



## Guide for installing DAD Thunder|Core Thunderbolt 3 driver

### Introduction.

This document describes the procedure for installing the DAD Thunder|Core Core Audio Thunderbolt 3 driver on an Apple Mac computer. At the moment an ASIO driver for Windows PC is not available but it will be available once we have the commercial release of Thunder|Core.

DAD Thunderbolt 3 Core Audio Driver: v.1.1.9.4 beta  
Compatible with macOS 11/Big Sur and macOS  
12/Monterey on Apple Silicon/M1 and Intel Computers  
Note this version is an internal release and still in beta

The Thunderbolt 3 driver will work with the DAD Thunder|Core enabled products. Currently this will be the **Core 256** Thunder|Core 1024x1024 digital Router and Monitoring interface.

In order to manage the Core 256 interface the DADman software must be installed. Currently the internal version of DADman for Mac is version 5.6.2.7. Note that The DAD Thunderbolt 3 driver and DADman are two different applications which are not connected or mutually dependent.

The Thunderbolt 3 driver enables the DAD Thunder|Core interface to be accessible via the Audio MIDI application on the Mac as an audio device for other audio applications on the computer.

Please refer to the release note for documentation of the latest DADman and driver software and product firmware.

### Installation of DAD Thunderbolt 3 driver

The driver software has to be installed completely before it can work properly.

When you install the driver it is of no importance if you have units or other peripheral devices connected to the Thunderbolt 3 / USB-C port on the computer. In the process described below there are no devices connected before installation.

The installation sequence is the following:

1. Copy the driver .pkg file to the computer desk top and double click in order to start installation
2. Follow the installation instructions click *Next* and then *Install*.
3. Enter Administrator password and click *Install*
4. If the driver has not been installed before on the computer you get the message "System extension blocked". Click on *Open Security Preferences*. (see figure 1)
5. In the "Security and Privacy" window you have to click on the lock symbol in the bottom left corner and unlock settings and click *Allow*. (see figure 2 and 3)



- Restart the Computer and open the Thunderbolt 3 driver application, and connect the DAD Thunder|Core interface to the USB-C/Thunderbolt 3 port on the Computer. Make sure that you are using a high-speed (20Gbps) Thunderbolt 3 USB-C cable.

In order to configure the driver settings please refer to the Driver Operation section below.

