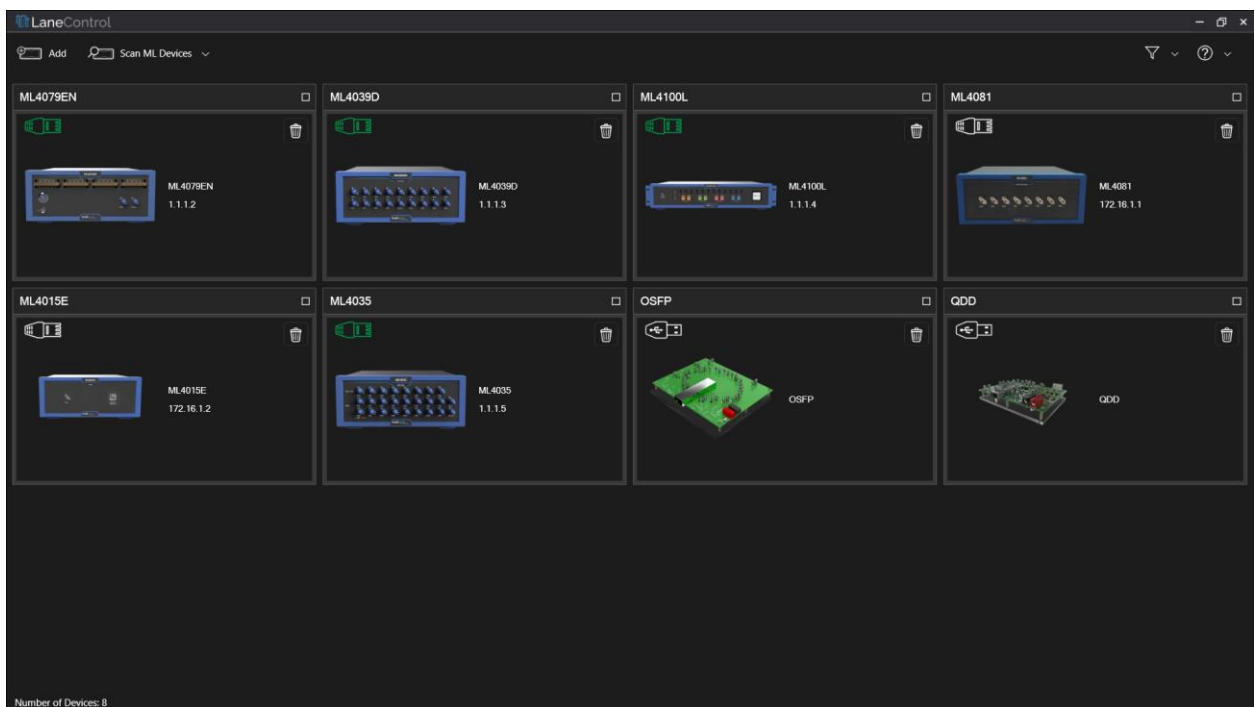




## LaneControl

Installation | Features user guide

**User Manual Revision 1.0.0, November 2023**



## Notices

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## Revision Control

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Revision number	Description	Release Date
1.0.0	<ul style="list-style-type: none"><li>Initial Release</li></ul>	24/11/2023

## List of Acronyms

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Acronym	Definition
ML	MultiLane
GUI	Graphical User Interface
VID	USB Vendor ID
PID	USB Product ID
FW	Firmware

## Introduction

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This is MultiLane's new Instrument Manager, a powerful and intuitive application designed to manage your hardware MultiLane instruments. It offers a seamless solution for connecting, monitoring, and controlling your instruments with ease.

**Scan** and connect to devices on your network, or add them manually for quick access.

**View** various instrument information, including board ID, serial number, and Ethernet settings...

**Control** your instrument by adjusting Ethernet configurations, including IP address, subnet mask, and gateway, and easily updating firmware and FPGA (if applicable) through our wizard.

## GUI Introduction

After downloading the LaneControl setup file, select run and follow the step-by-step installation procedure.

**Note:** Check the “Install ML Instruments Driver” if you are installing this application for the first time. This will install the required drivers for connecting through USB.

