HP 60

Six-Channel Headphone Mixing System

User's Manual
Version 1.1

PreSonus

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TABLE OF CONTENTS 目录内容

1 OVERVIEW 概述

2 OPERATION

3 CONTROLS & CONNECTIONS 控制和连接

4 TECHNICAL INFORMATION 技术信息

OVERVIEW 概述

1.1 INTRODUCTION 简介

Thank you for purchasing the PreSonus HP60 Six-Channel Headphone Mixing System. PreSonus Audio Electronics has designed the HP60 utilizing high-grade components to ensure optimum performance that will last a lifetime. We believe the HP60 to be an exceptional sounding unit and an exceptional value.

感谢您购买PreSonus HP60六路耳机分配混合器。PreSonus Audio Electronics 公司在设计HP60时，采用了优质的元件，以确保最佳的性能，使其能够终身使用。我们认为，HP60是一个不寻常的声音装置，物有所值。

We encourage you to contact us at 1-800-750-0323 with any questions or comments you may have regarding your PreSonus equipment. 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 con tant product improvement is by listening to the real experts – our valued customers. We appreciate the support you have shown us through the purchase of your HP60 Six-Channel Headphone Mixing System.

我们鼓励您拨打1-800-750-0323联系我们，提出您对PreSonus设备的任何问题或意见。PreSonus Audio Electronics 公司致力于不断改进产品，我们高度重视您的建议。我们相信，实现我们不断改进产品的目标的最佳方式是听取我们宝贵客户的建议。我们感谢您对我们的支持，通过购买 HP60 六路耳机分配混合器的支持。

OVERVIEW 概述

Please pay close attention to how you connect your HP60 to your system. Improper grounding is the most common cause of noise problems found in studio or recording environments. We suggest you use this anual to familiarize yourself with the features, applications and correct connection procedure for your HP60 before tryingto connect it to your computer. This will hopefully alleviate any unforeseen issues you may encounter during setup and use.

请您注意如何将HP60连接到您的系统。不正确的接地是在演播室或录音环境中发现噪音问题的最常见原因。我们建议您在尝试将HP60连接到您的电脑之前，使用本手册来熟悉它的功能、应用和正确的连接程序。这将可能避免在设置和使用过程中，您会遇到的任何不可预见的问题。

1.1 FEATURES

The PreSonus HP60 is the most flexible and advanced headphone mixing system designed for the professional and project recording studio. The HP60 features dual stereo inputs and external input for each channel -- allowing the user to mix between three stereo audio streams (mix A, mix B & external input). Stereo output is also available on each channel to send line level headphone channel mixes to additional headphone amplifiers or monitor systems. Each channel features headphone level, mix between A and B inputs, external input volume, mute and mono. The HP60 also features talkback via external XLR microphone. The HP60 is the ultimate headphone amplificati on system delivering loud and clear headphone mixes for real-world recording situations.

PreSonus HP60是为专业录音室设计的最灵活、先进的耳机混音系统。HP60具有双立体声输入和每个通道的外部输入--允许用户在三个立体声音频流（混合A、混合B和外部输入）之间混合。每个通道都有立体声输出，可以将线路电平的耳机通道混音发送到额外的耳机放大器或监听系统。每个通道都有耳机电平，A和B输入之间的混合，外部输入音量，静音和单声道。HP60还具有通过外部XLR麦克风进行通话的功能。HP60是最终的耳机放大系统，为实际现场的录音情况，提供响亮和清晰的耳机混音。

Summary of features:

- Six independent ultra-low noise and high output headphone amplifiers
- Two sets of stereo inputs (A and B) with balanced TRS connectors
- Stereo external input point on each channel for "more me" control
- Mix control between inputs A and B on each channel

OVERVIEW 概述

- Talkback with external XLR microphone
- Direct stereo line output on each channel
- Mute and mono buttons on each channel

- 六个独立的超低噪声和高输出耳机放大器
- 两组立体声输入（A和B），带平衡TRS连接器
- 每个通道上的立体声外部输入点用于 "more me"控制
- 每个通道上的输入A和B之间的混合控制
- 用外部XLR麦克风进行对讲
- 每个通道的直接立体声线路输出
- 每个通道都有静音和单声道按钮

OVERVIEW 概述

1.2 WHAT IS IN THE BOX 这里有什么

Your HP60 package contains the following：

你的HP60包含以下内容:

- PreSonus HP60

- HP60 User's Manual v1.0 用户手册

- 6' Standard IEC Power Cable　6'标准IEC电源线

- PreSonus Warranty Card　PreSonus 保修卡

OPERATION 操作

2.1 QUICK START GUIDE 快速启动指南

The goal of the HP60 Quick-Start guide is to help get your HP60 connected to your system as quickly as possible. The following step-by-step instructions are based on a common studio environment. Your actual setup may change based on your needs and applications.

