AudioBox USB

24-bit/48k Recording Interface
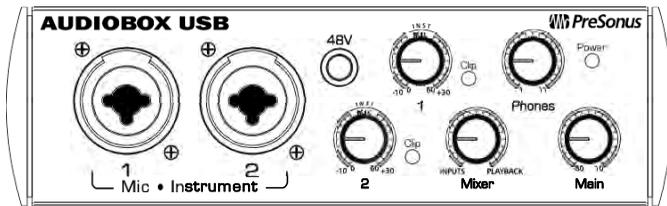
User's Manual
Version 2.0

PreSonus

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1.1 INTRODUCTION

Thank you for purchasing the PreSonus AudioBox USB. PreSonus Audio Electronics has designed the AudioBox USB utilizing high-grade components to ensure optimum performance that will last a lifetime. Loaded with 24-bit 48kHz converters, two PreSonus microphone preamplifiers and Cubase LE 48-track music production software, the AudioBox USB is ready to go out of the box for professional quality computer recording. All you need is a computer with USB connection, a couple of microphones and cables along with your instruments and you are ready to record!

We encourage you to contact us at 225-216-7887 or techsupport@presonus.com with any questions or comments you may have regarding your AudioBox USB. PreSonus Audio Electronics is committed to constant product improvement, and we value your suggestions highly. We believe the best way to achieve our goal of constant product improvement is by listening to the real *experts*, our valued customers. We appreciate the support you have shown us through the purchase of this product.

We suggest you use this manual to familiarize yourself with the features, applications and correct connection procedure for your AudioBox USB before trying to connect it to your computer. This will hopefully alleviate any unforeseen issues that you may encounter during installation and set up.

Thank you, once again, for buying our product, and we hope you enjoy your AudioBox USB!

1.2 FEATURES

The AudioBox USB is a powerful and affordable computer recording system complete with everything needed for real-world recording applications. The AudioBox USB comes complete with two high-quality PreSonus microphone preamps, MIDI I/O, rock solid drivers, as well as a PreSonus Studio One Artist music recording and production software.

<u>Summary of features</u>

- 24-bit / 48k USB audio recording interface
- 2 class A XMAX microphone / instrument preamplifiers
- 48V phantom power
- 2 balanced TRS outputs
- MIDI input/output
- Powered via USB

All PreSonus audio interfaces now include PreSonus Studio One Artist recording software, which comes with over 4 GB of plug-ins, loops, and samples, giving you everything you need for music recording and production.

<u>Summary of features</u>

- Unlimited track count, inserts and sends
- 20 high-quality native effects plug-ins
- Amp Modeling (Ampire)
- Delay (Beat Delay)
- Distortion (Redlight Distortion)
- Dynamic Processing (Channel Strip, Compressor, Limiter, Tricomp)
- Equalizer (Channel Strip, Pro EQ)
- Modulation (Autofilter, Chorus, Flange, Phaser, X-Trem)
- Reverbs (MixVerb, Room Reverb)
- Utility (Binaural Pan, Mixtool, Phase Meter, Spectrum Meter, Tuner)
- Over 4 GB of loops, samples, and instruments, featuring:
- Presence: Virtual Sample Player
- Impact: Virtual Drum Machine
- SampleOne: Virtual Sampler
- Mojito: Virtual Analog-Modeled Subtractive Synthesizer
- Innovative and intuitive MIDI mapping
- Powerful drag-and-drop functionality for faster workflow
- Mac OS X and Windows compatible

1.3 WHAT IS IN THE BOX

Your AudioBox USB package contains the following:
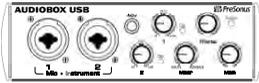
• AudioBox USB

• 6' USB Cable

• Software installation discs:
  o PreSonus AudioBox USB Driver
    Installation Disc
  o Studio One Artist Installation DVD

• PreSonus Warranty Card

1.4 SYSTEM REQUIREMENTS

Below are the minimum computer system requirements for your AudioBox USB and Studio One Artist.