### Installation

After downloading the LaneControl setup file, select run and follow this easy step-by-step installation procedure:

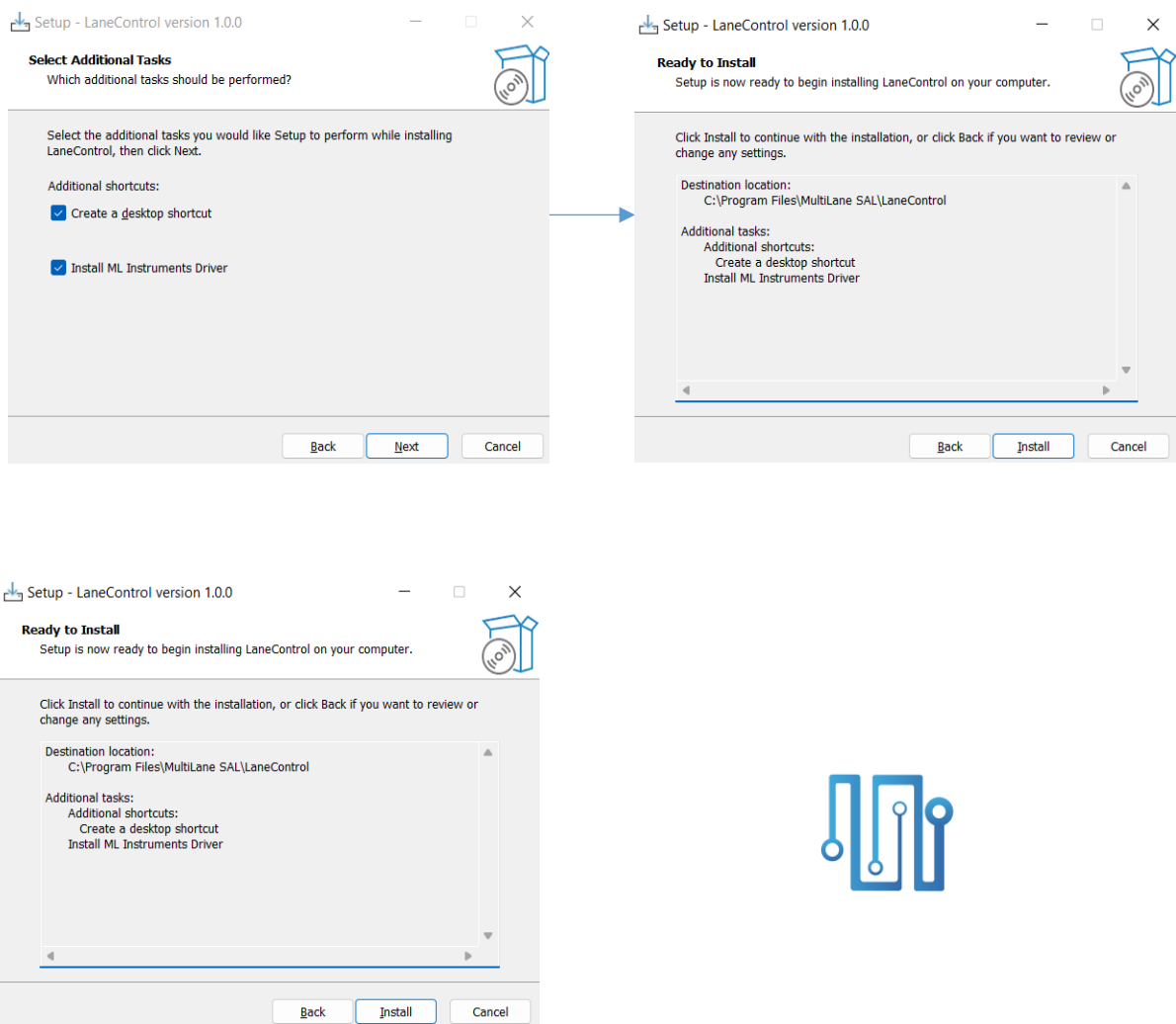


Figure 1: LaneControl installation process

LaneControl should now be ready to run, with a shortcut button on the Desktop.

## GUI Overview

### Scan Window

LaneControl provides end users with the ability to search for the MultiLane instruments on the network and those connected through USB.

