



Virtual Audio Device Guide

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Overview

The Merging **Virtual Audio Device Standard edition** is free of charge and intended for owners of a Network Interface hardware RAVENNA or AES67 compatible who wish to work under Mac OS.

The **Virtual Audio Device Premium edition** is bundled free of charge for owners of a Merging Horus or Hapi who wish to work under Mac OS

Virtual Audio Device driver

Apple's Audio Drivers (Core Audio) is a standardized audio driver system for all Macintosh computers running on Mac OS X allowing access to all Core Audio compatible audio interfaces

System Requirements

Certified MAC Operating Systems (OS) The Core Audio driver is qualified under Mac OS X Yosemite v10.10.5, El Capitan 10.11.1 > and macOS Sierra 10.12

Notes

Virtual Audio Device Standard edition:

- The latency can be set to 48 (AES 67) samples
- Note: effective latency depends on Application buffer size*
- The driver can be used as default device and System (alert) device.
- Mac Parental Controls and Security Firewall should be switched OFF
- Numbers of inputs and outputs available • 1fs (44.1kHz / 48kHz) = 64 I/O

Note: The number of I/Os could be less if the application does not support these numbers

Warning: If you encounter issues such as glitches, reduce the IO count, since Performance is dependent on system Performance & Configuration

Virtual Audio Device Premium edition:

- Requires one Merging Network Interface Hardware (Horus or Hapi) on your network
- The latency can be set to 16, 32, 48 (AES 67), 64, 128 or 256* samples

Note: effective latency depends on Application buffer size

** with version 2.0.33746 and above*

- The driver can be used as default device and System (alert) device.
- Mac Parental Controls and Security Firewall should be switched OFF
- Numbers of inputs and outputs available 128 I/O at all sampling rates

Note: The number of I/Os could be less if the application does not support these numbers

Warning: If you encounter issues such as glitches, reduce the IO count, since Performance is dependent on system Performance & Configuration

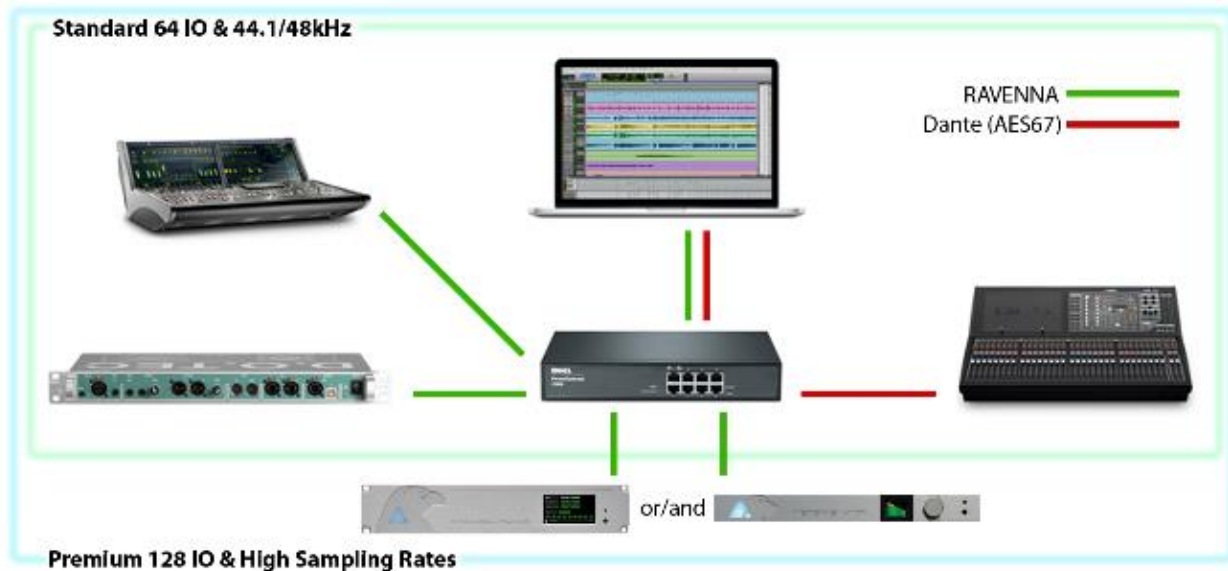
RAVENNA/AES67¹ Virtual Audio Device Specifications:

Driver	RAVENNA/AES67 ¹ Virtual Audio Device	
	STANDARD Edition	PREMIUM Edition
Requirements	Any AES67 compatible device	At least one Merging Network Interface hardware (Horus or Hapi)
Operating System MAC OS X	Yosemite 10.10.X - ElCapitan 10.11.X - macOS Sierra* 10.12.X	Yosemite 10.10.X - ElCapitan 10.11.X - macOS Sierra* 10.12.X
Latency	48 (AES67) samples only	16** - 32 - 48 (AES67) - 64 -128 samples
Sampling rate supported	44.1/48kHz	44.1/48kHz, 88.2/96kHz, 352.8/384kHz, DSD64, DSD128, DSD256
I/O @ 44.1/48kHz	64 Inputs and Outputs ²	128 Inputs and Outputs ²
I/O @ 88.2/96kHz	Not Available	128 Inputs and Outputs ²
I/O @ 176.4/192kHz	Not Available	128 Inputs and Outputs ²
I/O @ 352.8/384kHz/DSD	Not Available	128 Inputs and Outputs ²
MIDI Pre Amps	Not Available	MIDI Pre Amps support (via the AVID PRE protocol)
Bundled application	MT Discovery - ANEMAN*	MT Discovery & ANEMAN*

¹ SAP implemented in device so need for a RAVENNA-2-SAP (note that SIP is not supported)
² The I/O performance will vary with the system configuration.
 * As of Virtual Audio Device version 2.0.33383 and above
 ** As of Virtual Audio Device version 2.0.31254 and above

STANDARD version: Free with any RAVENNA/AES67 Hardware compatible device

PREMIUM version: Bundled free for owners of a Merging Network I



Installing the Merging Virtual Audio Device

Prerequisites

The Merging **Virtual Audio Device** driver can be installed as a stand-alone driver, at least one Network hardware RAVENNA or AES67 compatible is required for the Driver to be operational.

OS

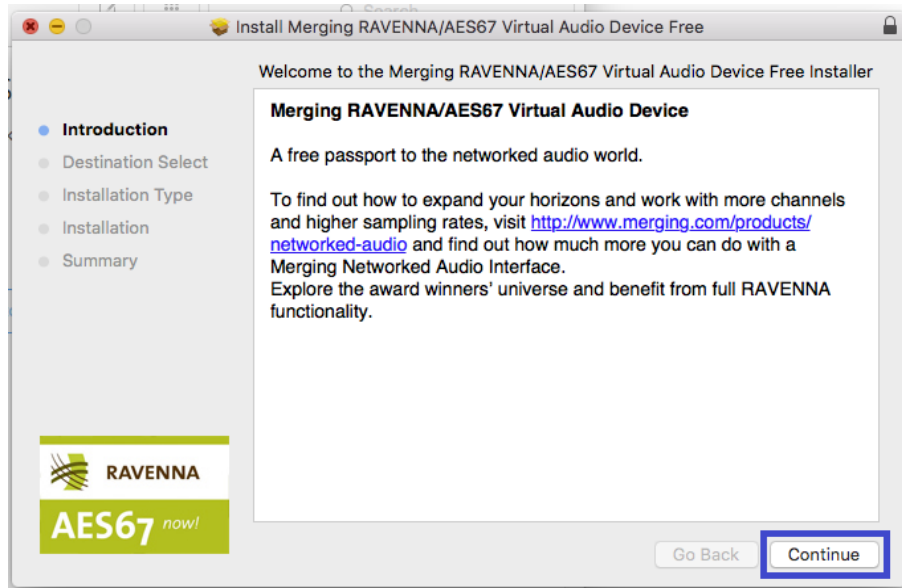
Core Audio driver is certified under Yosemite v10.10.X, El Capitan v10.11.X and macOS Sierra 10.12.X

