



NI USB-4431 Setup for Windows

Always use the approved driver from the SoundCheck DVD or from our website:

<https://support.listeninc.com/hc/en-us/sections/200370694-Drivers>

Installation

The NI USB-4431 is a USB test and measurement interface and has been approved for use with SoundCheck. It features repeatable latency and accurate phase from one system restart to the next.

Install the current approved version of **DAQmx** and connect the NI USB-4431 chassis/modules to the SoundCheck computer.

- Install full version of DAQmx including Measurement and Automation Explorer. The link is available on the Listen, Inc. website:

<https://support.listeninc.com/hc/en-us/articles/360000769103-NI-DAQmx-Driver>

The NI USB-4431 device monitor opens showing that the chassis is connected.

Under "**Configure this test device**", click **Go** to open NI-Max Measurement and Automation explorer.

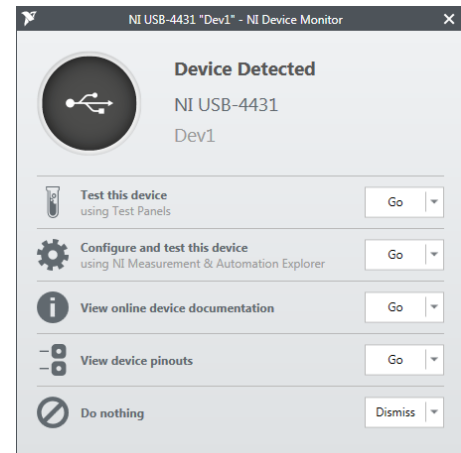


Figure 2-1: Device Detected

The NI USB-4431 is shown as available under **My System > Devices and Interfaces** as shown in [Figure 2-2](#).

Click **Self-Test** to verify that the NI USB-4431 is working correctly.

The entry in **Settings > Name** is the same name the SoundCheck Hardware Editor > Device field will look for.

The default name is **Dev1**.

Changing this name in NI-Max will require a change in the SoundCheck Hardware Editor shown in [Figure 2-3](#).

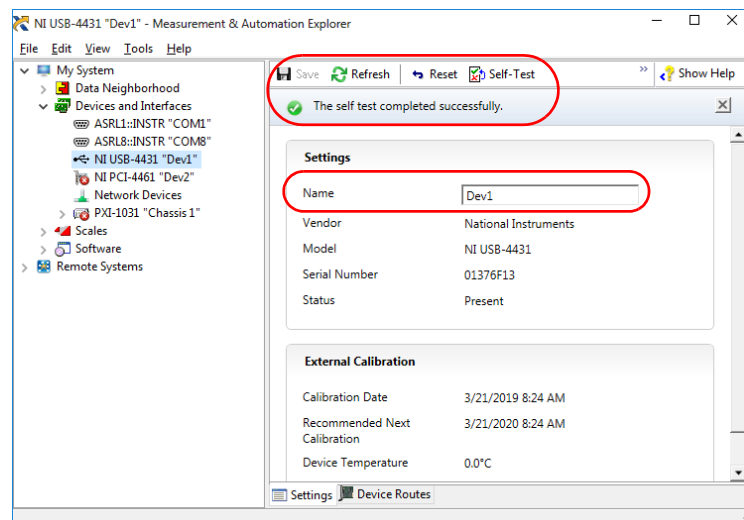


Figure 2-2: Measurement & Automation Explorer

Analysis

The NI USB-4431 requires that SoundCheck sequences use **Auto Delay** on the Delay Tab of all Analysis Steps.

SoundCheck Hardware Editor

The Hardware Editor in [Figure 2-3](#) shows the settings for the Input and Output Vp values.

Click **Import** to load the default values file, **NI USB-4431.Har**, from the Approved Hardware folder in SoundCheck. The default HAR file has a sampling rate of 51.2 kHz. This is the only recommended sample rate for the NI USB-4431 even though other rates are available in the drop down list. The Hardware Editor **Latency** should be set to 62.

- **Sampling Rate:** Only one rate can be selected for all Input and Output channels of an interface

Additional settings are available for:

- Term Config - Select Default, RSE, NRSE, Differential or Pseudodifferential
- Coupling - Select AC, DC or GND
- IEPE - Enable/Disable IEPE current per input

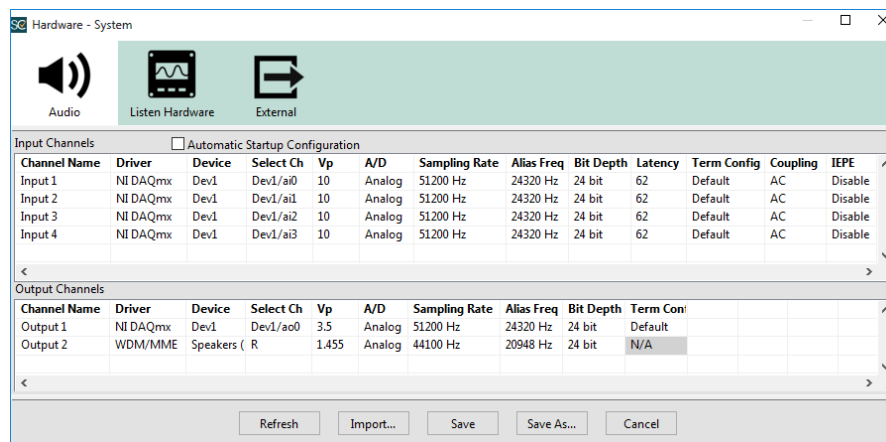


Figure 2-3: Hardware Editor

Note: Even though the NI USB-4431 is a single output device, there must be an “Output 2” channel in the Hardware Editor. This is required by the stock settings of the Calibration Editor. Importing the **NI USB-4431.Har** file will not overwrite the settings of the existing “Output 2” channel. In this case, any channel of a WDM device can be selected.
