



**LAMBDA**<sup>™</sup>  
DESKTOP RECORDING STUDIO



## WARRANTY

1. Please register your product online at [lexiconpro.com](http://lexiconpro.com). Proof-of-purchase is considered to be the responsibility of the consumer. A copy of the original purchase receipt must be provided for any warranty service.
2. Lexicon Professional warrants this product, when purchased new from an authorized U.S. Lexicon Professional dealer and used solely within the U.S., to be free from defects in materials and workmanship under normal use and service. This warranty is valid to the original purchaser only and is non-transferable.
3. Lexicon Professional's liability under this warranty is limited to repairing or, at our discretion, replacing defective materials that show evidence of defect, provided the product is returned to Lexicon Professional **WITH RETURN AUTHORIZATION** from the factory, where all parts and labor will be covered up to a period of 1 year. A Return Authorization Number must first be obtained from Lexicon Professional. The company shall not be liable for any consequential damage as a result of the product's use in any circuit or assembly.
4. Lexicon Professional reserves the right to make changes in design or make additions to or improvements upon this product without incurring any obligation to install the same additions or improvements on products previously manufactured.
5. The foregoing is in lieu of all other warranties, expressed or implied, and Lexicon Professional neither assumes nor authorizes any person to assume on its behalf any obligation or liability in connection with the sale of this product. In no event shall Lexicon Professional or its dealers be liable for special or consequential damages or from any delay in the performance of this warranty due to causes beyond their control.

## TECHNICAL SUPPORT & SERVICE

If you require technical support, contact Lexicon Professional Technical Support. Be prepared to accurately describe the problem. Know the serial number of your device – this is printed on a sticker attached to the chassis.

Before you return a product to the factory for service, we recommend you refer to this manual. Make sure you have correctly followed installation steps and operating procedures. For further technical assistance or service, please contact our Technical Support Department at (801) 566-8800 or visit [lexiconpro.com](http://lexiconpro.com). If you need to return a product to the factory for service, you **MUST** first contact Technical Support to obtain a Return Authorization Number.

### **NO RETURNED PRODUCTS WILL BE ACCEPTED AT THE FACTORY WITHOUT A RETURN AUTHORIZATION NUMBER.**

Please refer to the Warranty information, which extends to the first end-user. After expiration of the warranty, a reasonable charge will be made for parts, labor, and packing if you choose to use the factory service facility. In all cases, you are responsible for transportation charges to the factory. If the product is still under warranty, Lexicon Professional will pay the return shipping.

Use the original packing material if it is available. Mark the package with the name of the shipper and with these words in red: DELICATE INSTRUMENT, FRAGILE! Insure the package properly. Ship prepaid, not collect. Do not ship parcel post.

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## INTRODUCTION

Congratulations on your purchase of the Lexicon® Lambda Desktop Recording Studio™.

The Lexicon Lambda Studio is a complete package of hardware and software that turns your USB-equipped computer into a professional multitrack recording workstation. Whether you use it for high-quality stereo location recording with a laptop computer, or for multitrack overdubbing and mixing in a home studio desktop system with MIDI synthesizers, the Lambda Studio hardware provides the professional-quality inputs and outputs, metering, and level controls that computer sound cards or built-in audio connections lack.

So you can make full use of the Lambda Studio right away, we've included the popular Steinberg® Cubase® LE production suite software for PC and Mac® computers. Cubase LE offers integrated multitrack audio and MIDI recording, editing, and mixing, VST® Instrument support, VST plug-in effects support, and an array of additional features.

The included Lexicon reverb plug-in is also a major feature of the Lambda Studio package, providing the lush Lexicon reverbs that have been used on professional recordings for over thirty years. Alternatively, the Lexicon Lambda Studio may be used as an interface with almost any other major audio recording software you may have, such as Steinberg Cubase®, Ableton™ Live, MOTU® Digital Performer®, GarageBand®, Cakewalk® Sonar™, Logic®, Pro Tools®, and many others.

## FEATURES

- 5 analog audio inputs
- 2 - XLR mic inputs with extremely low-noise dbx® preamps, 44 dB gain, and +48V phantom power (switchable)
- ¼" TRS Insert jack on each mic input
- 2 - ¼" analog RF filtered TRS active-balanced line inputs
- 1 - ¼" ultra-high-impedance analog instrument input
- 2 - ¼" analog TRS active line outputs
- High powered headphone amplifier
- MIDI In and Out
- 24-bit A/D and D/A converters, supporting sample rates of 44.1 kHz and 48 kHz
- Zero-latency analog record monitoring with adjustable balance between Direct and Playback
- Stereo and Mono input source monitoring
- 100% USB Powered

## **UNPACKING THE LAMBDA STUDIO**

Thoroughly inspect the Lambda Studio and packing materials for signs of damage. Report any shipping damage to the carrier that delivered the product or dealer from whom you purchased the product at once.

## **COMPUTER MINIMUM REQUIREMENTS**

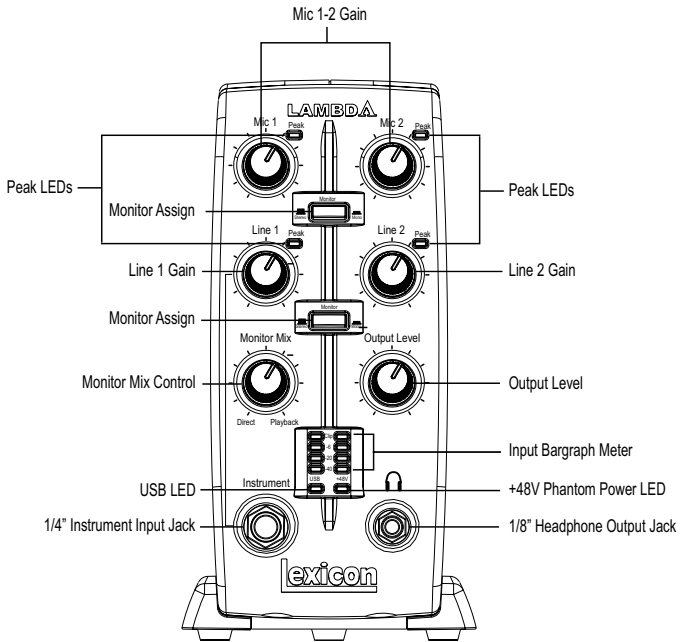
The Lexicon Lambda doesn't require an extremely powerful computer to use. However, once you start playing multiple tracks, applying processing to these tracks with plug-ins, and utilizing the other processing features available in your recording software, more computing resources are required.

Powerful software for audio recording requires a powerful computer with the right operating system software, processor, memory, and hard drive space. Most computers currently sold already meet these requirements, or can be upgraded to meet these requirements. As with all such systems, adding more RAM than the minimum will allow you to do more processing and improve performance, and more disk space will give you more storage for your audio files.

