Studio 24c

24-Bit, 192 kHz USB-C Audio Interface 兼容音频接口

Owner's Manual 用户手册
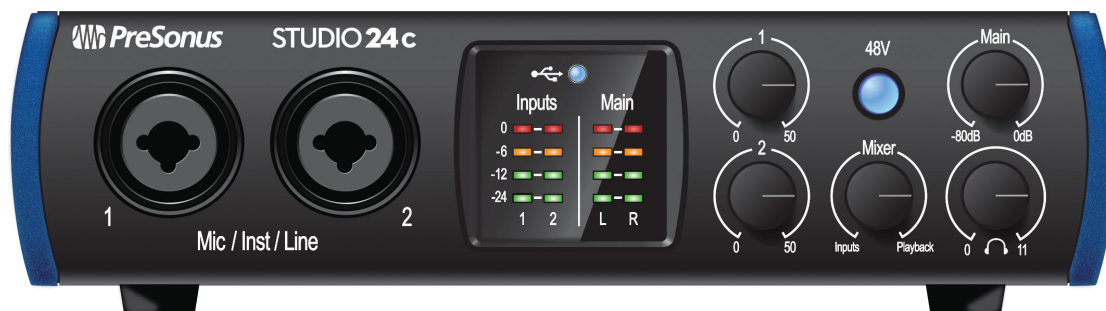
PreSonus®
www.presonus.com

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1   Overview   概述

1.1   Introduction 介绍

Thank you for purchasing a PreSonus® Studio 24c audio interface. PreSonus Audio Electronics, Inc., has designed the Studio 24c utilizing high-grade components to ensure optimum performance that will last a lifetime. Loaded with high-headroom, Class A microphone preamplifiers; robust metering, high-definition 24-bit, 192 kHz conversion; and more, the Studio 24c breaks new boundaries for music performance and production. All you need is a computer with a USB-C or USB-A (2.0 or 3.0) connection, a few microphones and cables, powered speakers, and your instruments, and you are ready to record!

We suggest that you use this manual to familiarize yourself with the features, applications, and correct connection procedures for your Studio 24c audio interface before trying to connect it to your computer. This will help you avoid problems during installation and setup.

Throughout this manual you will find *Power User Tips* that can quickly make you a Studio 24c interface expert.

感谢您购买PreSonus®Studio 24c音频接口。
PreSonus Audio Electronics, Inc.设计了Studio 24c，使用高档的组件，以确保最佳的性能，将持续一生。配备高净空，A级麦克风前置放大器;鲁棒计量，高清晰度24位，192khz转换; 此外，Studio 24c还打破了了音乐表演和制作的新界限。您所需要的就是一台带有USB-C 或 USB-A(2.0或3.0)连接您的计算机，麦克风和电缆，电源扬声器，以及乐器，这样您就可以开始录制了!

我们建议您在尝试将Studio 24c音频接口连接到计算机之前，先使用本手册熟悉其功能、应用程序和正确的连接程序。这将帮助您避免安装和设置过程中的问题。

在本手册中，您将发现超级用户提示，可以迅速使您成为Studio 24c界面专家。

1.2   What is in the Box 都包括什么？

Your Studio 24c package contains 您的Studio 24c中包括:

- Studio 24c 24-bit, 192 kHz audio interface Studio 24c 24-bit, 192 kHz音频接口

- Quick Start Guide 快速入门
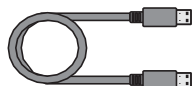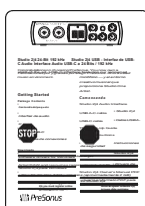
- 1M USB-C to C Cable   1M USB-C to C 电缆
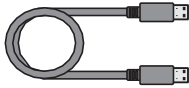
- 1M USB-C to A Cable   1M USB-C to A 电缆

- PreSonus Health Safety and Compliance Guide
  安全健康、合规指南

*Power User Tip: All companion software and drivers for your PreSonus Studio 24c are available for download from your My PreSonus user account. **Please visit** http://my. presonus.com and register your Studio 24c to receive downloads and licenses.*

高级用户提示: PreSonus Studio 24c的所有配套软件和驱动程序都可以从 My PreSonus用户帐户中下载。请访问 http://my.presonus.com并注册您 的Studio 24c以获得下载和授权。

2

1.3   Companion PreSonus Products 配套产品

Thanks for choosing PreSonus! As a solutions company, we believe the best way to take care of our customers (that's you) is to ensure that you have the best possible experience from the beginning of your signal chain to the end. To achieve this goal, we've prioritized seamless integration throughout every design phase of these products from day one. The result is systems that communicate with each other as intended—straight out of the box—without excessive configuration hassles.

We're here for you. Find out more at www.presonus.com.

感谢您选择 PreSonus ！我们相信，Studio 24c 作为一个解决方案，确保我们的客户(也就是您) 从开始到结束都有最好的体验。为了实现这一目标，我们从第一天起就在这些产品的每个设计阶段优先考虑无缝集成。其结果是系统可以按照预期的方式相互通信——直接开箱即用，无需过多的配置。更多信息请访问 www.presonus.com。

2   Hookup 联机

2.1   Front-Panel Connections 前面板的连接

Microphone Inputs. Your Studio 24c interface is equipped with high-quality microphone preamplifiers for use with all types of microphones. The Studio 24c features XMAX-L solid-state microphone preamps that are optimized for bus powering.

麦克风输入。您的Studio 24c接口配备了高质量的麦克风前置放大器，可用于所有类型的麦克风。Studio 24c配备了XMAX-L固态麦克风前置放大器，为总线供电进行了优化。

Both input channels on your Studio 24c interface are equipped with combo jacks. This convenient connector accepts either a ¼-inch or an XLR connector.

你的Studio 24c界面上的两个输入通道都配备了连击插孔。这种方便的连接器可以接受1 / 4英寸或XLR连接器。

Instrument / Line-Level Inputs. The ¼-inch connectors on Channels 1 and 2 can be used with passive instruments (guitar, bass, etc.) or line-level devices (synthesizers, signal processors, etc.).

仪器/线级输入。通道1和2上的¼英寸连接器可用于被动乐器(吉他、贝司等)

或线级器件(合成器、信号处理器等)。

Please note: As with any audio input device, plugging in a microphone or an instrument, or turning phantom power on or off, will create a momentary spike in the audio output. Because of this, we highly recommend that you turn down the channel trim before changing connections or turning phantom power on or off. This simple step will add years to life of your audio equipment.

请注意：与任何音频输入设备一样，插入麦克风或仪器，或打开或关闭虚拟电源，都会在音频输出中产生瞬时峰值。因此，我们强烈建议您在更改连接或打开或关闭幻像电源之前，先调低通道修剪。这个简单的步骤将延长您的音频设备的寿命。

48 Volt Phantom Power. The Studio 24c provides 48V phantom power for the microphone inputs. Pressing the 48V button switches phantom power on and off for all microphone inputs; the button will illuminate in blue when phantom power is available on the microphone preamplifiers.

48伏特Phantom电源。Studio 24c为麦克风输入提供48V幻像电源。按下48V按钮，为所有麦克风输入开关幻像电源;当麦克风前置放大器上有幻像电源时，按钮将显示蓝色。

⚠ **WARNING:** Phantom power is only required for condenser microphones and can severely damage some dynamic mics, especially ribbon mics. Therefore, switch phantom power off when it is not required. Consult the user documentation that came with your microphone before engaging phantom power.

警告: 幻影功率只需要电容麦克风，并可能严重损坏一些动态麦克风，特别是带状麦克风。因此，请在不需要时关闭虚拟电源开关。在使用幻影电源之前，请参阅麦克风附带的用户文档。

XLR connector wiring for phantom power 幻影电源XLR连接器接线 :
Pin 1 = GND **Pin 2** = +48V **Pin 3** = +48V
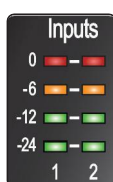
Input Meters. These LED meters show the input level of the analog inputs on your Studio 24c. The red Clip LED will illuminate when your input signal reaches -0.5 dBFS. At this level, the signal will begin to overload the analog-to-digital converters and exhibit signs of clipping. Use the gain controls to keep the signal below this level.

输入Meters。这些LED表显示Studio 24c上模拟输入的输入电平。当你的输入信号达到-0.5 dBFS时，红色夹子LED会亮。在这个水平上，信号将开始使模数转换器过载，并显示限幅迹象。使用增益控制来保持信号低于这个水平。

Output Meters. These meters display the signal level received from the first two driver returns (Main Left/Right). These meters have the same range as the input meters and display the signal level before the main output level control.
输出Meters。这些仪表显示从前两个司机返回的信号水平(主左/右)。这些仪表具有与输入仪表相同的量程，并在主输出电平控制前显示信号电平。

Sync LED. This light indicates if your Studio 24c is in sync with your computer. When no sync is available, this light will flash red.
LED同步。这盏灯指示你的 Studio 24c 是否与你的电脑同步。当没有同步可用时，该灯将闪烁红色。

Input Gain Control. These knobs provide 50 dB of variable gain (0 to +50 dB for microphones, -15 to 35 dB for line/instrument).

输入增益控制。这些旋钮提供50分贝的可变增益(0到+50分贝的麦克风，-15到35分贝的线路/仪器)。

Mixer. The Mixer knob allows you to blend your input signals with the playback streams from your computer so that you can monitor your input signals without any latency (delay). If the knob is positioned at 12 o'clock, the input signal and the playback stream will be equally balanced. Turning the knob to 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 as illustrated below:

Mixer。 混频器旋钮允许您混合您的输入信号与回放流从您的计算机，以便您可以监控您的输入信号没有任何延迟(延迟)。如果旋钮定位在12点，输入信号和回放流将是均衡的。将旋钮向左转动，将增加输入信号相对于回放流的电平；向右转将增加播放流相对于输入信号的电平，如下图所示：
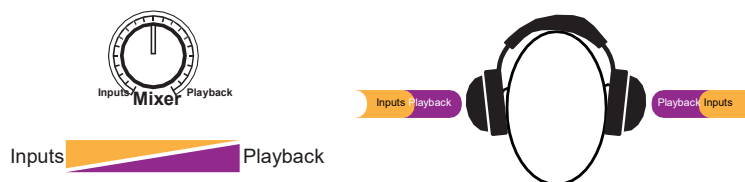
Headphone Level. This knob controls the level of the rear panel headphone output.