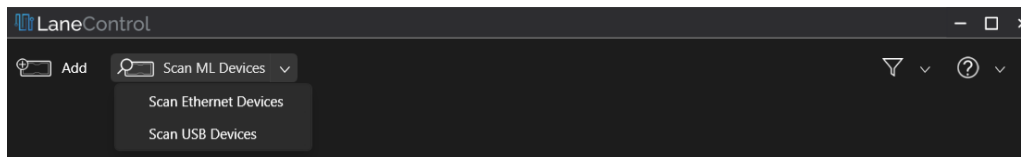


Figure 2: Scan Menu

### Add Window

You can add a MultiLane instrument manually through the Add window. You can choose on the left tree from the supported instruments.

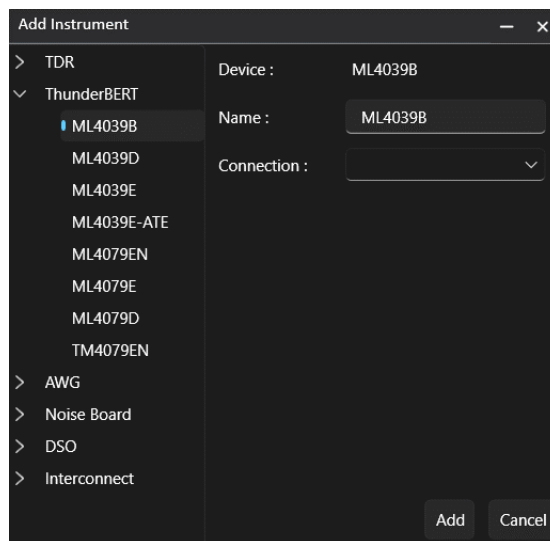
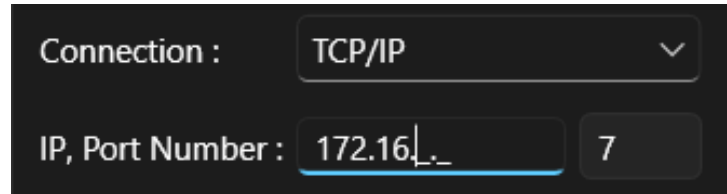


Figure 3: Manual Add window



- You can choose to either connect through Ethernet or USB.
  - For Ethernet, you should provide the IP address

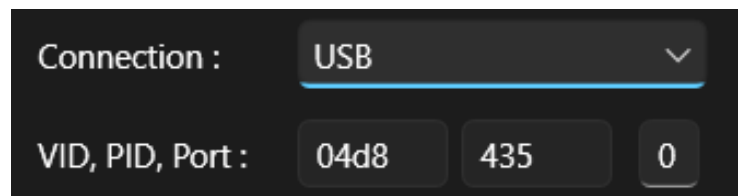


Connection : TCP/IP

IP, Port Number : 172.16.1.7

Figure 4: Add ML Ethernet Instrument

- For USB, you should provide the port in which the device is connected to.



Connection : USB

VID, PID, Port : 04d8 435 0

Figure 5: Add ML USB Interface Instrument

## Filter

Filter through active and non-active devices, or through Ethernet and USB communication type.

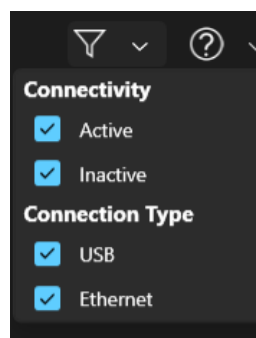


Figure 6: Filter menu

## Control ML Instruments

### Instrument Info

All the list of devices (auto detected or manually added) will be shown in the main window. To see more info about a device, you can click on its title bar to maximize it.