For the latest Lambda Studio and included Lexicon reverb plug-in system requirements, visit <http://lexiconpro.com/en-US/products/lambda>.

For the latest Steinberg Cubase LE requirements, visit [https://www.steinberg.net/en/products/cubase/specs\\_downloads.html](https://www.steinberg.net/en/products/cubase/specs_downloads.html).

## THE FRONT PANEL



For the cleanest recording, adjust the Gain so the level reaches at least -6 on the Input Bargraph Meter, but never lights the Clip LED on the loudest sound you'll be recording. If you see the Peak LED light constantly, turn the Gain knob down until it flashes only occasionally, on the loudest part of the performance.

DO NOT TURN DOWN A GAIN CONTROL TO GET THE RIGHT MIX IN YOUR HEADPHONES OR MONITORS WHILE RECORDING. USE THE **Monitor Mix** CONTROL FOR THIS PURPOSE.

### MIC 1-2 GAIN

These knobs adjust the input gain levels of the Mic 1 and Mic 2 inputs.

### LINE 1-2 GAIN

These knobs adjust the input gain levels of the Line 1 and Line 2 inputs.

### PEAK LEDs

These LEDs light when the input signal is within 5 dB of analog clipping. If the Peak LEDs flicker occasionally, the signal is approaching clipping levels, but this does not necessarily indicate distortion or actual clipping.

### MONITOR ASSIGN

These buttons select whether a pair of analog audio sources will be heard in stereo or mono in the Direct Monitor Mix. In Stereo mode, the left inputs (Mic 1, Line 1) are routed to the left monitor and right (Mic 2, Line 2) inputs are routed to the right monitor.

In Mono mode, you'll hear the selected inputs in the center of the Direct Monitor Mix through the Headphone or Line outputs.

When a Monitor switch is in Mono, it does not change the signals going to the computer in any way — they will still be separate and stereo in the computer.

## MONITOR MIX CONTROL

The Lambda Studio gives you the ability to hear your analog input signals directly and immediately while recording, without having to adjust levels in software, and before the delay caused by digital converters and computer recording latency. This zero-latency analog monitoring is controlled by the **Monitor Mix** knob, which you can use to adjust the blend between the Lambda Studio's live analog inputs (called "Direct") and any sounds coming back from the computer via USB ("Playback"). To adjust the playback mix coming back from the computer (previous tracks, effect returns, etc.), use the faders on the Mixer screen of the recording software. To hear only the live source input signals plugged into the Lambda Studio, turn the **Monitor Mix** knob fully left to **Direct**. To hear only the mix from the computer, turn the **Monitor Mix** knob fully right to **Playback**. The output from the Monitor Mix control is routed directly to the Line and Headphone outputs. This ability to easily control the relative levels of computer audio playback and latency-free live analog inputs is very useful when overdubbing.

## OUTPUT LEVEL

This knob controls the overall output level of the Lambda Studio's Line and Headphone outputs.

## INPUT BARGRAPH METER

This LED Meter shows the signal level going into the A/D converters. When the Input Bargraph Meter's Clip LEDs illuminate, input signals are clipping the A/D converter. Adjust the gain with the **Mic** and **Line** knobs so that the -6 dB LED flashes only occasionally.

## USB LED

When the blue **USB** LED is on, it shows the Lambda Studio is powered and communicating with your computer via USB, and audio and MIDI signals can pass in and out of the system.

## +48V PHANTOM POWER LED

This LED indicates that 48 volt phantom power is active on the Mic 1 and Mic 2 inputs, providing phantom power for condenser microphones that require it to operate. Turn phantom power on or off as needed with the switch labeled **+48V** on the rear panel.

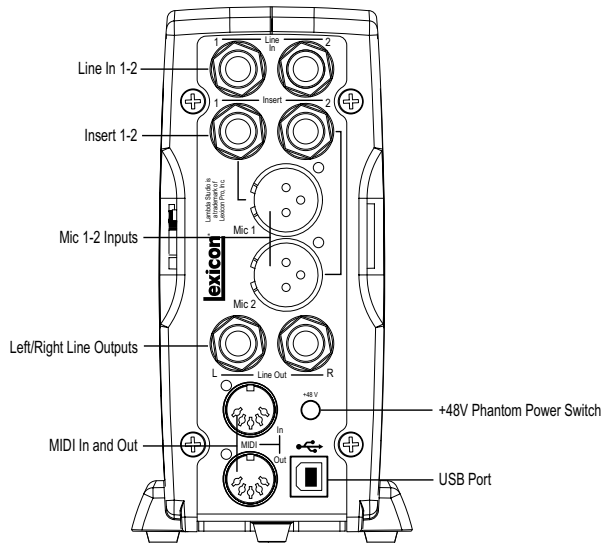
## 1/8" HEADPHONE OUTPUT JACK

The high-powered Headphone output accommodates stereo headphones with an 1/8" stereo plug.

## 1/4" INSTRUMENT INPUT JACK

This 1/4" jack accepts unbalanced, low-level, high-impedance instrument sources such as electric guitar, acoustic guitar with a pickup, or electric bass. The input gain is adjusted using the Line 1 knob on the front panel. When an instrument is plugged into this input, it disables the **Line 1** audio input on the rear panel.

## THE REAR PANEL



### LINE IN 1-2

These  $\frac{1}{4}$ " inputs can accept both balanced (3-conductor TRS) and unbalanced (2-conductor TS or instrument) audio sources. Each input gain is adjusted individually using the **Line 1-2** gain knobs on the front panel.

### INSERT 1-2

Each mic input is equipped with a TRS insert point. Inserts provide a send and return of the input channel's signal directly after the mic preamp and before the A/D converter. You can insert any line-level signal processor (such as a compressor or equalizer) to pre-process the mic signal before it is recorded, using a standard insert cable (single TRS plug to two TS plugs). The tip is send and the ring is return.

### MIC 1-2 INPUTS

These balanced XLR inputs feature high-quality mic preamps designed specifically for low-impedance professional microphones. The input gain is adjusted using the **Mic 1-2** gain knobs on the front panel respectively, with 44 dB of gain at the maximum setting.

### LEFT/RIGHT LINE OUTPUTS

These outputs support balanced TRS or unbalanced TS  $\frac{1}{4}$ " connections. These outputs can be connected to a mixing board, power amplifier, powered studio monitors, recorder, or another line-level input.

### MIDI IN AND OUT

The MIDI jacks provide MIDI input and MIDI output to and from your computer. Connect your MIDI keyboards, sound modules, and external controllers here.



### +48V PHANTOM POWER SWITCH

This switch enables the phantom power to the **Mic 1** and **Mic 2** inputs. Dynamic microphones do not require phantom power to operate, but are not harmed by it. Most condenser microphones do require phantom power to operate. If you are unsure about the phantom power requirements for your microphone, consult your microphone's documentation or contact the manufacturer. This switch should be OFF if you are connecting any line-level source to the Mic In jacks.