Headphone Level。这个旋钮控制后面板耳机输出的电平。

Main. The main knob controls the output level for the main left/right outputs on the back of your Studio 24c and has a range of -80 dB to 0 dB. This control provides attenuation only.

Main。 主旋钮控制输出电平的主要左/右输出在你的Studio 24c的背面，有-80分贝到0分贝的范围。此控制只提供衰减。

2.2   **Back Panel Connections** 后面板的连接

Headphone Output. The rear-panel headphone output mirrors the same streams as the Main left/right outputs.

耳机输出。后面板耳机输出镜像相同的流作为主要的左/右输出
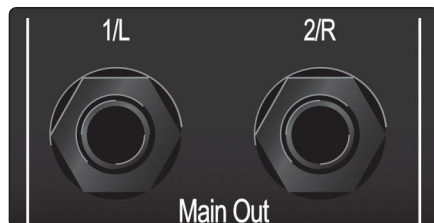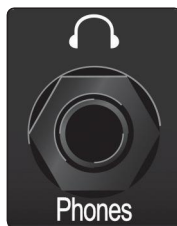
Main Outs. These are the Main outputs for the Studio 24c. The output level of the Main outputs is controlled by the Main level control on the front of the unit. Playback streams 1 and 2 are routed to these outputs.

主要输出。这些是Studio 24c的主要输出。主输出电平由机组前端的主电平控制器控制。回放流1和2被路由到这些输出。

MIDI I/O. This is the MIDI input and output connections.

 MIDI stands for "Musical Instrument Digital Interface." However, MIDI can be used for many things other than instruments and sequencing. The MIDI inputs and outputs allow connection to a variety of MIDI-equipped hardware, such as keyboard controllers, and can be used to send and receive MIDI Machine Control and MIDI Time Code.

MIDI I / O。这是MIDI输入和输出连接。

 MIDI代表"乐器数字接口"。然而，MIDI可以用于乐器和排序之外的许多事情。MIDI输入和输出允许连接到各种MIDI设备硬件，如键盘控制器，并可用于发送和接收MIDI机器控制和MIDI时间代码。

Note: MIDI does not carry audio signals but is frequently used to trigger or control an audio source, such as a virtual instrument or hardware synthesizer. You should ensure that MIDI data is correctly sent and received by the appropriate hardware or software. You may also need to route hardware sound sources' audio to the inputs of your Studio-series interface. Please consult the User's Manual of your MIDI devices for help with MIDI setup and usage.

注意: MIDI不携带音频信号，但经常用于触发或控制音频源，如虚拟仪器或硬件合成器。您应该确保MIDI数据被适当的硬件或软件正确地发送和接收。您可能还需要将硬件声源的音频路由到您的studio系列界面的输入。请查阅您的MIDI设备的用户手册，以获得有关MIDI设置和使用的帮助。

USB-C Port. Use this port to connect your Studio 24c to your computer. While the Studio 24c connects using USB-C, it is fully compatible with USB 2.0 and 3.0 connections. Use the USB-C to A cable that came with your Studio 24c if your computer has a USB-A connection rather than a USB-C connection.

*Please note: The Studio 24c is backward compatible with USB 2.0 and USB 3.0 speed connections. **USB 1.1 is not supported**.*

USB-C端口。使用此端口将Studio 24c连接到计算机。虽然Studio 24c使用USB-C连接，但它完全兼容USB 2.0和3.0连接。如果你的电脑是USB-A连接而不是USB-C连接，使用Studio 24c附带的USB-C到A的电缆。

请注意: Studio 24c向后兼容USB 2.0和USB 3.0高速连接。USB 1.1不支持。

2.3   Connection Diagram 连接图
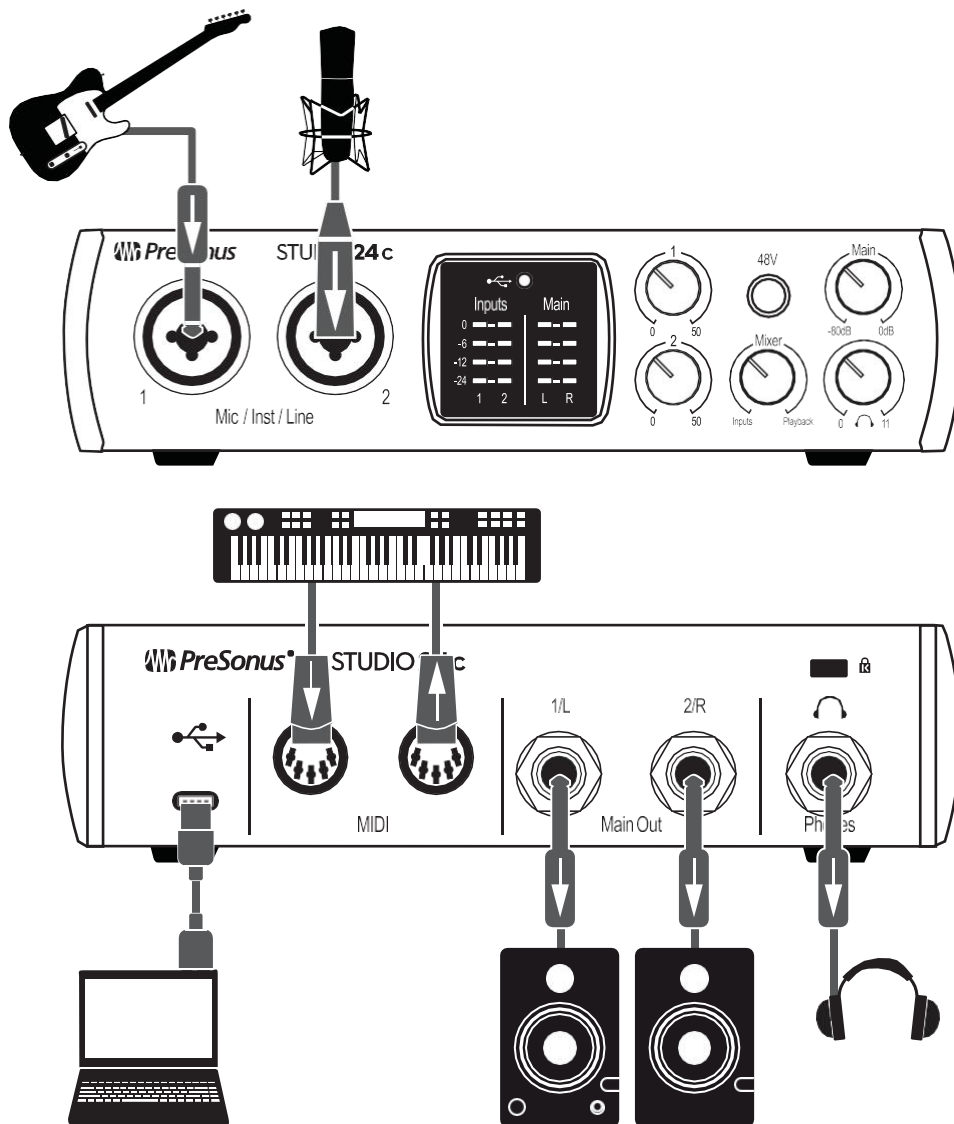
3   Connecting to a Computer 连接计算机

Before connecting your Studio 24c to a computer, please visit www.presonus.com to verify the latest system requirements.

Note: *The speed of your processor, amount of RAM, and capacity, size, and speed of your hard drives will greatly affect the overall performance of your recording system. A faster processor and more RAM can reduce signal latency (delay) and improve overall performance.*

The Universal Control installers for macOS and Windows are available from your My PreSonus user account. The Windows installer also includes the Windows ASIO driver. No driver installation is necessary for macOS. To begin, you must first visit http://my.presonus.com, create or log into your user account, and register your Studio 24c. Once registered, all software downloads will be available from within your My PreSonus user account including Studio One Artist and the Studio Magic bundle.

在将Studio 24c连接到计算机之前，请访问www.presonus.com验证最新的系统要求。

注意: 您的处理器的速度、RAM的数量、容量、大小和硬盘驱动器的速度将极大地影响您的录音系统的整体性能。更快的处理器和更多的RAM可以减少信号延迟并提高整体性能。

macOS和Windows 的通用控制安装程序可以从您的 My PreSonus用户帐户获得。Windows 安装程序还包括Windows ASIO驱动程序。macOS不需要安装驱动程序。首先，您必须访问 http://my.presonus.com，创建或登录到您的用户帐户，并注册您的Studio 24c。一旦注册，所有的软件下载都可以在你的My PreSonus用户帐户中下载，包括Studio One Artist和Studio Magic包。

3.1   Installation for Windows Windows 系统安装

Download the Universal Control installer from your My PreSonus account. Connect your Studio 24c to an available USB-C or USB-A (2.0 or 3.0) port and launch the installer. The installer will take you through each step of the installation process. This application will install the ASIO and WDM drivers, as well as Universal Control. Please read each message carefully.

It is recommended that you quit all applications before you start the installation.

The Universal Control installer will take you through each step of the installation process. *Please read each message carefully* so that you do not connect your Studio 24c too soon.

Power User Tip: *It is recommended that you temporarily disable or turn off any anti-virus programs you have running to prevent installation issues.*

从您的 My PreSonus帐户下载通用控制安装程序。将 Studio 24c连接到可用的 USB-C 或 USB-A(2.0或3.0)端口，然后启动安装程序。安装程序将带您完成安装过程的每个步骤。这个应用程序将安装ASIO和WDM驱动程序，以及通用控制。请仔细阅读每条信息。

建议您在开始安装之前退出所有应用程序。

通用控制安装程序将带您完成安装过程的每个步骤。请仔细阅读每条信息，以免您过早地连接到Studio 24c。

高级用户提示: *建议您暂时禁用或关闭正在运行的任何反病毒程序，以防止安装问题*

3.1.1 Universal Control (Windows)

Universal Control is a powerful hardware-management application for all PreSonus interface products. It allows you to view any PreSonus interface product connected to your computer or your computer's network.

Universal Control 是一个强大的硬件管理应用程序的所有 PreSonus 接口产品。它允许您查看任何 PreSonus 接口产品连接到您的计算机或您的计算机的网络。

When Universal Control is launched, you will see the Launch window. From this window, you can manage all the ASIO driver settings.