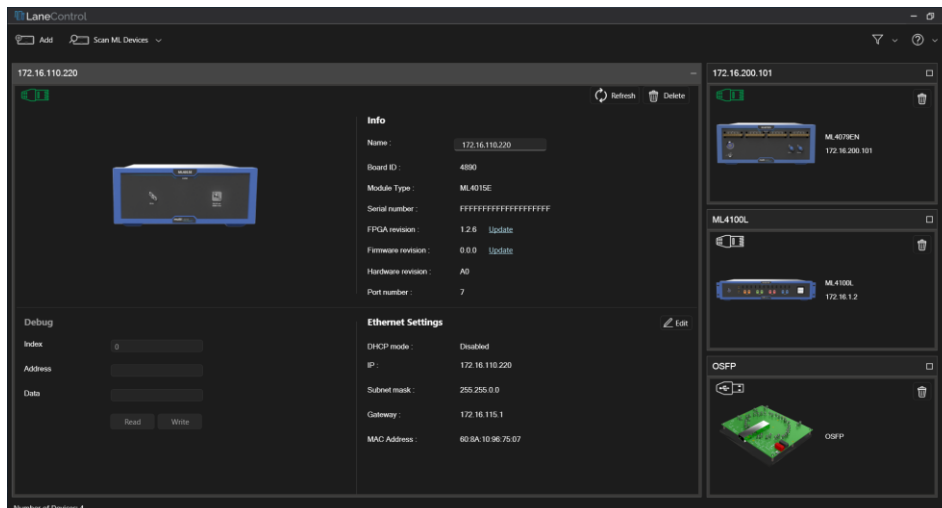


Figure 7: Device Info

As shown in the above figure, each device has a refresh and a delete button.

- Delete: Used to remove a device from the list of devices
- Refresh: Used to check the status of the device. On refresh you can read the device's general info (Boards ID, Serial Number, FPGA revision, Firmware revision, Hardware Revision, Ethernet settings ...)

### Ethernet Settings

You also have the ability to read or change the device's Ethernet settings.

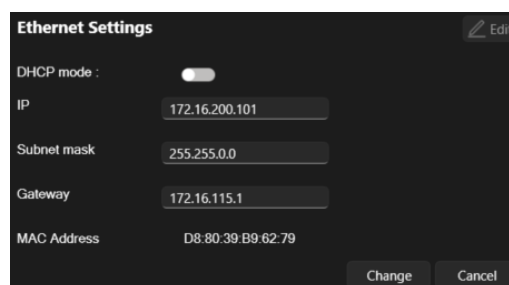


Figure 8: ML instrument Ethernet settings

- DHCP Mode (Enable/Disable)
- Static|Dynamic IP address (Read/Write)
- Subnet Mask (Read/Write)
- Gateway (Read/Write)
- MAC Address (Read only)

## ML Instrument Update

The GUI can also be used to upgrade the firmware or the FPGA image by following these next steps:

- In order to update the firmware, you should connect your device through a USB cable.
- FPGA update requires Ethernet connection
- In the device info, next to the revision, press on update (FW or FPGA). This will open the update wizard (Below example is for FW update)