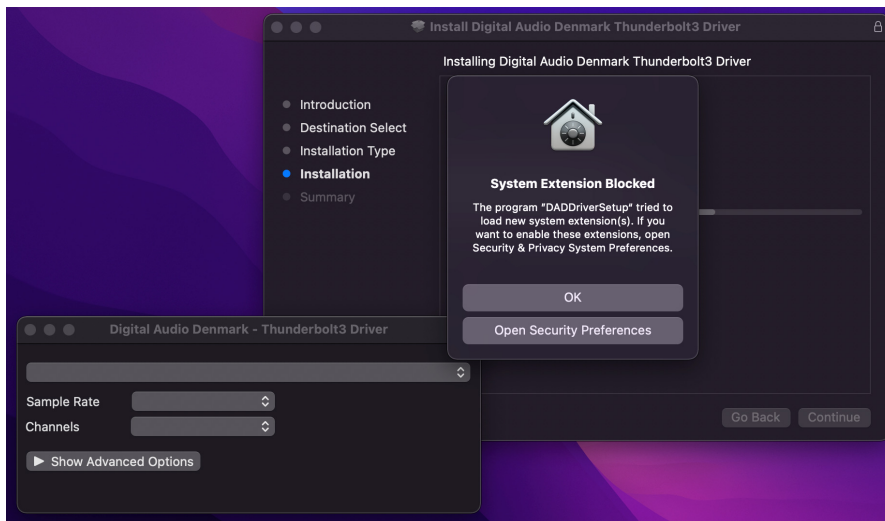


Figure 1, System Extension Dialogue

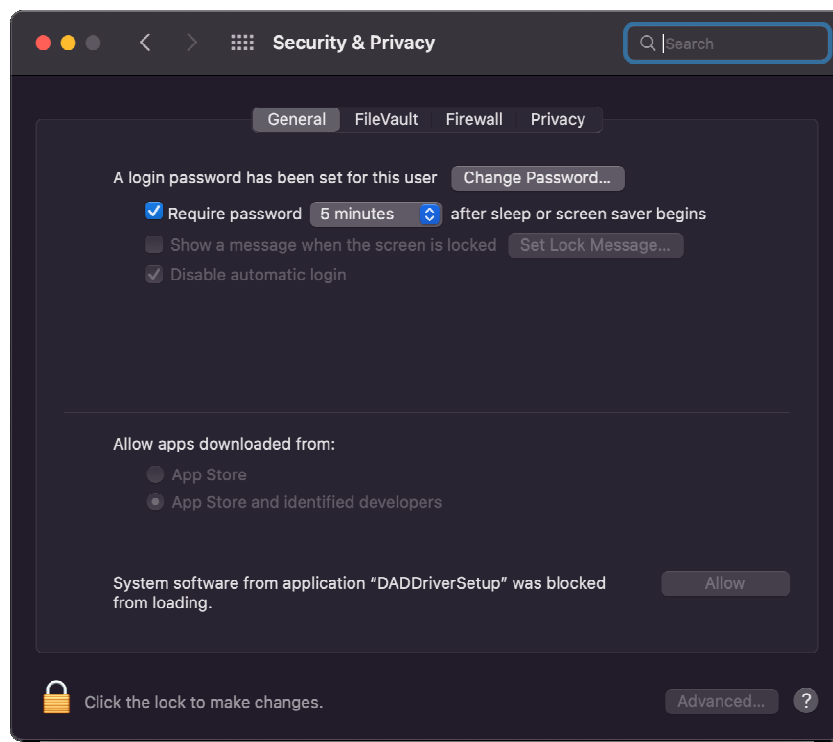


Figure 2, Unlocking Security Settings

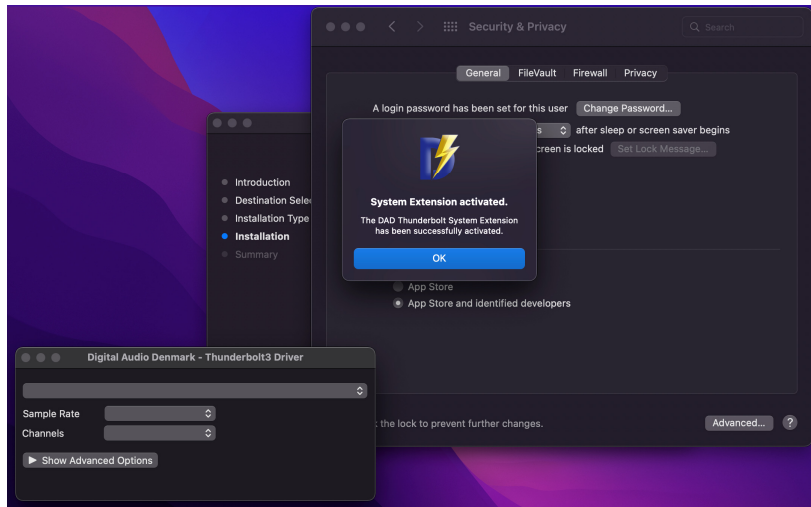


Figure 3, System Extensions Activated

## Driver Operation



Once the driver is installed and a DAD Thunder|Core interface is connected to the Thunderbolt 3 / USB-C port on the computer, the driver can be set-up with the relevant configuration by opening up the DADDriverSetup application.

The driver application configuration window is shown below.

