

# PARIS ASIO Driver

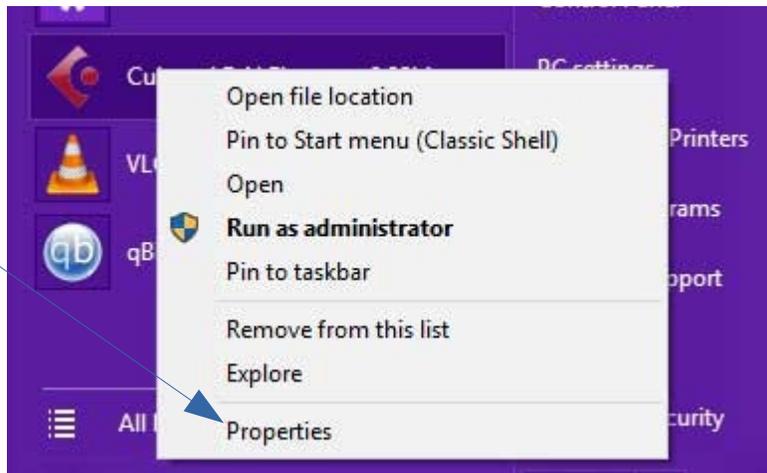
Thank you so much for supporting the development of this driver! When I started this project, I expected that a full featured ASIO driver that supported all MEC expansion options, provided low latency, and allowed the use of the C16 was low hanging fruit. Was I ever wrong! But, it's finally ready to allow the classic PARIS hardware to work with many modern ASIO hosts.

## Overview

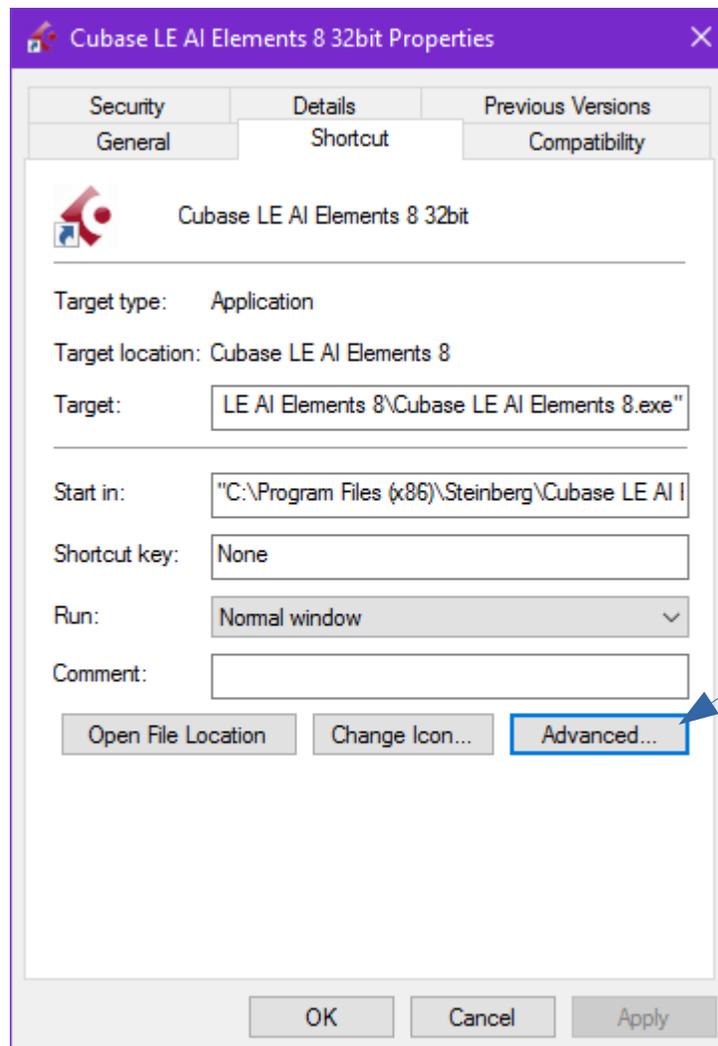
1. The PARIS ASIO driver allows access to 442 I/O, MEC basic I/O, and MEC expansion inputs and outputs at buffer sizes as low as 64 samples. It supports multiple EDS cards. It also allows multiple C16s to be used as a control surface in compatible ASIO hosts.
2. **ASIO hosts (such as Reaper and Pro Tools) must be run as administrator to work with this driver.**
3. **This driver supports both 32 bit and 64 bit Windows Operating Systems.**
4. **The PARIS ASIO driver only supports 32 bit ASIO hosts.** 64 bit ASIO hosts will not work with this driver. This means, for example, that Pro Tools 10 will work, but Pro Tools 11 and 12 will not.
5. Because of changes to the driver signing policy under Windows 10, **this driver will only work under Windows 10 if Secure Boot is disabled in the BIOS.** The mechanism for doing this varies from PC to PC, and it may not be possible to disable secure boot on some newer PCs.
6. Because 256 bit driver signing is not supported under Windows VISTA, this driver will not work under Windows VISTA 64 bit.
7. Because 256 bit driver signing was not supported on the initial release of Windows 7, **Windows 7 64 bit must be patched to use this driver.** More information on the update required can be found here: <https://technet.microsoft.com/en-us/library/security/3033929.aspx>. **Windows 7 64 bit Systems that are automatically updated via Windows Update should work with this driver without any special intervention.**
8. On Windows XP systems, due to a bug in Microsoft's Driver Package Installer, the scherzo driver may not be found during install. The user will have to point the installer to Windows\System32\drivers to tell the Driver Package Installer where to find the scherzo.sys. A dialog will appear during the installation asking where the file is located.