### USB PORT

The USB Port is used to connect the Lambda Studio to your computer and provides the Lambda Studio hardware with power. A standard USB cable is included. The Lambda Studio supports USB 2.0 full speed.

#### IMPORTANT:

To avoid damage, do not plug a line output into the **Mic In** jacks unless the **+48V** switch is turned off.

## CONNECTING TO THE LAMBDA STUDIO

The Lambda Studio is both a 4 x 2 x 2 mixer and a USB audio/MIDI interface that can be used in a variety of audio applications. This section describes how to make basic connections for the following functionality:

- Monitoring Audio
- Recording Audio
- Connecting a Recorder for Mixdown

### MONITORING CONNECTIONS

The Lambda Studio allows you to monitor audio both from the hardware inputs (Direct) and from the computer (Playback). Use the **Monitor Mix** control to balance between the direct audio and playback audio from your computer (For a complete description of the Monitor Mix control, see "*Monitor Mix Control*" on page 4).

You can monitor the audio through the 1/8" Headphone jack on the front panel, through studio monitors using the 1/4" L/R Line Out jacks on the rear panel, or both. The output level of both the L/R Line Out jacks and the Headphone jack are controlled with the **Output Level** knob above the Headphone jack on the front panel.

The Lambda Studio's L/R Line Outputs have a nominal output of +4 dBu, and support both balanced (1/4" TRS) or unbalanced (1/4" TS) connections.

### CONNECTING HEADPHONES

1. Connect headphones to the **Headphone** jack located on the front panel of the Lambda Studio. The Headphone jack accepts an 1/8" TRS connector.
2. Adjust headphone volume with the **Output Level** knob.

### CONNECTING TO MONITOR SPEAKERS

1. Using 1/4" cables (balanced TRS cables are recommended), connect the **L/R Line Out** jacks on the rear panel of the Lambda Studio to the appropriate inputs on your mixer, power amp, or powered speakers.
2. Adjust the Lambda Studio's output volume with the **Output Level** knob. If using both headphones and monitor speakers, adjust the level of the external power amp or speakers using their gain controls after you've set the desired level in your headphones.

### CONNECTING TO A HOME STEREO

Connect the **Line Out 1-2** jacks on the rear panel of the Lambda Studio to the appropriate inputs on your stereo, typically the Tape In or Aux In jacks, using a 1/4" to male phono (RCA) connector or adapter. Keep the **Output Level** knob on the Lambda Studio low at first, raising it slowly to match the level of other units connected to the stereo.

## RECORDING CONNECTIONS

Analog audio signals are created by microphones, synthesizers, mixers, and instruments with magnetic pickups. Of these sources, microphones and magnetic instrument pickups have the lowest output level, and generally require the most amplification. Keyboards, preamps, and mixers output “line-level” audio, which varies with each device between the -10 dBV and +4 dBu standards.

### CONNECTING A MICROPHONE

Plug an XLR cable directly from a microphone into the desired **Mic** input on the Lambda Studio rear panel.

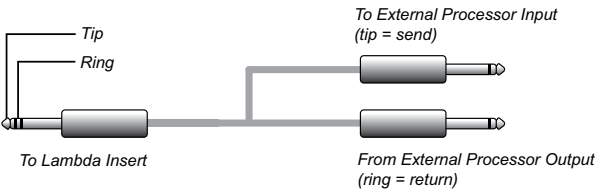
#### TO ACTIVATE PHANTOM POWER

If your microphone requires phantom power, first make sure the microphone is connected, then press the Phantom Power switch (labeled **+48V**). The +48V Phantom Power LED on the front panel indicates the phantom power is active. If your mics don’t need phantom power, it is best to leave it off.

#### USING THE ANALOG INSERTS

The analog inserts require an insert cable (¼" TRS to 2 x ¼" TS). The signal from the tip should be routed to the input of your outboard processor and the output of your processor should be routed to the ring.

External FX Processor



### CONNECTING A LINE-LEVEL SOURCE

Plug a ¼" TS (unbalanced) or TRS (balanced) cable directly from the line-level source into the desired **Line In** jack on the rear panel of the Lambda Studio. Line-level sources include keyboards, drum machines, CD and cassette players, and external microphone preamps and effects. If the line-level source has something other than ¼" outputs, cable adapters can be used.

**NOTE:** When using the **Line In 1** input, DO NOT plug a cable into the **Instrument** input. Inserting a cable into the **Instrument** input disconnects the **Line In 1** input internally.

### CONNECTING AN INSTRUMENT

Plug a standard ¼" TS (instrument) cable directly from the instrument into the **Instrument** input jack on the front panel of Lambda Studio. Note that this will disable the **Line In 1** jack on the back panel.

#### IMPORTANT:

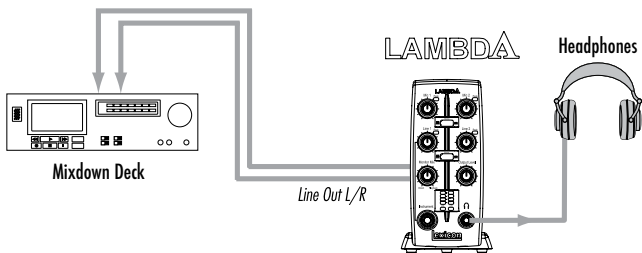
To avoid damage, do not plug a line output into the Mic 1-2 jacks unless the +48V (phantom) switch is turned OFF.

For the cleanest recording, adjust the Gain so the level reaches at least -6 on the input bargraph meter, but never lights the “Clip” LED on the loudest sound you’ll be recording. If you see the Peak LED light constantly, turn the Gain knob down until it flashes only occasionally, on the loudest part of the performance.

DO NOT TURN DOWN A GAIN CONTROL TO GET THE RIGHT MIX IN YOUR HEADPHONES OR MONITORS WHILE RECORDING. USE THE MONITOR MIX CONTROL FOR THIS PURPOSE.

## MIXDOWN CONNECTIONS

After you record and mix your sessions in either Cubase® LE or other recording software, you may want to mix them down to a DAT, tape recorder, CD recorder, or other stereo 2-track recording device.



## CONNECTING TO AN EXTERNAL RECORDER

Connect the **Line Out L-R** jacks on the back of the Lambda Studio to the left and right recorder inputs respectively. You may need adapter cables if your mixdown deck has RCA input jacks. Refer to your recorder's operator's manual for more information about setting recording levels.

If you are connecting to an analog mixdown deck (such as a tape machine), start with the **Output Level** knob on the Lambda Studio at about the 12 o'clock position, and the recorder's input level also at or near 12 o'clock. Adjust the **Output Level** knob on the Lambda Studio until the meters on your recording deck read consistently between 0 dB to +4 dB, raising the input level control on the recorder if necessary.