<u>Macintosh</u>

- o Mac OS X 10.4.11 or Mac OS X 10.5.2 or higher
- o Minimum Hardware:
  - • PowerPC G4 1.25 GHz or Intel Core Solo 1.5 GHz processor
  - • 1 GB RAM
  - • DVD drive
  - ▪ Recommended:
    - • PowerPC G5 or better or Intel Core Duo or Intel Xeon processor or better
    - • 2 GB or more RAM
    - • DVD drive

<u>Windows PC</u>

- o Windows XP SP2 or later or Vista (32-bit only)
- o Minimum Hardware:
  - • Intel Pentium 4 1.6 GHz processor or AMD Athlon 64 (Turion)
  - • 1 GB RAM
  - • DVD drive
  - ▪ Recommended:
    - • Intel Pentium 4 2.8 GHz EM64T or better or AMD Athlon 64 3000+ or better
    - • 2 GB or more RAM
    - • DVD drive

NOTE: The speed of your processor, amount of RAM, and size and speed of your hard drives greatly affect the overall performance of your recording system. A more powerful system (faster processor with more RAM) allows for lower latency (signal delay) and better overall performance.

2.1 HARDWARE INSTALLATION

2.1.1 Installation in Mac OS X

The AudioBox USB is a class compliant core audio device. No driver installation is necessary. Simply connect your AudioBox USB to your computer.

2.1.2 Installation in Microsoft Windows

After inserting the Installation CD into your CD-ROM drive, the AudioBox USB installer will take you through each step of the installation process. Please read each message carefully – ensuring especially you do not connect your AudioBox USB early.

1) The AudioBox USB Installer was written to be as simple and easy-to-follow as possible. Please read each message carefully to ensure the AudioBox USB is properly installed.

Before continuing the AudioBox USB Installation Setup, please close all multimedia applications and disconnect your AudioBox USB from your computer.

Once the Welcome screen launches, click "Next"

2) If you see any Windows Security alerts, click "Install this driver software anyway" (Vista) or "Continue anyway" (XP).
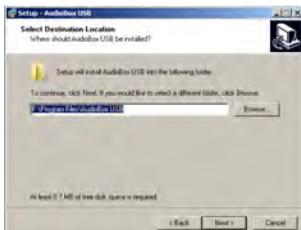
3) The installer will now show you where the drivers for your AudioBox USB will be installed. The installer will automatically choose the Program Files folder in your System drive.

Click "Next"

4) You will now notify you that the driver will now be installed.

Click "Next"

5) Congratulations! You have finished installing your AudioBox USB.

Click "Finish" and connect your AudioBox USB to your PC.

2.2. STUDIO ONE ARTIST

Every PreSonus interface comes complete with Studio One Artist recording software. Whether you are about to record your first album or your 50th, Studio One Artist provides you with all the tools necessary to capture and mix a great performance. As a valued PreSonus customer, you are also eligible for an upgrade discount for Studio One Pro when you are ready to master your work, create a digital version for the Web, or incorporate third-party VST plug-ins into your recording process. For more details on the Studio One Pro upgrade program for PreSonus customers, please visit www.presonus.com.

Once you have installed your AudioBox USB drivers and connected your interface, you can use the PreSonus Studio One Artist music-production software included with the AudioBox USB to begin recording, mixing, and producing your music. To install Studio One Artist, insert your installation disc into your computer's DVD drive. Follow the onscreen instructions to complete the installation process.

2.2.1 Installation and Authorization

To Install Studio One Artist, insert your Studio One Artist installation DVD into your computer's DVD drive.

PC Users: Launch the Studio One Artist installer and follow the onscreen instructions.

Mac Users: Simply drag the Studio One Artist application into the Applications folder on your Macintosh HD.

Creating a User Account

After installing Studio One Artist, launch the program, and the Activate Studio One menu will appear. If you are a new Studio One user, you will need to create a user account. Follow the Create Account link if your computer is connected to the Internet. Once you have created your account, continue to Activating Studio One Artist Online.

If your computer is not connected to the Internet, visit the Studio One product page at www.presonus.com on an Internet-connected computer to create your account. After you have created your account, skip to Activating Studio One Artist Offline.

Activating Studio One Artist Online

Now that you have created a user account, you can activate your copy of Studio One Artist. Launch Studio One Artist, and the Activate Studio One menu will appear.

Click on the Activate Online link and enter your previously created account Username, Password, and the Product Key you received with the Studio One Artist installation disc. Click on the Activate button to finish the activation process.