Sample Rate. Changes the sample rate.

You can set the sample rate to 44.1, 48, 88.2, 96, 176.4, or 192 kHz. A higher sample rate will increase the fidelity of the recording but will increase the file size and the amount of system resources necessary to process the audio.

当通用控件启动时，您将看到启动窗口。从这个窗口，您可以管理所有的 ASIO 驱动程序设置。

采样率。 更改采样率。

可以设置采样率为 44.1、48、88.2、96、176.4 或 192 kHz。较高的采样率将提高录音的保真度，但将增加文件大小和处理音频所需的系统资源数量。

Block Size. Sets the buffer size.

From this menu, you can set the buffer size. Lowering the buffer size will lower latency; however, this will also increase performance demands on your computer. In general, you will want to set the buffer size as low as your system can safely support. If you begin to hear pops, clicks, or distortion in your audio path, try raising the buffer size.

Loopback (Windows only). The Studio 24c ASIO driver provides two loopback streams to record audio from one application to another. *See Section 3.1.2 for more information.*
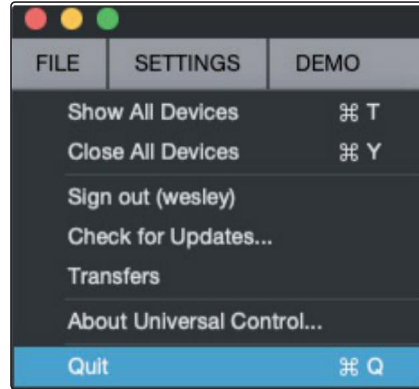
Block Size。设置缓冲区大小。

从这个菜单中，您可以设置缓冲区大小。降低缓冲区大小将降低延迟;然而，这也会增加性能需求

在您的计算机上。通常，您将希望将缓冲区大小设置为系统能够安全支持的最小值。如果您开始听到弹出，点击，或失真在您的音频路径，尝试提高缓冲区大小。

回送 (Windows)。Studio 24c ASIO驱动程序提供了两个环回流来记录来自一个应用程序的音频

到另一个地方。更多信息请参见3.1.2节。

File Menu. Manages devices connected to Universal Control.

- **Show All Devices.** Launches all control windows for all supported devices connected to your computer.

- **Close All Devices.** Closes all open control windows.

- **Sign Out.** Signs out of your My PreSonus user account.

- **Check for Updates...** Connects to your My PreSonus user account to check for updates for Universal Control.

- **Transfers.** Displays recent downloads from your my PreSonus user account.

- **About Universal Control.** Displays version and build date information.

- **Quit.** Quits the Universal Control application and all hardware control windows.
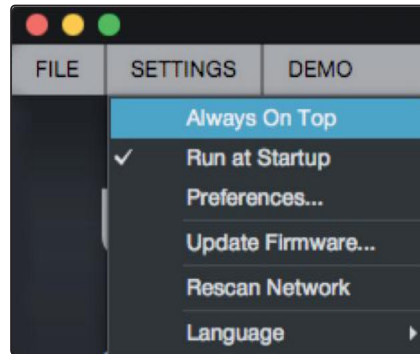
Settings Menu. Provide customization options to personalize your Universal Control experience.

- **Always on Top.** Keeps the Universal Control Launch window on top whether it is the currently active application or not.

- **Run at Startup.** Launches Universal Control automatically when your computer boots.

- **Preferences.** Sets language and appearance options (see below).

- **Rescan Network.** Scans the network and local transport bus (USB or FireWire) for all supported PreSonus products.

- **Language.** Sets the language (English, French, German, Korean, Simplified Chinese, or Spanish).

文件菜单。 管理连接到通用控件的设备。

•显示所有设备。为连接到计算机的所有受支持设备启动所有控制窗口。

•关闭所有设备。关闭所有打开的控件窗口。

•迹象。退出你的My PreSonus用户帐户。

•检查更新……连接到您的My PreSonus用户帐户，以检查通用控件的更新。

•转移。显示您的PreSonus用户帐户最近的下载。

•关于通用控制。显示版本和生成日期信息。

•停止。退出通用控制应用程序和所有硬件控制窗口

设置菜单。 提供定制选项，以个性化您的通用控制体验。

•总在最上面。将通用控件启动窗口保持在最上方，无论它是否是当前活动的应用程序。

•在启动运行。启动通用控制自动时，您的计算机启动。

•偏好。设置语言和外观选项(见下面)。

•重新扫描网络。扫描所有受支持的PreSonus产品的网络和本地传输总线(USB或FireWire)。

•语言。设置语言 (英语、法语、德语、韩语、简体中文或西班牙语)。

3.1.2 **Loopback Recording 回环录制 (Windows only 仅适用于 Windows 操作系统)**

The Windows drivers for the Studio 24c provides two virtual streams that allow you to record the output of one audio application in another application. Loopback can be useful in a variety of situations:

*   Recording the audio from a video game or YouTube video for a podcast or livestream.

*   Recording a vocal in real time over a karaoke track played from a web browser or media player.

Studio 24c的Windows驱动程序提供了两个虚拟流，允许您在另一个应用程序中记录一个音频应用程序的输出。环回在各种情况下都很有用：

•从视频游戏或YouTube视频中为播客或直播录制音频。

•通过网络浏览器或媒体播放器实时录制卡拉ok音轨中的声音。

Power User Tip: Because the Studio 24c is a class compliant Core Audio device, these virtual streams are not available in macOS. However, there are several third-party applications that provide this functionality in macOS.

高级用户提示 : 因为Studio 24c是一个类兼容的核心音频设备，这些虚拟流在macOS中是不可用的。但是，在macOS中有几个第三方应用程序提供了这个功能。

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

When Loopback is enabled and "Merge Loopback with 1/2" is selected, the audio from another application will be recorded with the audio source connected to analog inputs 1 and 2 on your Studio 24c.
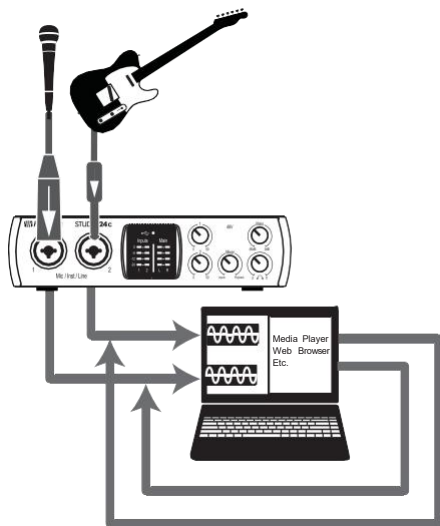
从 Universal Control中，您可以启用或禁用环回和挑选流上的环回音频将被录制。

当启用环回并选择"合并环回1/2"时，将从另一个应用程序的音频与音频源连接到模拟输入1和2在Studio 24c上录制。

When Loopback is enabled and "Dedicated Loopback Inputs" is selected, the audio from another application will be recorded on the last pair of driver inputs (3/4).
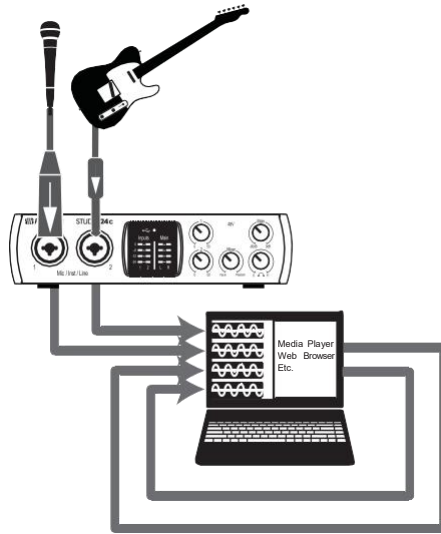
Power User Tip: When using either option, you will need to select Outputs 1 and 2 in the audio application your want to record. Make sure to select Outputs 3 and 4 in the audio application in which your recording to avoid a feedback loop.

当环回启用和"专用环回输入"被选择时，来自另一个应用程序的音频将被记录在最后一对驱动输入(3/4)。

高级用户提示: 当使用任一选项时，您将需要在您想要录制的音频应用程序中选择Outputs 1和Outputs 2。确保在录音的音频应用程序中选择Outputs 3和Outputs 4，以避免出现反馈循环。

3.2   **Installation for macOS 安装macOS系统**

Your Studio 24c is a class-compliant Core Audio device in macOS. No driver installation is necessary. Installing Universal Control for your Studio 24c is optional.

你的Studio 24c是macOS中兼容类的核心音频设备。不需要安装驱动程序。为 Studio 24c安装通用控件是可选的。

3.3   **Using the Studio 24c with Popular Audio Applications 使用Studio 24c流行音频应用程序**

Complete setup instructions for Studio One Artist and a brief tutorial on its features can be found in Section 4 of this manual. However, you can use your Studio 24c with any audio-recording application that supports Core Audio or ASIO. Please consult the documentation that came with your audio application for specific instructions on how to select the Studio 24c driver as the audio-device driver for your software.

Below are basic driver-setup instructions for a few popular audio applications.

Studio One Artist 的完整设置说明和关于其功能的简短教程可以在本手册的第4节中找到。然而，您可以将studio24c与任何支持Core Audio或ASIO的录音应用程序一起使用。请参阅音频应用程序附带的文档，了解如何选择Studio 24c驱动程序作为软件的音频设备驱动程序的具体说明。

下面是一些流行的音频应用程序的基本驱动程序设置说明。

Steinberg Cubase 4+

1.   Launch Cubase.

2.   Go to Devices | Device Setup.

3.   Select "VST Audio System" from the Devices column in the Device Setup.

4.   Select your Studio 24c from the ASIO Driver dropdown list.

5.   Click "Switch" to begin using the Studio-series Driver.

6.   Once you have successfully changed the driver, go to Devices | VST Connections to enable your input and output buses.

