

# **Quickstart USB.IO**

This document informs about the driver installation and the basic operation of the DirectOut USB.IO. For more detailed information please consult the user manual available at https://www.directout.eu/product/usb-io/

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# Installation macOS - Driver

This chapter informs about the installation of the USB driver for the USB.IO on macOS.

There are two methods to install the driver:

- Driver Extension (DEXT) aka Driver Kit (DK)
- Kernel Extension (KEXT)

The use of Driver Extensions is recommended by Apple since macOS 10.15 and higher. The installation of Kernel Extensions requires additional steps on M processors during installation due to the strict system security policy of macOS. By design kernel extensions may be more performant.

It's beyond the scope of this document to list the differences between Driver Kit and Kernel Extension.

Both methods are supposed to offer best user experience. However it might happen depending on the circumstances that one is superior to the other.

For more information please refer to: https://rme-audio.de/driverkit-vs-kernel-extension.html



## Installation macOS - Driver Kit

This chapter informs about the installation of the USB driver (Driver Kit) for the USB.IO on macOS.

#### **System Requirements**

- macOS 11 or higher, Apple Silicon (M processor), Intel
- USB 3.0 or 2.0 port
- USB-C cable
- Administrative privileges

The Driver Kit installs the driver extension (DEXT) to the operating system.

- Download the driver from https://rme-audio.de/downloads.html Select product 'USB.IO', specify the operating system, select 'Driver', select file 'driver\_usbdk\_mac\_<xx>.zip'
- 2. Connect the USB.IO with your computer
- **3.** Launch the installer package





**4.** After the installation of the Driver Kit package you will be prompted by the system that the new extension has been blocked. Open the System Settings 'Privacy and Security'.



5. Click 'Allow' (E) or 'Erlauben' (D) both times

	Sicherheit	
Müller Christian		
	Apps erlauben, die geladen wurden von App Store	
Familie	• App Store und verifizierten Entwicklern	
WLAN		
Bluetooth	Laden der Systemsoftware des Programms " wurde blockiert.	Fireface USB Settings.app"
Netzwerk		
VPN	<b></b>	Erlauben
Mitteilungen	Verbinden von Zubehör erlauben	Bei neuem Zubehör fragen 🗘
Ton		
Fokus	FileVault	Ein >
Bildschirmzeit	Blockierungsmodus	Aus >
Diaboninizor	Diockierungsmodus	AUS /
Allgemein		
Erscheinungsbild	Andere	
Bedienungshilfen	Erweiterungen	>
Kontrollzentrum	Profile	>
Siri & Spotlight	- Frome	· · · · · · · · · · · · · · · · · · ·
Datenschutz & Sicherheit		Weitere Optionen ?
Schreihtisch & Dock		



6. The driver dialog will open.

operties For:	01454)		
ME USB.IO (242	21454) 😒	Firmware: v6	Driver: v4.10
Sample Rate			
	48 kHz		
Options			
Sample Rate	48000 Hz		
Clock Source	Device Clock	0	
Current Clock:	Device Clock		
Clock Input Status	5		
Device Clock	Sync	48 kHz	
Bus			
USB3 Iso	Transfer Mode	CRC Errors: 0	
Short Safety (	Offset		



## Installation macOS - Kernel Extension

This document informs about the installation of the USB driver (Kernel Extension) for the USB.IO on macOS.

#### **System Requirements**

- macOS 11 or higher, Apple Silicon (M processor), Intel
- USB 3.0 or 2.0 port
- USB-C cable
- Administrative privileges

The driver is installed as kernel extension (KEXT) to the operating system.

- 1. Change System Security Settings using Startup Security Utility
  - Boot the M1 or up computer in Recovery mode (turn it on with the power button pressed until the screen shows the startup options are loaded)
  - Select Options, then your language
  - In the top menu go to Utilities-> Startup Security Utility. Select the system where the RME drivers will be installed
  - Continue with-> Security Policy
  - Select Reduced Security-> Allow user management of kernel extensions from identified developers
  - Reboot you computer



NOTE

To install the kernel extension on a Mac with Intel processor step 1 is not required.