Activating Studio One Artist Offline

Once you have created a user account, launch Studio One Artist. From the Activate Studio One Menu, click on the Activate Offline link. Follow the instructions to log in to your previously created user account, register the product, and obtain a license file.

Next, copy the license file to the computer on which Studio One has been installed, and locate the license file as instructed in the Activate Studio One menu. The activation process is now complete.

Installing Bundled Content for Studio One Artist

Studio One Artist comes bundled with an array of demo and tutorial material, sampled instruments, loops, samples, and unique third-party content. The Studio One Artist bundle includes all that you need to begin producing music.

Upon completing the Studio One Artist installation and activation process, the Studio One Content Installer will appear. If it does not appear, navigate to Help/Studio One Installation.

At the top of the installation menu, select the source from which the content will be installed, as well as the location where you wish to install the content. The source of the content will be the same DVD from which you installed Studio One Artist. By default, Studio One Artist will point to your DVD drive as the content source. Listed in the installation menu are separate entries for each available item. Click in the checkbox next to each item you wish to install, then click on the Install Packets button at the bottom left of the menu to install the selected content.

When finished installing content, click on the Done button to exit the menu.

Studio One Artist content can be installed at any time by accessing the Help/Studio One Installation menu. If you choose not to install any portion of the content, you can install it at a later time.

2.2.2 Enabling the Audio Driver

Studio One and Studio One Artist were designed with PreSonus interfaces in mind. Your AudioBox USB is already integrated into Studio One Artist, so setup is quick and easy. When Studio One Artist is launched, by default you will be taken to the Start page. On this page, you will find document-management and device-configuration controls, as well as a customizable artist profile, a news feed, and links to demos and tutorials from PreSonus. If you have an Internet connection on your computer, these links will be updated as new tutorials become available on the PreSonus Web site.

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

• Start Page: Setup Area	**Shows Active Audio Driver and Sample Rate and Provides Quick Links to Configure Audio and MIDI** In the middle of the Start page, you will see the Setup area. Studio One Artist automatically scans your system for all available drivers and selects a driver. By default, it will choose a PreSonus driver if one is available.
	Selecting a Different Audio Driver From the Start Page If you do not see your AudioBox USB audio driver on the Start page when you launch Studio One, click on the Configure Audio Devices link in the Setup area to open the Audio Setup Options window. In the Audio Device menu, select the driver for your PreSonus interface. Click the Apply button and then OK.

After you have verified that the PreSonus driver has been detected, please continue to the next Section to set up your external MIDI devices. If you do not have any MIDI devices to connect at this time, please skip to Section 2.2.4: Configuring Audio I/O.

2.2.3 Configuring Your MIDI Devices

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

<u>Setting up an external MIDI keyboard controller from the Start page.</u>

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

<u>STEP 1</u>

From the Setup area in the Start page, you can also set up your external MIDI devices. Before we set up a new Song for recording, let's take a moment to configure external devices. Connect the MIDI Out of your external MIDI controller to the MIDI In of your AudioBox USB.

<u>STEP 2</u>

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

Click the Add button.

<u>STEP 3</u>

When the Add Device window launches, select "New Keyboard" from the menu on the left. At this point, you can customize the name of your keyboard by entering the manufacturer and device names.

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

GETTING STARTED

STEP 4

In the Receive From drop-down menu, select the MIDI interface input from which Studio One Artist will receive MIDI data. In this case, AudioBox USB.

In the Send To drop-down menu, select the MIDI interface output from which Studio One Artist will send MIDI data to your keyboard. If your keyboard controller does not need to receive MIDI data from Studio One (say, for moving motorized faders and the like), you can leave this unselected. If your keyboard does need to receive MIDI date, you must connect a MIDI cable from the MIDI output of the MIDI breakout cable to the MIDI input of the keyboard.

STEP 5
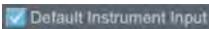
If this is the only keyboard that you will use to control the virtual instruments and your external synthesizers in Studio One Artist, you should check the box next to Default Instrument Input. This will automatically assign your keyboard to control all MIDI devices in Studio One Artist. When you are finished, click OK.