1.Cubase发射。

2.进入"设备|设备设置"。

3.在"设备设置"的"设备"栏中选择"VST音频系统"。

4.从ASIO Driver下拉列表中选择你的Studio 24c。

5.点击"开关"开始使用studio系列驱动程序。

6.成功更改驱动程序后，转到Devices | VST Connections以启用输入和输出总线。

Ableton Live 5+

1. Launch Ableton Live.

2. Go to Options | Preferences | Audio.

3. Choose Driver Type: ASIO | Audio Device: ASIO Studio 24c

4. Go to Input Config : Enable and select the desired Input channels.

5. Go to Output Config : Enable and select the desired Output channels.

6. You may now select your Studio 24c inputs and outputs for each track created in Live.

1.发射易宝生活。

2.转到选项|首选项|音频。

3.选择驱动类型:ASIO |音频设备:ASIO Studio 24c

4.转到输入配置:启用并选择所需的输入通道。

5.转到输出配置:启用并选择所需的输出通道。

6.您现在可以为Live中创建的每个音轨选择您的Studio 24c输入和输出。

Apple Logic Pro/Express 7+:

1. Launch Logic Pro/Express.

2. Go to Logic | Preferences | Audio.

3. Click on the Devices Tab.

4. On the Core Audio tab, check Enabled.

5. Select your Studio 24c from the device menu.

6. You will be asked if you'd like to relaunch Logic. Click "try (re)launch."

7. Your Studio 24c features custom I/O labels for faster work flow. To enable these labels for use in Logic, go to Options | Audio | I/O Labels.

8. The second column in the pop-up window will be named "Provided by Driver." Activate each of these labels for your Studio 24c. When you are done, close this window.

9. You are now ready to use your Studio 24c.

1.启动逻辑Pro /表达。

2.转到逻辑|首选项|音频。

3.单击设备选项卡。

4.在"核心音频"选项卡上,选中"已启用"。

5.从设备菜单中选择Studio 24c。

6.你会被问到是否想重新启动Logic。点击"尝试(重新)发射。"

7.您的Studio 24c具有定制I/O标签,以更快的工作流程。要在"逻辑"中启用这些标签,请进入"选项|音频| I/O标签"。

8.弹出窗口中的第二列将命名为"由驱动程序提供"。激活Studio 24c的每个标签。完成后,关闭此窗口。

9.现在可以使用Studio 24c了。

Avid Pro Tools 9+

1. Launch ProTools.

2. Got to Setup | Hardware and select your Studio 24c
    from the Peripherals list. Click OK.

3. Go to Setup | Playback Engine and select your Studio 24c
    from the menu at the top of the window. Click OK.

1.推出支持工具。

2.安装|硬件，从外围设备列表中选择你的Studio 24c。单击OK。

3.进入设置|播放引擎，从窗口顶部的菜单中选择你的Studio 24c。单击OK。

Cakewalk Sonar 6+

1. Launch Sonar.

2. Go to Options | Audio... and click on the Advanced tab.

3. Change the Driver Mode to "ASIO."

4. Click the "OK" button.

5. Restart Sonar.

6. Go to Options | Audio... and click on the Drivers tab.

7. Highlight all input and output drivers beginning
    with your Studio-series product name.

8. Go to Options | Audio... and click on the General tab.

9. Set the Playback Timing Master to "Studio 24c ... DAW Out 1."

10. Set the Recording Timing Master to "Studio 24c ... DAW Out 2."

1.声纳发射。

2.转到选项|音频…然后点击高级选项卡。

3.将驱动模式改为 "ASIO"。

4.点击"确定"按钮。

5.重启声纳。

6.转到选项|音频…然后点击Drivers选项卡。

7.突出显示所有以 studio 系列产品名称开头的输入和输出驱动程序。

8.转到选项|音频…然后单击"常规"选项卡。

9.设置回放计时大师 "Studio 24c…DAW OUT 1。"

10.设置录音计时大师为 "Studio 24c…"DAW OUT2。"

4　　　Studio One Artist Quick Start
4.2　　Setting Up Studio One
4.1　　Installation and Authorization

Studio 24c
Owner's Manual
Owner's Manual

4　　Studio One Artist Quick Start　快速入门

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

Power User Tip: As a valued PreSonus customer, you are eligible for a discount upgrade to Studio One Professional. For more details on the Studio One upgrade program for PreSonus customers, please visit https://shop.presonus.com/products/software/studio-one-prods.

所有PreSonus专业录音产品都配有Studio One Artist录音和制作软件。无论您即将录制您的第一张专辑还是您的第五十张专辑，Studio One Artist为您提供所有

必要的工具，以捕获和混合一个伟大的性能。

*高级用户提示：作为PreSonus的尊贵客户，您有资格获得升级到Studio One Professional的折扣。有关PreSonus客户Studio One升级计划的更多细节，请访问 https://shop.presonus.com/products/software/studio- One -prods。*

4.1　　Installation and Authorization　安装和授权

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

一旦您安装了音频接口的驱动程序并将其连接到您的计算机上，您就可以使用包含的 PreSonus Studio One Artist 音乐制作软件开始录制、混音和制作您的音乐。要安装Studio One Artist，请登录你的 My PreSonus 账户并注册你的接口。您的 Studio One Artist 的产品密钥将自动注册到您的My PreSonus帐户，以及您的硬件注册。

Downloading and Running the Studio One Installer 下载并运行**Studio One** 安装程序
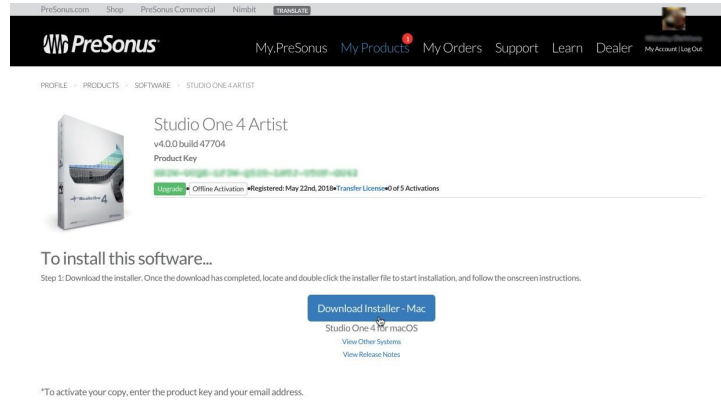
To install Studio One Artist, download the Studio One Artist installer from your My PreSonus account to the computer on which you will use it.

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

Mac: Drag the Studio One Artist application into the Applications folder on your Mac hard drive.

要安装 Studio One Artist，请从您的My PreSonus 帐户下载 Studio One Artist 安装程序到您将要使用它的计算机上。
Windows: 启动 Studio One Artist 安装程序，并遵循屏幕上的说明。
Mac: 将 Studio One Artist 应用拖到Mac硬盘上的 Applications 文件夹中。

Authorizing Studio One   授权

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

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

当Studio One在你的电脑上首次启动时，它将与你的My PreSonus帐户进行通信，并验证你的注册。要确保无缝授权过程，请确保将安装程序下载到您将使用它的计算机上，并确保在首次启动应用程序时，您的计算机已连接到Internet。

高级用户提示: 系统可能会提示您输入My PreSonus用户帐户信息。点击"记住凭据"将允许您立即访问您从PreSonus市场购买的任何内容。

Installing Bundled Content for Studio One Artist 捆绑安装Studio One Artist

Studio One Artist comes bundled with an array of demo and tutorial materials, instruments, loops, and samples. The Studio One Artist bundle includes all that you need to begin producing music.
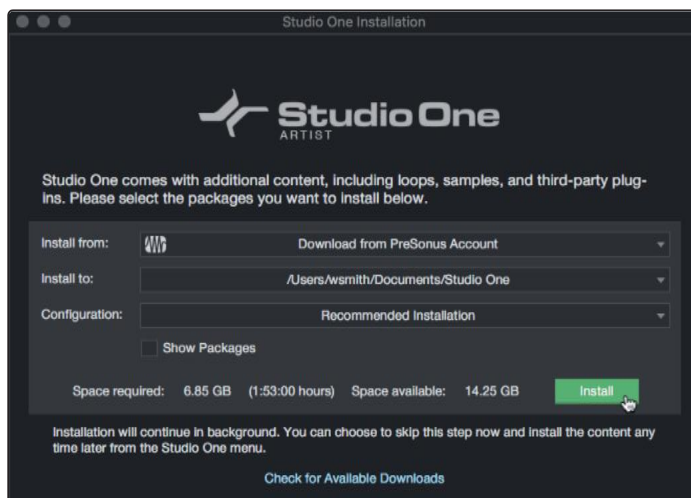
The first time you launch Studio One Artist, you will be prompted to install its companion content. Select the content you wish to add and click "Install." The content will automatically begin to download and install from your My PreSonus user account.

Power User Tip: To select only a portion of the available content, click on "Show Packages". From here you can customize your content installation.

Studio One Artist 附带了一系列演示和教程材料、仪器、循环和样本。Studio One Artist 包包含了开始制作音乐所需的所有内容。

当你第一次启动 Studio One Artist 时，系统会提示你安装它的配套内容。选择您希望添加的内容，然后单击"安装"。内容将自动开始从您的 My PreSonus 用户帐户下载和安装。

高级用户提示：要只选择可用内容的一部分，请单击"显示包"。从这里，您可以自定义您的内容安装。

4.2   Setting Up Studio One 创建 Studio One

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

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

Studio One Artist设计用于使用PreSonus界面，提供独特的互操作性和简化的设置。当Studio One Artist启动时，默认情况下，你会被带到开始页面。在这一页上，你

可以找到文档管理和设备配置控件，以及可定制的艺术家简介、新闻提
要和PreSonus演示和教程的链接。如果您的计算机连接到Internet，这
些链接将随着PreSonus网站上的新教程更新。

Studio One Artist的所有方面的完整信息可以在Studio One的参考手册
PDF中找到。本教程中的信息只涵盖了Studio One Artist的基本方
面，旨在让您尽快设置和录制。

4.2.1 **Configuring Audio Devices** 配置音频设备

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.

