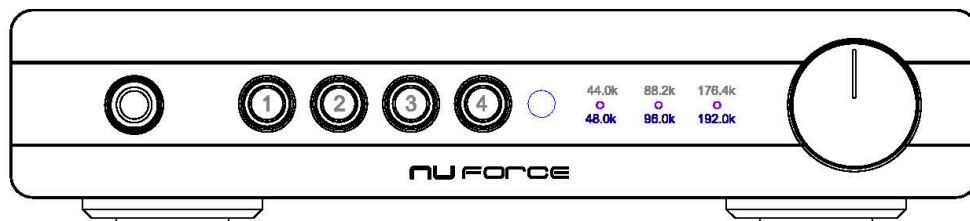


NuForce DAC-100 User's Guide



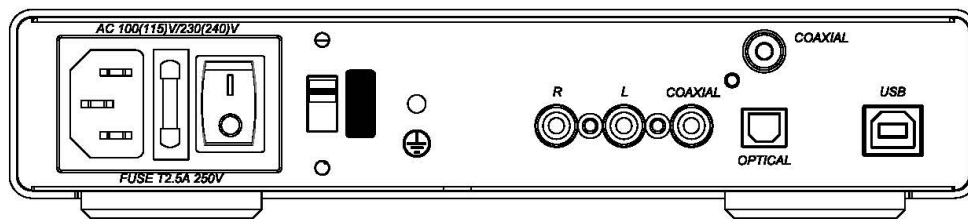
Quick Start Guide:

Make sure that the AC Voltage selector switch at the rear of the unit is switched to the appropriate voltage for your country. All DAC-100s are shipped with the switch set to 230VAC in order to prevent accidental damage.

Turn ON the AC power switch at the rear of the unit. The DAC-100 will now be in standby mode.

The logic On/Off is enabled by pushing the knob or using the remote. The DAC-100 consumes less than 1W in standby and approximately 10W when ON.

When turned ON from the standby state, the DAC-100 requires six seconds to stabilize. During that period, the LED will blink and the output will be muted.



Connections:

Connect the appropriate digital source to any of the available digital inputs by using a high quality corresponding cable type (USB, coaxial or Toslink).

The analog RCA output should be connected to your preamp using high quality interconnect cables. Please note: It is not recommended to directly drive a power amplifier from the RCA outputs.

When using headphones, simply plug them into the front panel headphone jack. Please note: inserting headphones does not disable the rear RCA outputs.

The single-ended Class-A design is suitable for headphone impedances from 120 to 600 Ohms. Headphones such as In-Ear Monitors (IEMs) that exhibit a combination of low impedance along with high-sensitivity ($>106\text{dB/mW}$), are not recommended. Similarly, inefficient headphones less than 95dB/mW are not recommended, unless you prefer listening at moderate volume levels. Wherever possible, for compatibility always try out potential headphones beforehand.

Inputs:

The DAC-100 provides for connecting up to four digital sources. They are selected in the following order:

- Input #1 - USB
- Input #2 - SP/DIF coaxial/RCA
- Input #3 – SP/DIF optical/Toslink
- Input #4 – SP/DIF coaxial/RCA

To select the desired input, simply press the Input buttons labeled 1 – 4. Once pressed, the selector button will illuminate. Please note: the last-selected input is memorized when DAC-100 is turned off and will become the active Input when the unit is turned back ON.

Volume Control:

The volume knob is a one-turn control. Pressing in on the knob turns the DAC-100 ON and OFF (OFF = standby). The volume at turn-on will be determined by the knob position. Please note: gain has been set to achieve the best possible resolution with headphones within the recommended impedance ranges. In most cases, you will find that the optimum control setting falls somewhere between the 12 o'clock and 5 o'clock positions.

LED Indicators:

A stable and fully illuminated LED indicates the sample rate.

- Blue = multiples of 48kHz
- White = multiples of 44.1kHz

A blinking LED indicates that the output is muted.

When the six LEDs light sequentially in a clockwise pattern, the digital signal is not standard PCM format. Rather, while the DAC-100 has locked onto the signal, it may be a DTS signal (such as from a Blu-ray player) or some format using a non-standard sample rate (such as 38.8kHz).

No LED indicates that the unit is OFF or in standby mode.

