JOYNED
AUDIO.
NETWORK.
TECHNOLOGY.

MU16 Manual

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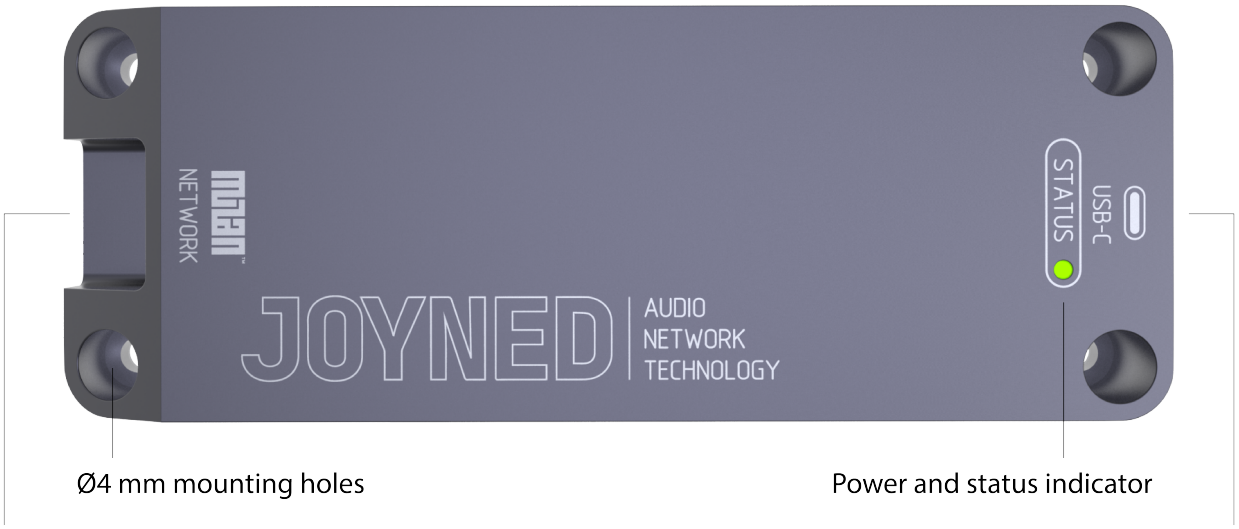
Welcome to Your JOYNED MU16

Congratulations on your new **MU16 Milan USB Audio Interface** — a powerful, plug-and-play solution that bridges your computer or mobile devices to high-performance Milan networked audio systems.

AVB/Milan is increasingly adopted by leading professional audio manufacturers as a standards-based, deterministic Ethernet audio networking solution designed for interoperability and low latency. Major brands such as Adamson, Meyer Sound, d&b audiotechnik, L-Acoustics, Avid, PreSonus, and others use AVB/Milan across a wide range of products including amplifiers and active speakers for line arrays, digital mixing consoles, stage boxes, audio interfaces, DSP platforms, and network converters. These implementations are commonly found in live sound, fixed installations, and touring systems, where predictable performance, and multi-vendor compatibility are critical. The Milan specification, governed by the Avnu Alliance, ensures that certified devices from different manufacturers can seamlessly interoperate within the same AVB/Milan network, making it a future-proof foundation for modern professional audio systems such as the JOYNED MU16.

MU16 overview

MU16 does 16 channels of bit transparent audio at 96 kHz and 48 kHz between USB and Milan. 4 Milan streams in and 2 streams out. MU16 is powered from USB and require only the minimum USB power specifications. Physically, the touring-grade unit features four mounting holes for screws and cables ties to fit the space and needs. The USB-C is a locking type for standard cables and a high quality locking cable is supplied with MU16.



Power and status indicator

- A **constantly lit green LED** indicates that the unit is powered correctly. If the LED does not light up, please check the cable and the power providing unit.
- A **blinking green LED** indicates that the **USB and Milan sample rates are not identical**, in which situation the MU16 will mute. Either change the Milan network sample rate or the computer/project sample rate. Note: A 96kHz-only firmware is available for when running 96kHz on your Windows computer or iOS device.