## Running as Administrator

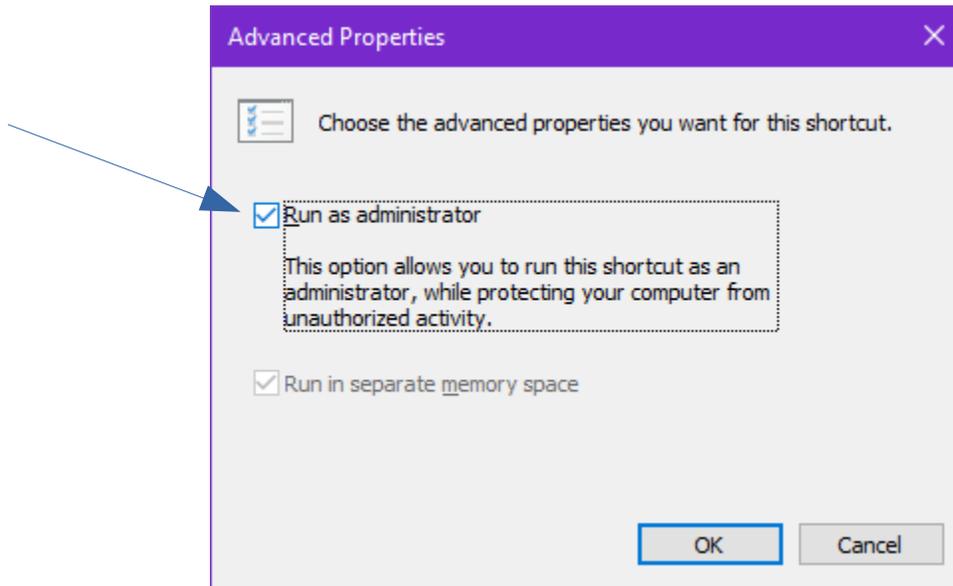
To set up a program to **always run as administrator**, right click on the program icon and select “Properties”



The following dialog will open. Select “Advanced.”