HP60 快速启动指南的目的是帮助您尽快将HP60连接到您的系统。下面的步骤说明是基于一个普通的演播室环境。您的实际设置可能会根据您的需要和应用而改变。

Connect the Power 连接电源

1) Turn every knob on the HP60's front panel completely counterclockwise (left).

   将HP60前面板上的每个旋钮逆时针完全旋转（左）。

2) Connect the included IEC power cable to the HP60's power input connector and to the appropriate wall socket.
   将附带的IEC电源线连接到HP60的电源输入接口和墙壁匹配的插座上。

3) Flip the power switch to the 'ON' position (|= on).
   把电源开关拨到 "ON "的位置（|=打开）。

Mix A, Mix B & Talkback Mic Connection and Level Adjustment MixA、MixB和对讲机的连接和电平调整

4) Connect your DAW (digital audio workstation) or Mixer Main Outputs to the Left and Right TRS inputs of Input A on the back of your HP60.

   将你的DAW(数字音频工作站)或调音台的主输出，连接到HP60背面输入A的左右TRS输入。

5) Connect your DAW or Mixer auxiliary outputs (monitor mix / click track) to the Left and Right TRS inputs of Input B on the back of your HP60.
   将DAW或调音台的辅助输出（monitor mix / click track）连接到HP60背面的输入B的左右TRS输入。

OPERATION 操作

6) Connect an XLR dynamic microphone to the *MIC* input on the back of your HP60.
将XLR动圈麦克风连接到HP60背面的 *MIC* 输入。

7) Connect a pair of headphones to the Phones 1 output and turn its *Level* knob up to the " 12 o'clock position".
将一副耳机连接到Phones 1的输出，并将其电平旋钮转到 "12点位置"。

8) Play a CD, session or other audio type typical to your studio through the source of Input A (DAW or Mixer Outputs) and begin turning up the *Input A* knob until your headphones are slightly above a comfortable / desired level.
通过输入A（DAW or Mixer Outputs）播放CD、会话或其他经典的音频类型，并开始转动输入A的旋钮，直到你的耳机略高于一个舒适/理想的水平。

9) Turn the Channel 1 *Mix* knob fully clockwise (right). Repeat steps 7 & 8 for Input B and the Talkback Microphone (You will need to press 'Talk' when setting mic level).
将 Channel 1 的 *Mix* 旋钮完全顺时针旋转（右）。为 Input B 和对讲麦克风重复7和8步骤（在设置麦克风电平时，你需要按 "Talk"）。

External Input connection 外部输入连接

10) For each of the headphone channels, connect the artist's instrument direct out from your DAW or Mixer to the Stereo Ext. In connection on their respective channels.
对于每个耳机通道，连接艺术家的乐器从DAW或调音台直接输出到各自通道的立体声输入接口。

(For Example: If a vocalist is on headphone channel 5, take the direct output of their vocals from your DAW or Mixer and connect it to the channel 5 Stereo Ext. In*. Likewise, if a guitar player is on headphone channel 2, take the direct output of their guitar from your DAW or Mixer and connect it to the channel 2* Stereo Ext. In*.)*

(例如：如果一个主唱在耳机通道5，从DAW或调音台直接输出人声，并连接到通道5的立体声外部输入。同样，如果一个吉他手在耳机通道 2，从DAW或调音台直接输出他们的吉他，并将其连接到通道2立体声外部输入）。

OPERATION 操作

Stereo Output Connection 立体声输出连接

11)   If you have additional headphone amplification or monitoring systems or need a copy of your mixes for any reason, connect a stereo ¼" TRS plug to the *Stereo Out* connections of the mixes being copied and to the input of your additional system.