Getting Started

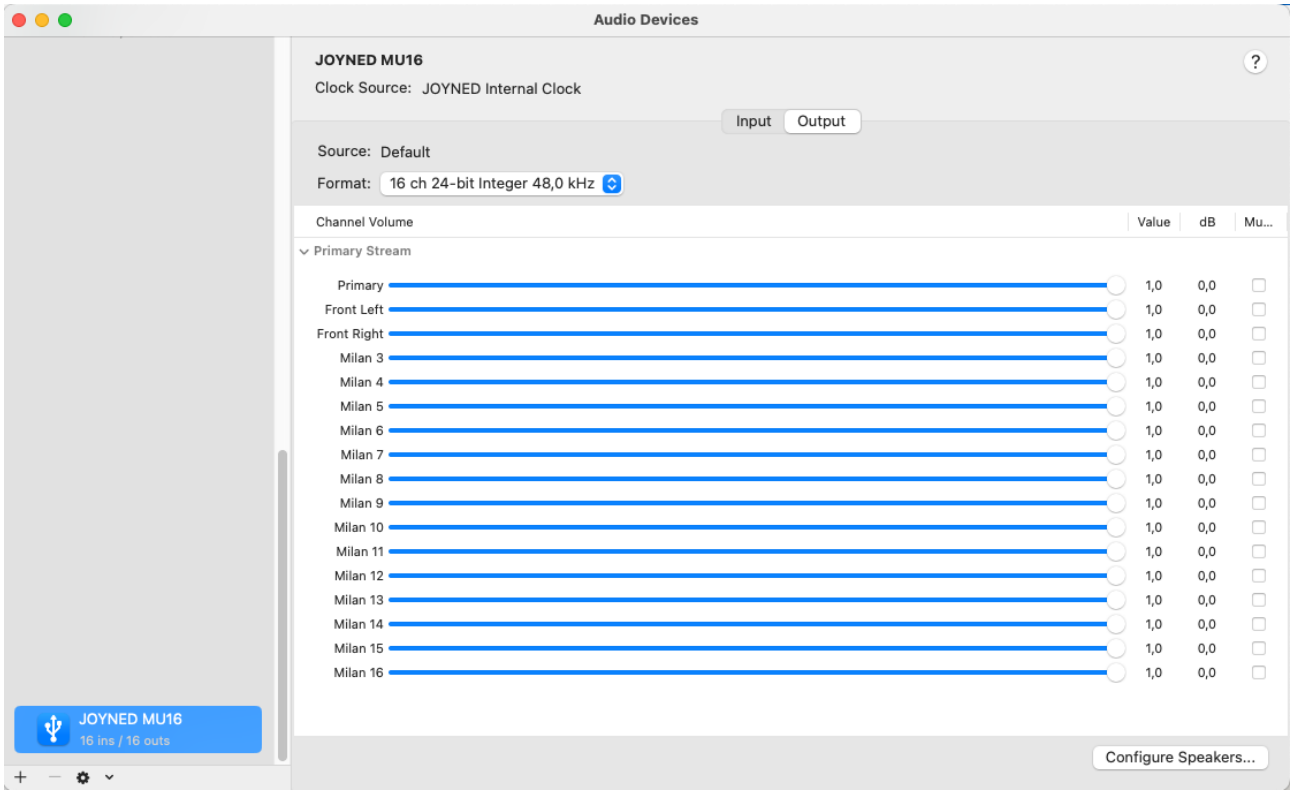
1. **Connect MU16 to your laptop or iOS device** with the included USB-C cable. Note that correct power is indicated by a constantly lit green Status LED.
2. **Plug the Ethernet cable** into your Milan/AVB network.
3. **Set up the Milan streams, the clocking and connections** by using one of the Milan network managers available e.g. Milan Manager https://milanmanager.com/.
4. **Launch your DAW or audio software** — MU16 appears automatically with full channel access.
5. **You are ready to stream and monitor audio** over the network.