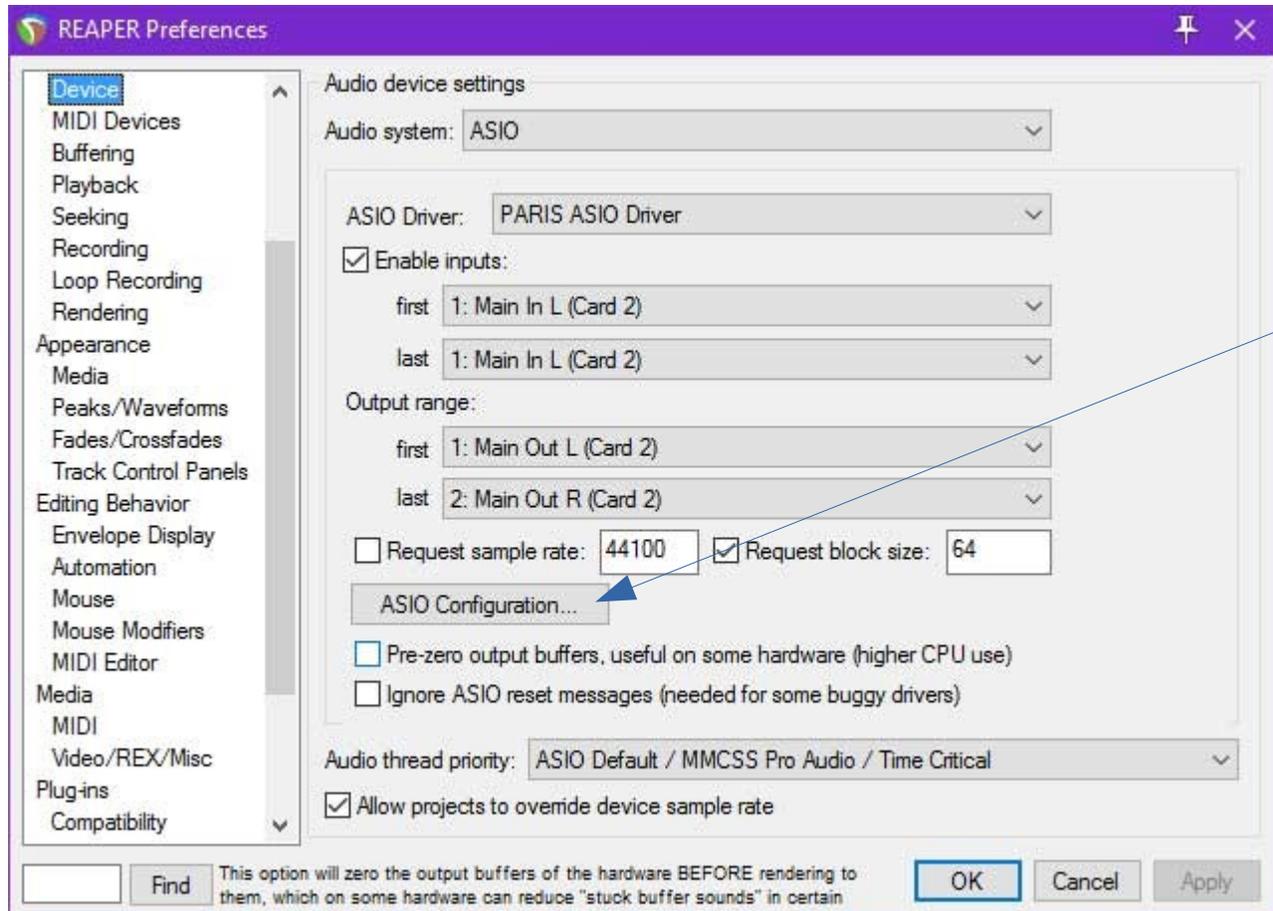


The following dialog will open. Click “Run as Administrator” and then “OK.”

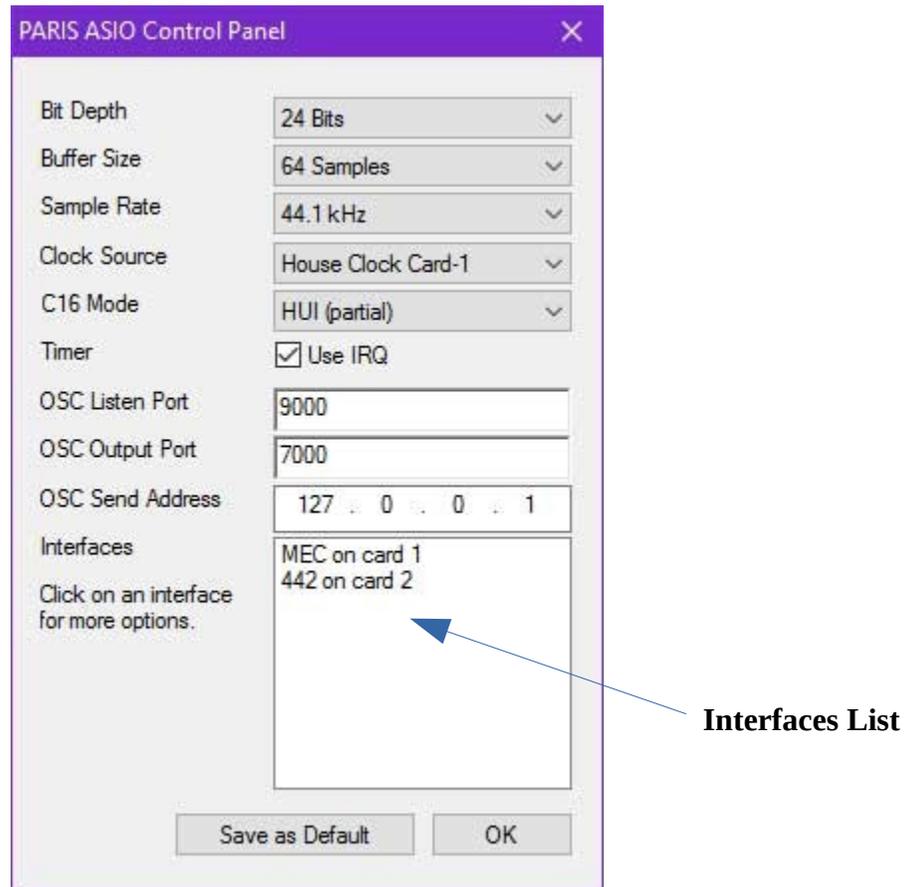


## The ASIO control Panel

Additional features are available via the PARIS ASIO control panel. The exact means of accessing the control panel will vary by ASIO host. For Reaper, to access the control panel, click on “ASIO Configuration” on the “Device” page under “Options/Preferences.”