Using the Remote Control:

The DAC-100 comes with a simple remote control with the following buttons:

- On
- Off
- Input – cycles through Input 1 to 4.
- Volume +
- Volume -
- Mute

When using the Remote Control to change the volume, please note: the knob on the front panel is not motorized and therefore will not turn. However, moving the front panel knob will immediately change the volume to that knob position.

DAC-100 Hardware Specifications:

Digital:

(4) Digital inputs: USB, Toslink, RCA x 2, transformer or optical isolated, AC coupled.

Maximum bit depth: 24-bit

Maximum sample rate: 192kHz

USB: Asynchronous up to 192kHz/24-bit

Sample rate indicator

Volume control: 32-bit digital attenuator

Analog:

THD+N: 0.02, 0dB, 1kHz

SNR: 96dB, 1kHz, A-weighted

Frequency Response: 20-20kHz +/- 0.25dB

Outputs: RCA, 6.3mm headphone output

Output voltage 0dB, 1kHz: RCA 2.0Vrms

Output Impedance: RCA, 100-Ohm; XLR

Headphone Specifications:

Recommended Headphone Impedance: 32-300 Ohm

Output: 3.7Vrms, 0.5W @ 300-600 Ohm

Pure Class "A" operation

Remote Control Functions:

Volume, Input Select, Mute, Stand-by

AC voltage: 100V/110V/220V/230V

Power consumption: 12-Watts.

Dimensions: 8.5 wide x 9" deep x 2" tall

Weight: 1.2Kg (?)

USB 192kHz/24-bit Setup & Operation

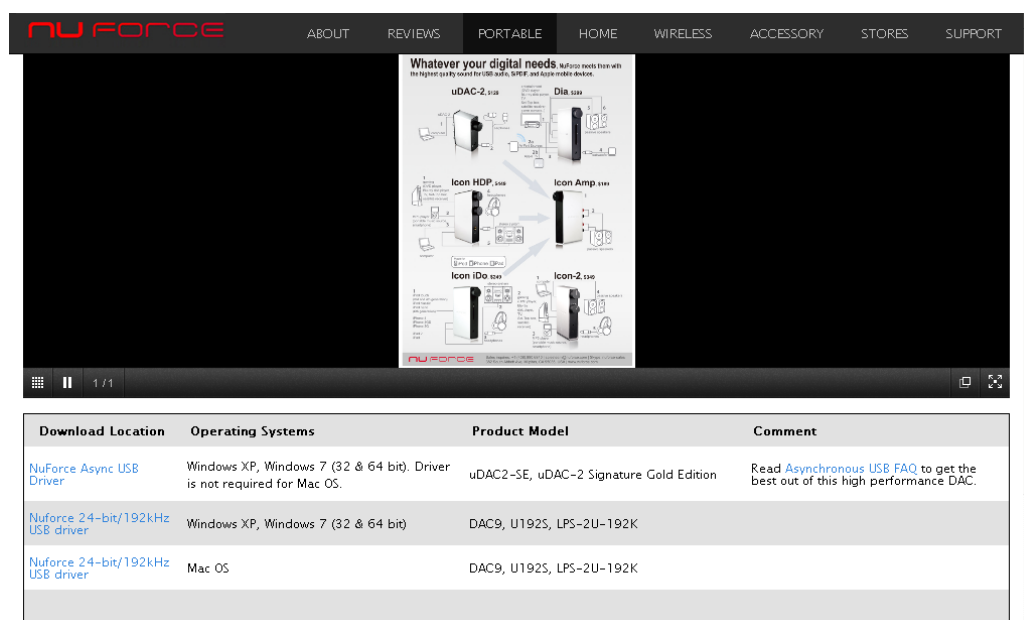
The following guidelines and drivers are for enabling the DAC-100 for use with PC or Mac computers in Asynchronous USB Mode. In most cases, this is the preferred operation for the best possible performance.

Note: The instructions below are required for Windows OS systems. You will find Mac OS setup instructions following this section.

Download Driver (Windows OS Installation):

First, you will need to download the required driver from the following location:

<http://www.nuforce.com/hp/support/download/download.php>



The screenshot shows the NuForce website's support page. At the top is a navigation bar with links: ABOUT, REVIEWS, PORTABLE, HOME, WIRELESS, ACCESSORY, STORES, and SUPPORT. Below the navigation bar is a video player showing a presentation slide titled "Whatever your digital needs" with various NuForce products like uDAC-2, D1a, Icon HDP, Icon Amp, Icon iDo, and Icon-2. Below the video player is a table with download links and system requirements.