Milan controllers

There are currently four main **AVB/Milan controller software tools** available:

1. **Milan Manager** – A free, user-friendly AVB/Milan network configuration, management, and monitoring application for desktops (Windows/Mac) made by L-Acoustics and d&b audiotechnik. More information at https://milanmanager.com/
2. **JOYNED Dash** - We at JOYNED just launched our new AVB/Milan controller, which has an intuitive and friction free approach with many exiting features. More information at http://dash.joyned.io
3. **Nebra** – A free AVB/Milan control and monitoring platform by Meyer Sound that provides an integrated workspace for device connections, routing, and system health. More information at https://software.meyersound.com/nebra
4. **Hive** – A free open-source controller for inspecting, configuring, and connecting AVB/Milan devices on a network, with precompiled binaries available for macOS and Windows. This is often used by developers due to the deep technical level. More information at https://github.com/christophe-calmejane/Hive

Settings for MU16 USB



macOS:
On macOS, the class-compliant MU16 USB audio interface exposes standard parameters through **Audio MIDI Setup**, including **sample rate** to match the audio project and Milan system clock. The **clock source** of MU16 is always showing up as “internal”, and is defined by the Milan side. The USB sample rate should be set manually to match the Milan setup e.g. Milan 96 kHz → USB 96 kHz. If they are not identical (e.g. Milan 96 kHz / USB 48 kHz) the MU16 will mute audio and the status LED will blink.
Audio applications can adjust **buffer size / latency** to balance system performance and real-time monitoring. Input and output **levels and mutes** are typically handled within the DAW or audio application but is also available at system level.

Windows:
On Windows, the class-compliant MU16 USB audio interface is set up to ensure compatibility with system audio and applications. Go to System - Sound. Chose JOYNED MU16 as input and output.

