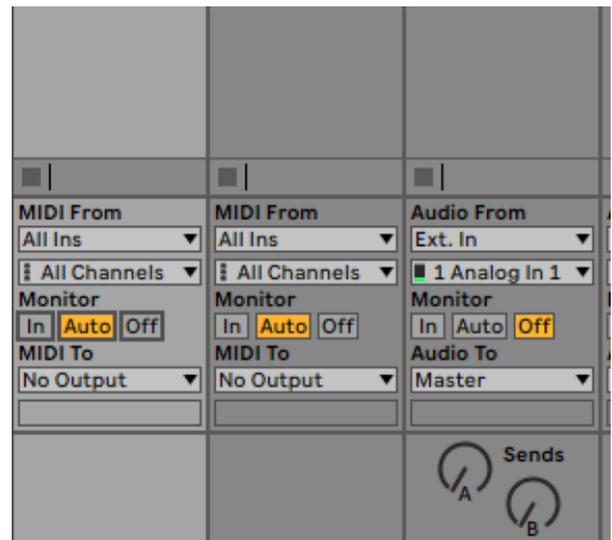
To set channel Input & Output list labels:

- Choose Live > Preferences and click the Audio tab.
- Under Audio Device, click the Input Config and Output Config buttons.
- Activate inputs & outputs by clicking the numbered buttons. Once activated, enter your preferred label, i.e. Analog IN 1, Playback 1-2.

Choose which audio hardware inputs to make available to Live's tracks. Every input pair can be used as one stereo in and/or two mono ins. Deactivating inputs reduces the CPU load.

Mono Inputs			Stereo Inputs	
1 & 2	Analog In 1	Analog In 2	1/2	
3 & 4			3/4	
5 & 6			5/6	
7 & 8			7/8	
9 & 10			9/10	
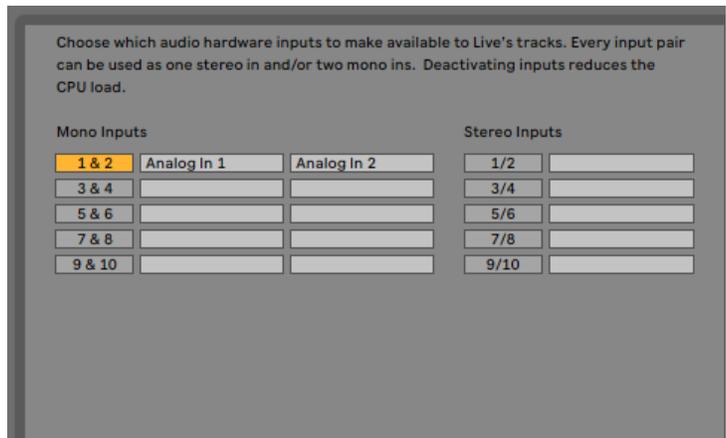
Troubleshooting

For more information

- Apogee KnowledgeBase and FAQs
- Informational Videos
- Apogee Product Registration
- How to contact Apogee Technical Support

Please visit:

www.apogeedigital.com/support

Specifications

Mic Pre:
EIN: 128dB (un-weighted) @ 62dB, 150 Ohm input
Max Input Level: +18dBu
Input Impedance: 2.4KOhm
Hi-Z:
Max input level: 18dBu (active), 8dBu (passive)
Input Impedance: 3.2kOhm (Pad on), 1MOhm (Pad off)
A/D Conversion:
Max input level +4dBu: +18dBu
Max input level (-10dBV ref): +6dBV
Input impedance: 6.4KOhm
Freq resp 20 Hz -20Khz: > +/-0.2dB (@44.1Khz)
Rel. THD + N: -100dB
Dyn. Range: 122dB (A-weighted)
D/A Conversion:
Max output level (+4dBu ref): +15dBu
Line output impedance: 100 Ohm
Freq resp 20Hz -20 Khz: > +/- 0.05dB
Rel. THD+N : -107dB
Dyn Range: 117dB (A-weighted)
Headphone Out
Max output level headphones: 15dBu/24mW@ 30 ohms
Headphone output impedance 0.5 Ohm.
Freq resp 20Hz -20 Khz: > +/- 0.05dB
Rel. THD+N : -107dB
Dyn Range: 117dB (A-weighted)

Product Size
Weight: 2lbs. / 0.95 kg
Dimensions: 9.84" x 2.95" x 7.48" / 25cm x 7.5cm x 19cm

Warranty Information and Legal Notices

APOGEE ELECTRONICS CORPORATION warrants this product to be free of defects in material and manufacture under normal use for a period of 12 months. The term of this warranty begins on the date of sale to the purchaser from an authorized Apogee dealer (proof of purchase in the form of a receipt may be required). Units returned for warranty repair to Apogee or an authorized Apogee warranty repair facility will be repaired or replaced with a functional equivalent product that is new or refurbished at the manufacturer's option, free of charge. Please note this guarantee may be subject to other conditions as dictated by the customer's legal warranty rights under the applicable national legislation governing the sale of consumer goods.

Apogee reserves the right to change or improve design at any time without prior notification. Design changes are not implemented retroactively, and the incorporation of design changes into future units does not imply the availability of an upgrade to existing units. This warranty is void if Apogee determines, in its sole business judgment, the defect to be the result of abuse, neglect, alteration or attempted repair by unauthorized personnel. The buyer acknowledges and agrees that in no event shall the company be held liable for any special, indirect, incidental or consequential damages, or for injury, loss or damage sustained by any person or property, that may result from this product failing to operate correctly at any time.

Warranty details are subject to change. For the latest warranty information please visit www.apogeedigital.com.

Declarations of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference and (2) This device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules.

CAUTION: Changes or modifications not expressly approved by Apogee Electronics Corporation compliance could void the user's authority to operate the equipment.

Rating: 5V 400mA USB 2.0

Industry Canada Notice
This Class B digital apparatus meets all requirements of the Canadian
Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Declaration of Conformity – CE
Apogee Electronics Corporation hereby declares that the product, Boom, to which this declaration relates, is in material conformity with the following standards or other normative documents:

(EN50081-1/EN55022; 1995) and (EN50082-1/IEC 801-2, 3, 4; 1992)
following the provisions of: (73/23/EEC – Low Voltage Directive)and (89/336/EEC – EMC Directive)

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following the provisions of: (73/23/EEC – Low Voltage Directive)
and (89/336/EEC – EMC Directive)

Declaration of Conformity – Japan Apogee Electronics Corporation hereby declares that Boom, to which this declaration relates, is in material conformity with the VCCI Class A standard.

Declaration of Conformity – Australia
Apogee Electronics Corporation hereby declares that Boom is in material conformity with AN/NZS standard requirements.

User's Guide Version 1.0a