Download Location	Operating Systems	Product Model	Comment
NuForce Async USB Driver	Windows XP, Windows 7 (32 & 64 bit). Driver is not required for Mac OS.	uDAC2-SE, uDAC-2 Signature Gold Edition	Read Asynchronous USB FAQ to get the best out of this high performance DAC.
NuForce 24-bit/192kHz USB driver	Windows XP, Windows 7 (32 & 64 bit)	DAC9, U192S, LP5-2U-192K	
NuForce 24-bit/192kHz USB driver	Mac OS	DAC9, U192S, LP5-2U-192K	

Install Driver & Software:

After downloading the driver, run the Installation program. After the installation, an icon linking to the **NuForce Stereo Audio Control Panel** program will appear on your desktop. For now, move on to the Connect Hardware step. Detailed information regarding software adjustment will follow.

Connect Hardware:

Once the software has been installed, connect a quality USB cable from the computer's USB port to the input of the DAC-100. After the cable is connected, a window will pop up at the lower-right side of the display that reads:

NuForce Async USB Audio 192K HS installed

Select Playback:

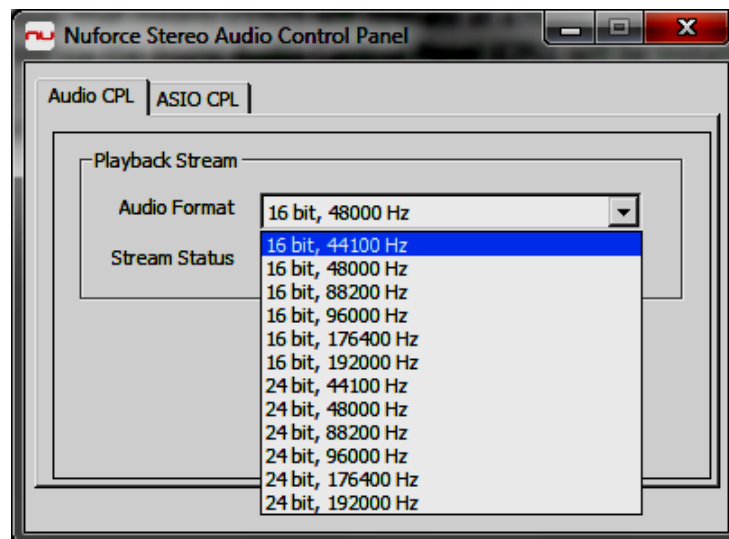
Right click on speaker icon at the bottom right and select **Playback Devices**.
Choose **NuForce DAC-100** and close window.

Adjust Software (Windows 7 Setup):

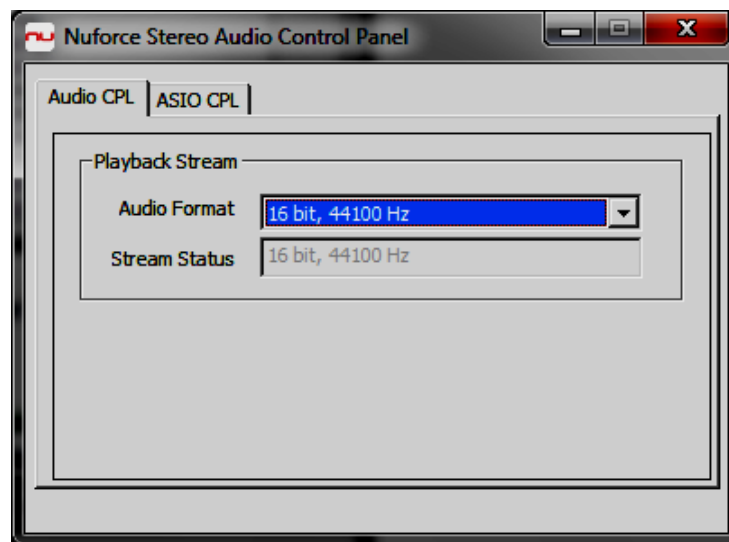
Direct Sound (DS) is the default Windows audio mode. It operates with the Windows Mixer enabled. This means that other sound prompts, such as email notifications, etc., will be mixed into the music output. A single sample rate must therefore be used as the common denominator. For music playback in Windows 7, **WASAPI** mode (**Windows Audio Session API**) is the best-sounding mode. (See WASAPI section)

