

Professional 24-bit USB Audio Interface

U108 PRE

User's Guide



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www.esi-audio.com

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1. Introduction

U108 PRE is a special USB 2.0 Hi-Speed audio recording interface providing a solution for a very basic requirement: connecting a lot of professional microphones for simultaneous multichannel recording at one time.

U108 PRE provides a total of 10 high quality professional microphone preamps. Two XLR connectors are on the front panel, the others on the rear panel of the device. For all separate preamps, +48V phantom power can be enabled when needed and the input level can be adjusted separately for each channel. The input level is also displayed via LEDs on the front panel. Of course you can use all input channels simultaneously. In addition, there are two alternatively usable Hi-Z instrument inputs for electric guitars. For playback, 8 independent line outputs and a separate mix output (via the integrated monitor mixer) are provided.

U108 PRE provides drivers that work with very low latency - with support for WDM, ASIO 2.0 and CoreAudio, based on our EWDM- and DirectWIRE-Technology. That means that the unit can be used with all common applications on both Mac and PC. With the bundled software you can start using it right away and simply start working out of the box.

U108 PRE is the perfect solution for multichannel recording when using a multiple number of microphones.

1.1 Features

The front panel of the U108 PRE hardware has these main features:



1. **microphone and Hi-Z instrument input channel 1** with XLR/TRS combo connector, use this connector to connect a dynamic or condenser microphone or an electric guitar. Next to it is the **Hi-Z switch** that enables this input for usage with an electric guitar when pressed. When not pressed, the input works as a microphone input. With the **gain knob** you can control the input level which is indicated with the LEDs above it. The **+48V switch** enables phantom power if required for a condenser microphone. Please note that for microphones you should use XLR connection while a guitar needs to use a TRS connection.
2. **microphone and Hi-Z instrument input channel 2** with XLR/TRS combo connector, use this connector to connect a dynamic or condenser microphone or an electric guitar. Next to it is the **Hi-Z switch** that enables this input for usage with an electric guitar when pressed. When not pressed, the input works as a microphone input. With the **gain knob** you can control the input level which is indicated with the LEDs above it. The **+48V switch** enables phantom power if required for a condenser microphone. Please note that for microphones you should use XLR connection while a guitar needs to use a TRS connection.
3. **switch for +48V phantom power for channels 3 to 6**, use this switch to enable phantom power if required for a condenser microphone for inputs 3 to 6.

4. **switch for +48V phantom power for channels 7 to 10**, use this switch to enable phantom power if required for a condenser microphone for inputs 7 to 10.
5. **gain knobs for microphone inputs 3 to 10**, allows you to control the input level which is indicated with the LEDs above it.
6. **MONO switch**, allows you to create a mix down for the input channels to a dual stereo signal (i.e. input channel 1 goes to channel 2 and input channel 2 goes to channel 1 for instance), for the monitor mix.
7. **LEDs for phantom power**, show the status of the phantom power for each input. There is one LED each for input 1, for input 2, for inputs 3-6 and for inputs 7 to 10.
8. **monitoring mixer**, these two gain knobs allow you to control the integrated monitoring mixer of U108 PRE. The first knob controls the volume of the input channels, the second the volume of the output channels. The mixed signal is available via the headphone output (when selected) and the mix output on the backside of the unit.
9. **headphone output** with 1/4" TRS connector and **headphone signal selection switch**, use this to connect a pair of headphones and control the volume / gain of it with the knob next to it. The switch allows you to select if the main signal from output channel 1/2 (switch is off) or from the mix output of the integrated monitoring mixer (switch is on) will be used.
10. **power switch / LED**, allows you to switch U108 PRE on and off. When on, the LED next to it shows the status.