If you have a sound module you'd like to connect, leave the External Devices window open and proceed to the next part of this section. If not, you can close this window and skip to Section 2.2.4: Configuring Your Audio I/O.

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

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

STEP 1

Connect the MIDI In of your external sound module to the MIDI Out of your AudioBox USB.

STEP 2

In the External Devices window, click the Add button.

STEP 3

The Add Device window will launch.

From the menu on the left, select "New Instrument." At this point you can customize the name of your sound module by entering the manufacturer and device names.

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

STEP 4

In the Send To drop-down menu, select the MIDI-interface output from which Studio One Artist will send MIDI data to your sound module. In this case, AudioBox USB.

In the Receive From drop-down menu, select the MIDI-interface output from which Studio One Artist will receive MIDI data from your sound module. In most cases, your sound module will not need to send information to Studio One, so you can leave this unspecified.

Click OK and close the External Devices window. You are now ready to start recording in Studio One Artist. The remainder of this guide will go over how to set up a Song and will discuss some general workflow tips for navigating through the Studio One Artist enviroment.

2.2.4 Configuring Audio I/O

Now that you've configured your MIDI devices, let's create a new Song and set up your default Audio I/O.

STEP 1
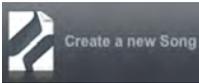
From the Start page, select "Create a new Song."

STEP 2

To begin a new Song, select "Empty Song" from the Templates list. At this point, you should give your Song a name and select your preferred sample rate and bit depth. You can also determine the length of your Song and the type of time format you would like to use (Notation Bars, Seconds, Samples, or Frames). Click the OK button when you are finished.

If you plan on importing loops into your Song, you may want to select "Stretch Audio Loops to Song Tempo" so that any loop of a known BPM (like those in the included content library) will import at the correct tempo.

STEP 3

When the Song window launches, launch the Audio Setup window by going to File | Options... (PC) or Studio One | Preferences (Mac), and click on the Audio Setup button.

STEP 4

Click on the Song Setup button to open the Song Setup window, then click on the on the Audio I/O Setup icon.

STEP 5

Click on the Inputs tab in the Audio I/O Setup window, and you will see all of the available inputs on your AudioBox USB. At this time, you can add the number and type of inputs you plan to use. We recommend that you create a mono input for both of the inputs on your AudioBox USB. If you plan on recording in stereo, you should also create a stereo bus and assign it to the appropriate set of inputs. You can remove any bus by simply selecting it, then clicking the remove button. To customize the name of your buses, double-click on the default name to open a text box. When you have finished typing, hit Enter. If you would like the same inputs to be available every time you launch Studio One Artist, click the "Make Default" button.

STEP 6

Click on the Outputs tab, and you will see all of the available outputs on your AudioBox USB. At this time, you can add the number of output buses to which you would like to have access and can give them custom names.

In the lower right corner, you will see the Audition select menu. This allows you to choose the ouput from which you will audition audio files prior to importing them into Studio One Artist. In general, you will want this to be the Main Out bus.

If you would like this output configuration available every time you launch Studio One Artist, click the Make Default button.

2.2.5 Creating a Song

Now that you've configured your MIDI and Audio I/O and created a new Song, let's go through some of the basics of Studio One Artist so you can start recording!

<u>Creating Audio Tracks</u>

	In the upper left corner of the Arrange window, you will notice several buttons. The middle button is the Add Tracks button. Click this button to bring up the Add Tracks window.
	In the Add Tracks window, you can select the number and type of Tracks you'd like to create (Mono Audio, Stereo Audio, Instrument, or Automation) and can customize the name and the color.
	Once you have added your Tracks, you can assign the input by simply clicking on the input to which a Track is currently assigned. This will bring up your inputs list. You can also access the Audio I/O Setup from here. If you would like to add a Track for each of the available inputs and have the routing automatically assigned, simply go to Track | Add Tracks for All Inputs.
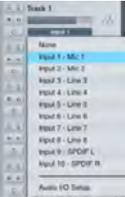
Too begin recording, create an audio track, assign it to Input 1, and connect a microphone or instrument to Channel 1 of your AudioBox USB. Select the record enable (▣) and monitor (▣) on your track in Studio One Artist. Turn up the Channel 1 gain knob on your AudioBox USB while speaking/singing into the microphone or playing your instrument. You should see the input meter in Studio One Artist react to the input. Adjust the gain so the input level is near its maximum **without clipping.**

Turn the Mix knob on the front panel of your AudioBox USB to 12 o'clock. Connect a set of headphones to your AudioBox's headphone output. You may also wish to connect monitors to your interface's Main Outs. You are now ready to record. For complete instructions, please consult the Studio One *Reference Manual,* which is located on your Studio One Artist Installation DVD.

