What is ASIO and how do I use it?

Your Hercules DJ Console can operate in 2 different audio modes, each one with a specific purpose:

- **WDM** (*Windows Driver Model*) is the standard audio mode used by most Windows applications (iTunes, movies, games, etc).

Although is it possible to use WDM with music and DJ applications, it remains quite limited and power hungry, so a better solution is required for better performances.

- ASIO stands for "**Audio Stream Input/Output**" and is a protocol that was developed by Steinberg® to allow applications to communicate directly with the computer's audio interface.

This method has many advantages:

- Low latency
- Reduced processor usage.
- Direct access by the application to all Inputs and Outputs.

ASIO should be your first choice whenever you are using DJ or music programs that support this type of audio driver (such as **DJUCED**, **Virtual DJ, Traktor, FL Studio** or **Ableton Live** to name a few).

Understanding the ASIO driver configuration.

The **Audio latency**, accessible from the **Advanced** tab of the **DJ Control Panel**, is the setting you will need to modify in order to optimize the ASIO driver regarding your DJ application.
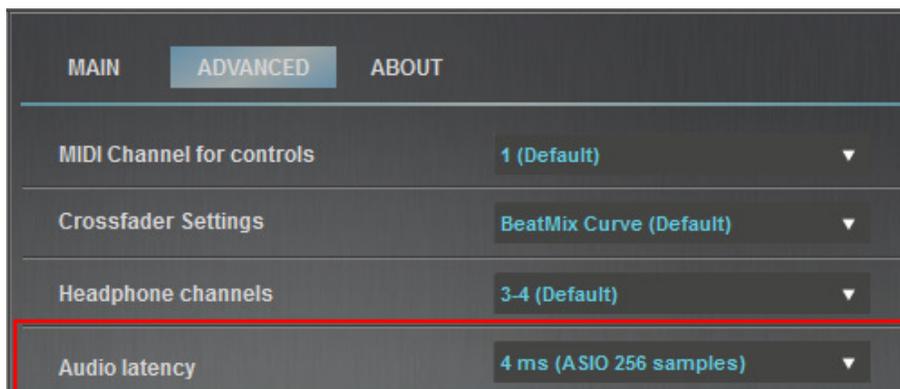
As the name implies, this setting modify the length of the buffer between the audio application and the driver. This basically indicates how much audio and MIDI data can temporarily be stored while the computer is handling other tasks (displaying graphics on screen, reading and writing to the hard drive, etc).

In order to find the appropriate value, there are a few rules to remember:

- The smaller the value, the harder your computer has to work. A fast and powerful processor and a good amount of memory will obviously affect performances.

- If the buffer is **too small** and the data can't be passed on quickly enough, audio artifacts such as clicks and pops will become apparent.

  In this case you would need to **increase** the buffer size to provide the driver with a little more headroom.

- If the buffer is **too big**, then a noticeable delay called **Latency** will be noticeable between the time an action is performed (ex: pressing Play) and the expected reaction (ex: the moment the song's playback actually starts).

  You would then need to **reduce** the buffer size

- There is no universal setting. A configuration that worked with one application may need to be modified for another program.

- As you start to get familiar with a software and begin to use features that require more processing power (such as effects, and video), it may be necessary to modify the buffer size to accommodate these new demands.

Please note that modifying the Audio latency affect the entire interface data transfers, which mean it will equally influence WDM and ASIO.

Let's put all this information into context and try to find the correct value for your computer configuration:
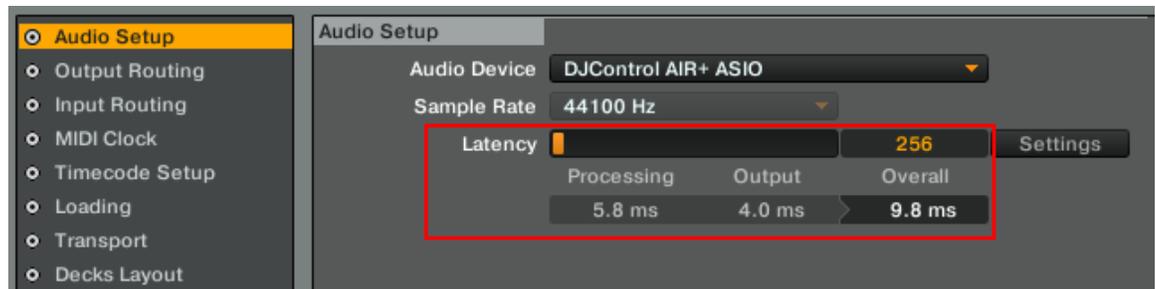
1- Select a buffer size from the DJ Control panel:

2- Start your application and select the console's ASIO driver as audio device.

DJUCED already uses this driver by default:

Other software, like **Traktor**, may display more information about the ASIO driver (like the sample rate) and may label parameters differently. Nonetheless, configurations remain usually similar:

Notice that the parameter **Latency** reflects the value selected in the control panel. This is always a good sign that the application is communicating with the driver properly.

Once the software "acquires" the ASIO and MIDI driver, you will notice that the control panel ASIO parameters are no longer editable. This is perfectly normal, and indicates that the ASIO driver is currently in use.

3- Now that everything is correctly configured, use your software normally, and be aware of any audio artifact (clicks, pops) or latency. In either case you will need to modify the buffer size accordingly.

4- Close your application. Change the ASIO buffer, either higher or lower (depending on the nature of the problem), **by one step at a time,** then test your application again.

   You will need to repeat this operation until you find the buffer size that is the most appropriate for your configuration.

Obviously, changing the buffer is not the solution to all problems. Many other factors can come into play to affect to performance of your computer. If after many trials you still encounter audio issues, please read our document explaining how to [optimize your computer when working with audio software](#).