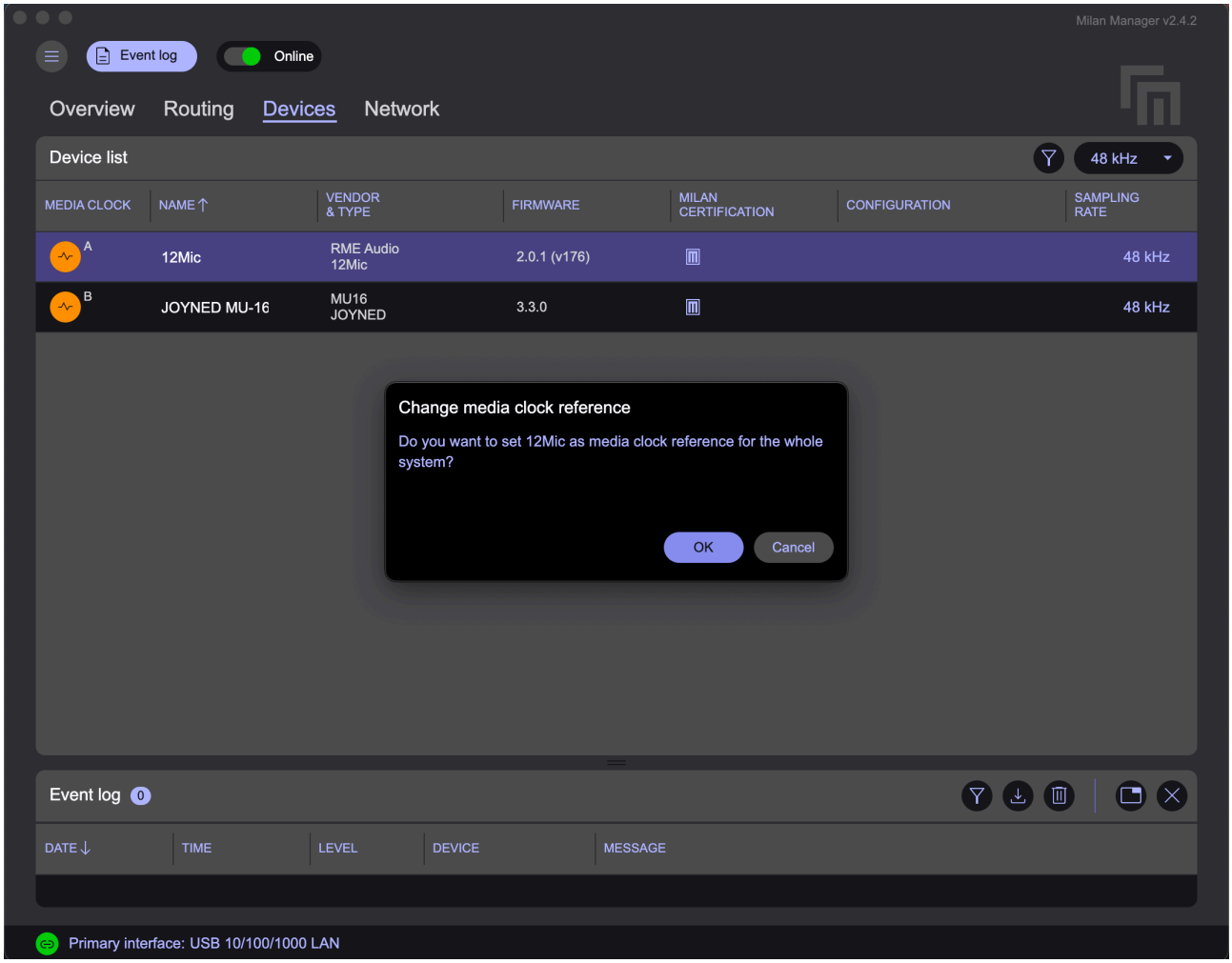
Note: A 96kHz-only firmware is available for when running 96kHz on your Windows computer.

iOS:
On iOS, class-compliant USB audio interfaces like MU16 allow the individual audio apps to access **sample rate**, **input/output channel selection**, and **channel count**, enabling mobile recording and playback without drivers. Basic **input monitoring, metering, and level control** are handled inside compatible audio apps.
A couple of App examples: Garage Band records and plays back all 16 channels. Apple Music plays out stereo only.