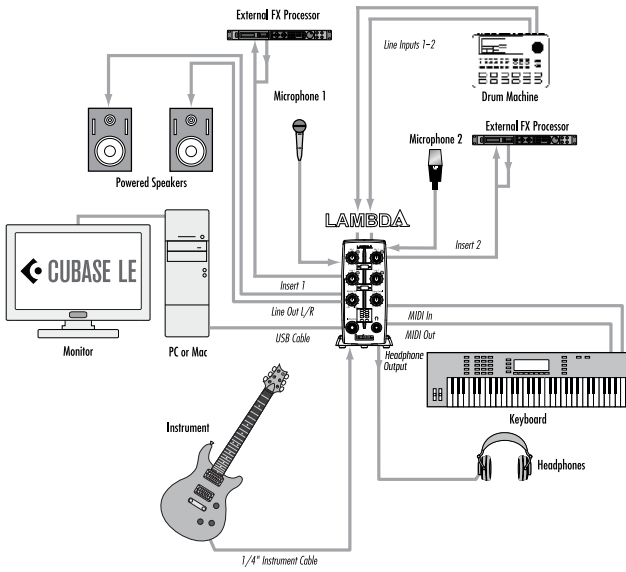
If you are connecting to a digital recorder, such as a DAT or CD recorder, set the input level(s) on the recording device all the way open, to their maximum setting, and then adjust the **Output Level** knob on the Lambda Studio until the meters on your recording deck device consistently peak just below the 0 dBFS (Full Scale) mark without causing clipping (going over the 0 dBFS mark). As a general rule of thumb, the loudest peaks in the audio material should peak at around -6 dBFS on the recorder's input meter(s).

To hear the mix through studio monitor speakers, connect the outputs of the 2-track recording deck to the inputs of the amplifier or powered speakers. Adjust the monitoring level using the output level of the recording deck or the input level of the amplifier or powered speakers.

## MIXING WITHIN CUBASE® LE

You can mixdown directly within Cubase LE or other recording software, and burn an audio CD from that mix (provided your computer has a CD-R drive). Consult the Cubase LE manual or documentation for your recording software for a complete description of mixing within the software.

**CONNECTION DIAGRAM**



## SOFTWARE SETUP

### WINDOWS®

If you haven't already installed the Windows USB driver, Cubase LE, and included Lexicon® reverb plug-in software, please do so before continuing on to the next section. Consult the Software Installation Guide available at <http://lexiconpro.com/en-US/products/Lambda#documentation> to ensure successful installation of these software programs.

**NOTE:** You must install the USB driver after you've made the connection between your computer's USB port and the USB port of the Lambda Studio.

### MAC®

If you haven't already installed the Cubase LE and included Lexicon® reverb plug-in software, please do so before continuing on to the next section. Consult the Software Installation Guide available at <http://lexiconpro.com/en-US/products/Lambda#documentation> to ensure successful installation of these software programs.

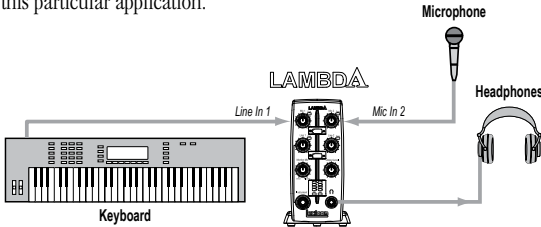
**NOTE:** A USB device must initialize itself with the host computer to operate correctly. The Lambda Studio comprises multiple devices (audio and MIDI) and each of those must be initialized. Some Apple® Macintosh® computers will not recognize all of these devices if the Lambda Studio is connected to the USB port before the computer is turned on. The simplest way to avoid problems is to connect the Lambda Studio to the USB port after the computer is booted.

# USING THE LAMBDA STUDIO

## RECORDING WITH THE LAMBDA STUDIO

### A. RECORDING USING THE MIC OR LINE INPUTS

This section explains how to record using the **Mic** or **Line** inputs on the back of the Lambda Studio. The diagram below shows how the Lambda Studio is connected for this particular application.

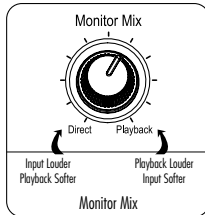
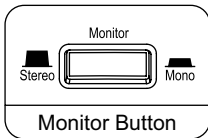


Turn down all of the Lambda Studio's input and output level controls. Plug your microphone cable into the **Mic 2** XLR jack or line-level audio source to the **Line 1** ¼" jack on the back of the Lambda Studio. If the mic requires phantom power, engage the **+48V** switch (on the back of the Lambda Studio).

**NOTE:** Remove phantom powered mics when not in use and turn off the phantom power switch.

To set the input level for the Mic or Line inputs:

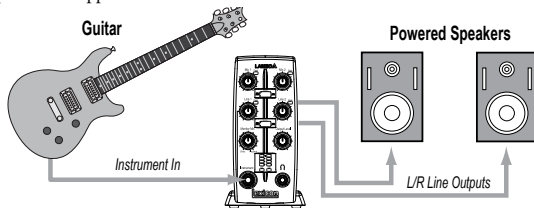
1. If you're recording a mic and the Lambda Studio is connected to studio monitors in the same room, turn them off to avoid bleed and feedback and use headphones.
2. Set the **Output Level** knob to the 9 o'clock position.
3. Set the **Monitor Mix** knob to the 12 o'clock position. Press the corresponding **Monitor Assign** button so it is in the **Mono** position. This will let you hear output on both sides of your headphones when recording only one microphone or line-level signal.



4. While playing the line-level instrument or speaking/singing into the microphone, gradually increase the corresponding gain by turning up the **Line 1** or **Mic 2** knob until the **Peak** LED next to the knob just begins to light occasionally. Re-adjust the **Output Level** knob for the desired monitoring level.
5. For instructions on recording in Cubase LE, go to "D. Recording With Cubase LE" on page 15.

## B. RECORDING A GUITAR USING THE INSTRUMENT INPUT

This section explains how to record using the 1/4" **Instrument** input jack on the front panel. The diagram below shows how the Lambda Studio is connected for this particular application.



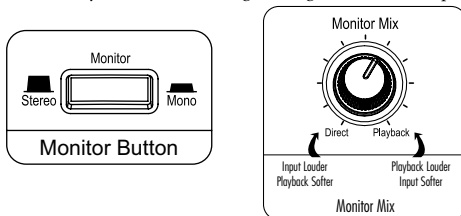
Turn down all of the Lambda Studio's input and output level controls. Plug your electric, acoustic, or bass guitar into the **Instrument** input jack on the front of the Lambda Studio hardware.

The **Instrument** input uses the same recording channel as the **Line 1** input; anything plugged into the 1/4" **Line 1** input jack on the back of the Lambda Studio will not be recorded when a cable is connected to the 1/4" **Instrument** input jack on the front panel.

**NOTE:** This jack is intended for electric guitar and bass, or acoustic instrument pickups, not line-level signals such as the output of keyboards or a direct out from a guitar amplifier. For those, use the **Line 1-2** input jacks on the back of the Lambda Studio hardware.