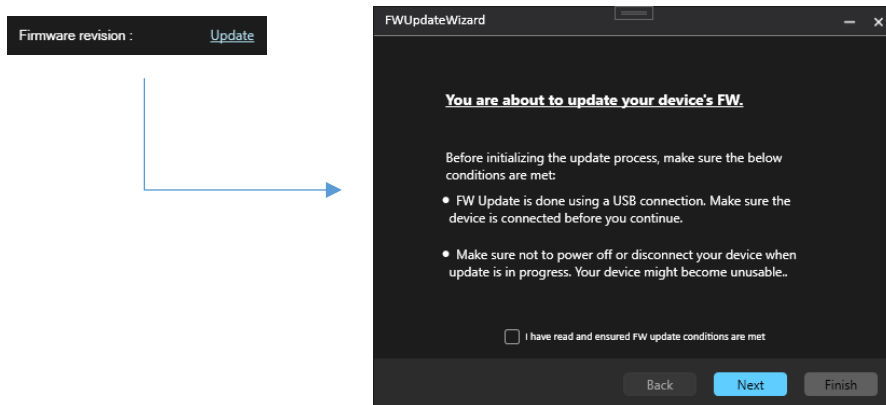
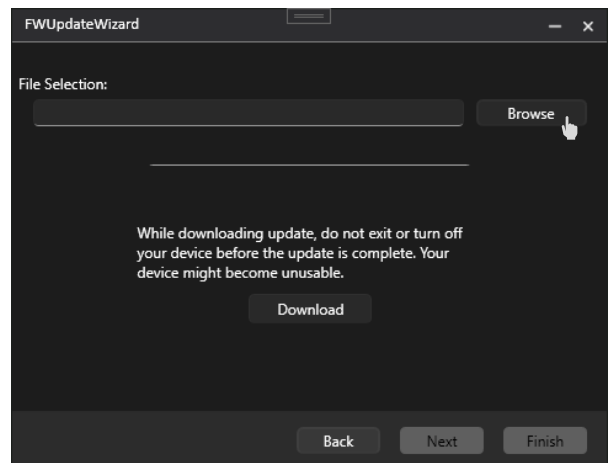
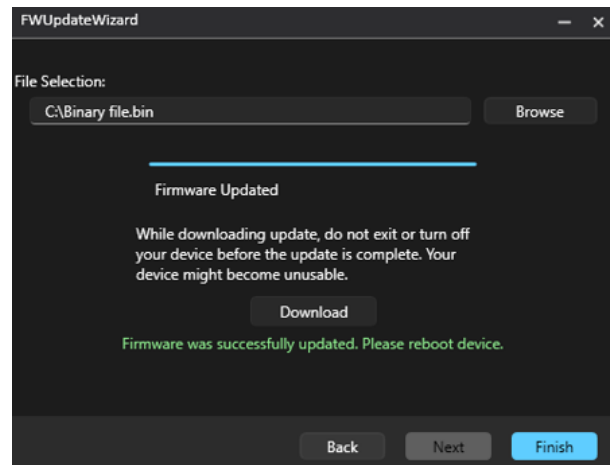
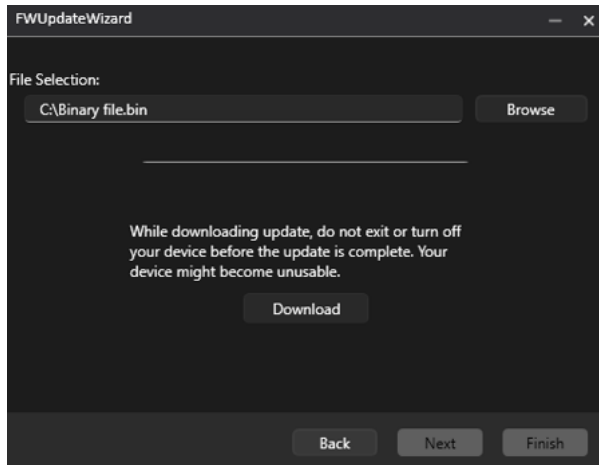


Figure 9: FW/ FPGA Update Wizard

- Check the “I have read and ensured ...” button and press on Next
- Select the Firmware file (or the FPGA file) (.BIN). This selection is made by browsing the location of the file.



- After selecting the file, click on Next and proceed to the next steps.



**NOTES:** DO NOT TURN OFF THE DEVICE UNTIL THE UPDATE IS COMPLETE!

## Feature Support

This section indicates which functions are supported across the various MultiLane Instruments.

**Table 1: MultiLane Instruments Supported Features**

Instrument PN	UDP Auto Detect	DHCP	Control Ethernet Settings through USB	Control Ethernet settings Through LAN	FW/FPGA Update
ML4039B	**	**	RO**	Supported	Supported
ML4039D	**	**	RO**	Supported	Supported
ML4039E	**	**	RO**	Supported	Supported
ML4039E-ATE	**	**	RO**	Supported	Supported
ML4079D	**	**	RO**	Supported	Supported
ML4079EN	Supported	Supported	Supported	Supported	Supported
ML4100L	Supported [>FPGA v1.1.1]	Supported [>FPGA v1.1.1]	Not Supported	Supported	Supported
ML4081	Supported	Supported	Supported	Supported	Supported
ML4015E	Supported [>FPGA v1.2.2]	Supported [>FPGA v1.2.2]	**	Supported	Supported
ML406B	Supported [>FPGA v1.5.2]	Supported [>FPGA v1.5.2]	**	Supported	Supported
TM4079EN	**	NA	NA	NA	NA
TM4025	*	NA	NA	NA	NA
ML4035	Supported [>FPGA v1.3]	Not Supported	Supported	Supported	Supported

\*: Requires FPGA Image update

\*\* : Requires FW Update