The following Dialog will appear.



Some of the options are self explanatory. Clicking “Save as Default” will write the settings to the registry. The driver will read and apply them whenever it is loaded from then on. Just clicking “OK” will apply any setting change until the ASIO host is restarted.

**Note: The Bit Depth setting should usually be left at “32 bits.” The 16 bit and 32 bit settings require less CPU usage and provides lower round trip latency. The bit depth setting controls how the audio is transferred from the ASIO host to the EDS 1000 card. The ASIO host can still be configured to save the audio data in 24 bit files if required when 32 bits is selected.**

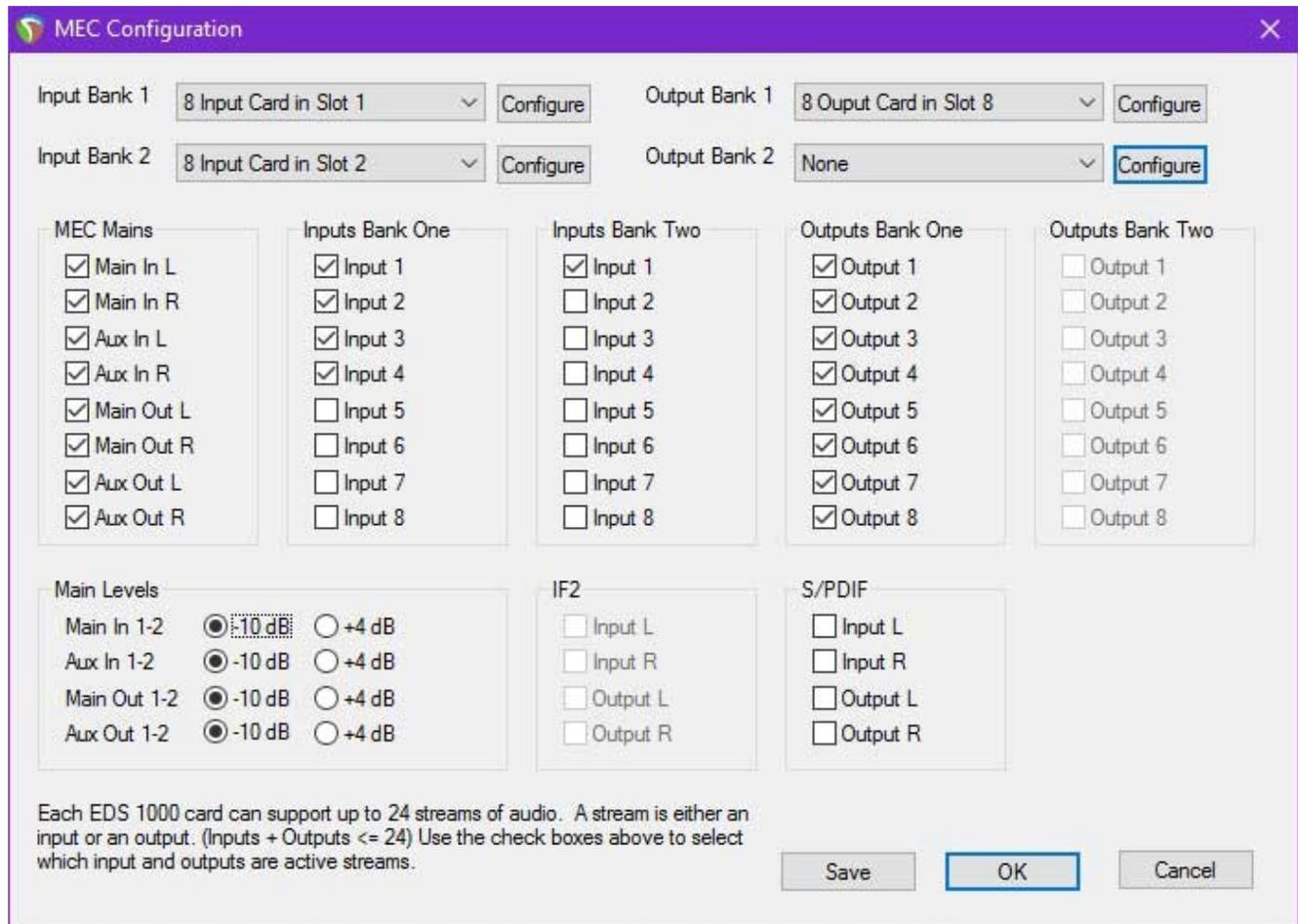
### Additional MEC I/O

The ASIO driver allows access to all MEC expansion I/O options, including 8 input, 8 output, and ADAT cards.

