

## **MIDI port filter - Important note regarding MIDI interfaces and Midi timing**

On certain systems MIDI timing problems, shifted notes, wrong MIDI events recorded or similar MIDI related issues can occur when the default emulated MIDI ports are used.

This is how to change the used MIDI ports to a more compatible solution:

Cubase SX (since 1.02)/SL/SE and Nuendo 2 (since 2.01) have a function to filter out redundant MIDI ports provided by the MIDI interface driver. For instance if the MIDI interface driver installs both Windows MIDI ports and DirectMusic ports, these ports used to both show up. Since DirectMusic mirrors the Windows MIDI ports as "emulated" DirectMusic ports by itself, it was possible that the MIDI ports showed up even 3 times in the MIDI device list. These multiple appearances of the MIDI ports were actually "multiple versions" of the same physical MIDI port.

To avoid this, the application provides an option to remove these redundant entries utilizing the MIDI port filter. However, in some cases the non-filtered, left over MIDI ports that will show up in the MIDI device list can be the ones that actually do not work as the MIDI interface driver doesn't support the DirectMusic architecture as Cubase SX/SL/SE and Nuendo would expect.

These cases were for example found with the following MIDI Interfaces:

- MIDIMAN MIDIsport 8x8
- MOTU MIDITimepieceAV
- Emagic MIDI interfaces

In this case, you can re-enable the filtered MIDI ports by proceeding as follows:

1. Browse to the Cubase SX/SL/SE or Nuendo application folder (usually c:\programs\steinberg\...)and locate the folder "MIDI Port Enabler"
2. Open this folder
3. Pick the file "ignoreportfilter" and move it into the application folder (one directory up)
4. Start Cubase SX/SL/SE or Nuendo 2

Now all available MIDI ports provided by the MIDI interface driver will appear in the MIDI device list - the non emulated Windows MIDI ports as well. Please be aware that the MIDI ports now can show up 2 or 3 times in the list. If you're used to manage your MIDI IN by setting "All MIDI Inputs" in the MIDI IN selector, you should go to the Device Setup/All MIDI Inputs and disable the unwanted ports. Otherwise you will record MIDI from multiple ports which results in double MIDI notes.

The non emulated MIDI ports might provide a far better timing than the emulated DirectMusic ones.

**Since Cubase SX/SL 2.2 and Nuendo 2.2 another additional option is available !  
In Devices -> Device Setup -> DirectMusic you can find the option "use system timestamp"**

This option basically uses a different time as the timing reference. So instead of using the older non-emulated Windows MIDI ports checking this option might also improve the timing depending on the system and the components used.

### **Some additional background**

The physical MIDI port of the interface can be supported by one of three different driver models:

1. "Old" NT4 Kernel mode driver
2. WDM Model driver
3. WDM Streaming Model driver "real DM", used by our Steinberg Midex -3/-8 devices

It depends on the MIDI interface manufacturer, which drivers they deliver.

If DirectX 8 or higher is installed in the system (WinXP includes DX 8.1), drivers (1.) and (2.) can be adopted by emulating the MIDI ports. So if a device has these sorts of drivers, Cubase/Nuendo will find the original and the emulated ports. The result is that a note coming in on one physical input is delivered via two "drivers" and thus two apparent MIDI ports at once. By disabling the emulated ports, only the original input will be regarded.

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