如果您有额外的耳机放大或监听系统，或因任何原因需要复制您的混音，请将立体声¼"TRS插头连接到被复制的混音的立体声输出接口和额外系统的输入。

Headphone Connection 耳机连接

12)   Connect headphones to the six Phones outputs on the front of your HP60.

将耳机连接到HP60前面的六个耳机输出上

Adjusting the HP60 for the "Optimum Listening Level"? 将HP60调整到 "最佳聆听水平"？

A common situation when setting up monitor mixes is when an artist's headphones are turned all the way up and they still feel they don't have enough level. If you turn up the Input A/B source, the other headphones will need to be turned down or remixed. So, what do you do?

在设置监听混音时，一个常见的情况是，艺术家的耳机被全部调高，但他们仍然觉得没有足够的电平。如果你把输入A/B源调高，其他耳机就需要调低或重新混音。那么，你是怎么做的呢？

By pre-setting the Input level to be loud enough at the "12 o'clock position" (step 7), you ensure if an artist needs more level, you will have plenty of room to compensate for their needs. This also gives you a good, generic point to which you can set an artist's headphone level before learning their desired listening volume.

通过预先设置输入电平，使其在 "12点位置 "足够响亮（步骤7），你可以确保是否需要更多的电平，将会有足够的空间来补偿艺术家的需求。这也给了你一个很好的、通用的点，你可以在了解艺术家所需的聆听音量之前，将他们的耳机电平设置为这个点。

An alternate method is to set the HP60 to reach its maximum attainable volume. To do this, repeat steps 7-9 with the headphone level fully clockwise. Instead of paying attention to the volume of the headphones, turn the Input level up until just before the signal distorts. This means if an artist needs more volume, you can politely tell them you are already maxed out.

OPERATION 操作

另一种方法是将HP60设置为其可达到的最大音量。做到这一点，可在耳机电平完全顺时针的情况下，重复步骤7-9。直到信号失真之前，把输入电平调高，而不是注意耳机的音量。这意味着，如果一个艺术家需要更多的音量，你可以委婉地告诉他们，已经达到了最大音量。