### To set the input level for the Instrument input:

1. Set the **Output Level** knob to the 9 o'clock position.
2. Set the **Monitor Mix** knob to the 12 o'clock position. Press the **Monitor Assign** button between the **Line 1** and **Line 2** knobs so that it is in the **Mono** position. This will let you hear the mono guitar signal out of both speakers.

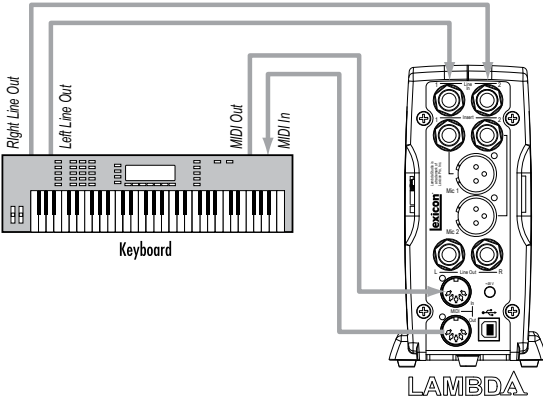


3. While playing the guitar, gradually increase the gain by turning up the **Line 1** knob until the **Peak** LED next to the knob just begins to light occasionally. Re-adjust the **Output Level** knob for the desired monitoring level.
4. For instructions on recording in Cubase LE, go to "D. Recording With Cubase LE" on page 15.



**C. RECORDING MIDI**

The Lambda Studio also functions as a MIDI interface. This allows you to record MIDI data into a MIDI track of Cubase® LE or other MIDI compatible recording software, and then play that MIDI data back from the computer into a keyboard, sound module, or virtual instrument. The diagram below shows how the Lambda Studio is connected for this particular application. In this application, the keyboard will be used for generating the sounds.



Connect the MIDI out from the keyboard to the **MIDI In** on the Lambda Studio. Connect the **MIDI Out** from the Lambda Studio hardware to the MIDI in on the keyboard.

To hear your keyboard, you either need to run the line output of the keyboard to one (mono) or two (stereo) **Line** inputs on the back of the Lambda Studio.

For instructions on recording in Cubase LE, go to "D. Recording With Cubase LE" on page 15.

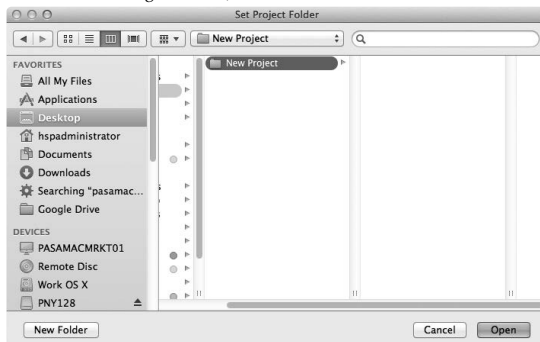
## D. RECORDING WITH CUBASE LE

To create a new session and prepare Cubase LE to record:

1. Open Cubase LE.
2. To create a new empty recording session, select the **Prompt for project location** option. Select **More>Empty**, then click the **Create** button.



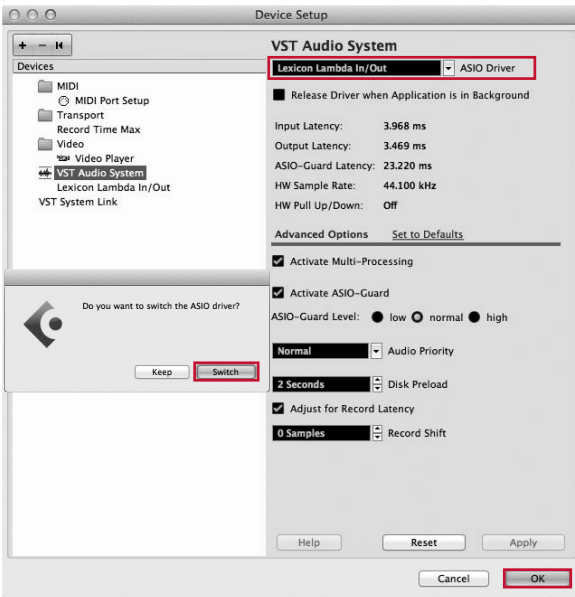
3. Select the location on the hard drive where you would like to create the new project; create a new folder if necessary. When done, click the **Open** button (or **OK** button if using Windows).



- Go to the **Devices** menu and select the **Device Setup** option.

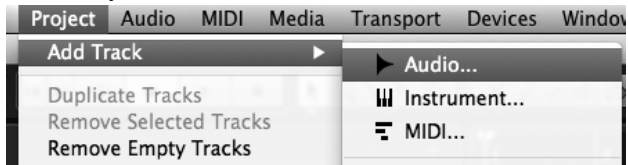


- Click on **VST Audio System** and, if not already selected, select **Lambda ASIO** (for Windows) or **Lexicon Lambda In/Out** (for Mac). Click the **Switch** button to select the driver, then click **OK**. You are now ready to begin recording using your Lambda Studio and Cubase LE.

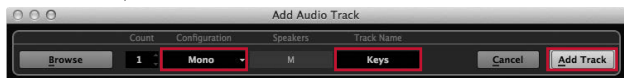


To create an audio track and assign an audio input:

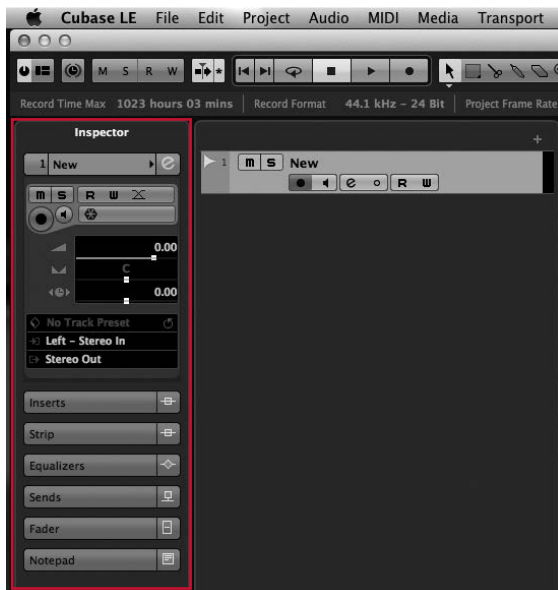
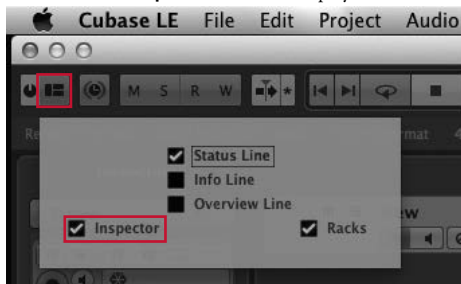
1. Click the **Project** menu and select **Add Track>Audio**.