The rear panel of U108 PRE has these main features:



11. If required, this connects your unit to a standard **laptop lock connector**, preventing it from being stolen.
12. **12V DC power connector**, connects to the included DC power supply. U108 PRE requires this power supply to operate.
13. **USB connection port**, connects to your computer with the supplied USB cable.
14. **mix output**, provides balanced / unbalanced 1/4" TRS connectors for the stereo master mix signal from the integrated monitoring mixer of U108 PRE. This connects typically to your studio monitors if you choose to use the integrated mixer.
15. **line outputs channel 1 to 8**, these balanced / unbalanced 1/4" TRS connectors provide each independent analog output signal of U108 PRE. If you do not use the integrated mixer, you would typically connect output 1/2 to your studio monitors.
16. **microphone input channels 3 to 10** with XLR connector, use these connectors to connect dynamic or condenser microphones.

2. Installation

2.1 System Recommendation

U108 PRE is not simply a standard digital audio interface, but a high-resolution device capable of advanced processing of audio content. Even though U108 PRE is built to have low-CPU resource dependability, system specifications play a key part in the U108 PREs performance. Systems with more advanced components are generally recommended.

Minimum System Requirements

PC

- Windows Windows 7 / 8 / 8.1 or 10 (32- and 64-bit) operating system
- 1 available USB 2.0 port

Mac

- Mac OS X 10.8 or higher, or current version of macOS
- 1 available USB 2.0 port

2.2 Hardware Installation

U108 PRE is directly connected to an available USB port of your computer. In order to make sure the unit works, you need to use the included electric power supply that connects your mains power outlet to the 12V DC connector on the backside of U108 PRE. Once this connection is made, simply install the hardware by plugging it into your computer with the supplied USB cable.



USB port of a computer

2.3 Driver & Software Installation

After the connection of U108 PRE, the operating system automatically detects it as a new hardware device. However, you need to install our driver in order to use it.

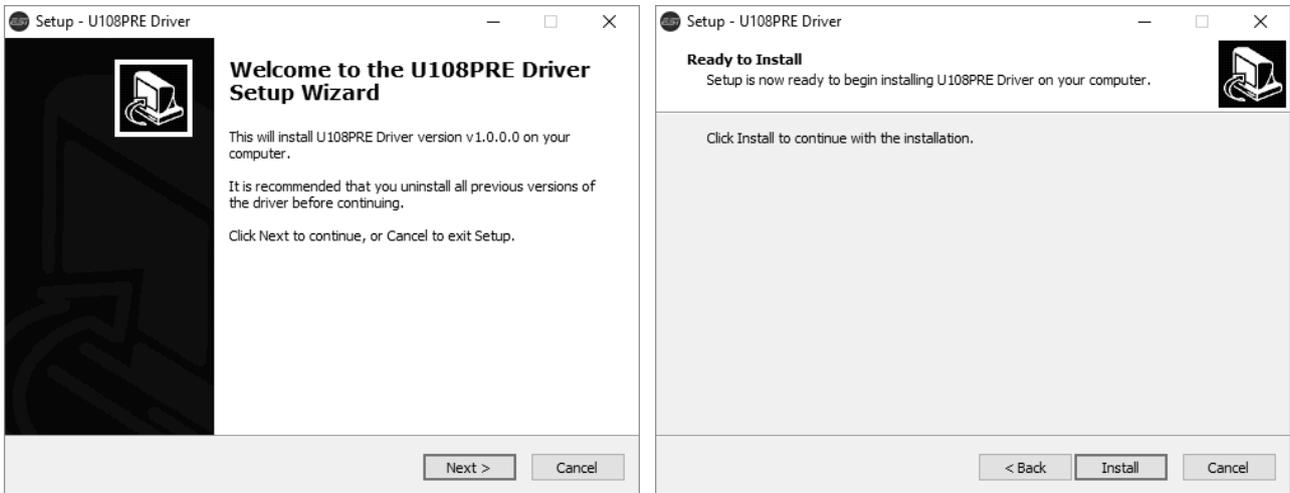
We **strongly** recommend to download the latest driver from www.esi-audio.com before installing U108 PRE on your computer. The driver on our website can always be more recent compared to the driver on the included Installation DVD.