在Start页面的中间，您将看到Setup区域。Studio One Artist自动扫描系统中的所有可用驱动程序，并选择一个驱动程序。默认情况下，它会选择一个PreSonus驱动程序(如果有的话)。

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

如果您在启动Studio One时没有看到"开始"页上列出的设备，请单击"设置"区域中的"配置音频设备"链接以打开"选项"窗口。
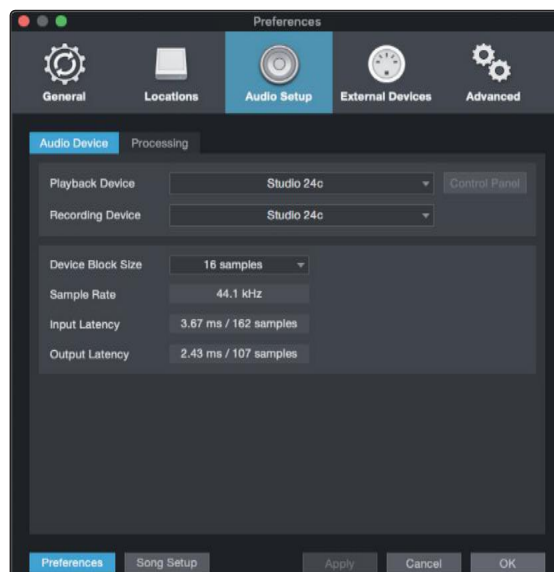
In the Options window, click on the Audio Setup tab and select your device driver from the pull-down.

在"选项"窗口中，单击"音频设置"选项卡，从下拉菜单中选择设备驱动程序。

4.2.2 **Configuring MIDI Devices** 配置**MIDI**设备

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

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

with your MIDI hardware for complete installation instructions.

If you do not have any MIDI devices, please skip to Section 4.3.

在Studio One Artist的外部设备窗口中，您可以配置您的MIDI键盘控制器、声音模块和控制界面。本节将指导您设置您的MIDI键盘控制器和声音模块。请参阅Studio One内的参考手册，了解其他MIDI设备的完整安装说明。

如果您使用的是第三方MIDI接口或USB MIDI控制器键盘，在开始本节之前，您必须为这些设备安装任何必需的驱动程序。请参阅MIDI硬件附带的文档，了解完整的安装说明。

Setting up an External MIDI Keyboard Controller from the Start Page
从开始页设置外部MIDI键盘控制器

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

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

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

MIDI键盘控制器是一种硬件设备，通常用于播放和控制其他MIDI设备、虚拟乐器和软件参数。在Studio One Artist中，这些设备被称为键盘，在使用之前必须对它们进行配置。在某些情况下，您的MIDI键盘控制器也被用作音调发生器。Studio One Artist将控制器和声音生成功能视为两种不同的设备:MIDI键盘控制器和声音模块。MIDI控制(键盘、旋钮、渐变器等)将被设置为一个键盘。声音模块将被设置为一个乐器。

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


1.单击"开始"页上的"安装"区域中的"配置外部设备"链接，启动外部设备窗口。

2. Click the Add button. This will launch the Add Device window.
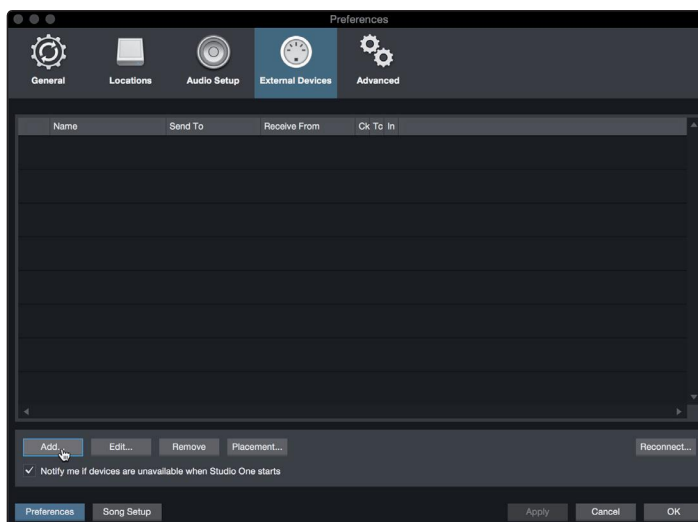
单击Add按钮。这将启动"添加设备"窗口。"

3. From the menu on the left, select your MIDI controller from the list of manufacturers and models. If you do not see your MIDI controller listed, select New Keyboard. At this point, you can customize the name of your keyboard by entering the manufacturer and device names.
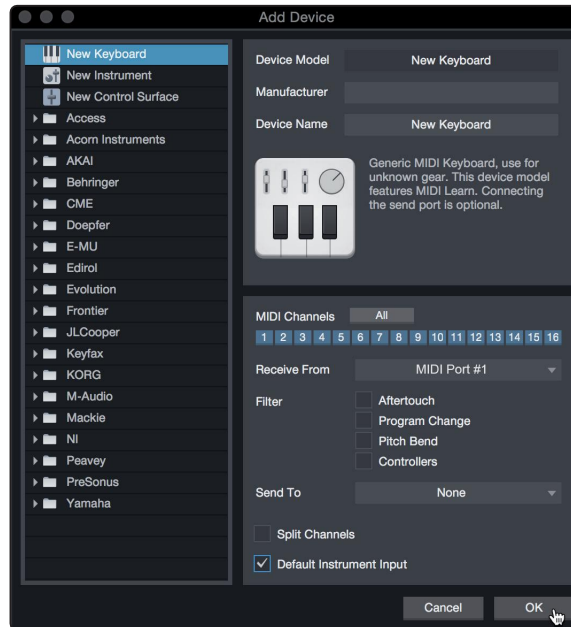
从左边的菜单中，从制造商和型号列表中选择您的MIDI控制器。如果你没有看到你的MIDI控制器列表，选择New Keyboard。此时，您可以通过输入制造商和设备名称来定制键盘名称。

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

您必须指定将使用哪些MIDI通道与此键盘进行通信。在大多数情况下，您应该选择所有的MIDI通道。如果您不确定要选择哪些MIDI通道，请选择全部16个。

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

Studio One允许你过滤掉特定的控制功能。如果您希望Studio One忽略Aftertouch、Pitch Bend、Program Change或所有的CC消息，请启用对任何或所有这些消息的过滤。

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

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

在Receive From下拉菜单中，选择MIDI接口输入，Studio One Artist将从中接收MIDI数据(即，连接键盘的MIDI端口)。

高级用户提示: 在Send To下拉菜单中，选择MIDI接口输出，你的Studio One Artist将从中发送MIDI数据到你的键盘。如果你的键盘控制器不需要从Studio One接收MIDI数据，你可以不选择它。

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

如果这是你用来控制外部合成器和虚拟仪器的唯一键盘，你应该勾选"默认仪器输入"旁边的框。这将自动分配你的键盘来控制 Studio One Artist 中的所有 MIDI 设备。

8.   Click "OK." 点击 "OK"

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

如果您有一个想要连接的声音模块，请保持 External Devices 窗口处于打开状态，并继续执行本节的下一部分。

如果没有，您可以关闭窗口并跳到下一节。

Setting up an External MIDI Sound Module from the Start Page
从开始页设置一个外部MIDI声音模块

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

Make sure you have connected the MIDI In of your external sound module to the MIDI Out of your MIDI interface.
MIDI乐器控制器(键盘、MIDI吉他等)将音乐信息以MIDI数据的形式发送给音调模块和虚拟乐器，这些虚拟乐器根据指令发出声音作为响应。音调模块可以是独立的声音设备，也可以集成到MIDI乐器中，比如键盘合成器。Studio One Artist将所有的音调发生器称为"仪器"。设置完MIDI键盘控制器后，花点时间配置声音模块。
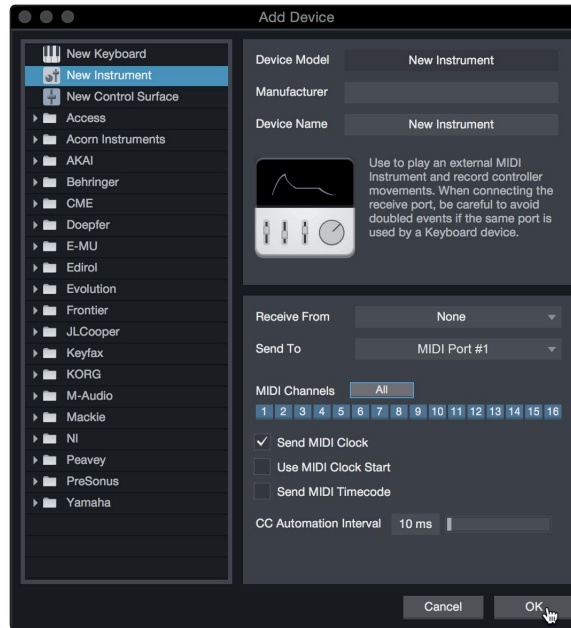
确保你已经将外部声音模块的MIDI In连接到MIDI接口的MIDI Out。

1.   In the External Devices window, click the Add button.
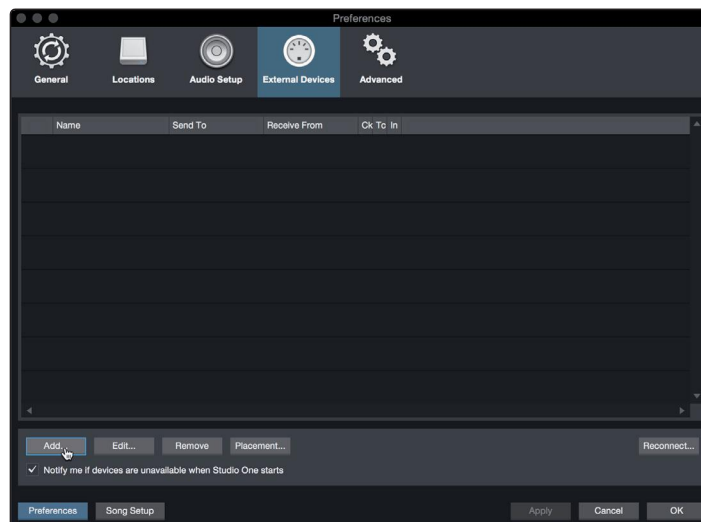
在"外部设备"窗口中，单击"添加"按钮。

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

在左侧菜单中选择您的设备。如果您的设备没有列出，请选择New Instrument。此时，您可以通过输入制造商和设备名称来定制键盘名称

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

指定哪个MIDI通道将被用来与这个声音模块通信。在大多数情况下，您应该选择所有的MIDI通道。如果您不确定要选择哪些MIDI通道，我们建议您选择全部16个。

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

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

4.在Send To菜单中，选择MIDI接口输出，Studio One Artist将从中发送MIDI数据到你的声音模块。单击"确定"并关闭外部设备窗口。现在你可以开始在Studio One Artist中录音了。

