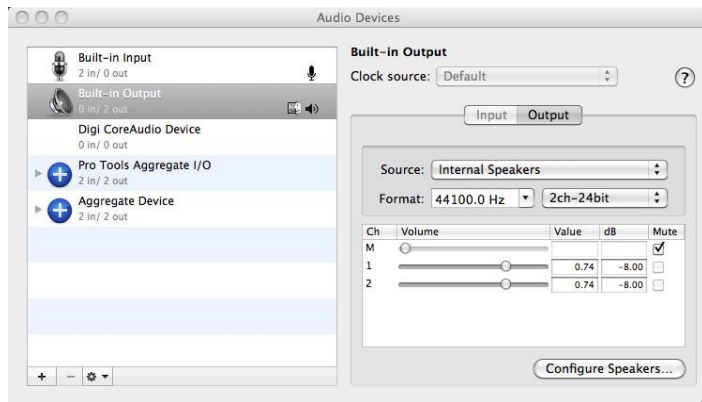


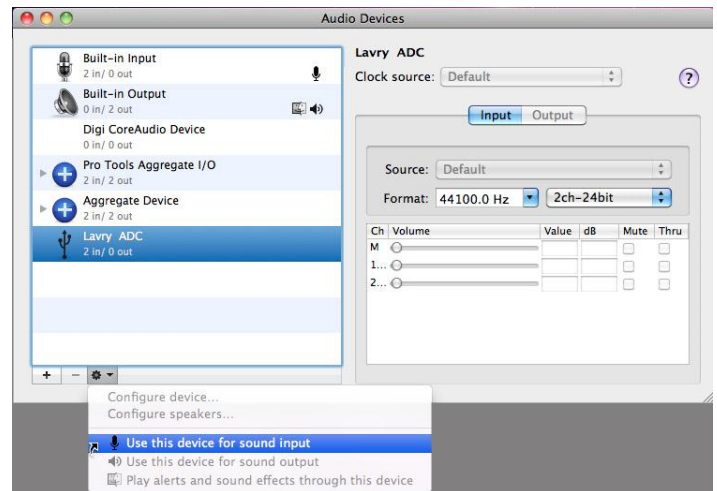
The LavryBlack AD11 and DA11 can be used for high quality two channel input and output with version of ProTools 9/10 that supports third party interfaces which are Core Audio or ASIO compliant. Here are recommendations for connection to Apple® and Windows® 7 computers:

Apple® OS-

- 1.) The AD11 can be used with ProTools 9/10 (PT) with the USB connection. Due to the nature of the USB interface, it is necessary to set the sample frequency in the OS Audio MIDI Setup/Audio Devices dialog to the same sample frequency (SF) as the ProTools session. For best results, we also recommend setting the AD11 to the same SF as the ProTools session.
- 2.) It is recommended that the AD11 be connected via USB and the DA11 be connected via the computer's built-in optical digital audio output. In testing, this combination worked reliably in a "bit-transparent" manner.
- 3.) The settings in the Audio MIDI Setup\Audio dialog should be made prior to launching PT. Due to the nature of the USB and built-in optical digital connections; the AD11 and DA11 connections will not appear in the Audio MIDI Setup\Audio dialog until they are physically connected to the Macintosh computer. This procedure assumes PT is already installed.



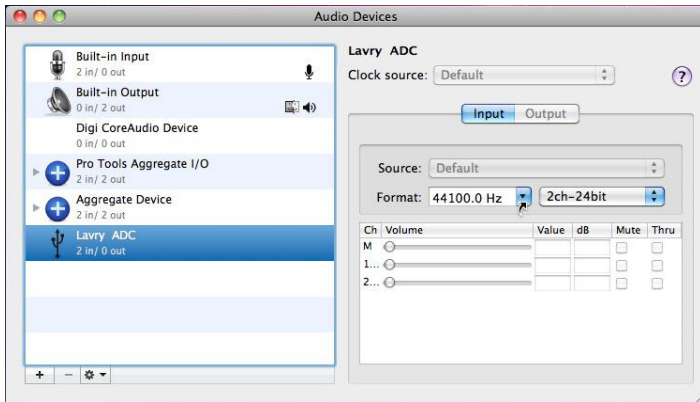
(3)