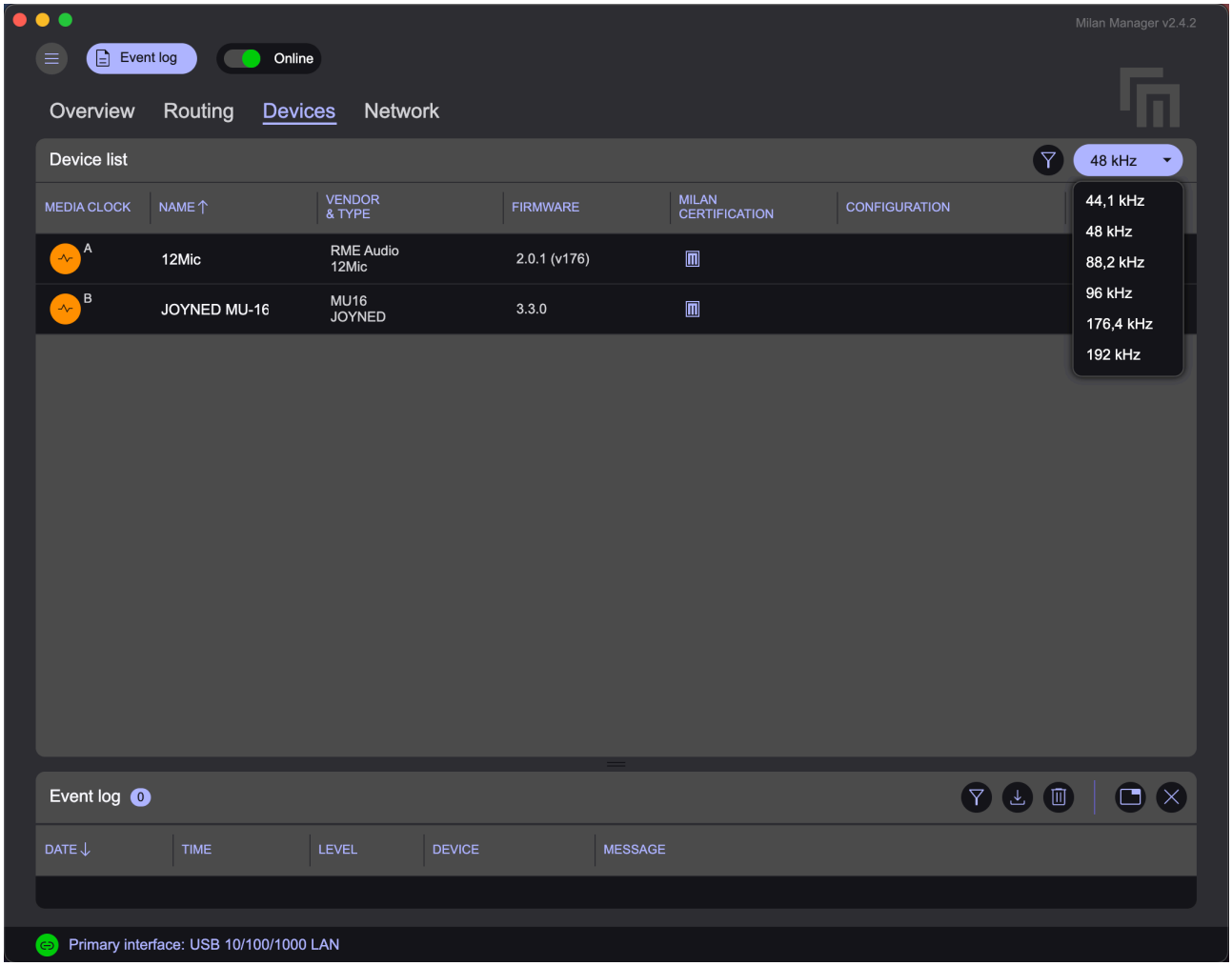
Note: A 96kHz-only firmware is available for when running 96kHz on your iOS device

Setting up on the Milan side
Setup via Milan Manager is done in a few easy steps. For detailed description of the different Milan Controllers, please refer to the links above.