However, each EDS1000 card is limited to 24 streams of audio at one time. That means that the total of active inputs and outputs can not exceed 24 per EDS card.

To configure an audio interface (inputs/outputs, expansion cards, and levels), just click on it in the Interfaces list on the control panel.

The following dialog will appear:



From this dialog, it is possible to select which inputs and outputs are active at any given time (such that they don't total more than 24 per card). It is also possible to select which expansion cards are active and levels (+4dB or -10 dB). Clicking "Save" will write the settings to the registry. They will be read and applied automatically. Just clicking "OK" will apply the settings until the ASIO host is restarted.

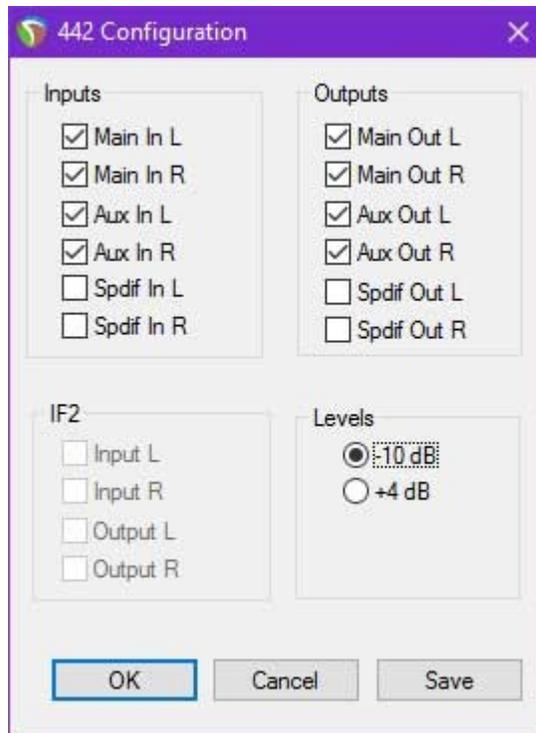
Clicking "Configure" beside an expansion card allows settings its levels (+4 or -10 dB).

**Note: making changes in this dialog can change the assigned I/O selections in the ASIO host. For example, sends may be reassigned because they are based on the index number of the input or output, which can change if an input or output is added or removed.**

**Pro Tools 10 must be restarted after making changes to the I/O selections because it can't accommodate the number of inputs or outputs changing after the application loads.**

## 442 Options

A similar dialog will open for a 442 if it is clicked in the interface list.



**Note:** making changes in this dialog can change the assigned I/O selections in the ASIO host. For example, sends may be reassigned because they are based on the index number of the input or output, which can change if an input or output is added or removed.

**Pro Tools 10 must be restarted after making changes to the I/O selections because it can't accommodate the number of inputs or outputs changing after the application loads.**

## The C16

The C16 is supported as a control surface as part of the ASIO driver. There are three modes available, Reaper OSC, HUI (Partial) and MCP (Partial). The driver supports the simultaneous use of up to 8 C16s (in an 8 card system), though the number of control surfaces may be limited by the ASIO host. The first C16 will control channels 1-16, the second will control channels 17-32, etc.. The right and left arrows will shift the entire collection of C16s up or down one bank, provided the ASIO host supports bank changes.

The green arrow lights will flash to help null the faders just like they do in the PARIS application.

The submix button acts as “clutch,” disabling the output from the C16 faders. This is useful for nulling faders without risking altering a mix. Just press the “Submix” button on the C16 again to re-enable the faders.