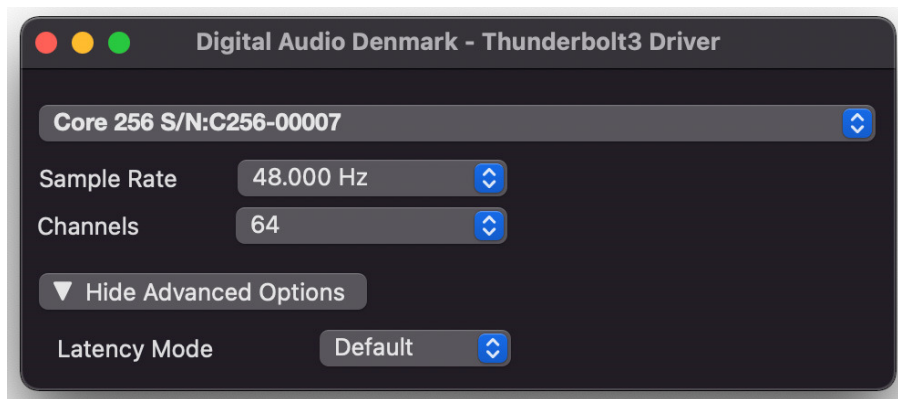


Figure 4, Driver application configuration

### Device Selection

In the first line in the dialogue, selection of the DAD Thunder|Core interfaces attached to the driver is made. If more devices are daisy-chained on the Thunderbolt 3 / USB-C port, any of these devices can be selected.

### Sample Rate

The second line enables selection of the sample rate of the audio transferred via the driver and the Thunderbolt 3 connection.

The following sample rates can be selected: 44.1, 48, 88.2, 96, 176.4, 196, 352.8 and 384 kHz



### Channels

The third line enables the number of channels that is set-up via the driver, and thereby the number of channels that is visible for the device in Core Audio / Audio MIDI set-up. (see figure 5).

Note that all DAD Thunder|Core interfaces support 256 bi-directional channels in the audio hardware.

The following bi-directional channel groups can be selected: 16, 64, 128 and 256 channels

### Advanced options, Legacy mode

An additional setting is Legacy Mode which configures the hardware buffer in the DAD Thunder|Core interface.

Legacy mode can be set to: Default or Low

Note that the buffer size for the actual audio transfer is set in the audio application (DAW or similar) which is attached to Core Audio.

In Low mode, latency is reduced with approx. 100 us below the latency defined by the audio buffer size eg. 32, 64...256 samples. Note that this mode has to be used with care and only if the computer and application can manage a low buffer configuration without performance problems.

Below is shown the appearance of the DAD Thunder|Core interface when shown in the Audio Device widow. The Format will reflect the setting made in the driver. The format can also be set-up via the Audio Device window.

Note that the configuration will apply for both input and output

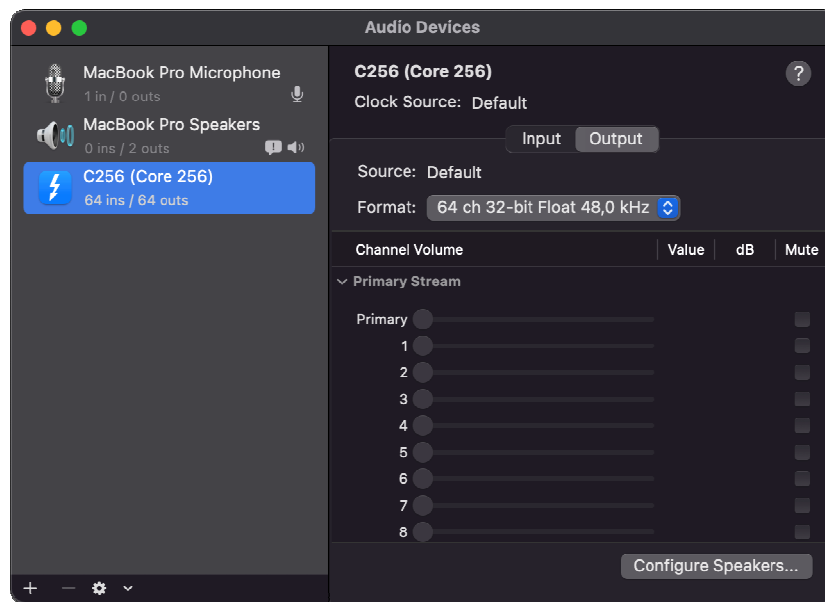


Figure 5, Audio MIDI set-up window