Installation Procedure

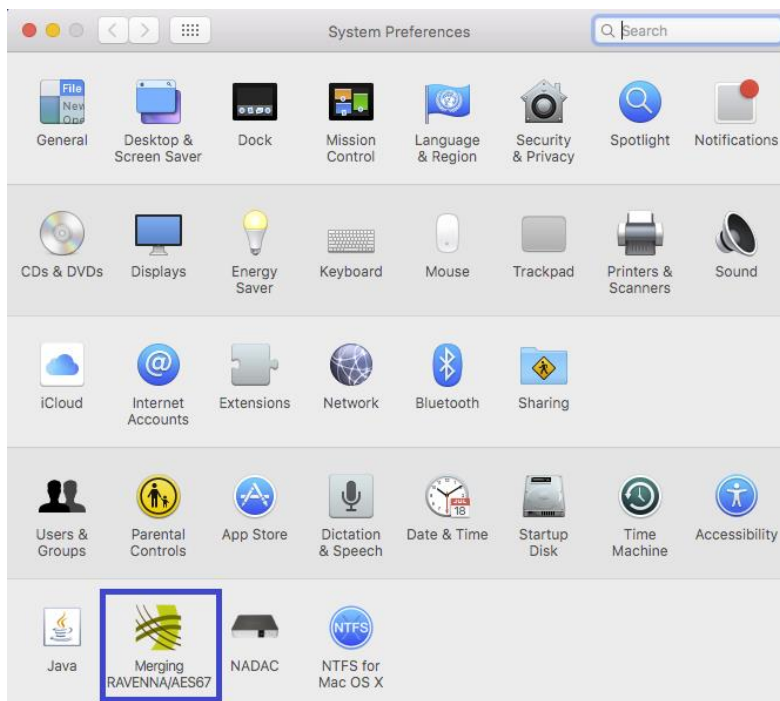
1. Download the Merging **Virtual Audio Device** Installer for MAC.
<http://www.merging.com/products/networked-audio/downloads>
2. Open the Merging_RAVENNA_AES67_VAD_Standard_Installer.dmg file and mouse click on it



3. Click on Continue to proceed with the installation.



4. Follow the installer instructions. You will be prompted to enter the Administrator password
5. When the install is complete it will display Successful. Click Close to exit.
6. Restart the MAC after the driver installation is completed.
7. Go into MAC System Preferences, in Other open the Merging RAVENNA icon.



8. Configure the **Virtual Audio Device** Settings:



Interface:

Lists all available network ports. Select the network port the Network Interface is connected to.

- Gray: No interface or interface not properly configured, preventing driver to run
- Green: Driver properly running and Interface at 1Gb
- Yellow: Interface at 100Mb
- Red: Potential security issue

Latency:

Fixed at 48 samples for AES 67 compliance (Standard)

16*, 32, 48, 64, 128, 256 samples (Premium)

** As of version 2.0.31254 and above*

Frequency:

Standard: Fixed at 44.1kHz or 48kHz

Premium: 44.1/48kHz, 88.2/96kHz, 176.4/192kHz, 352.4/384 kHz, DSD64, DSD128, DSD256

Number of Channels:

Inputs: • 0,2,8,16,32,40,48,56,64 (Premium goes up to 128)

Outputs • 0,2,8,16,32,40,48,56,64 (Premium goes up to 128)

Status

- Driver:
 - Gray: Driver stuck
 - Green: Driver properly running
 - Red: Potential security issue
- PTP*:

- Green: PTP locked
- Yellow: PTP locking
- Red blinking: PTP unlocked

** PTP slave only supported.*

Online RAVENNA Devices:

The panel shows an icon for each RAVENNA device online.