2.2 SAMPLE HOOKUP DIAGRAM 示例连接图
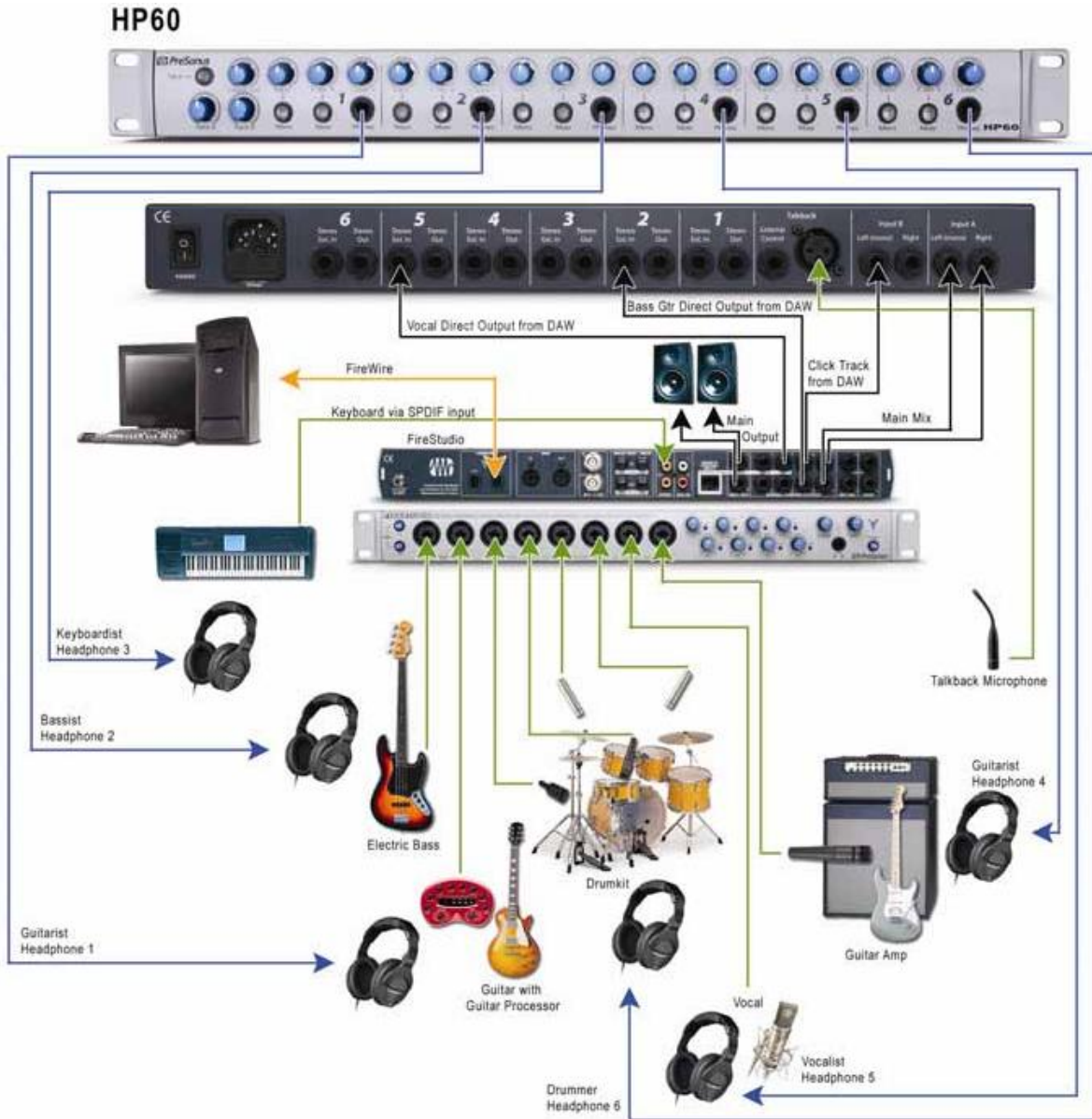
CONTROLS & CONNECTIONS 控制&连接

3.1 FRONT PANEL LAYOUT 前面布局图

The front panel of the HP60 is divided into two sections: the Master Input Controls and the six numbered Headphone Channel Controls.

HP60 的前面板分为两个部分：主输入控制和六个编号的耳机通道控制。

3.1.1 Master Input Controls 主输入控制器

- **Input A & Input B.** These knobs control the input levels of the Input A and Input B (Mix A & Mix B) inputs on the rear of the chassis into the HP60. These two mixes can be separately mixed together on each headphone output channel.

- **Input A & Input B.** 这些旋钮控制机箱后面的输入A和输入B（混合A和混合B）的输入电平，进入HP60。这两个混合信号可以分别在每个耳机输出通道上混合在一起。

- **Talkback Level.** This knob controls the input level of the external XLR dynamic microphone connected to the *MIC* input on the rear of the chassis.

- **Talkback Level.** 这个旋钮控制，连接到机箱后面的MIC输入的外部XLR动圈麦克风的输入电平。

CONTROLS & CONNECTIONS 控制&连接

- **Talk.** When the Talk button is pressed, the Talkback microphone input is activated. This is a momentary type switch – the microphone is 'ON' only while the button is pressed. An external foot pedal connected to the *External Control* input on the rear of the chassis can also be used to activate the Talkback microphone.

- **Talk.** 当按下通话按钮时，对讲麦克风输入被激活。这是一个瞬时型的开关--只有当按钮被按下时，麦克风才会 "ON" 打开。 连接到机箱后面的外部控制输入的外部脚踏板，也可以用来激活对讲麦克风。

3.1.2 Headphone Channels: Level Controls 电平控制

- **Ext In.** The external in knob controls the input level and amount of the *Stereo Ext. In* on the rear of the chassis for the channel.

  Ext In. 输入电平外部输入旋钮控制和*Stereo Ext*立体声外部的输入电平量在机箱的背面。

- **Mono.** When the Mono button is pressed, the *Stereo Ext. In* will act as a mono input – summing the signals from the TIP and the RING of the ¼" connection.

- **Mono.** 当按下Mono按钮时，立体声外部输入将作为单声道输入--¼"连接的 TIP和RING的信号相加。

<u>CONTROLS & CONNECTIONS</u> 控制**&**连接

- **<u>Mix.</u>** The Mix knob controls the amount of each of the two mixes A & B for the channel. As the knob is turned counterclockwise (left), the amount of Mix A increases, and the amount of Mix B decreases. As the knob is turned clockwise (right), the amount of Mix A decreases, and the amount of Mix B increases. With the Mix knob in the "12 o'clock position," an equal amount of Mix A and Mix B is sent to the channel's headphones.