2.3.1 Installation under Windows

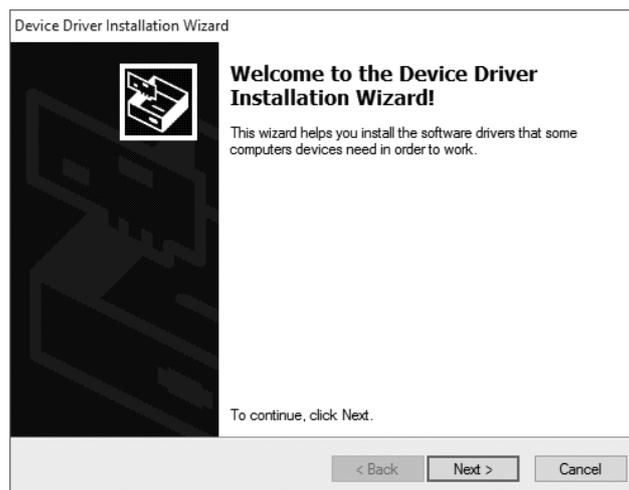
This text explains how to install U108 PRE under Windows 10. If you use Windows 7, Windows 8 or Windows 8.1, the steps are basically the same. Connect U108 PRE before you install the driver, but turn it off first.

To start the installation, launch the setup program, which is an .exe file that is inside a recent driver download from our website or in the *Windows XX* folder (XX refers to the Windows version) of the

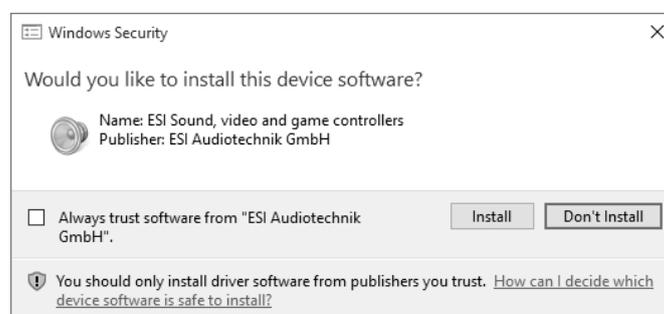
included Installation DVD, by double clicking on it. When launching the installer, Windows might display a security message. Make sure to allow the installation. After that, the following dialog on the left will appear. Click *Next* and then the dialog on the right will appear:



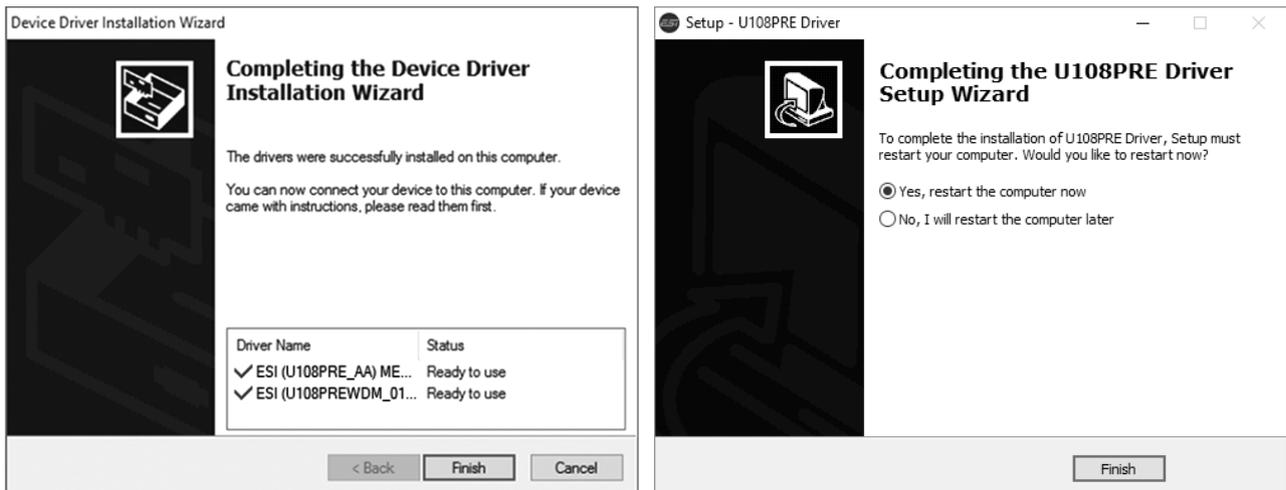
Now click *Install*. Files are now being copied. After some time an additional dialog will appear:



Confirm this by clicking *Next*. Again some files are being copied and typically you will be prompted with a Windows Security message like this:



Confirm it by clicking *Install*. After a while the installation then will be completed and the following dialog will appear:



Once you see the window on the left, click *Finish*. In many cases, the window on the right appears then. We strongly suggest to select *Yes, restart the computer now* and then click *Finish*.