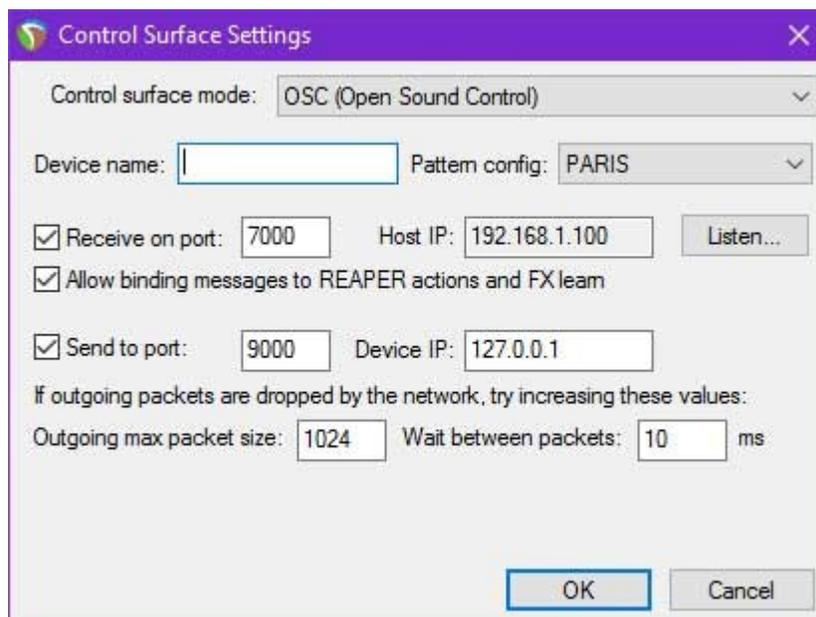
## Reaper OSC

The PARIS ASIO driver will convert C16 actions to Reaper OSC commands if “Reaper OSC” is selected in the “C16 mode” drop down menu in the PARIS ASIO control panel.

Reaper OSC sends an OSC command for every button on the C16. It will send commands to the selected “OSC send Address” and the selected “OSC Output Port” selected in the PARIS ASIO control Panel. It will listen for feedback on the “OSC Listen Port.”

Some of the OSC commands will “just work” in Reaper once it is configured to use OSC. Some will need to be manually associated via the Actions menu because Reaper’s OSC implementation doesn’t have an equivalent command.

To set up OSC support in Reaper, click on “Preferences” in the “Options” menu. Scroll down to the “Control Surfaces” page. Select “Add.” make sure that the settings match the ports and address in the PARIS ASIO control panel. Make sure that OSC is selected, and the Pattern Config show “PARIS.”



## HUI (Partial)

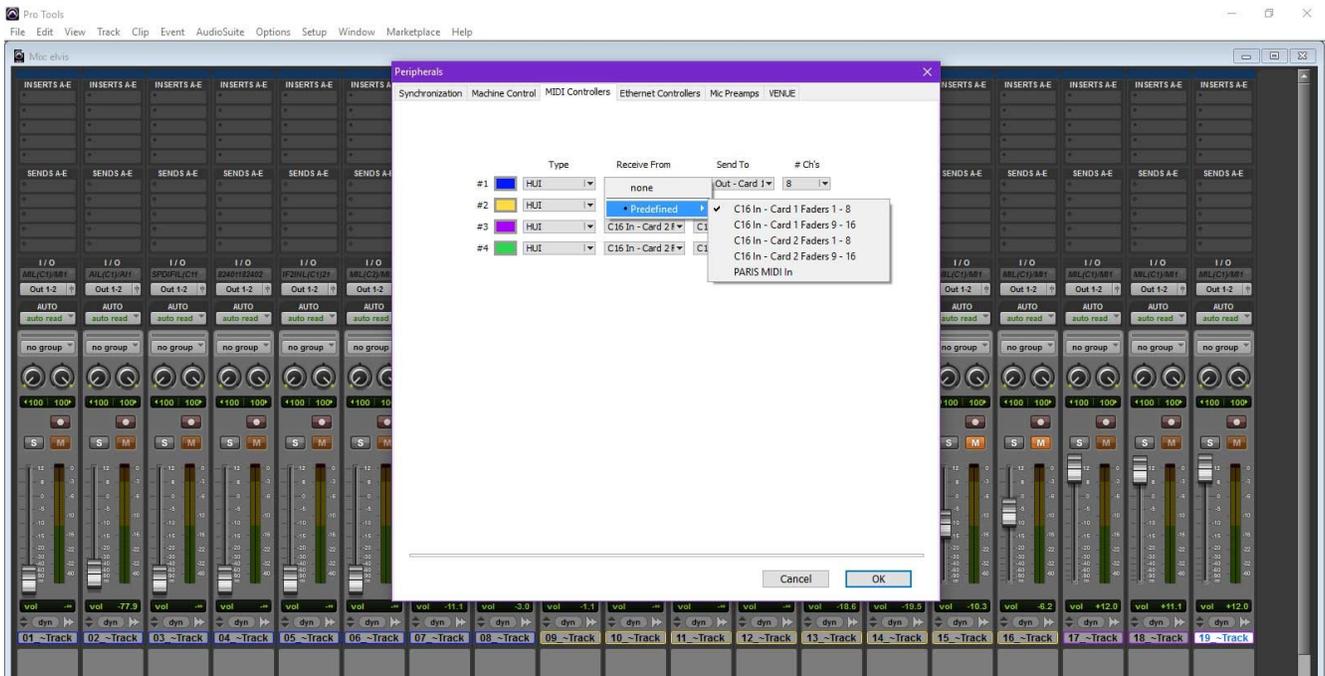
The PARIS ASIO driver will convert C16 actions to HUI commands if “HUI (Partial)” is selected in the “C16 mode” drop down menu in the PARIS ASIO control panel. This option is targeted at Pro Tools 10.