- Clicking on the computer icon opens the Advanced Settings RAVENNA pages
- Clicking on the RAVENNA/AES67 Network Hardware icon opens the web browser and loads the Remote Access web pages.

Advanced Settings:

Will open the Advanced Settings pages, this can be useful in order to connect 3rd party hardware IO to the VAD. Refer to our Advanced Settings Guide for more details.

<http://www.merging.com/uploads/assets/Installers/ravenna/Merging%20Advanced%20Settings%20guide.pdf>

Launch ANEMAN:

Will open ANEMAN an Audio NETwork MANager, that will allow you to connect, monitor, and manage your networked audio devices.

Refer to the ANEMAN User Guide installed along the VAD for all details

9. Configure the application you wish to use (DAW) so that the I/O connections use the **Virtual Audio Device**

Input or Outputs connections

Virtual Audio Device Standard:

Users should refer to the **Configure Merging and AES67 devices guide** for more details

<http://www.merging.com/products/networked-audio/downloads>

This guide should also be installed along with your **Virtual Audio Device** driver

Virtual Audio Device Premium:

Users can use ANEMAN or RAVENNA Easy Connect installed along with the Device Driver to perform their IO connections. Refer to the ANEMAN user manual or the Easy Connect guide, installed along the VAD.

Remote MIDI Pre control (for Premium users only)

The Remote PreAmp control are available only with the Virtual Audio Device **Premium** version

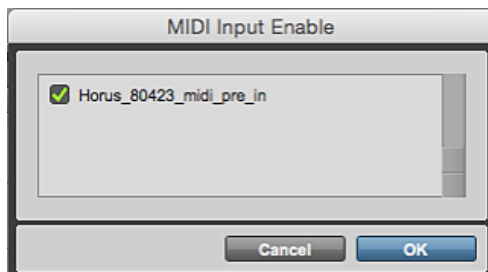
Pro Tools on Mac

Horus / Hapi analog preamps can be controlled directly from within Avid Pro Tools running on a Mac. (using Virtual Audio Device Premium). In order to set Pro Tools up for Horus / Hapi preamp control follow this procedure:

1. Check the Horus / Hapi firmware version and update if necessary to the latest version.
2. Connect Horus / Hapi to the system running Pro Tools through the Ethernet port.

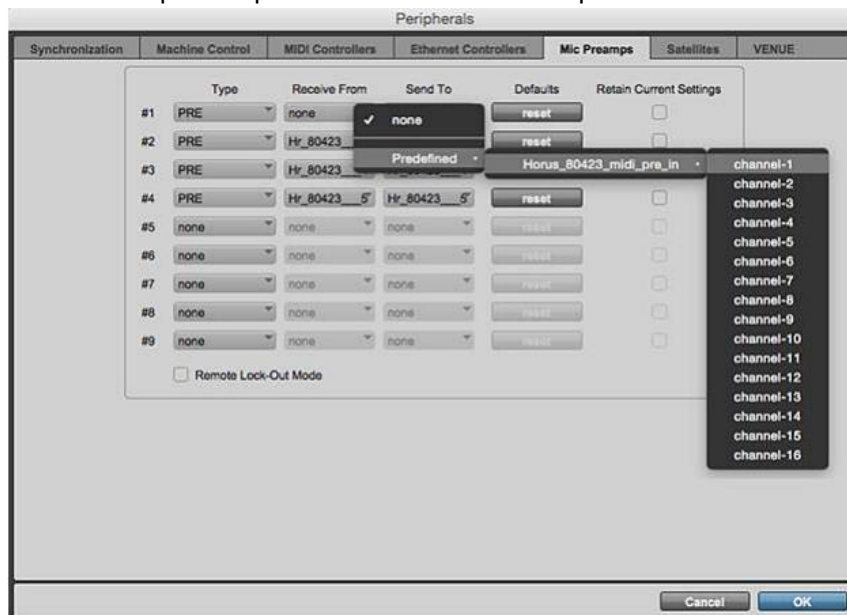
Within Pro Tools

3. Launch Pro Tools and configure to work with RAVENNA Core Audio I/O.
4. Open Pro Tools Setup>MIDI>Input Devices...:



Mac MIDI Studio Panel

5. Enable the Merging RAVENNA interface (Horus or Hapi).
6. Open Pro Tools>Setup>Peripherals Settings.
7. In the Peripherals panel select the Mic Preamps tab:



Peripherals panel - Mic Preamps tab

8. Select in order:

Type **PRE**
Receive **From Horus_80xxx_midi_pre_in**
Send To **Horus_80xxx_midi_pre_out**

Note:

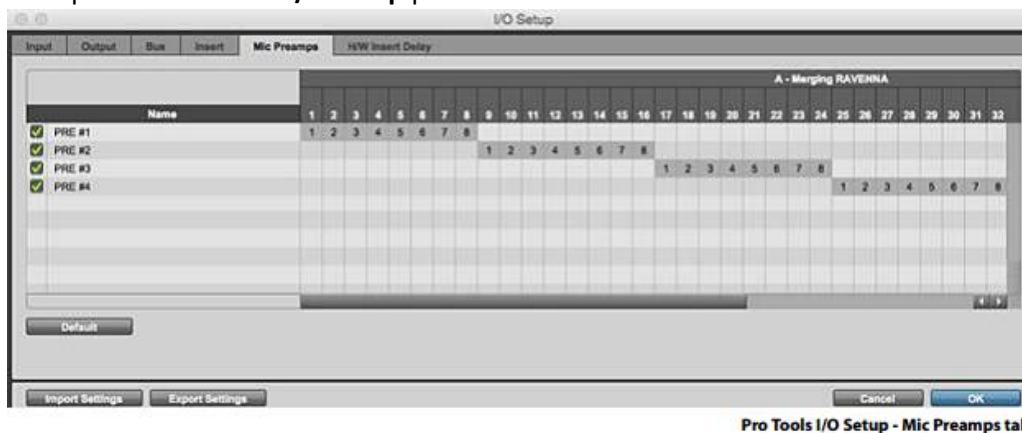
- For the first AD module Receive From > Channel 1 and Send To Channel 1 must be set.
- For the second AD module Receive From > Channel 2 and Send To Channel 2 must be set.
- For the third AD module Receive From > Channel 3 and Send To Channel 3 must be set.
- For the fourth AD module Receive From > Channel 4 and Send To Channel 4 must be set

Warning: Verify the order of your AD modules (in the Horus/Hapi slots) as the Channel numbering is based on slot position.

9. Click on OK to close the Peripherals panel.

Within Pro Tools

10. Open the Pro Tools **I/O Setup** panel:



11. In the **Mic Preamps** tab enable **Horus PRE #1** etc. check the boxes to the left of the entries.
 12. Click on OK to close the **I/O Setup** panel.

The Horus / Hapi Preamp controls will be available within Pro Tools when the Horus / Hapi Preamps are connected to the Pro Tools Mixer Strip Inputs.

Troubleshooting

RAVENNA Core Audio Settings

For proper driver functioning check that the RAVENNA Core Audio panel is showed with all LEDs showing green.

Note: When the interface is shown as available (yellow or green led), the system could take some time to configure the interface (several seconds).

Latency and Clicks

Audible pops and clicks can occur when using some third-party audio interfaces or depending on the speed of the processor. To avoid this problem increase the Hardware Buffer size for the device. You should aim for the lowest possible I/O buffer size value that doesn't introduce clicks, pops, and crackles in the audio. If pops and clicks persists try reducing the IO count in the VAD panel.

Security Firewall

The Mac Firewall can block RAVENNA/AES67 communication, we recommend that you turn it off



Privacy

We recommend that you disable the Parental control as well

Uninstalling the Merging Virtual Audio Device:

Use the uninstaller to remove the Merging Virtual Audio Device installation cleanly