You can connect U108 PRE to your computer anytime if not done yet and switch it on. Windows will automatically setup the system so you can use the device.

To confirm the completion of the installation after rebooting the system, please check if the orange color ESI icon is displayed in the taskbar notification area as shown below.



If you can see it, the driver installation has been completed successfully.

2.3.2 Installation under macOS

To use U108 PRE under macOS, you need to install the driver from the included Installation DVD from the *macOS* folder or from newer driver download from our website, which is recommended.

The driver and control panel gets installed by double clicking on the *.dmg* file and then in the window that opens again double clicking on the installer. After that follow the instructions on your screen. At the end of the installation, we recommend to reboot your system.

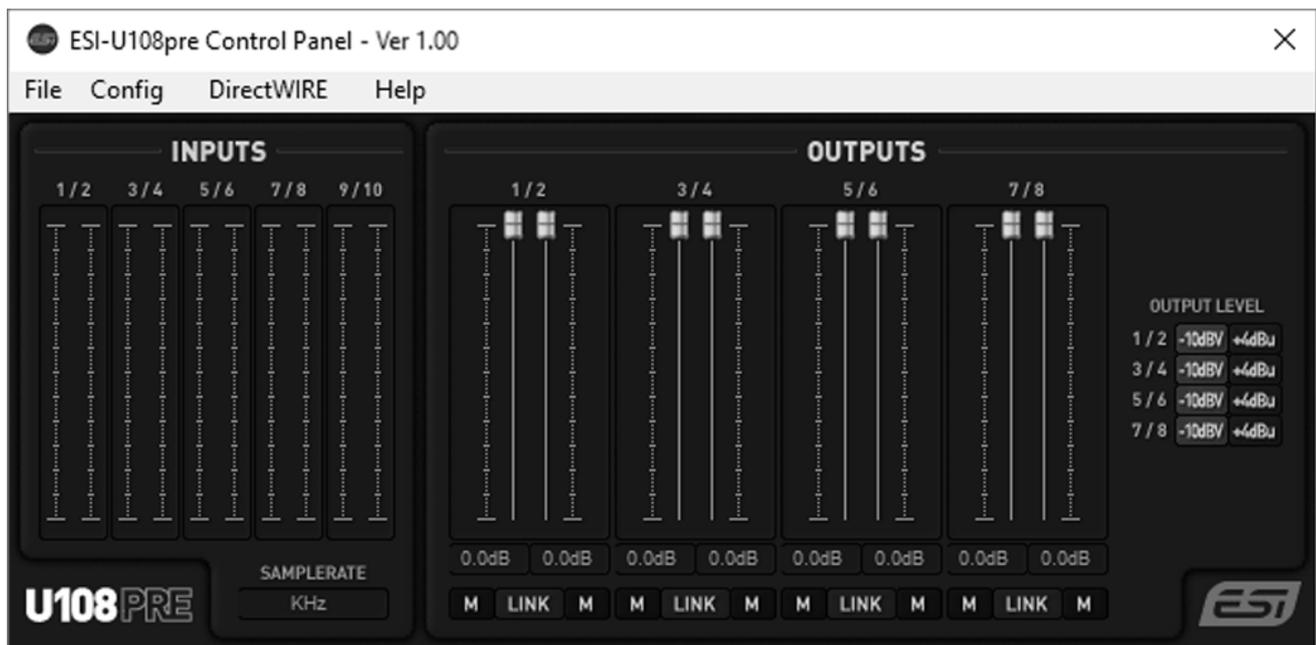
If the installer does not launch via a double click, click on it with the right mouse button (or hold the *ctrl*-key on your keyboard while clicking with the left mouse button) and then choose *Open* and then *Open* again.