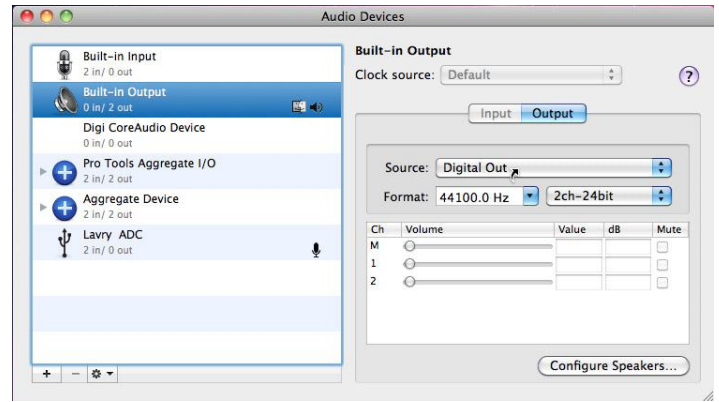
(a)

a.) Once it is connected via USB, the AD11 will appear as a "microphone" titled "Lavry ADC 2 In/0 Out" in the left pane of the Audio dialog. The first time it is connected, it may be necessary to select it as a recording device. In the left pane, first click on the "Lavry ADC" to select it, then click on the gear symbol at the bottom to select "Use this device for sound input." This will cause a microphone symbol to appear next to the "Lavry ADC."

b.) At this point, you can set both the “Format” in the right pane “Input” section and the AD11 setting to the sample rate you plan to use in PT:



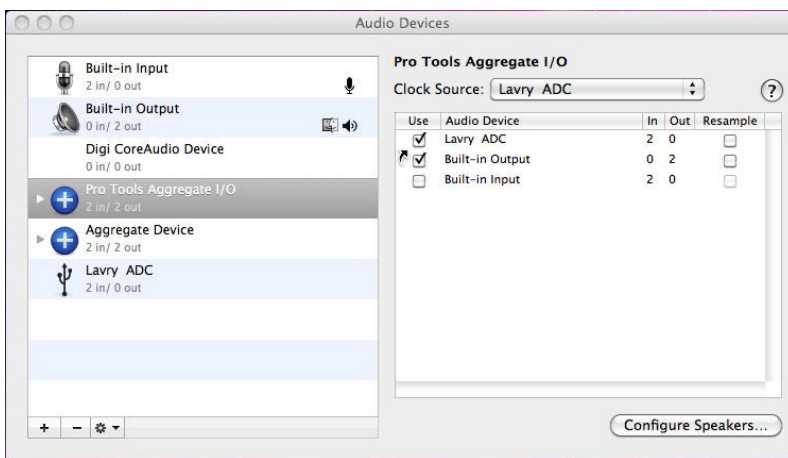
(b)



(c)

c.) Once the 3.5mm Mini plug end of the optical interconnect is inserted into the headphone jack of the computer, if the “Built-in Output 0 In/2 Out” is selected in the left pane of the Audio Devices dialog, the “Source” in the right pane will change from “Internal Speakers” to “Digital Out.” The output sample rate will follow PT’s sample rate setting; so unlike the input sample rate setting, it is not necessary to set this manually in the Format section of the right pane.

d.) When the PT is installed, a “Pro Tools Aggregate I/O” device should appear in the left pane of the Audio Devices dialog; click on it to select it. The possible choices for input and output should appear with check-boxes next to them in the right pane of the Audio dialog. Check the boxes next to the “Lavyr ADC” and “Built-in Output” to enable them as I/O devices in the PT Aggregate device. It is recommended that the “Clock Source” be set “Lavyr ADC;” if it is not already so.