HUI (Partial) makes the C16 appear as much as possible to the ASIO host as a Mackie HUI. Since the buttons on a real HUI are different than a C16, some C16 buttons are not mapped. However, the transport, faders, mute, record enable, and solo buttons are all mapped.

Each bank of 8 faders appears as a MIDI port to the ASIO host.

**Note: upon the very first launch of the ASIO driver, C16s may not appear. The number of C16s attached may not be known until after the MIDI ports are created depending on what order the ASIO host initializes the drivers. For example, Pro Tools 10 loads MIDI drivers before it loads ASIO drivers. The driver will save the true number of attached C16s on first load. Just close and re-open the ASIO host, and the additional C16s will appear.**

In Pro Tools 10, select “Peripherals” in the “Setup” menu. Choose the “Midi Controllers” tab. There will be two midi input ports and two midi out ports for each C16.



## MCP (Partial)

The PARIS ASIO driver will convert C16 actions to Mackie Control commands if “MCP (Partial)” is selected in the “C16 mode” drop down menu in the PARIS ASIO control panel. This option is targeted at Harrison Mixbus.

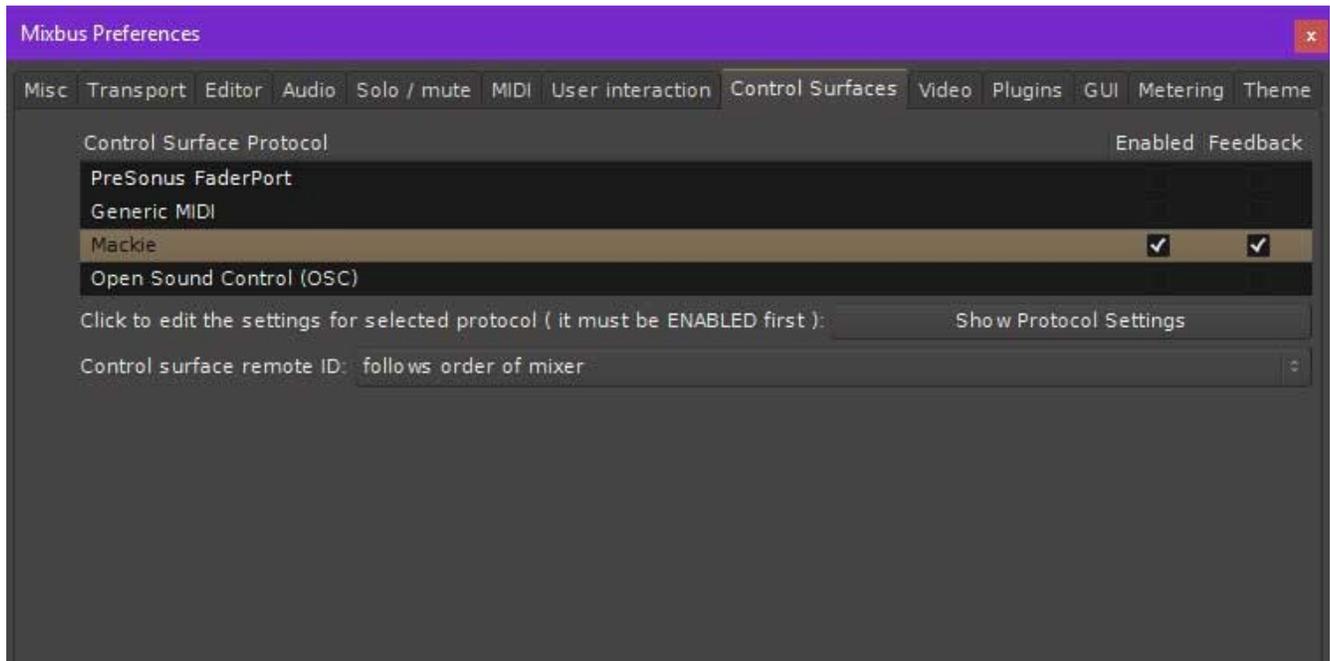
MCP (Partial) makes the C16 appear as much as possible to the ASIO host as a Mackie Control. Since the buttons on a real Mackie Control are different than a C16, some C16 buttons are not mapped. However, the transport, faders, mute, record enable, and solo buttons are all mapped.