  <u>Mix.</u> 混合旋钮控制该通道的两个混合A和B的量。当旋钮逆时针转动时（左），混合A的量增加，混合B的量减少。随着旋钮的顺时针转动（右），混合A的量减少，而混合B的量增加。当混合旋钮在 "12点位置 " 时，等量的混合A和混合B被送到该通道的耳机中。

- **<u>Mute.</u>** When the Mute button is pressed, both Mixes are muted for the channel. This is most commonly used as a type of "Solo" for the external stereo input.

  <u>Mute.</u> 按下静音按钮时，该通道的两个混合声都被静音了。这是最常用的一种外部立体声输入的 "Solo"方式。

- **<u>Level.</u>** The Level knob controls the volume level of the channel's Phones output.

  <u>Level.</u> 电平旋钮控制耳机输出通道的音量大小。

- **<u>Phones.</u>** This is the channel's stereo headphone output.

  <u>Phones.</u> 这是该通道的立体声耳机输出。

CONTROLS & CONNECTIONS 控制&连接

3.2 BACK PANEL LAYOUT 后面板布局

The back panel of the HP60 is divided into four sections: Power, the six numbered Headphone Channels, Talkback and Inputs A & B.

HP60的后面板被分为四个部分：电源、六个编号的耳机通道、对讲机和输入A和B。

3.2.1 Power

Power. The Power switch turns the HP60 on and off. The ' | ' down is the ON position.

Power. 电源开关可以开启和关闭**HP60**。这个 ' | ' 向下是打开的位置。

IEC Power Input. The HP60's power input connection accepts a standard IEC plug and is rated for either 100-120 VAC or 220-230 VAC, depending upon the country it is purchased in. Please check with your local retailer or dealer if you have any questions concerning the input voltage of your HP60's power supply.

CONTROLS & CONNECTIONS 控制&连接

IEC Power Input. HP60的电源输入接口接受一个标准的IEC插头，其额定电压为100-120VAC或220-230VAC，这取决于购买的国家。如果您对HP60的电源输入电压有任何疑问，请向当地零售商或经销商咨询。

3.2.2 Headphone Channels: Rear Connections

- **Stereo Ext. In.** The Stereo External In jack accepts a stereo ¼" TRS plug and is used for connecting a third, channel-specific Mix. This is commonly used for a direct input of the artist's instrument – allowing the channel's *Ext. In* knob to act as a "more me" control.

- **Stereo Ext. In.** 立体声外部输入接口可接受立体声¼"TRS插头，用于连接第三个通道专用的混音。这通常用于艺术家乐器的直接输入--允许通道的外部输入旋钮作为 "more me"的控制。

- **Stereo Out.** The Stereo Out jack carries a line-level copy of the channel's headphone mix and is commonly used for connecting to additional headphone amplification systems, an additional monito r mixer or even a recording system. The Stereo Out level is not affected by the channel's *Level* knob.

- **Stereo Out.** 立体声输出接口，承载了该通道耳机混音的线路电平拷贝，通常用于连接额外的耳机放大系统、额外的单声道调音台，甚至还有录音系统。立体声输出的电平不受通道电平旋钮的影响。

CONTROLS & CONNECTIONS 控制&连接

3.2.3 Talkback

- **External Control.** The External Control jack accepts a ¼" TS plug and is used for connecting a footswitch to control the ON / OFF toggle of the External Mic.

- **External Control.** 外部控制插孔可接受一个¼"TS插头，用于连接脚踏开关，控制外部麦克风的开/关切换。

- **MIC.** The MIC input accepts a balanced XLR input and is used for connecting a dynamic microphone to be used as the talkback microphone with the HP60's Talkback Communication System.

- **MIC.** MIC输入接受平衡XLR输入，用于连接动圈麦克风，作为HP60的对讲通信系统的对讲麦克风使用。

CONTROLS & CONNECTIONS 控制&连接

3.2.4 Mix Inputs

- **<u>Left (mono).</u>** The Left jack accepts a ¼" balanced TRS plug and is used for the left input of the stereo pair. This jack should be used alone when connecting a mono source as the Mix's Input.