Creating MIDI Tracks

	Click on the Add Tracks button. When the Add Tracks window launches, select Instrument as the Track Format and click the OK button.
	To assign your MIDI input, click on the MIDI Inputs list and select your external sound module. If you have added Virtual Inputs to your session, you will also see them as available inputs. If you selected your MIDI keyboard controller as the default keyboard, it will already be selected. If not, choose your MIDI controller from Output menu directly below.
	To the left of the Add Track button, you will find the Inspector button. Click it to display more parameters for the selected track.
	At the bottom of the Inspector menu, you will see your Bank and Program selections. From here, you can remotely change the patch on your sound module.

Please Note: MIDI data does not contain audio signals. To hear your sound module, you must connect the audio output of the sound module to an audio input on your interface and your interfaces's audio outputs to a sound system. When you are ready to mix your Song, you must convert the recorded MIDI data to an audio waveform by recording a new audio track

Adding Virtual Instruments and Plug-in Effects to your Song

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

	In the lower right corner of the Arrange window are three buttons. The Edit button opens or closes the Audio editor or the MIDI piano-roll editor, depending on what type of track is selected. The Mix button opens and closes the mixer window. The Browse button opens the Browser window, which displays all of the available virtual instruments, plug-in effects, audio files, and MIDI files, as well as the pool of audio files loaded into the current session.

	To add a virtual instrument to your session, click the Browse and Instrument buttons to open the Instrument Browser. Select the instrument or one of its patches and drag it into the Arrange view. Studio One Artist will automatically create a new track and load the Instrument as the input.
	To add a plug-in effect to a track, click the Effects button and select it or one of its presets in the Effects Browser, then drag it over the track to which you would like to add it.
	Audio and MIDI files can also be quickly located, auditioned, and imported into your Song by dragging them from the File Browser into the Arrange view. If you drag the file to an empty space, a new track will be created with that file placed at the position to which you dragged it. If you drag the file to an existing track, the file will be placed as a new part on the track.
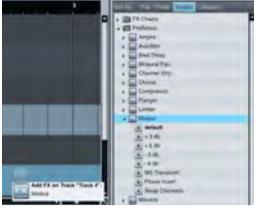
2.3 SAMPLE HOOK UP DIAGRAM

With the AudioBox USB, you can simultaneously record two tracks at one time. Since it is loaded with two microphone/instrument preamps, you can plug in two microphones to the AudioBox USB or one microphone and one instrument (i.e. electric guitar, bass, etc). This makes recording extremely easy. All you need are a couple of microphones, some cables to connect them, a musician (or two) and the creative energy to bring it all together.

This is a typical singer/songwriter setup. Your needs may vary depending upon the variety of sources you are recording. Feel free to adapt the sample setup below to your precise needs.

2.4 MICROPHONES

The AudioBox USB works with many microphones including dynamic, ribbon and condenser microphones.

2.4.1 Condenser

Condenser microphones tend to generate a high-quality audio signal and are one of the most popular mic choices for today's studio recording applications. Because of their design technology, condenser microphones require a power source, which can be provided from a small battery, external power supply or from microphone inputs as *phantom power*. The AudioBox USB sends phantom power over XLR inputs only.

2.4.2 Dynamic

Dynamic microphones are possibly the most widely used microphone type – especially in live shows. They are relatively inexpensive, resistant to physical damage and typically handle high sound pressure levels (SPL) very well. Unlike condenser microphones, dynamic microphones do not require a power source and, in most cases, has no effect on a dynamic microphone's audio quality or sensitivity.

Dynamic microphones, especially ribbon microphones, tend to generate low output voltages, so they typically need more preamp gain than a condenser microphone.