本快速入门指南的其余部分将介绍如何设置一首歌，并将讨论一些在Studio One Artist环境中导航的通用工作流提示。

4.3   Creating a New Song

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

现在您已经配置了音频和MIDI设备，让我们创建一个新的 Song。我们将开始设置您的默认音频I/O。

1.   From the Start page, select "Create a New Song."
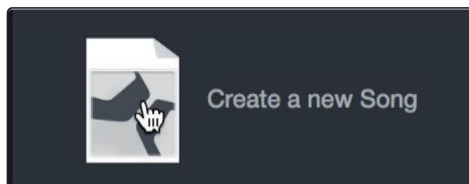
1. 从开始页面，选择"创建一首新歌"。

2.   In the New Song window, name your Song and choose the directory in which you'd like it saved. You'll notice a list of templates on the left. These templates provide quick setups for a variety of devices and recording situations. The section will describe creating a Song from an empty session
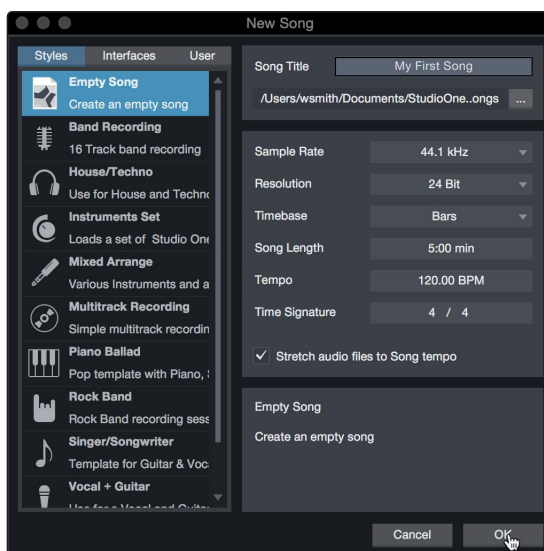
在New Song窗口中，为歌曲命名并选择希望保存它的目录。您会注意到左侧有一个模板列表。这些模板为各种设备和记录情况提供了快速设置。这一节将描述从一个空会话创建一个Song。

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

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

从模板列表中选择"空歌"。此时，您应该为Song指定一个名称，并选择录制和播放所需的首选采样率和位深度。您还可以设置Song的长度和希望时间轴遵循的时间格式类型(注释条、秒、样本或帧)。完成后单击OK按钮。

高级用户提示: 如果您计划将循环导入到歌曲中，请确保选择了"拉伸音频文件到歌曲节奏"选项。这将以正确的速度自动导入循环。

4.3.1   Configuring Your I/O

1. Click on Song | Song Setup to set your sample rate and resolution and configure your audio I/O.
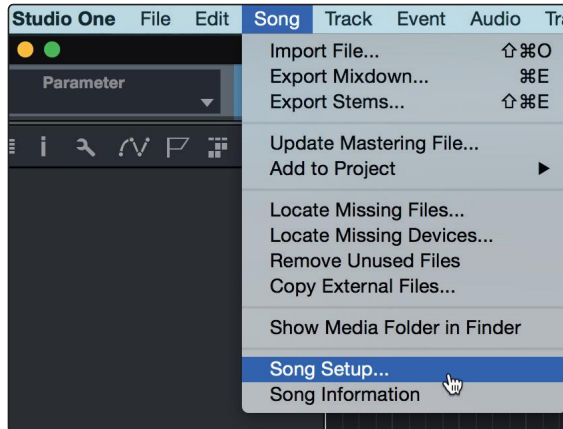
2. Click on the Audio I/O Setup tab.
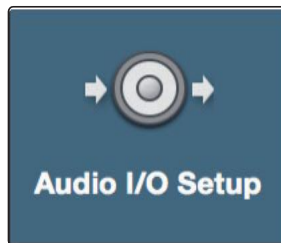
3. From the Inputs tab, you can enable any or all of the inputs on your PreSonus Studio 24c that you'd like to have available. We recommend that you create a mono input for each of the inputs on your interface. If you plan on recording in stereo, you should also create a stereo input as well.

4. Click on the Outputs tabs to enable any or all of the outputs on your Studio-series audio interface. In the lower right corner, you will see the Audition Select menu. This allows you to choose the output from which you will auditi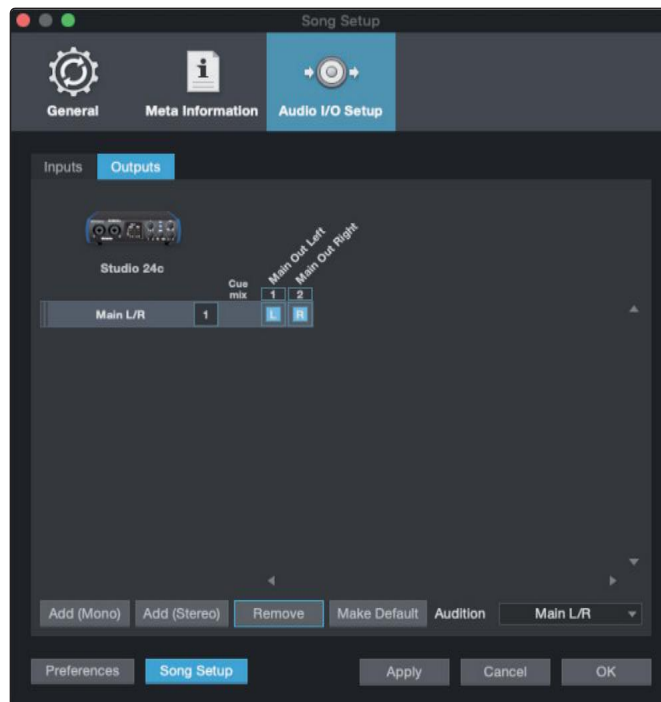on audio files prior to importing them into Studio One Artist. In general, you will want this to be the main output bus.

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

1.点击Song | Song Setup来设置你的采样率和分辨率，并配置你的音频I/O。

2.单击Audio I/O Setup选项卡。

3.从输入选项卡，你可以启用PreSonus Studio 24c上任何或所有你想要的输入。我们建议您

为界面上的每个输入创建一个单声道输入。如果你打算用立体声录制，你也应该创建一个立体声输入。

4.单击Outputs选项卡，在您的studio系列音频界面上启用任何或所有输出。在右下角，你会看到"试镜选择"菜单。这允许您选择音频文件的输出，然后将其导入Studio One Artist。通常，您希望这是主输出总线。

高级用户提示: 如果您希望每次打开Studio One时I/O配置都相同，请单击Make Default按钮。

4.3.2 **Creating Audio and Instrument Tracks** 创建音频和音轨

1. In the upper left corner of the Arrange window, you will notice several buttons. The button furthest to the right is the Add Tracks button. Click on this button to open the Add Tracks window.
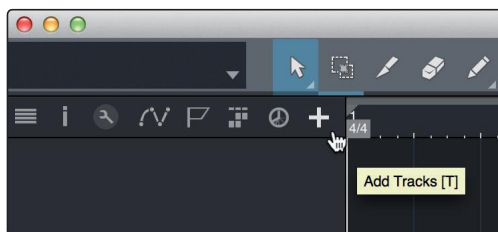
2. In the Add Tracks window, you can customize the track name and color, add a preset rack of effects, and set the physical source for the input and output of your audio tracks. Most important, you can select the number and type of tracks you'd like to create.
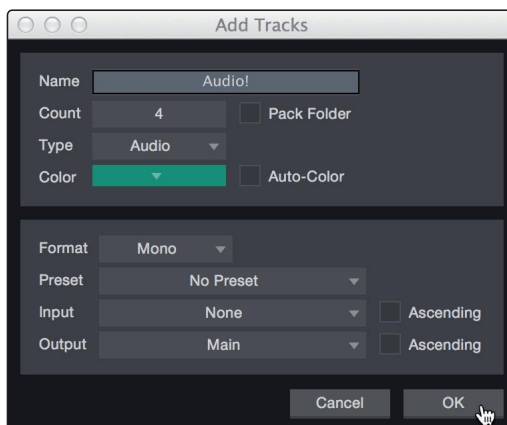
1.在Arrange窗口的左上角，您将注意到几个按钮。最右边的按钮是Add Tracks按钮。单击此按钮打开"添加轨道"窗口。

2.在"添加音轨"窗口中，您可以自定义音轨名称和颜色，添加一个预设的效果机架，并为您的音轨的输入和输出设置物理源。最重要的是，你可以选择你想要创建的曲目的数量和类型。

- **Audio.** Use this track type to record and playback audio files.

- **Instrument.** Use this track to record and playback MIDI data to control external MIDI devices or virtual instrument plug-ins.

- **Automation.** This track type lets you create automated parameter controls for your session.

- **Folder.** This track helps you to manage your session as well as to quickly edit multiple tracks at once.

Power User Tip: If you would like to add an audio track for each of the available inputs, go to Track | Add Tracks for All Inputs.
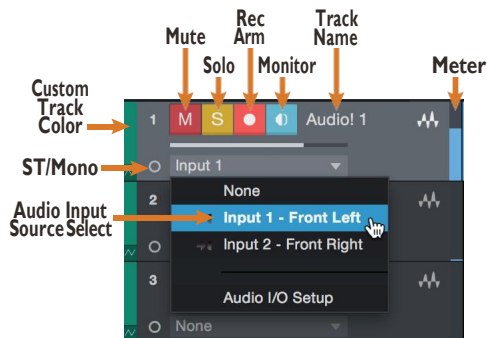
Note: Instrument tracks are nearly identical to audio tracks. The Input Source list for Instrument tracks lists available external MIDI devices as well as any virtual instruments that have been added to the Song.

