Clarinet-USB Time-Stamp Synchronisation

At the beginning of the profile, the CLARINET is initialised by the PC with current date & time. During the execution of the profile, the time-stamping depends only on the CLARINET clock (10ee-6 oscillator, time-stamping accuracy .1mS).

If several CLARINET units are connected to the USB bus, one of them acts as a master clock provider, and it synchronizes all others every second. This synchronisation process uses the value of the USB frame counter, so the CLARINET must be connected to the same USB Root Hub to ensure that synchronisation is better than 1 mS (1 USB bus frame).

When an application requires precise synchronisation between several CLARINET units such as transit delay or other time measurement, the user should take care about how the CLARINET units are connected to the USB:

- if several CLARINET units are connected to the same external USB Hub, synchronisation is always done with maximum precision

- if several CLARINET units are directly connected to the PC USB port, the user should check that all ports are relative to the same USB Root Hub.

The procedure hereafter can be used to check the USB ports:

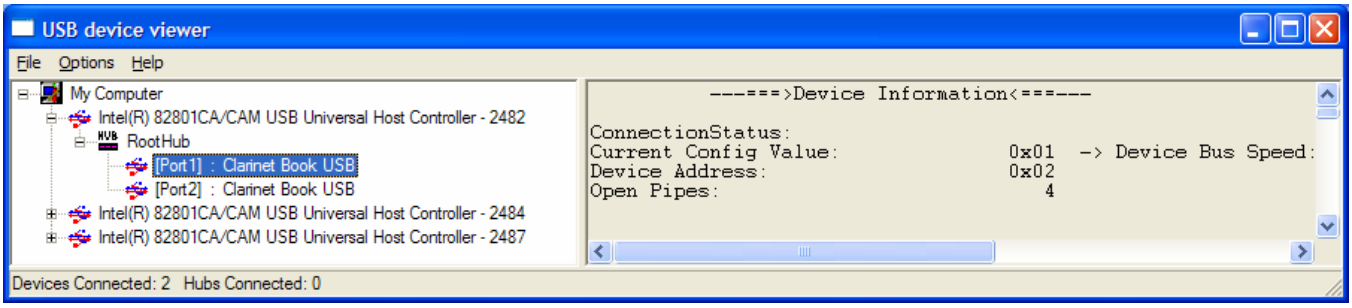
1. Download the program UVCView.exe from Microsoft website : http://www.microsoft.com/whdc/device/stream/vidcap/UVCView.mspx

2. Connect all the CLARINET

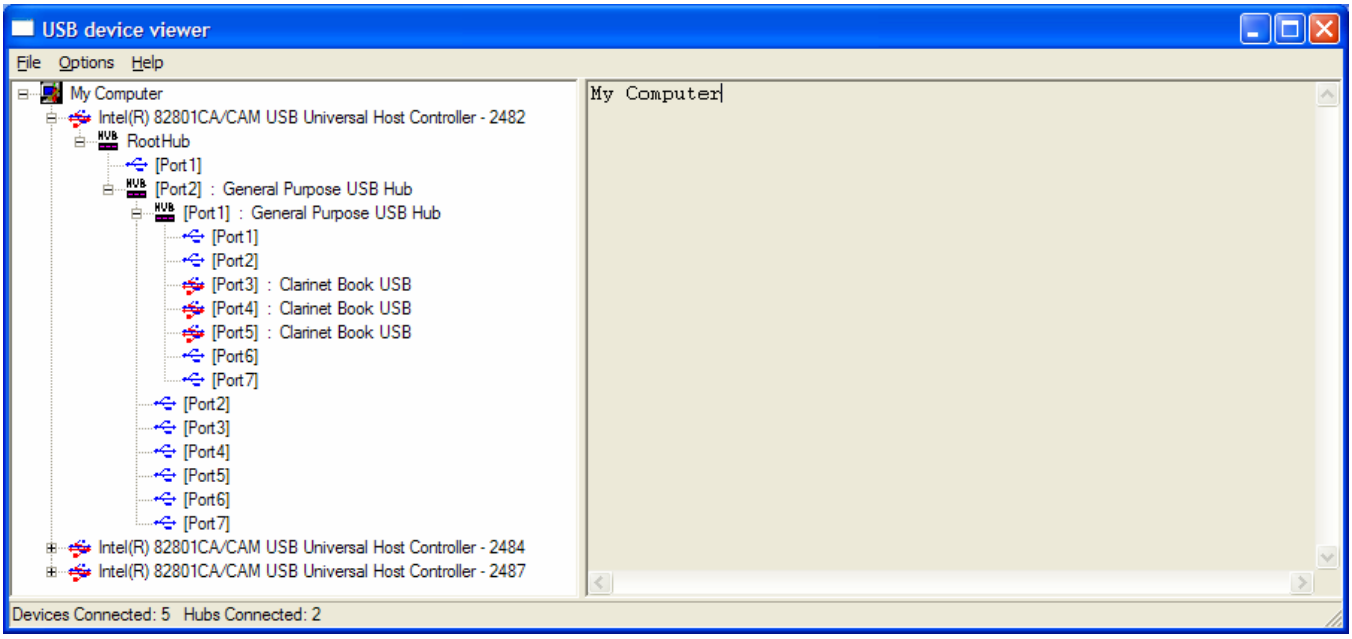
3. Run the UVCView utility and check that all the CLARINET are connected to the same USB Root Hub

Examples:

- OK: CLARINET are directly connected to the PC



- OK: CLARINET are connected to the same external USB Hub



- NOT SYNCHRONISED: CLARINET are connected to different USB Root Hub