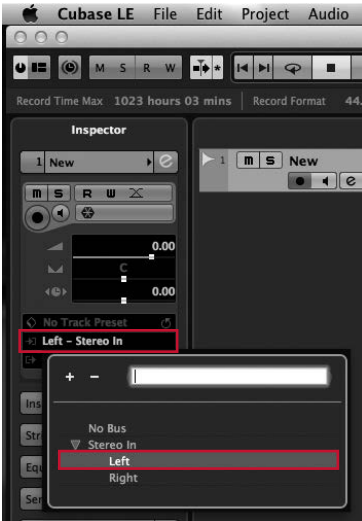
2. When the **Add Audio Track** dialog appears, select the **Mono** configuration, name the track, then click the **Add Track** button.



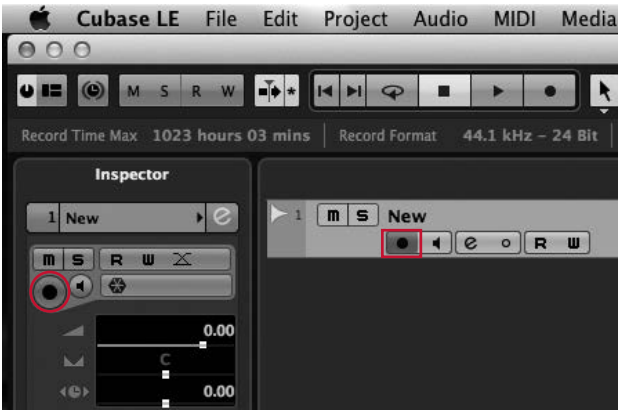
3. Make sure the **Inspector** window is enabled, located in the upper-left corner of the screen. The **Inspector** window is displayed on the left side of the screen.



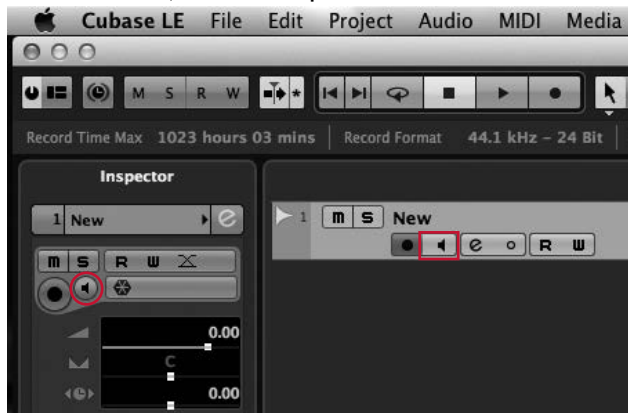
- In the **Inspector** window, select the input you would like to record by clicking the **Input Routing** field then selecting the track input source. Select "**Stereo In - Left**" to record from the **Line 1/Mic 1/Instrument** input or "**Stereo In - Right**" to record from the **Line 2/Mic 2** input.



- In the **Track** window, the **Record Enable** button should already be red. If it isn't, click it so that it turns red.

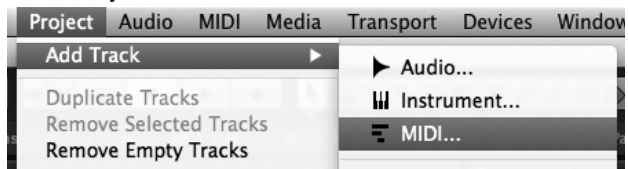


- In the **Track** window, make sure the **Input Monitor** button is not lit.

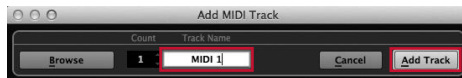


To create a MIDI track and assign a MIDI input channel:

- Click the **Project** menu and select **Add Track>MIDI**.



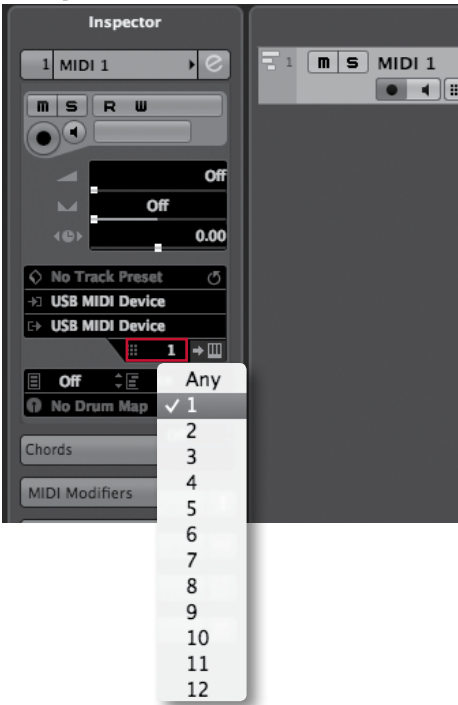
- When the **Add MIDI Track** dialog appears, name the track then click the **Add Track** button.



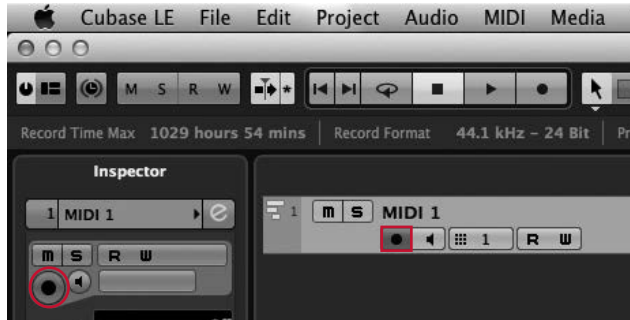
3. In the **Inspector** window, select **USB MIDI Device** (or **Lexicon Lambda MIDI** on Windows) for the MIDI input device.



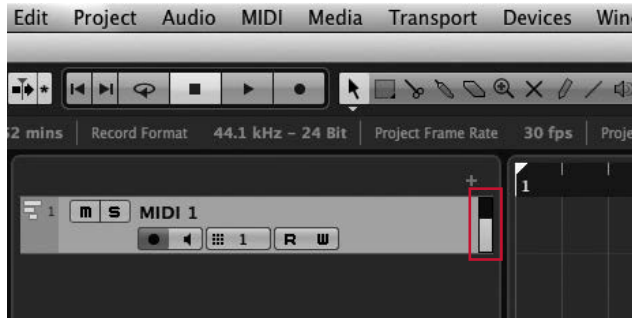
4. For the MIDI input channel, select the channel your MIDI device (keyboard, drum machine, etc.) is assigned to transmit on. If you're not sure, select **Any** for the MIDI input channel.



- In the **Track** window, the **Record Enable** button should already be red. If it isn't, click it so that it turns red.