- Download the driver from https://rme-audio.de/downloads.html Select product 'USB.IO', specify the operating system, select 'Driver', select file 'driver\_usb\_mac\_<xx>.zip'
- **3.** Connect the USB.IO with your computer
- 4. Launch the installer package
- Before the reboot for finishing the driver installation: Open 'System Preferences, Security & Privacy', tab General.



macOS Ventura (13)

Click the lock symbol to unlock, then confirm using the RME GmbH kernel extension.

A login password has bee	n set for this use	r Chang	e Password	
☑ Require password	immediately	after slee	p or screen sa	ver begins
Show a message v		is locked	Set Lock Mess	
Disable automatic	login			
Allow apps downloaded f	rom:			
App Store				
<ul> <li>App Store and ide</li> </ul>	ntified developer	8	_	
			. II	-
System software from de from loading.	veloper "RME Grr	bH" was bl	scked	Allow
	veloper "RME Grr	ibH" was bl	ocked	Allow

macOS Big Sur (11) & Monterey (12)

6. Reboot the computer to complete the installation.

For more information please refer to: https://rme-audio.de/rme-macos.html



## Installation Windows - Driver

This document informs about the installation of the USB driver for the DirectOut USB.IO on Windows.

#### **System Requirements**

- Windows 10 or higher
- USB 3.0 or 2.0 port
- USB-C cable
- Administrative privileges

The RME MADIface Driver Installer Wizard installs the USB driver to the operating system.

- Download the driver from https://rme-audio.de/downloads.html Select product 'USB.IO', specify the operating system, select 'Driver', select file 'driver\_madiface\_win\_<xx>.zip'.
- 2. Connect the USB.IO with your computer
- 3. Launch the installer package and follow the instructions

RME Driver Installer	
	Willkommen beim RME MADIface Driver Installer Wizard
Щ	Dieser Driver Installer Wizard installiert und aktualisiert die Treiber der folgenden RME Geräte: UFX+, UFX II, MADIface XT / Pro / USB, OctaMic XTC, ADI-2 Pro / AE / DAC, Digiface USB / AVB / Dante
F	06/06/2024,0.9.843.0
<b>[</b> /	
	Klicken Sie auf "Weiter", um den Vorgang fortzusetzen.
	< Zurück Weiter > Abbrechen



**4.** After the installation of the RME Driver Installer you need to restart the computer.



5. Driver dialog

/IADIface Series Se	ettings			?	×
USB.IO (1) About	]				
Buffer Size (Later	ncy) 1024 Samples ~		nosis 0   0   0 0 crc32 err / 0	.1 min	
WDM Devices	Configure	0	Stereo	~	
Options					
Clock Mode					
Sample	48000 Hz	~			
Clock	Device	$\sim$			
Input Status					
Device	Sync		48 kHz		



# **Class compliant / LED codes**

Operating the USB.IO in class compliant mode (CC Mode) does not require an installed RME driver.

There are good reasons to use the RME driver:

- TotalMix software is installed with the driver and can not be used in CC Mode.
- RME driver is highly tuned to the hardware and offers better performance than the class compliant version of the operating systems.
- On Windows many DAWs require ASIO driver, which is not available for the CC driver.

#### When to use CC Mode?

Class compliant mode is interesting for systems where the use of the RME driver is not possible - e.g. on Linux or mobile devices (tablets).

#### How to use CC Mode?

CC mode is activated on the hardware: Press the blue push button on the USB.IO to toggle the modes.



CC MODE Push Button	<b>Push button</b> Press to toggle operating mode. Restart of the module or dis- / reconnect of the USB connection is required after change.
CC MODE LED	LED orange - indicates operation mode ○ (OFF) = CC mode OFF ○ (ON, orange) = CC mode ON
<b>USB</b> Socket	<b>USB-C socket for audio transmission</b> Connect with USB 3.0 or 2.0 port
USB 2/3 LED	LED RGB - indicates USB connection (ON, blue) = USB 3.0 (128 channels) (ON, yellow) = USB 2.0 (64 channels) (ON, red) = no USB connection



# Clocking

## **Driver Mode**

The module can be clocked by the host device or internally via the driver settings.