(d)

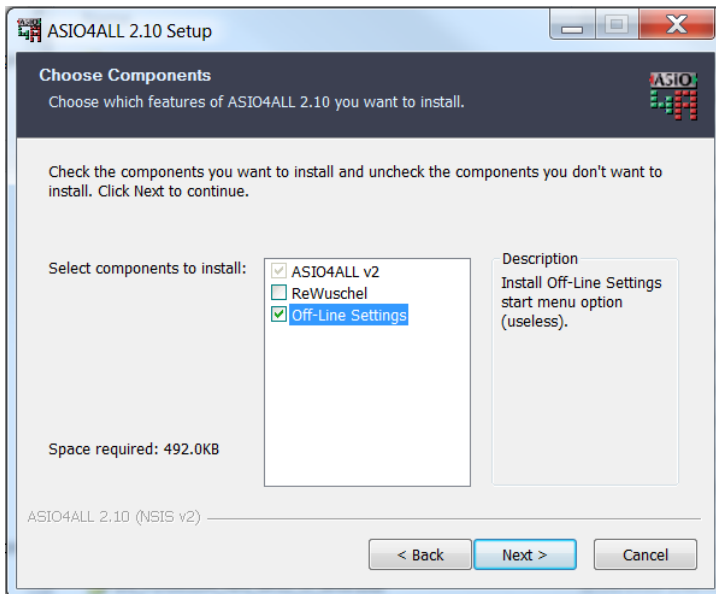
Please note: After the PT Aggregate I/O has been set up, if the Lavry AD11 is disconnected or not powered when the Audio MIDI Audio Devices dialog is opened, it may appear “greyed-out” in the right pane of the dialog when the ProTools Aggregate I/O is selected in the left pane. Powering or re-connecting the AD11 will result in a second “Lavyr ADC” appearing in the right pane; and it is necessary to “un-check” the first instance (grey-out Lavry ADC) and check the new instance to allow the AD11 to be used as an input in PT.

Windows® OS-

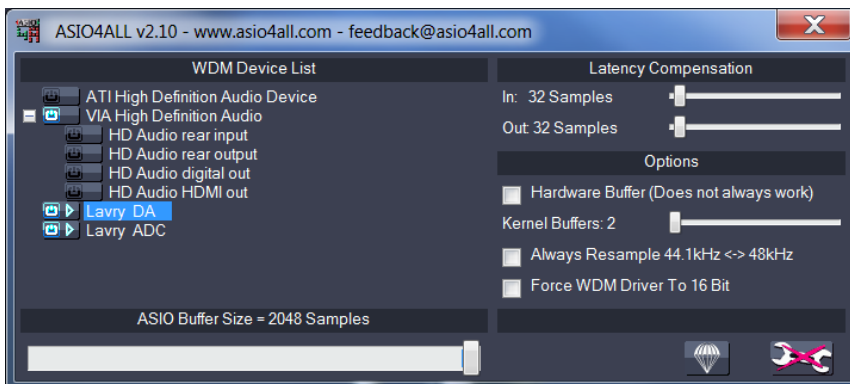
The AD11 appears as a “Microphone” in the OS SOUND/RECORDING control panel when connected via USB. When using the WDM driver there are important settings in the Microphone PROPERTIES section, including sample frequency. However; when using ASIO4ALL as the driver, the SOUND control panel Properties sample frequency setting is effectively “bypassed.” ASIO4ALL also has the advantage of allowing multiple devices to appear as one ASIO device to PT. For example, the USB connected AD11 can be “combined” with the computer’s built-in audio to appear as one device.

The AD11 can work with many audio recording programs using the WDM driver. However, PT requires ASIO drivers, so it is recommended that ASIO4ALL be installed for operation with PT. There are also other applications available to make WDM audio devices appear as an ASIO device; but we have not tested them and there may be additional costs involved. In some cases, other USB/ASIO programs may over-write the Windows USB audio drivers, resulting in ASIO4ALL not functioning in the manner described in this document and the AD11 to no longer appear in the Windows SOUND control panel (no WDM).