- Play your MIDI device and make sure the MIDI track's meter shows that MIDI signal is present. If you don't see level indicated on the meter, check the settings of the keyboard to make sure it's set to transmit on the same MIDI channel that Cubase LE is set to receive on (as set up in step 4). In some cases, you may want to set the keyboard to "local off" and set Cubase LE to "Echo" mode. For more information, consult the Cubase LE manual and your keyboard's manual.





To start recording:

1. Click the **Record** button on Cubase® LE's Transport control.



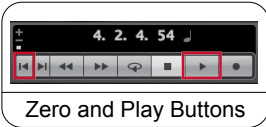
Record Button

2. Speak, sing, or play the instrument.
3. When you are finished recording, press the **Stop** button.



Stop Button

4. Press the **Zero** button to return to the beginning of the session then press the **Play** button to listen to the track you just recorded.



Zero and Play Buttons

**NOTE:** Make sure the **Monitor Mix** knob is set to the 12 o'clock position then turn the **Output Level** knob to adjust the monitoring level. See "E. Setting Monitor Levels" on page 23 for more information.

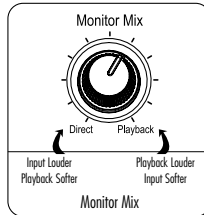
5. To overdub a track, create a new track as previously described then make sure the record button on the new track is enabled and any previously recorded tracks are not record enabled. This will allow you to record to the new track without affecting the previously recorded tracks.



## E. SETTING MONITOR LEVELS

To set monitor levels for a comfortable listening level:

1. While playing back the recording, adjust the **Monitor Mix** knob to balance the levels between the direct input signal and recording playback. To make the direct input louder than the recording playback in the headphones or speakers, turn the **Monitor Mix** knob towards the **Direct** side. To make the recorded track(s) louder, turn the **Monitor Mix** knob towards the **Playback** side.



**NOTE:** Changing the **Monitor Mix** does not affect the recording level, only what you hear while recording. You can also adjust the playback level and pan position of the original track in your monitor by adjusting the controls for the track within Cubase® LE's Mixer window.

2. Adjust the **Output Level** knob to control the overall monitoring level.

**F. USING SOFTWARE INPUT MONITORING**

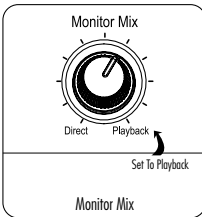
The previous examples have had Cubase LE's input monitoring turned off while recording tracks and used the **Monitor Mix** knob on the front of the Lambda Studio hardware to directly monitor an input without latency.

Software input monitoring lets you listen to software-based effects in real time and adjust the headphone/monitor mix independently of the recording levels. For example, software input monitoring can be used to apply reverb to vocals for the headphone mix, or monitor a direct bass or guitar performance through a bass/guitar amp simulator plug-in.

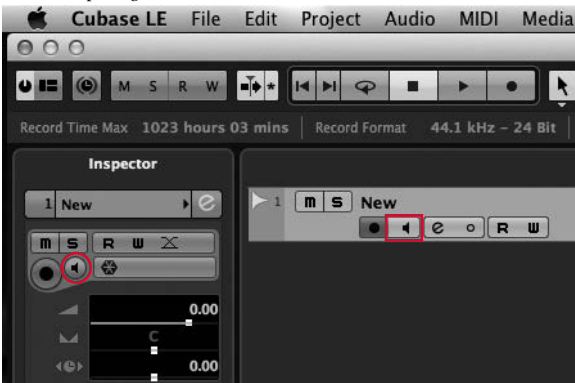
Keep in mind that when using software input monitoring there will be some latency (delay) introduced, which can make it difficult for a performer to play on time (this is especially true when recording percussive instruments and vocals). The amount of latency depends on the speed of your computer and the amount of buffers assigned in the ASIO control panel. See "Adjusting The Buffer Settings" on page 26 for more information on adjusting buffer settings.

To use software input monitoring:

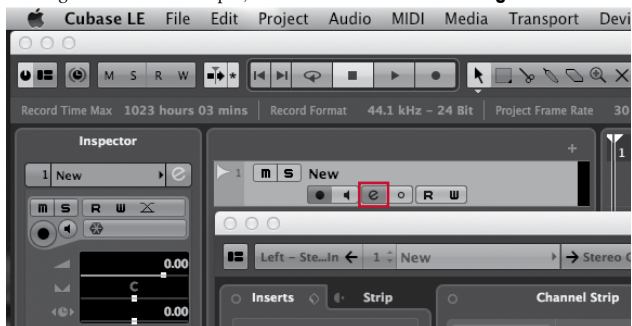
1. When using Cubase LE's input monitoring with the Lambda Studio, you will usually want to set the **Monitor Mix** knob all the way to the **Playback** side so that you don't mix the direct and software monitored signals and introduce phasing artifacts.



2. Click the **Input Monitor** button on the track you are recording to. You will now hear the input signal.



3. To assign an effect to the input, click the **Edit Channel Settings** button.



4. Left click on an **Insert** slot and select a plug-in from the list. If using a plug-in that offers a mix control, such as a reverb or delay, adjust the **Mix** control to change the ratio of dry (unprocessed) to wet (processed) sound. You're now ready to begin recording.



**NOTE:** Plug-ins inserted on a Cubase LE track are non-destructive, meaning they will not be recorded to the track. Such effects will, however, be audible during recording and playback and can be changed at any time to alter the effect.

## ADJUSTING THE BUFFER SETTINGS

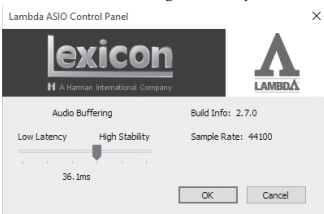
Audio latency is the minimum time required for a computer to store recorded audio from an audio interface into the recording application memory and playback that same recorded audio back out of the audio interface output.

After the audio has been converted to the digital domain, it is passed to a buffer before it is processed by the driver and then passed to the audio application. An audio buffer is a reserved segment of memory used to hold this audio data to compensate for momentary delays in processing. The size of an audio buffer is the maximum number of samples the buffer can hold. For sound coming from the computer, there is an output buffer before the digital to analog conversion. "Buffering" introduces latency, since a buffer needs to fill up by a certain amount before the data can continue along the chain.

The buffers in Cubase® LE were automatically set at a safe setting for your computer when you installed the software. If you are using Cubase LE's input monitoring, you may wish to reduce the buffer size to reduce latency. Lowering the buffer size will lower the amount of latency when using input monitoring. Setting the buffers too low will result in unwanted digital artifacts, such as popping or crackling and possibly audio dropout. The faster the computer (Hard Disk and CPU), the lower you will be able to adjust the buffer setting without negatively impacting the audio. For more information, consult the Cubase LE documentation.