RME USB.IO (24221454) Image: Firmware: v6 Driver: v4.10   Sample Rate 48 kHz Image: Firmware: v6   Options Image: Firmware: v6 Image: Firmware: v6   Sample Rate 48000 Hz Image: Firmware: v6   Sample Rate 48000 Hz Image: Firmware: v6   Clock Source Device Clock Image: Firmware: v6   Clock Input Status Image: Firmware: v6 Image: Firmware: v6   Device Clock Sync 48 kHz   Bus Image: Firmware: v6 Image: v6   USB3 Iso Transfer Mode CRC Errors: 0	roperties For:			
48 kHz       Options       Sample Rate     48000 Hz       Clock Source     Device Clock       Current Clock:     Device Clock       Clock Input Status     Evice Clock       Device Clock     Sync     48 kHz       Bus     Evice Clock     Evice Clock	RME USB.IO (2422	1454) 📀	Firmware: v6	Driver: v4.10
Options       Sample Rate     48000 Hz C       Clock Source     Device Clock C       Current Clock:     Device Clock       Clock Input Status     E       Device Clock     Sync     48 kHz       Bus     E	Sample Rate			
Sample Rate 48000 Hz C Clock Source Device Clock C Current Clock: Device Clock C Clock Input Status Device Clock Sync 48 kHz Bus		48 kHz		
Clock Source Device Clock C Current Clock: Device Clock Clock Input Status Device Clock Sync 48 kHz Bus	Options			
Current Clock: Device Clock Clock Input Status Device Clock Sync 48 kHz Bus	Sample Rate	48000 Hz	0	
Clock Input Status Device Clock Sync 48 kHz Bus	Clock Source	Device Clock	0	
Device Clock Sync 48 kHz Bus	Current Clock:	Device Clock		
Bus	Clock Input Status			
	Device Clock	Sync	48 kHz	
USB3 Iso Transfer Mode CRC Errors: 0	Bus			
	USB3 Iso T	ransfer Mode	CRC Errors: 0	

Sample Rate	Display of currently active sample rate.
Options Sample Rate	<b>Sets the current sample rate.</b> Values: 44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz Active, when clock source is set to USB Interface.
Options Clock Source	Sets the clock source. Device clock = host device (PRODIGY, MAVEN) USB Interface = internal clock of USB.IO
Options Current Clock	<b>Display of currently used clock source.</b> Values: Device Clock / USB Interface
Clock Input Status Device Clock	Display of current clock state and sample rate. no lock = no signal at USB.IO lock = signal present at USB.IO, but not in sync with host device sync = signal present and in sync with host device



### NOTE

The driver setting is not available when the module is running in class compliant mode. See "Class Compliant Mode" on page 12.



## **Class Compliant Mode**

The clock source of the module is selected automatically based on the settings of the host device.

Host device clock source set to:	Clock source USB.IO
USB.IO (NET)	internal clock, sample rate is set via the class compliant USB audio driver
any other clock source	USB.IO is clocked by host device*

\* the sample rates of host device and connected USB device must match.



## NOTE

For more detailed information please refer to the user manual available at https://www.directout.eu/product/usb-io/



## NOTE

Windows operating system - current restrictions: USB 2 Class Compliant mode not fully compatible to Windows 11 USB 3 Class Compliant mode not supported by Windows at all



# Firmware Update

The firmware of the module is updated via the Flash Update Tool from RME. It is recommended to operate the module with the latest firmware version.

- Download the Flash Update Tool from https://rme-audio.de/downloads.html Select product 'USB.IO', specify the operating system, select 'Flash Update', select file 'fut\_madiface\_win.zip' (Windows) or 'fut\_madiface\_mac.zip' (macOS).
- 2. Start the 'RME USB.IO Flash Tool'



The programming status is displayed: 'Update' if the status is 'Not updated'. 'Quit' if the status is 'Up-to-date'



## NOTE

To update the USB.IO, an installed driver must be present on the operating system.