•音频。使用此音轨类型来录制和播放音频文件。

•乐器。使用此音轨记录和播放MIDI数据，以控制外部MIDI设备或虚拟仪器插件。

•自动化。该音轨类型允许您为会话创建自动参数控制。

•文件夹。这个轨道帮助您管理您的会话，以及快速编辑多个轨道一次。

高级用户提示:如果您想为每个可用输入添加一个音轨，请转到track |为所有输入添加音轨。

注意:乐器音轨几乎相同的音轨。仪器音轨的输入源列表列出了可用的外部MIDI设备以及已添加到歌曲中的任何虚拟仪器。

4.3.3 **Recording an Audio Track** 录制音轨

1. To begin recording, create an audio track from the Add Tracks window, set its input to Input 1 on your Studio 24c, and connect a microphone to the same input.
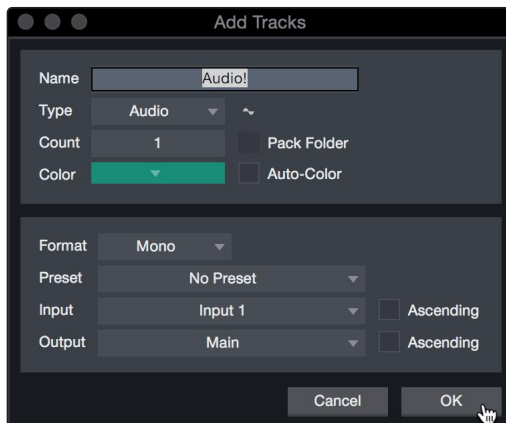
2. Select Record Enable on the track. Turn up the Input 1 level on your audio interface while speaking/singing into the microphone. You should see the input meter in Studio One Artist react to the input. Adjust the gain so the input level is near its maximum without clipping (distorting).
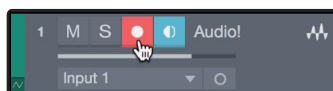
You are now ready to start recording. For complete instructions, please consult the Studio One Reference manual located in Help | Studio One Reference Manual.

1.要开始录制，请从"添加音轨"窗口创建一个音轨，将其输入设置为Studio 24c上的input 1，并将麦克风连接到相同的输入。

2.在轨道上选择"启用记录"。当对着麦克风说话/唱歌时，在你的音频接口上打开输入1级。你应该看到Studio One的输入仪表对输入的反应。调整增益

因此，在没有剪切(失真)的情况下，输入电平接近其最大值。

现在可以开始录音了。有关完整的说明，请参阅帮助| Studio One参考手册中的Studio One参考手册。

4.3.4 Adding Virtual Instruments and Effects 添加虚拟仪器和效果器

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

你可以通过从浏览器中拖放插件和乐器来为你的歌曲添加插件和乐器。你也可以从一个频道拖动一个或一组效果到另一个频道，拖进定制的效果链，并立即加载你最喜欢的虚拟仪器预置，而无需通过菜单滚动。

Opening the browser. 打开浏览器
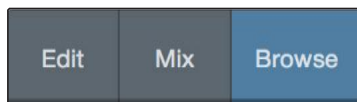

In the lower right corner of the Arrange window are three buttons:

- The Edit button opens and closes the audio and MIDI editors.

- The Mix button opens and closes the Mixer window.

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

在Arrange窗口的右下角有三个按钮:

编辑按钮打开和关闭音频和MIDI编辑器。

•Mix按钮打开和关闭搅拌机窗口。

•浏览按钮打开浏览器，显示所有可用的虚拟仪器，插件效果，音频文件，和MIDI文件，以及音频文件池加载到当前会话。

Drag-and-Drop Virtual Instruments 拖放虚拟仪器
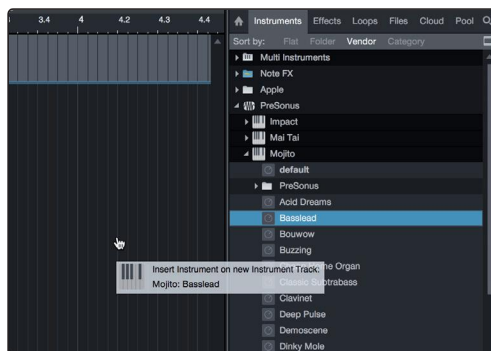
To add a virtual instrument to your session, open the browser and click on the Instrument button. Select the instrument or one of its patches from the Instrument browser and drag it into the Arrange view. Studio One Artist will automatically create a new track and load the instrument as the input.

要将虚拟仪器添加到会话中，请打开浏览器并单击instrument按钮。从工具浏览器中选择该工具或其补丁之一，并将其拖放到Arrange视图中。Studio One Artist将自动创建一个新的轨道，并加载仪器作为输入

Drag-and-Drop Effects 拖拽效果

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

要将插件效果添加到曲目中，请单击浏览器中的Effects按钮，并在效果浏览器中选择插件或其预设之一。在要添加效果的轨道上拖放选择项。

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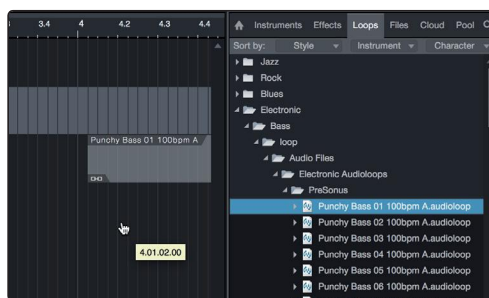
Audio and MIDI files can be quickly located, auditioned, and imported into your Song by dragging them from the file browser into the Arrange view. If you drag the file to an empty space, a new track will be created with that file placed at the position to which you dragged it. If you drag the file to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

通过将音频和MIDI文件从文件浏览器拖拽到Arrange视图，可以快速定位、试听和导入到歌曲中。

如果您将该文件拖到一个空白空间，将创建一个新的轨道，该文件将被放置在您拖到它的位置。如果您将该文件拖放到现有的轨道上，该文件将作为轨道的新部分放置。

5 Technical Information 技术信息

5.1 Specifications 规格参数

General

Sample Rates 样本率	44.1, 48, 88.2, 96, 176.4, or 192 kHz
Converter Resolution 转换器分辨率	24 bit
Converter Dynamic Range 转换器动态范围	108 dB
Converter Dynamic Range 转换器动态范围	108 dB

Microphone Inputs 麦克风输入

Maximum Level 最高限制级别	+10 dBu (balanced, min gain)
Gain Range 增益范围	50 dB
Frequency Response 最高限制级别	20Hz - 20kHz (+/- 0.1dB, min gain, 48kHz)
Dynamic Range 动态范围	106 dB (A-wtd, min gain)
THD+N 失真度+噪音	0.005% (1kHz, -1 dBFS, unity gain)
EIN	-128 dBu (max gain, 150Ω, A-wtd)
Input Impedance 输入阻抗	1.4K Ω
Phantom Power Phantom 电源	+48 VDC (10mA total)

Line/Instrument Inputs

Maximum Level 最高限制级别	+10 dBu (balanced, min gain)
Gain Range 增益范围	50 dB
Frequency Response 频率响应	20Hz - 20kHz (+/- 0.1dB, min gain, 48kHz)
Dynamic Range 动态范围	106 dB (A-wtd, min gain)
THD+N 失真度+噪音	0.005% (1kHz, -1 dBFS, min gain)
Input Impedance 输入阻抗	750K Ω

Main Outputs 主输出

Maximum Level 最高限制级别	+10 dBu (balanced)
Frequency Response 最高限制级别	20Hz - 20kHz (+/- 0.1dB, unity gain, 48kHz)
Dynamic Range 动态范围	106 dB (A-wtd)
THD+N 失真度+噪音	0.003% (1kHz, -1 dBFS)

Headphone Outputs 耳机输出

Maximum Power 最大功率	40 mW/channel (56Ω load)
Frequency Response 频率响应	20Hz - 20kHz (+/- 0.2dB, 56Ω load, 48kHz)
Dynamic Range 动态范围	83 dB (A-wtd, 56Ω load)
THD+N 失真度+噪音	0.005% (1kHz, -1 dBFS, no load)
Impedance Working Range 阻抗工作范围	32Ω to 300Ω

6   Warranty 保修

6.1   Warranty Information 保修信息

PreSonus' warranty obligations for this hardware product
are limited to the terms set forth below:

PreSonus对本硬件产品的保修义务仅限于以下条款:

How Consumer Law Relates To This Warranty: 消费者法如何与本保证相关:

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER
RIGHTS THAT VARY FROM STATE TO STATE (OR BY COUNTRY OR PROVINCE). OTHER
THAN AS PERMITTED BY LAW, PRESONUS® DOES NOT EXCLUDE, LIMIT OR SUSPEND
OTHER RIGHTS YOU MAY HAVE, INCLUDING THOSE THAT MAY ARISE FROM THE
NONCONFORMITY OF A SALES CONTRACT. FOR A FULL UNDERSTANDING OF YOUR
RIGHTS YOU SHOULD CONSULT THE LAWS OF YOUR COUNTRY PROVINCE OR STATE.

本保证给予您特定的法律权利，您可能拥有各州(或国家或省)不同的其他权利。除法律允许外，
presonus®并不排除、限制或暂停您可能拥有的其他权利，包括因不符合销售合同而可能产生的
权利。为了充分了解你的权利，你应该咨询你的国家、省或州的法律。

PreSonus Products And EU Statutory Warranty:

When you purchase PreSonus products, European Union consumer
law provides statutory warranty rights in addition to the coverage
you receive from the PreSonus limited warranty. A summary of the EU
Statutory Warranty and the PreSonus Limited Warranty is below:

PreSonus产品和欧盟法定保修:

当您购买PreSonus产品时，除了您从PreSonus有限保修中获得
的覆盖范围外，欧盟消费者法还提供了法定保修权利。欧盟法定
保证和PreSonus有限保证的摘要如下:

	EU Consumer Law	PreSonus Limited Warranty
Repair or Replacement Coverage For	Defects present when customer takes delivery	Defects arising after customer takes delivery
Warranty Period	2 years (minimum) from original date of purchase (unless superseded by PreSonus)	1 year from original date of purchase (unless superseded by PreSonus)
Cost of Coverage	Provided at no additional cost	Included at no additional cost
Who to contact to make a claim	The seller	PreSonus technical support for your region

	EU Consumer Law	PreSonus Limited Warranty
Repair or Replacement Coverage For 维修或更换保险	Defects present when customer takes delivery 客户提货时出现缺陷	Defects arising after customer takes delivery 客户提货后出现的缺陷
Warranty Period 保修期	2 years (minimum) from original date of purchase (unless superseded by PreSonus) 自购买之日起至少2年(除非作废)	1 year from original date of purchase (unless superseded by PreSonus) 自购买之日起至少1年(除非作废)
Cost of Coverage 成本	Provided at no additional cost 不会产生额外成本	Included at no additional cost 不含额外费用
Who to contact to make a claim 向谁提出要求	The seller 卖方	PreSonus technical support for your region

What This Warranty Covers: 保修范围：

PreSonus Audio Electronics, Inc., ("PreSonus") warrants defects in material and workmanship in PreSonus-branded products under normal use. This Limited Warranty applies only to hardware products manufactured by or for PreSonus that can be identified by the PreSonus trademark, trade name, or logo affixed to them.