Ribbon

Ribbon microphones are a special type of dynamic microphone and get their name from the thin metal ribbon used in their design. Ribbon microphones have very high quality sound reproduction qualities – especially higher frequencies sounds. However, they are very fragile and typically cannot handle high SPL's.

The most important thing to note about Ribbon microphones is that nearly all *Ribbon Microphones do NOT require phantom power.* In fact, unless a Ribbon microphone specifically calls for phantom power, sending phantom power to a ribbon microphone will destroy it – usually beyond repair.

2.4.3 USB and other types

There are a vast number of microphone types available, and as technology increases, it is very likely more will surface. One type of microphone to emerge recently is the USB microphone. Most USB microphones have their own built-in preamp and use drivers separate from the AudioBox USB drivers.

If you are using a new or non-standard type of microphone (i.e., USB, headset, laser, MEMS, etc.), please consult your microphone's user's manual for power requirement or compatibility information.

Regardless of the microphone type you are using, we recommend reading your microphone's user's manual thoroughly before engaging phantom power or if any other usage questions arise.

CONTROLS & CONNECTIONS

3.1 FRONT PANEL LAYOUT
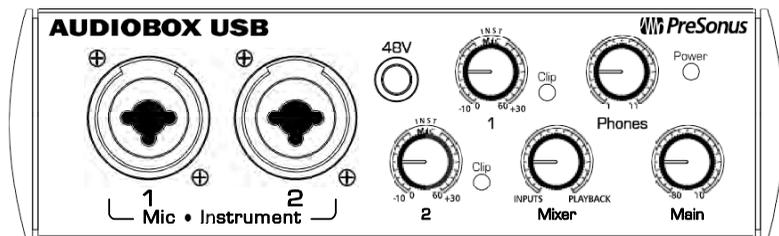
- **Microphone Pre-Amplifier.** Your AudioBox USB is equipped with two custom designed PreSonus microphone preamplifiers for use with all types of microphones including Dynamics, Condensers and Ribbons as well as instruments and line level signals. The award winning PreSonus preamplifier design is a Class A input buffer followed by a dual servo gain stage. This arrangement results in ultra low noise and wide gain control allowing the AudioBox USB user to boost desirable signal without increasing unwanted background noise.

   o **48 Volt Phantom Power.** The AudioBox USB has 48V Phantom power available for both mic preamps via a single push button switch on the front panel.

      ▪ XLR connector wiring for Phantom Power

         • Pin 1 = GND
         • Pin 2 = +48V
         • Pin 3 = +48V

   o **Neutrik Combo Connectors.** Both channels of the AudioBox USB have a Mic/Line connector using the Neutrik Combo connector. This revolutionary style connector lets you use either ¼″ phone or XLR connectors in the same female input. Both channels of the AudioBox USB are ¼″ instrument and microphone XLR inputs.

- **Instrument Inputs (Channels 1 and 2).** The ¼″ TS connector on channels 1 and 2 are for use with an instrument (guitar, bass, etc.). When an instrument is plugged into the instrument input, the mic preamp is bypassed, and the AudioBox USB becomes an active instrument preamplifier.

   NOTE: Active instruments are those that have an internal preamp or a line level output. Active instruments should be plugged into a line input rather than into an instrument input. Plugging a line level source into the instrument inputs on the front of the AudioBox USB not only risks damage to these inputs but also results in a very loud and often distorted audio signal.

   (In other words, don't plug a line level source into the combo jacks of channel 1 or 2.)

- **Input Gain/Trim Control.** These knobs provide the following gain structure:

  - *XLR Microphone Inputs.*   35 dB of variable gain (0 dB to +35 dB)
  - *TS ¼" Instrument/Hi-Z Inputs.*   35 dB of variable gain (0 dB to +35 dB)

- **Clip Indicator.** Both channels feature a clip LED next to the trim control. The red clip indicator LED will illuminate when the channel's input signal reaches 0 dBFS. At this level, your mic preamp/line trim signal will exhibit signs of clipping such as distortion. It is highly recommended you do not allow your converters to clip (the red clip indicators to light up) as the sound quality will not be desirable.