Direct Sound Mode

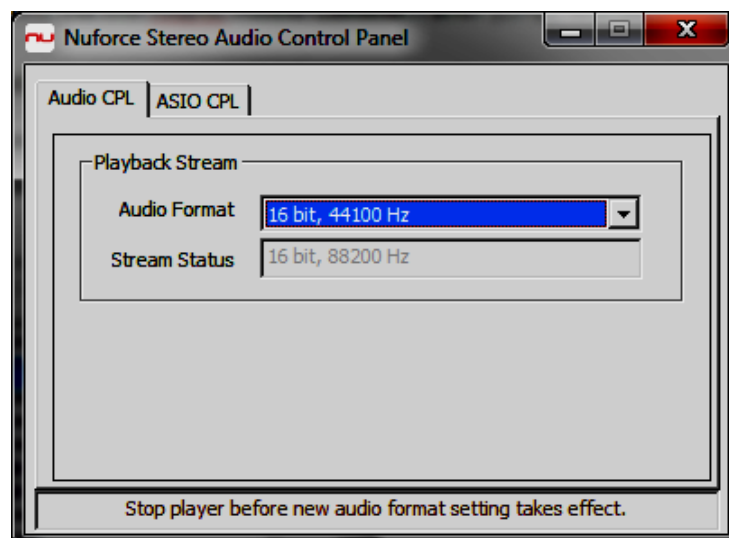
Because the USB input is asynchronous, the DAC-100 will operate at a fixed sample rate. Regardless of whether the music is recorded at 48k or 192k, whatever actual DS format (bit depth & sample rate) is selected, that format will be the operating format. Selection is made via the **Audio Control Panel** (CPL) section of the **NuForce Stereo Audio Control Panel**. For the best sound quality in Direct Sound mode, you will need to manually select the Audio Format so that it matches the music file format. (See screenshots below).



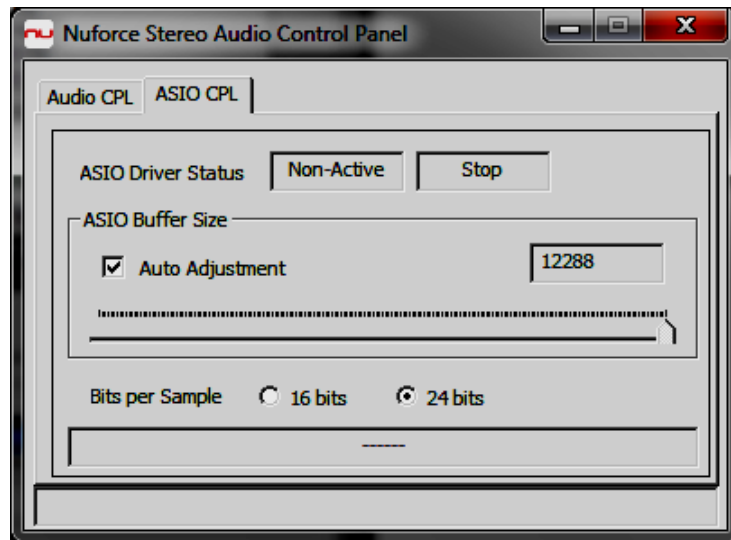
In Direct Sound mode the Stream Status is **ALWAYS** equal to the selected Audio Format:



When music is being played, the Audio Format cannot be changed on the fly. The music must be stopped before you can make the next change. Note the message: **Stop Player...**