## ADJUSTING THE BUFFERS IN WINDOWS

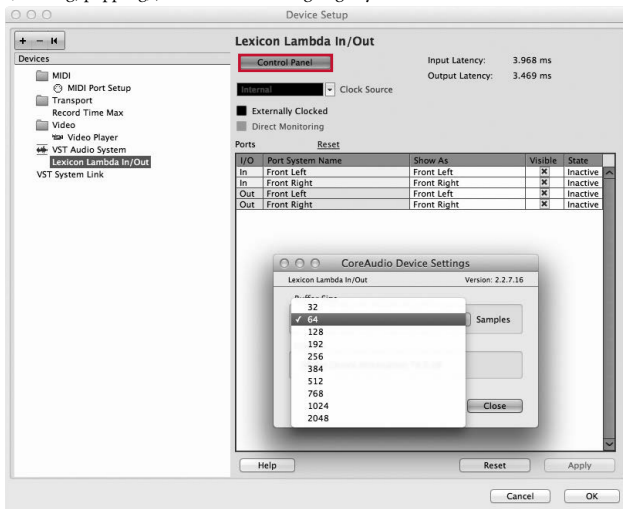
1. Open Cubase LE and go to **Devices>Device Setup**.
2. Click on **VST Multitrack**.
3. Click the **Control Panel** button. You will now see the ASIO control panel. Moving the **Audio Buffering** slider toward Low Latency will decrease any monitoring latency. If audio playback has artifacts (clicking, popping), move this slider further toward the High Stability side.



4. When you are finished, click the **OK** button and return to your project to test the results.
5. Repeat this process as many times as necessary until you find a buffer setting that provides the lowest possible latency without digital artifacts.

## ADJUSTING THE BUFFERS IN MAC OS X

1. Open Cubase LE and go to **Devices>Device Setup**.
2. Click on **Lexicon Lambda In/Out**.
3. Click on the **Control Panel** button. You can now select the buffer size. Selecting lower settings will decrease any monitoring latency. If audio playback has artifacts (clicking, popping), increase the setting slightly.



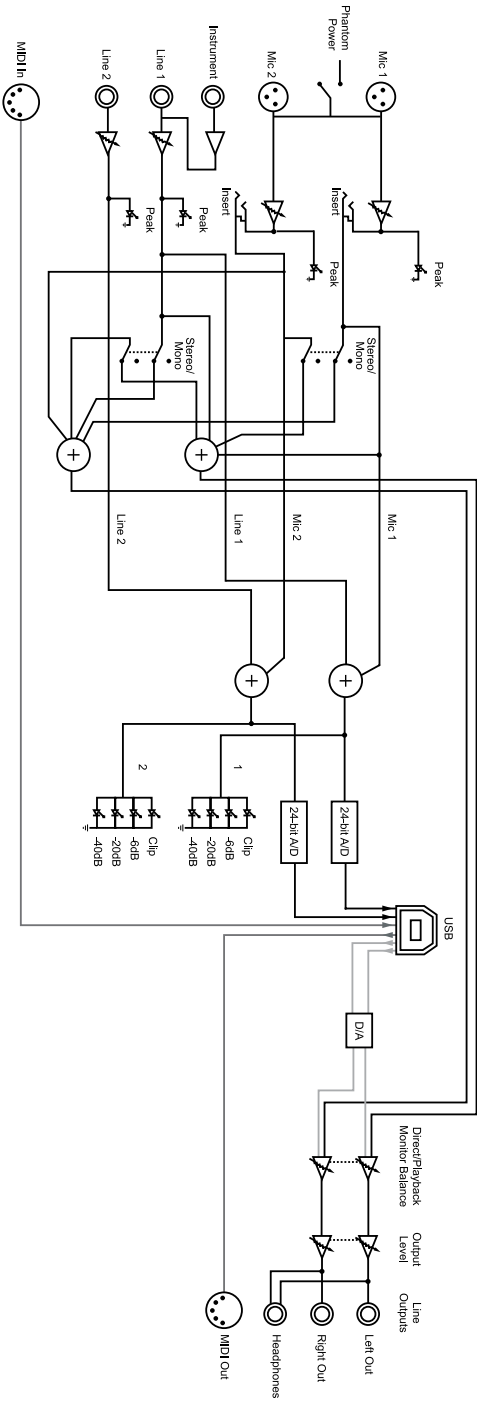
4. When you are finished, click **Close**, then **OK** and return to your project to test the results.
5. Repeat this process as many times as necessary until you find a buffer setting that provides the lowest possible latency without digital artifacts.

## SPECIFICATIONS

Microphone Inputs:	(2) Female XLR Pin 2 Hot
Input Impedance:	600 Ohms balanced
Phantom Power:	+48 Volt
GAIN:	+44 dB
EIN:	-120 dB A-weighted @ 44dB gain (150 Ohm source impedance)
Maximum Input Level:	6.5 dBu
Frequency Response:	+0, -0.5 dB 20 Hz - 20 kHz, ref. 1 kHz
THD+N:	<.005% 20 Hz - 20 kHz
Insert Inputs:	(2) 1/4" TRS
Send Level (tip):	+10 dBu maximum
Maximum Return Level (ring):	+11 dBu maximum
Line Inputs:	(2) 1/4" TRS balanced or unbalanced
Input Impedance:	20 kOhm balanced, 10 kOhm unbalanced
Maximum Input Level:	+13 dBu
Frequency Response:	+0, -0.5 dB 20 Hz - 20 kHz, ref. 1kHz
THD+N:	<.009% A/D, 20 Hz - 20 kHz
Instrument Input:	(1) 1/4" mono jack
Input Impedance:	1 MOhm unbalanced
Maximum Input Level:	+8.5 dBu
Frequency Response:	+0, -1 dB 20 Hz - 20 kHz, ref. 1 kHz
THD+N:	<.0125% A/D
Line Outputs:	(2) 1/4" TRS balanced or unbalanced
Level:	+16 dBu maximum
Impedance:	1 KOhm Balanced, 500 Ohm Unbalanced
Headphone Output:	(1) 1/8" stereo jack 20 mW per channel at 50 Ohms
MIDI Interface:	5 pin DIN connectors for MIDI in and MIDI out
Sample Rate:	44.1 kHz or 48 kHz (determined by computer application)
Dynamic Range:	A/D (24 Bit) 96 dB typical, A-weighted, 20 Hz - 20 kHz D/A (24 Bit) 100 dB typical, A-weighted, 20 Hz - 20 kHz
A/D/A (24 Bit)	95 dB typical, A-weighted, 20 Hz - 20 kHz
Power Requirements:	USB powered
Dimensions:	6.5 x 6.7 x 3.4
Weight:	1.92 lbs.

Lexicon engineers are constantly working to improve the quality of our products. Specifications are therefore subject to change without notice.

# Lambda Signal Routing Diagram







**PHONE:** (801) 566-8800

**WEB:** [lexiconpro.com](http://lexiconpro.com)

**SUPPORT:** [lexiconpro.com/en-US/support](http://lexiconpro.com/en-US/support)

Lambda Owner's Manual

PN: 5058920-A

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