- **<u>Left (mono).</u>** 左边的插口可以接受一个¼"平衡TRS插头，用于立体声组的左边输入。当连接一个单声道信号源作为混音的输入时，应该单独使用这个插口。

- **<u>Right.</u>** The Right jack accepts a ¼" balanced TRS plug and is used for the right input of the stereo pair carrying the Mix's signal.

- **<u>Right.</u>** 右边的插口接受一个¼"平衡TRS插头，用于承载混合信号的立体声组的右边输入。

TECHNICAL INFORMATION 技术信息

4.1 SPECIFICATIONS 技术规格

Audio Inputs 音频输入

Dynamic Microphone Input 动圈麦克风输入

Type...XLR Female Balanced
Input Impedance...1200Ω
Maximum Gain...50dB
Maximum Input Level .... -10dBu
Frequency Response..10Hz to 40kHz, ±1dB

Input A & Input B (Left & Right) 输入A & 输入B（左&右）

Type .... ¼" TRS Balanced
Input Impedance...10kΩ
Gain Range .... -96 to +10dB

External Inputs 1-6 外部输入 1-6

Type .... ¼" TRS Stereo Unbalanced
Input Impedance...10kΩ
Gain Range .... -96 to +10dB

Audio Outputs 音频输出

Headphone Outputs 1-6 耳机输出 1-6

Type .... ¼" TRS Active Stereo
Maximum Output.. 150mW/channel @ 60Ω Load
THD+N .... ≤0.05% (150mW/channel @ 60Ω Load)
Frequency Response... 10Hz – 70kHz, ± 1dB

Stereo Outputs 1-6 立体声输出 1-6

Type .... ¼" TRS Stereo Unbalanced
Output Impedance...50Ω

TECHNICAL INFORMATION 技术信息

Internal Linear Power Supply 内置线性电源

    Type..IEC
    Input Voltage Range.................................. .. 100-120 VAC or 220-230 VAC (factory set)
    Power Requirements (continuous)... 30 Watts

Physical

    Package Type... 1U Steel and Aluminum Chassis
    Dimensions..........................19" (W) x 1.75" (H) x 5.5" (D) (48.26cm x 4.45cm x 13.97cm)
    Weight..Approximately 5 lbs.

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

作为对不断改进的承诺，*PreSonus Audio Electronics, Inc.* 保留在任何时候，可以改变这里所述的任何规格的权利，不会再另行通知。

4.2 TROUBLESHOOTING 故障排除

If you experience any problems with your HP60, please try the following before contacting PreSonus Customer Support:

如果您的HP60遇到任何问题，请在联系PreSonus客户支持之前，尝试以下方法：

1) Check our Web site at www.PreSonus.com for answers to frequently asked questions and for troubleshooting techniques specific to the HP60.
2) Power cycle and disconnect / reconnect your HP60 power cable.
3) Check your connection cables and audio source(s).
4) Check your headphones.
5) Isolate the problem to your HP60 by disconnecting any extraneous equipment in your signal chain.

1) 查看我们的网站 www.PreSonus.com，了解常见问题的答案和HP60特有的故障排除技术。
2) 电源循环，断开/重新连接HP60的电源线。
3) 检查你的连接线和音源。
4) 检查你的耳机。
5) 通过断开信号链中任何无关设备的连接，将你HP60的问题区别看待。

For technical assistance, visit our Web site at www.PreSonus.com, call us at 225.216.7887 between 9am and 6pm CST (GMT -06:00) or e-mail us at techSupport@PreSonus.com.

如需技术援助，请访问我们的网站 www.PreSonus.com，在美国中部时间上午9点至下午6点（GMT -06:00）之间致电225.216.7887，或邮件至 techSupport@PreSonus.com 。

When contacting technical support, please have the following information at hand:
联系技术支持时，请准备好以下信息:

➢ A brief description of what connections are being made to your HP60.
➢ The desired application of your HP60 in your studio environment.
➢ Your HP60 serial number (located on the bottom of your unit) .
➢ 简要描述一下与您的HP60的连接情况。
➢ 您的HP60在演播室环境中的预期应用。
➢ 您的HP60序列号（位于设备的底部）