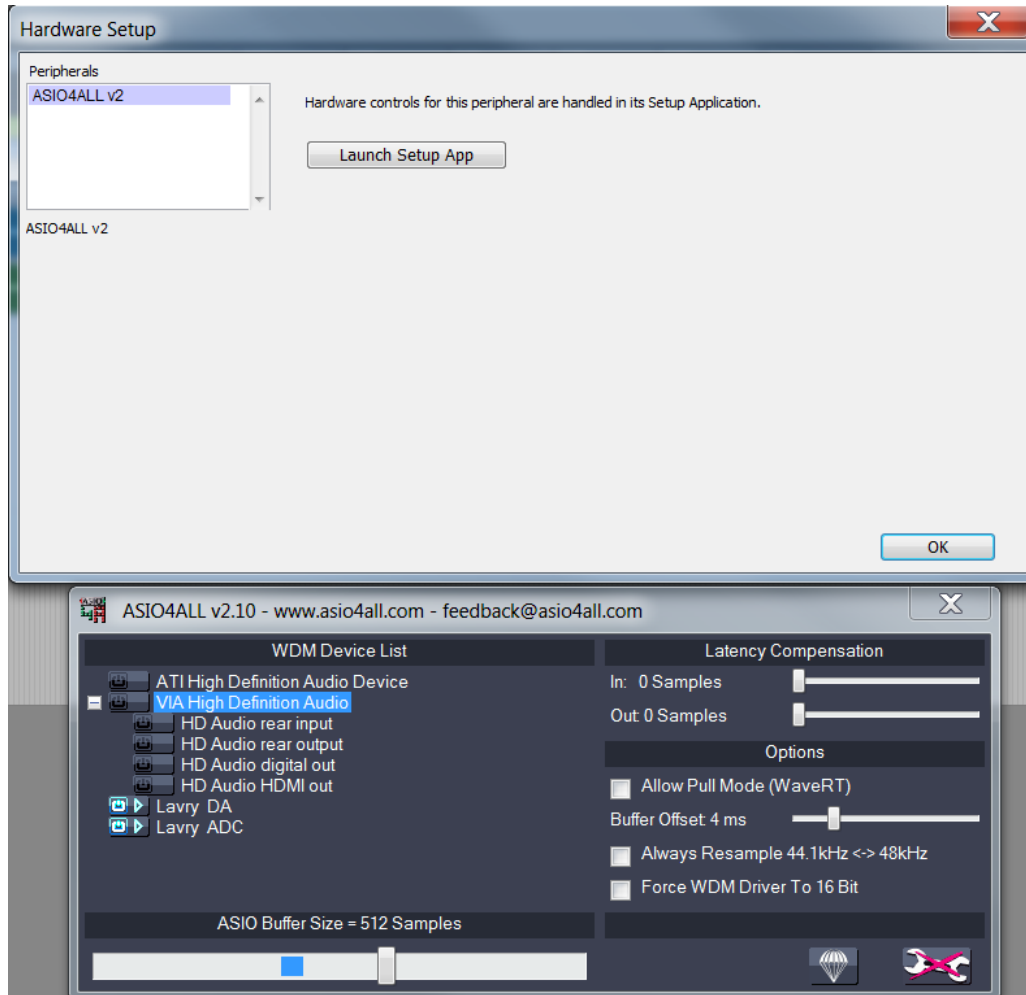
It is recommended that the AD11 be connected and set to the correct sample frequency before opening PT; and the “offline” control panel be installed when ASIO4ALL is first installed:



This allows you to open the ASIO4ALL control panel before opening PT to check that the AD11 and desired output are available. In this example, the LavryBlack DA11 is also connected via USB:

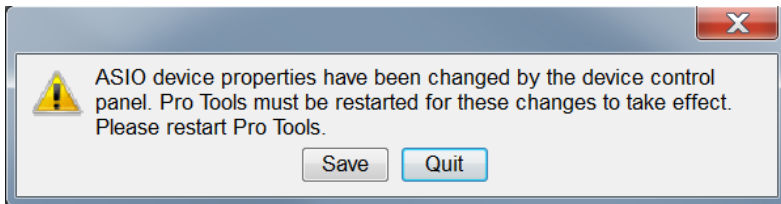


Please note: it is necessary to open the ASIO4ALL control panel by selecting “Hardware” under the PT Setup menu and clicking on the “Launch Setup App” button for changes to take effect in PT. Changes made in the “Offline” ASIO4ALL control panel may be over-ridden when PT opens.