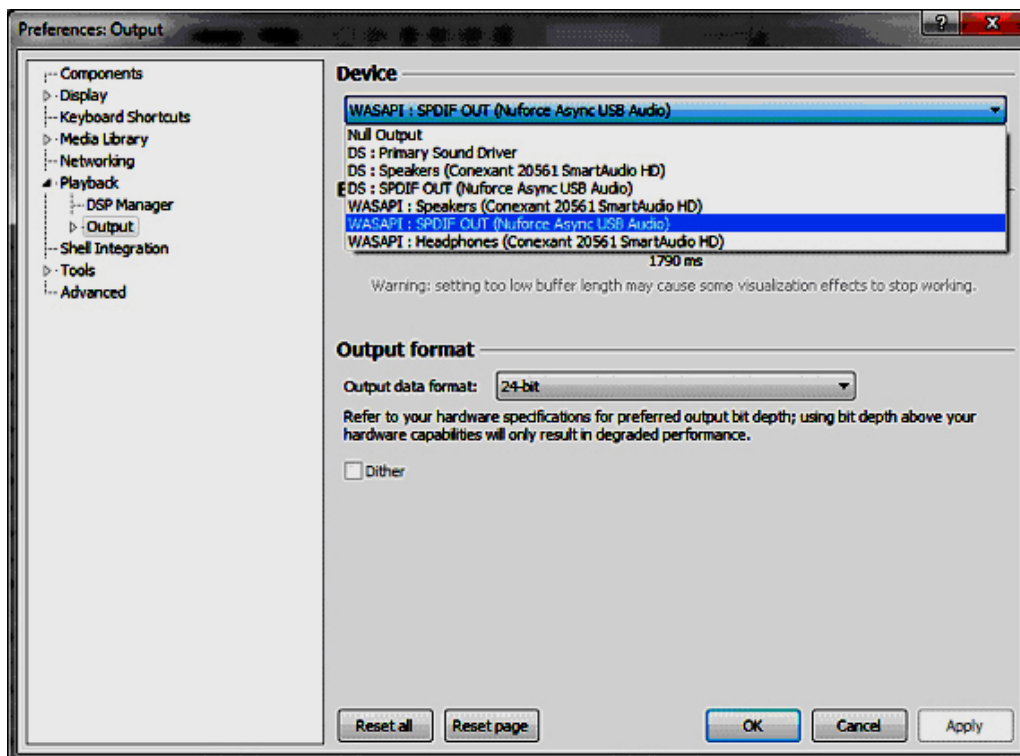
The ASIO tab should be set to 24-bit and Auto Adjust:



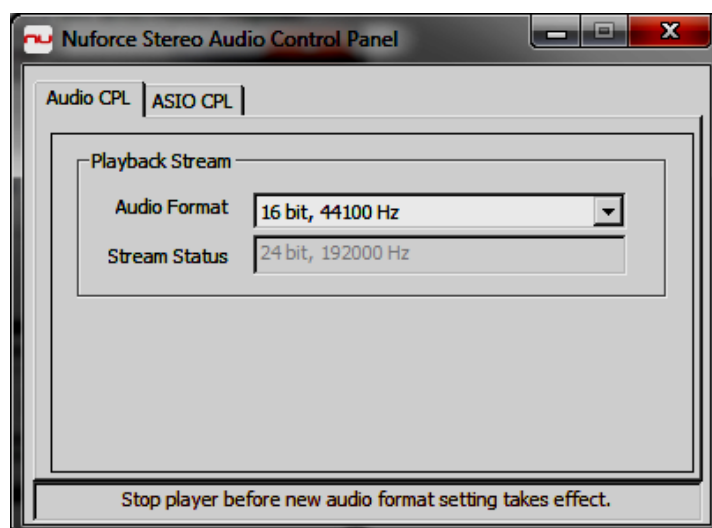
WASAPI Mode:

Some media players require a special WASAPI plug-in to enable support for WASAPI. Once installed and activated, WASAPI can be selected as the default audio driver.

Below is a screenshot of **foobar2000** in Windows 7 (after WASAPI plug-in has been installed) showing different supported device driver options. As you can see, both Direct Sound (DS) and WASAPI options are listed.



Once the WASAPI mode is selected, the native sample rate will be employed. No adjustment in Audio CPL is required. Look at the **Stream Status**. You will note in the screenshot below that the actual sample rate used does not equal the selected sample rate. This is a result of WASAPI's ability to provide automatic playback of the music file in its native format apart from those of other Sound Effects settings.