PreSonus Audio Electronics, Inc.("PreSonus")保证在正常使用情况下，PreSonus品牌产品的材料和工艺存在缺陷。本有限保证仅适用于由PreSonus生产或为其生产的硬件产品，且这些产品可通过其上的PreSonus商标、商号或标识识别。

Exclusions and Limitations:

This warranty does not cover the following:

1. Damage caused by accident, abuse, improper installation, failure to follow instructions in the applicable owner's manual or improper operation, rental, product modification, alteration, or neglect.

2. Damage from improper grounding, faulty wiring (AC and signal), faulty equipment, or connection to a voltage range outside published specifications (see applicable owner's manual).

3. Damage to drivers or diaphragm assemblies found to have burnt voice coils from over/under driving or signal surge from another device.

4. Damage occurring during shipment or improper handling.

5. Damage caused by repair or service performed by persons not authorized by PreSonus.

6. Products on which the serial number has been altered, defaced, or removed.

7. Products purchased from an unauthorized PreSonus dealer (products that have transferable warranties are excluded from this provision, provided the customer and the product are registered with PreSonus).

除外条款和限制:

本保修不包括以下内容:

1.因事故、滥用、安装不当、未按适用的业主手册操作或操作不当、租赁、产品修改、改装或疏忽造成的损坏。

2.不适当的接地、错误的接线(交流和信号)、故障的设备或连接到超出公布规范的电压范围所造成的损害(请参阅适用的用户手册)。

3.驱动器或膜片组件的损坏，发现在驱动器上方/下方或其他设备的信号浪涌烧坏了音圈。

4.在运输过程中或处理不当造成的损坏。

5.由未经PreSonus授权的人员进行修理或服务造成的损坏。

6.序列号被涂改、污损或删除的产品。

7.从未经授权的PreSonus经销商处购买的产品(具有可转让保证的产品不在本条款之列，前提是客户和产品在PreSonus注册)。

Who This Warranty Protects:

This Warranty protects only the original retail purchaser of the product (products that have transferable warranties are excluded from this provision provided the customer and the product are registered with PreSonus).

本保修保护对象:

本保修单仅保护产品的原始零售买家(具有可转让保修单的产品不在本条款之列，前提是客户和产品已在PreSonus注册)。

How Long This Warranty Lasts:

The Warranty begins on the original date of purchase from the retail purchaser, and the duration is as follows:

保修期多长:

保修期自零售买家购买之日起开始，保修期如下:

1-Year Limited Warranty 保修1年		
Product Category 产品目录	Model 型号	Transferable 可转让
Recording Interfaces 录制接口	AudioBox® iOne, AudioBox iTwo, AudioBox Stereo, AudioBox Studio, AudioBox USB, AudioBox VSL (1818, 44, 22), FireStudio™ Project, FireStudio Mobile, FireStudio Mobile Studio, Studio 192, Studio 192 Mobile, Studio-series (1824/1824c, 1810/1810c, 68/68c, 26/26c, 24/24c), Quantum, and Quantum 2	No
Preamplifiers 前置放大器	ADL600, ADL700, BlueTube DP V2, DigiMax D8, DigiMax DP88, Eureka, RC500, Studio Channel, TubePre V2	No
StudioLive® Mixers Studio Live @混音器	Series III (32, 24, 16, 32R, 24R, and 16R), 16.0.2, 16.4.2AI, 24.4.2AI, 32.4.2AI, AR8, AR12, AR16, AR22, RM16AI, RM32AI	No
Monitoring & Controlling 监听 & 控制	ATOM, Eris®, Central Station PLUS, FaderPort™, HP4, HP60, EarMix, Monitor Station, Monitor Station V2, R-Series, Sceptre®, Temblor®	No
Accessories 配件	Covers, Dolly, PRM1 mic, Sub Pole, breakout cables, power supplies, M10 Kit	No
3-Years Limited Warranty 保修3年		
Product Category 产品目录	Model 型号	Transferable 可转让
Live Sound 现场成音设备	StudioLive AI 328, 312, 315, 18S, ULT10, ULT12, ULT15, ULT18, AIR10, AIR12, AIR15, AIR15S, AIR18S	Yes

What PreSonus Will Do: **PreSonus会做什么:**

PreSonus will repair or replace, at our sole and absolute option, products covered by this warranty at no charge for labor or materials. If the product must be shipped to PreSonus for warranty service, the customer must pay the initial shipping charges. PreSonus will pay the return shipping charges.

PreSonus将根据我们的独家和绝对选择，免费维修或更换本保修范围内的产品。如果产品必须运至PreSonus进行保修服务，客户必须支付最初的运费。PreSonus将支付退货运费。

Hᴏw to Get Warranty Service (USA):

1. You must have an active user account with PreSonus, and your hardware must be on file with your account. If you do not have an account, please go to: http://www.presonus.com/registration and complete the registration process.

2. Contact our Technical Support Department at (225) 216-7887 or log a support ticket at: http://support.presonus.com. TO AVOID THE POSSIBILITY OF SENDING IN A PRODUCT THAT DOES NOT HAVE A PROBLEM, ALL SERVICE REQUESTS SHALL BE CONFIRMED BY OUR TECH SUPPORT DEPARTMENT.

3. The return authorization number as well as shipping instructions shall be provided after your service request is reviewed and confirmed.

4. The product should be returned for service in the original product packaging. Products may be shipped in a manufactured "flight"- or "road"-style cases but PreSonus will NOT cover any shipping damage to these cases. Products that are not shipped in the original product package or a manufactured case may not receive a warranty repair, at PreSonus's sole discretion. Depending on the product model and the condition of your original packaging, your product may not be returned to you in the original packaging. The return shipping box may be a generic box that has been fitted for that model tested if the original gift box is not available.

如何获得保修服务(美国):

1.您必须在PreSonus中拥有一个活跃的用户帐户，并且您的硬件必须与您的帐户一起存档。如果您没有帐号，请登录 http://www.presonus.com/registration完成注册。

2.请致电(225)216-7887联系我们的技术支持部门，或登录Support ticket: http://support.presonus.com。为了避免送出没有问题的产品，所有的服务请求都要经过我们技术支持部门的确认。

3.在您的服务请求审核确认后，将提供退货授权号码和发货说明。

4.产品应按原产品包装退回服务。产品可以以制造的"飞行"或"道路"方式运输，但PreSonus将不赔偿任何运输损害

这些情况。如果产品不是按照原产品包装或制造的外壳发货，则PreSonus有权自行决定不接受保修维修。根据产品型号和原包装的情况，您的产品可能不会以原包装退回给您。如果原来的礼品盒不可用，退货的装运盒可能是一个普通的盒子，已经为该模型测试安装。

How to Get Warranty Service (outside of USA):

1. You must have an active user account with PreSonus and your hardware must be on file with your account. If you do not have an account, please go to: http://www.presonus.com/registration and complete the registration process.

2. Contact the Technical Support/Service Department for your region at http://www.presonus.com/buy/international_distributors and follow procedures provided by your PreSonus contact.

Limitation of Implied Warranties:

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

Some states, countries, or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Exclusion of Damages:

PRESONUS'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AT PRESONUS'S SOLE OPTION. IF PRESONUS ELECTS TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. IN NO EVENT WILL PRESONUS BE LIABLE FOR DAMAGES BASED ON INCONVENIENCE, LOSS OF USE, LOST PROFITS, LOST SAVINGS, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE, AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY, OR ANY OTHER DAMAGES WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, EVEN IF PRESONUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states, countries, or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

If you have any questions about this warranty or service received, please contact PreSonus (USA) at +1 (225) 216-7887 or one of our authorized international distributors at: http://www.presonus.com/buy/international_distributors.

Product features, design, and specifications are subject to change without notice.

Added bonus: PreSonus' previously Top Secret recipe for...
Red Beans and Rice 额外奖励: PreSonus 的绝密配方...
红豆和大米

Ingredients:

- 1 lb dried Red Kidney Beans
- 1 large onion (diced)
- 3 celery stalks (diced)
- 1 large green bell pepper (diced)
- 6-8 C vegetable stock
- 1 Tbs. Old Bay seasoning
- ½ fresh parsley
- 2 tsp. kosher salt
- 2 Tbs. olive oil
- 1 smoked ham hock (optional)

Cooking instructions:

1. Rinse red beans in cold water.
2. In a pressure cooker, heat olive oil on medium high. Sauté onion, celery, bell pepper, beans, and ham hock (if using) until onions are translucent.
3. Stir in Old Bay, parsley, and salt.
4. Add vegetable stock until beans and vegetables are covered.
5. Close pressure cooker and bring to full pressure on high heat.
6. Reduce heat to low while maintaining full pressure. Cook for 40 minutes.
7. Allow pressure to drop naturally (20-30 minutes).
8. Remove lid and crush with a potato masher until creamy.
9. Correct seasoning with salt and pepper if necessary.
10. Serve over rice with hot sauce and grilled Andouille sausage (optional).

成份:

- 1磅干红芸豆
- 1个大洋葱(切丁)
- 3根芹菜(切丁)
- 1个大青椒(切丁)
- 6-8℃蔬菜高汤
- 1 Tbs 老湾调味料
- ½新鲜的香菜
- 2茶匙 粗盐
- 2 Tbs 橄榄油
- 1根烟熏蹄膀 (可选)

烹饪指令:

1.将红豆用冷水洗净。
2.在高压锅中，用中火加热橄榄油。Sauté洋葱，芹菜，甜椒，豆类和火腿(如果使用)，直到洋葱半透明。
3.加入老贝，欧芹和盐搅拌。
4.加入蔬菜高汤，直到豆子和蔬菜被覆盖。
5.关好高压锅，用高火加热至最大压力。
6.在保持最大压力的同时，将热量降低到最小。煮40分钟。
7.让压力自然下降 (20-30分钟)。
8.取下盖子，用马铃薯捣碎机将其捣碎至呈奶油状。
9.必要时用盐和胡椒粉调味。
10.配上米饭、辣酱和烤香肠(可选)。

Studio 24c

24-Bit, 192 kHz USB-C Audio Interface

Owner's Manual