- **Mixer.** The Mixer knob allows you to blend your input signal with the playback stream from your computer. This allows you to monitor your input signal zero-latency. If the knob is positioned at 12 o'clock, the input signal and the playback stream will be equally balanced. Turning the knob towards the left will increase the level of the input signal relative to the playback stream; turning to the right will increase the level of the playback stream relative to the input signal.

- **Phones.** The Phones knob controls the amount of volume going to the headphone output on the front of the unit. Notice the volume indicator goes to 11: *use this setting with extreme caution*.

- **Main.** The Main knob controls the output level for the Main Outputs on the back of the AudioBox USB with a range of -80 db to +4 dB.

- **Power Light.** This light indicates the AudioBox USB is receiving bus power.

3.2 BACK PANEL LAYOUT
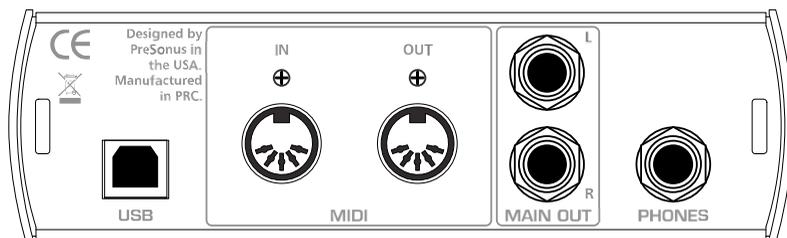
- **¼" Headphone Jack.** This is where you connect your headphones to the AudioBox USB.

- **Main Output.** This is the main output for your AudioBox USB. The output level of the Main Outputs is controlled by the AudioBox USB Main volume knob on the front of the unit.

- **MIDI In and Out Ports.** MIDI stands for "Musical Instrument Digital Interface". However, the MIDI standard goes well beyond just instrumentation and sequencing. The MIDI inputs and outputs allow connection and/or communication with external MIDI equipment. One function of this port is MIDI programming. These can also be used for MMC (MIDI Machine Control) and MTC (MIDI Time Code).

  NOTE: MIDI is not audio but is frequently used to trigger or control an audio source (such as a VST plugin or synthesizer). When using MIDI, ensure your MIDI data is correctly sent and received by the appropriate hardware or software instruments. You may also need to return those devices' audio to the AudioBox USB. Please consult the User's Manual of your MIDI devices for help with MIDI setup and usage.

- **USB port.** This is where you connect the USB cable from your AudioBox USB to your computer. The AudioBox is completely bus powered from this connection.

4.1 SPECIFICATIONS

Microphone Preamp

Type ....XLR Female Balanced
Frequency Response (±3.0 dB) .... 14 Hz to 70 kHz
Input Impedance (Balanced) ....1200 Ω
THD+N (unwtd, 1 kHz @ +4 dBu Output, Unity Gain) .... < 0.008%
EIN (A-weighted, 55dB Gain, 150 Ω Input, 20Hz to 22 kHz) ....-115 dBu
S/N Ratio (Unity Gain, Ref. = +4 dBu, 20Hz to 22 kHz) .... > 95 dB
Common Mode Rejection Ratio (1 kHz, 55 dB Gain) .... > 45 dB
Gain Control Range (± 1dB) .... 0 dB to 35 dB
Max Input Level (Unity Gain, 1 kHz @ 0.5% THD+N) .... -3 dBu
Phantom Power (±2 VDC) .... +48 VDC

Instrument Input

Type .... ¼''
TRS Female Unbalanced Input Impedance .... 0.5 MΩ

Line Outputs

Type ....¼'' TRS
Balanced Output Impedance ....51 Ω

Headphone Output

Type ....¼'' TRS Active Stereo
Maximum Output .... 60 mW/Ch @ 60 Ω Load
Frequency Response (±1.0 dB) .... 20 Hz – 30 kHz

MIDI I/O

Type .... Dual 5-pin Female DIN

Digital Audio

ADC Dynamic Range (Awtd, 48 kHz Sample Rate) .... 102 dB
DAC Dynamic Range (Awtd, 48 kHz Sample Rate) .... 110 dB
Bit Depth 24
Reference Level for 0dBFS .... +4 dBu
Internal Sample Frequency Selections (kHz) 44.1, 48

As a commitment to constant improvement, PreSonus Audio Electronics, Inc. reserves the right to change any specification stated herein at any time without notification.