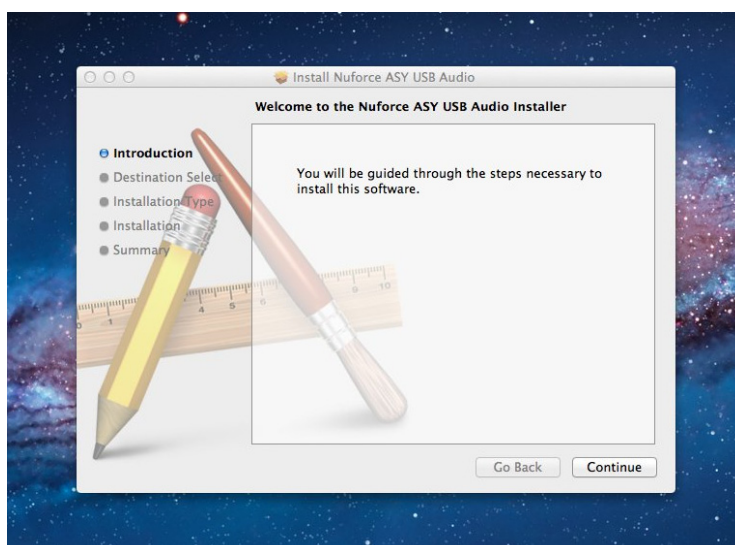
Mac OS Installation:

Download Driver

First, you will need to download the required driver from the following location:
<http://www.nuforce.com/hp/support/download/download.php>

Install Driver & Software:

After downloading the driver, the Installation program begins. Click **Continue** > **Install** > **Install Software** > Continue installation as each screen appears. In the last window, click **Restart** to reboot your computer in order to complete the installation process.



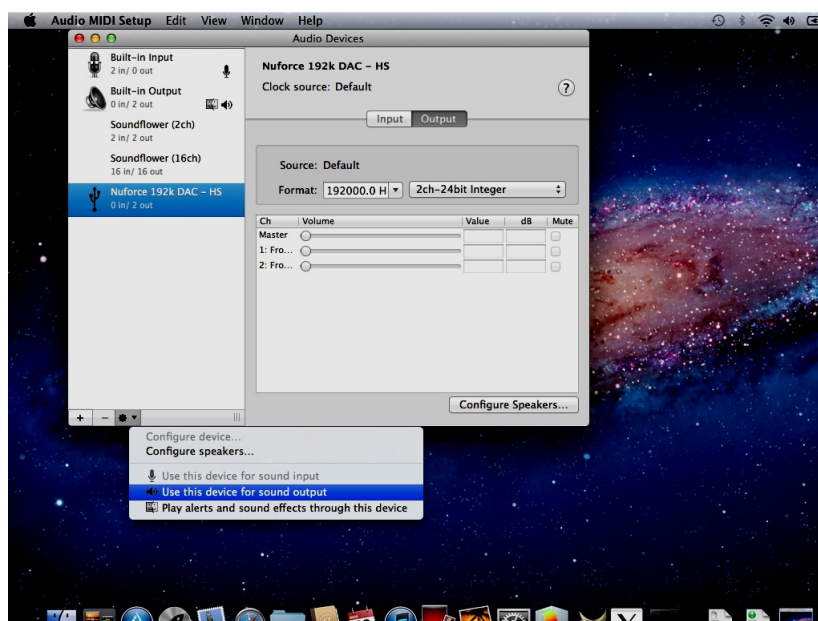
Connect Hardware:

Once the software has been installed, connect a quality USB cable from the computer's USB port to the input of the DAC-100. A white LED (= multiples of **44.1k**) – will indicate that the DAC-100 recognizes the connection.

Adjust Software:

Installation of the USB-192 software on Apple Mac systems is straightforward and simple:

1. On the **Desktop**, select **Launchpad**.
2. Under **Launchpad**, select **Utilities**.
3. Under **Utilities**, select **Audio/Midi Setup**.
4. Under **Audio/Midi Setup**, select **NuForce DAC-100** as the default audio device.
5. In the **Format** drop-down menu select the desired sample rate and bit resolution.
6. The color (Blue or White) of the LED on the DAC-100 will indicate the selected sample rate.
7. Begin using the DAC-100 by playing music files via your media software.



USB-192 Specifications:

Applicable NuForce models: DAC9, DAC-100, LPS-192K, U192S.

Supported Operating Systems: Windows XP, Windows 7 (32-bit and 64-bit), Mac OSX

Digital Input: USB-B

Supported Sample Rates: 44.1, 48, 88.2, 96, 176.4 and 192 kHz

Bit Resolution: 16 or 24 bit