Each bank of 8 faders appears as a MIDI port to the ASIO host.

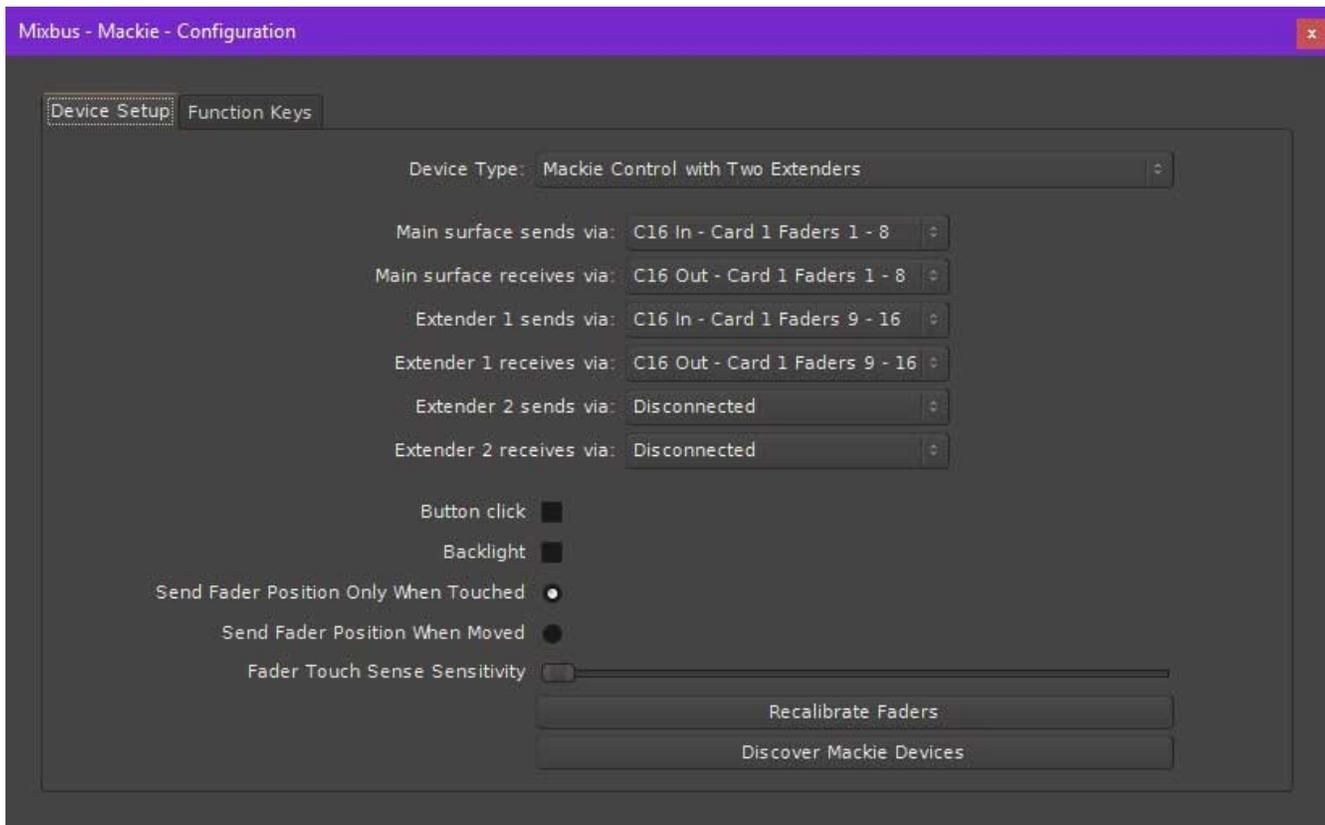
Note: upon the very first launch of the ASIO driver, some C16s may not appear. The number of C16s attached may not be known until after the MIDI ports are created depending on what order the ASIO host initializes the drivers. The driver will save the true number of attached C16s on first load. Just close and re-open the ASIO host, and the additional C16s will appear.

Note: The Mackie Control Protocol includes an initial handshake that is not implemented by this driver. Harrison Mixbus does not require this handshake.

In Harrison Mixbus, select “Preferences” under the “Edit” menu. Select the “Control Surface” tab.



Select “Mackie”, make sure that both “Enabled” and “Feedback” are selected, and click “Show Protocol Settings.” The following Dialog will appear:



For a single C16 setup, select “Mackie Control with One Extender.” You can access the first 8 faders of a second C16 by selecting “Mackie Control with Two Extenders.” Fill in the appropriate MIDI ports in the “Surface sends via” and “Surface receives via” options. There doesn’t appear to be a way to access more than 24 channels of Mackie Control in Harrison Mixbus, unfortunately.