Controlling some of the basic options of U108 PRE under macOS can also be done via the *Audio MIDI Setup* utility from macOS (from the folder *Applications > Utilities*).

3. Control Panel

This chapter describes the U108 PRE Control Panel and its functions.

Under Windows, to open the control panel double click on the ESI icon in the task notification area. Under macOS, there is an icon in the *Applications* folder. The following Control Panel dialog will appear:



The panel has the following functions and sections:

INPUTS

The main part of the **INPUTS** section contains signal level meters for each and every physical input channel.

Under it, the current **SAMPLERATE** is displayed.

OUTPUTS

The main parts of the **OUTPUTS** section contains volume control sliders and signal level meters for each playback channel. Under each channel is a button that allows you to mute playback for that channel (*M*). With the *LINK* button you can choose if you want to control the left and right playback channels simultaneously.

Under **OUTPUT LEVEL** you can switch between *+4dBu* to set the output level of each individual line output pair optimized for balanced audio signals to +4dBu studio standard level or *-10dBV* to set the output level optimized for unbalanced audio signals to -10dBV consumer/HiFi standard level.

3.1 Latency settings

Under Windows via *Config > Latency* in the Control Panel it is possible to change the latency setting (also called “buffer size”) for the driver of U108 PRE. A smaller latency is the result of a smaller buffer size and value. Depending on the typical application (e.g. for playback of software synthesizers) a smaller latency is an advantage. At the same time, the best latency setting indirectly depends on the performance of your system. For recording applications, a typical latency buffer size between 4 and 8ms is standard, a value displayed typically inside your audio application. Note that the latency has to be setup before launching the audio application using U108 PRE.

Under macOS, the latency is depending on the audio application and usually setup there inside the settings of that software.

4. Specifications

Key Features

- 10 input / 8 output 24-bit / 96kHz USB 2.0 Hi-Speed Audio Interface
- 10 input channels and 8 output channels available for simultaneous usage
- 10 professional microphone preamps with +48V phantom power support
- 2 Hi-Z high performance instrument inputs with 1/4" connector
- 10 microphone inputs with XLT connectors
- 8 line outputs with balanced 1/4" TRS connectors
- headphone output with 1/4" stereo phone connector
- separate stereo mix output as master / monitoring output
- integrated monitoring mixer controlled on front panel
- powered by included DC (12V) power supply
- dimensions roughly 45.0cm x 14.5cm x 4.5cm

Audio Specifications

- supports up to 24-bit / 96kHz
- A/D Converter:
 - 107dB (@ -60dBFS A-Weighted)
 - 20Hz to 20kHz, +/- 0.02dB frequency response
- D/A Converter:
 - 112dB (@ -60dBFS A-Weighted)
 - 20Hz to 20kHz, +/- 0.02dB frequency response

Compatibility

- supports Windows 7, Windows 8.1 and Windows 10 with ASIO 2.0, MME, WDM and DirectSound (incl. EWDM /DirectWIRE)
- supports Mac OS X (10.8 and above) and macOS via CoreAudio USB audio driver

5. General Information

Trademarks

ESI, U108 and U108 PRE are trademarks of ESI Audiotechnik GmbH. Windows is a trademark of Microsoft Corporation. Other product and brand names are trademarks or registered trademarks of their respective companies.

The FCC and CE Regulation Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Caution : Any changes or modifications in construction of this device with are not expressly approved by the party responsible for compliance, could void the user's authority to operate equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. If necessary, consult an experienced radio/television technician for additional suggestions.

Correspondence

For technical support inquiries, contact your nearest dealer, local distributor or ESI support online at www.esi-audio.com. Please also check our extensive Knowledge Base with Frequently Asked Questions, installation videos and technical details about our products in the support section of our website.

Disclaimer

All features and specifications subject to change without notice.

Parts of this manual are continually being updated. Please check our web site www.esi-audio.com occasionally for the most recent update information.