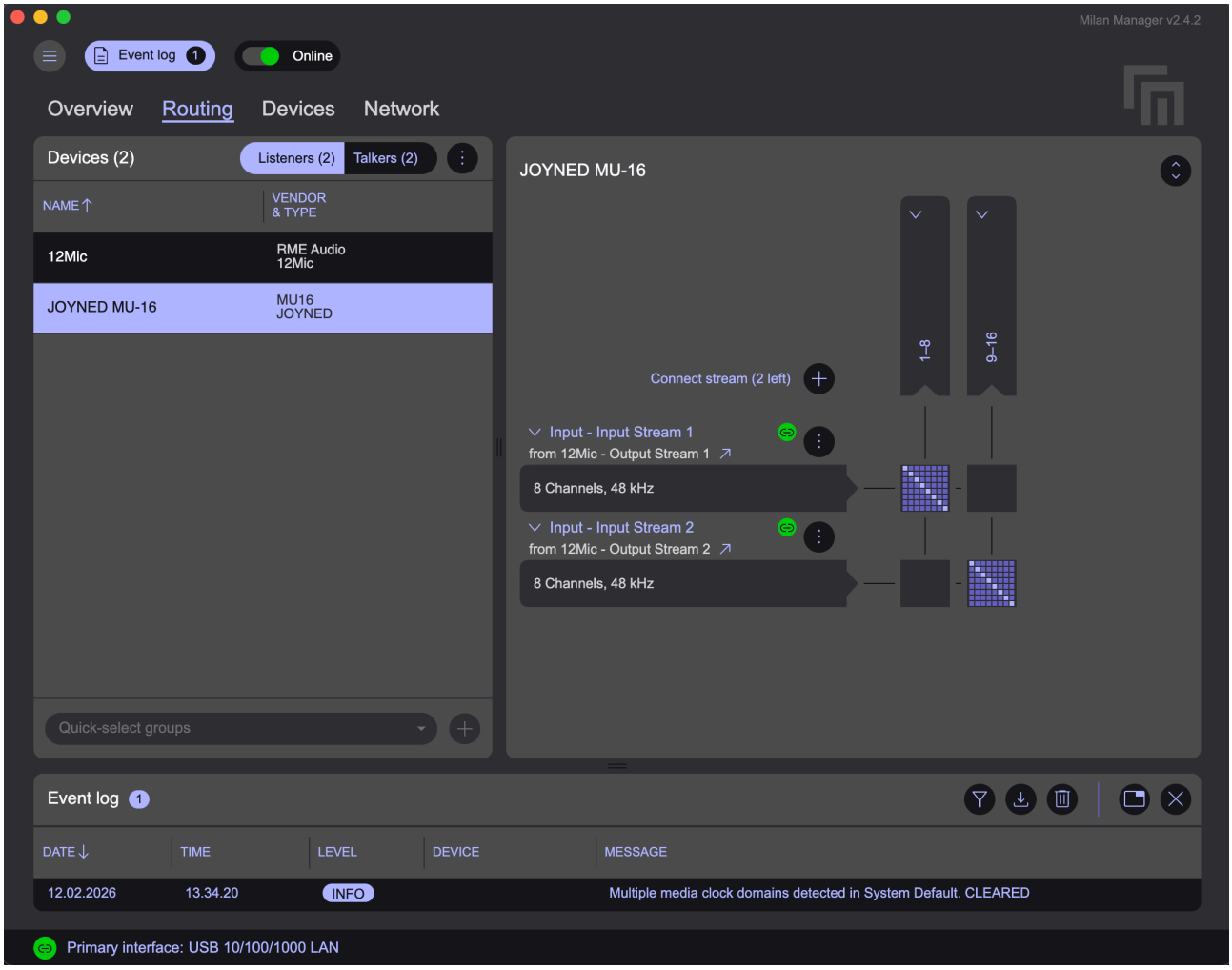
- Chose the Media Clock reference i.e. the overall clock leader on the Milan network.
- Chose the Sample Rate
- Route the channels and streams



1 Setting the Media Clock reference



2 Setting the Sample Rate



3 Route channels and streams

Firmware

Latest and previous firmware are available at https://joyned.io/pages/resource-hub-mu16
Note: The MU16 is shipping with firmware that covers both 48 and 96 kHz operation. If you need to run 96 kHz with your iOS device or your Windows computer we offer a 96 kHz-only firmware. Available via the link above.

The update is easily done via any of the Milan Controllers on the market.

1. Download the firmware file via the link above
2. Power on the MU16 by connecting USB and connect it to the Milan network
3. Open the Milan controller of choice e.g. Milan Manager
4. Browse to the firmware loader feature in the Milan controller
5. Select the MU16 to be updated and locate the firmware file on the computer
6. Press update and wait for it to finish

7. We recommend re-powering the MU16 by disconnecting and connecting the USB
8. Verify in the intended firmware version in the firmware field on the selected MU16

Frequently Asked Questions

For an updated list, please refer to http://www.joyned.io
Your feedback drives us. We're always listening — share your thoughts with us at info@joyned.at[1]

More information needed?

- New firmware (when available)
- System requirements

are to be found at http://www.joyned.io. And you can write us at info@joyned.at[2]

1. mailto:info@joyned.at
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