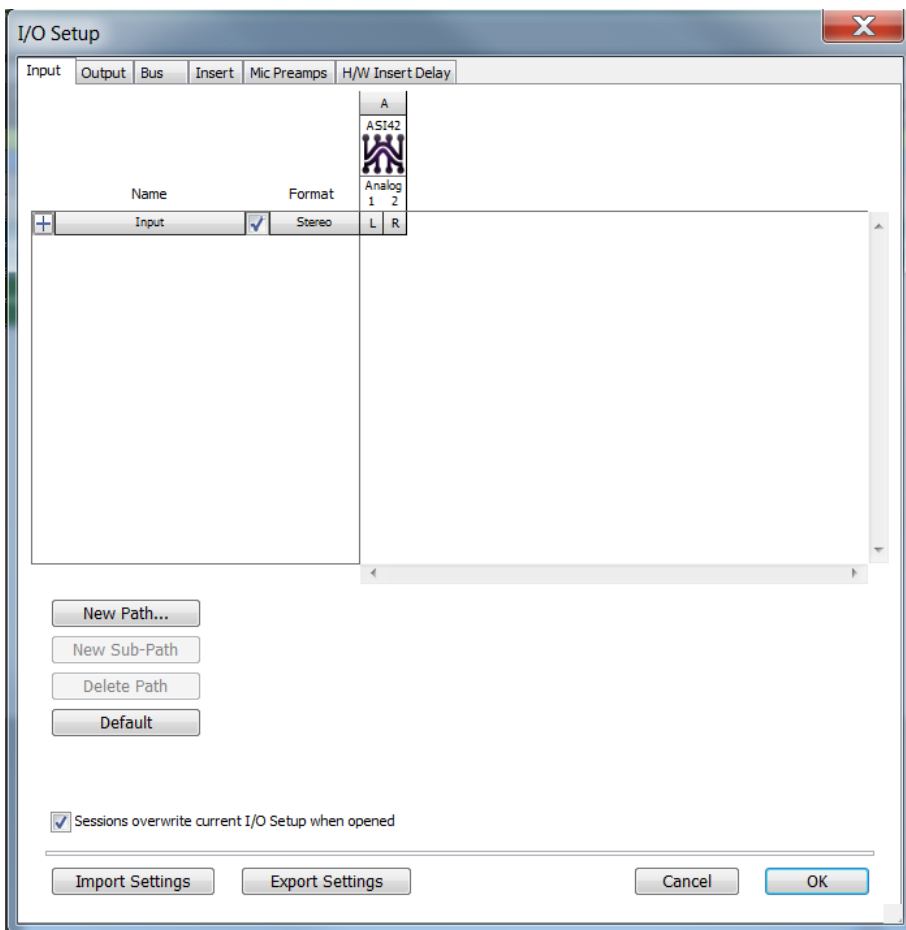


- The “Button” symbol to the left of each device must be “illuminated” (or “green”) for the device to be enabled.
- The arrow between the button and the device name indicates the audio engine is “running.”
- If the wrench symbol in the lower right corner does not have an “X” on it, the Advanced mode is not enabled (the panel is in “Simple” mode). Advanced mode is necessary to see important settings such as “Always Resample 44.1kHz<-> 48kHz” which should NOT have the box checked (the default setting is for this setting/box to be checked!) The Advanced mode also allows complex devices to be “expanded” to show individual inputs and outputs. This can be important to insure there are not duplicate inputs enabled which could cause conflicts. In the example above, the VIA High Definition Audio inputs and outputs are not enabled for this reason.

PT requires the program to be saved, closed, and re-opened when hardware settings are changed. To save time, it is a good idea to try and be certain all of the settings are correct before closing the ASIO4ALL control panel. If a message like this appears, clicking on the red “close window” X will allow further changes to the ASIO4ALL settings before going through the save, close, and open process:



Once the project is re-opened; the input/output routing can be set up in the “I/O Setup” dialog:



5.) ASIO4ALL allows the USB connected AD11 to function simultaneously with a USB connected DA11 in PT. In some instances, it may be necessary to check the ASIO4ALL “Advanced Option” settings to eliminate conflicts with other devices such as internal sound I/O; but operation is reliable once these settings are correct.

For more information, please contact: techsupport@lavryengineering.com