Manuals+ — User Manuals Simplified.

multiLane 2024 Automated Transceiver LaneControl User Guide

LaneControl
Installation | Features user guide
User Manual Revision1.1.0, August 2024

Contents

Notices

Revision Control

Revision numbe	Description	Release Date
1.0.0	▪ Initial Release	24/11/2023
1.1.0	Added support for ML4100L-V2, ML4079ELN and ML 4025-PLS	24/08/2024

List of Acronyms

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

Introduction

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:
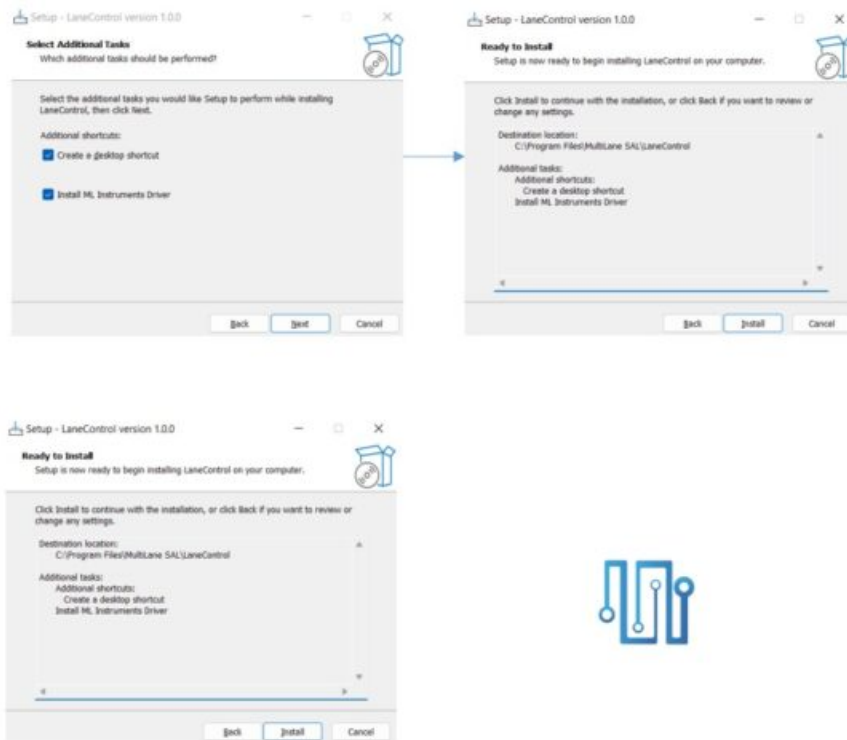
Figure 1: LaneControl installation process

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.
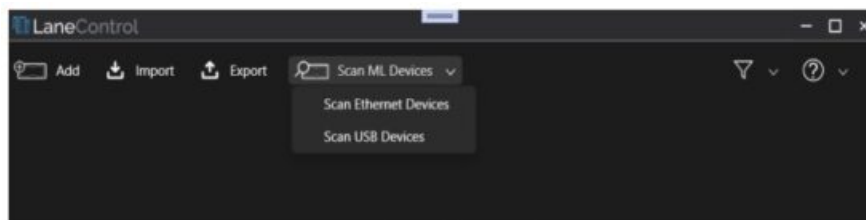

Figure 2: Scan Menu

Add Window

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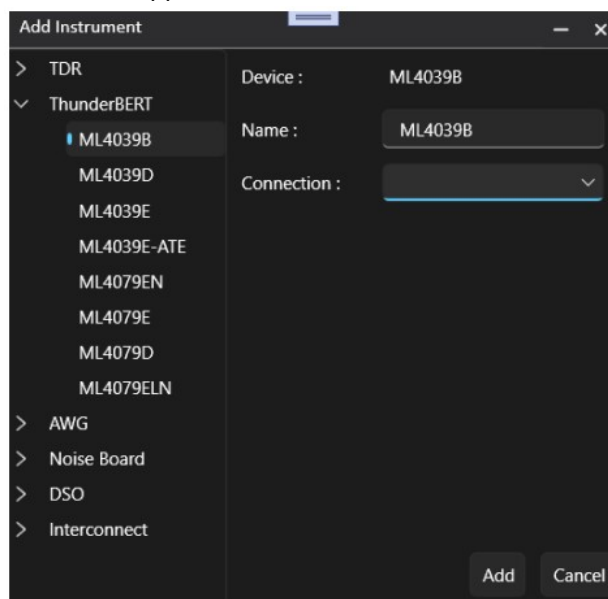

Figure 3: Manual Add window

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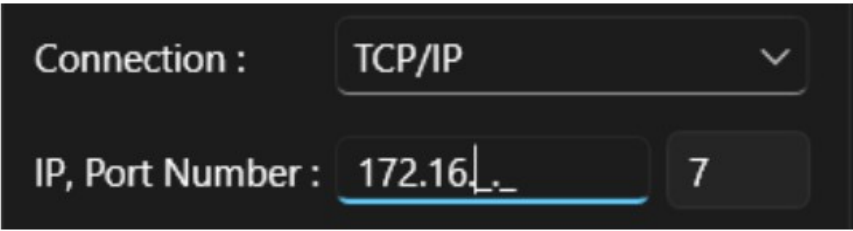 - For Ethernet, you should provide the IP address

Figure 4: Add ML Ethernet Instrument

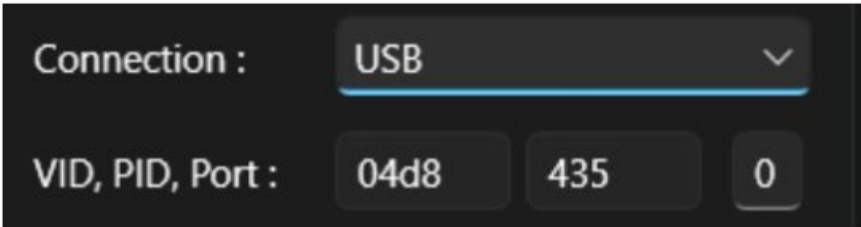 - For USB, you should provide the port in which the device is connected to.

Figure 5: Add ML USB Interface Instrument

Filter

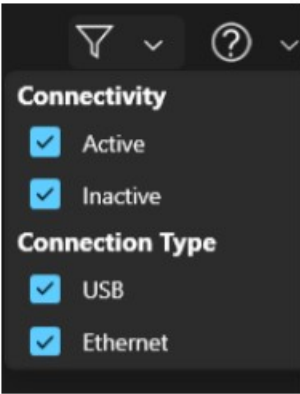Filter through active and non-active devices, or through Ethernet and USB communication type.

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.
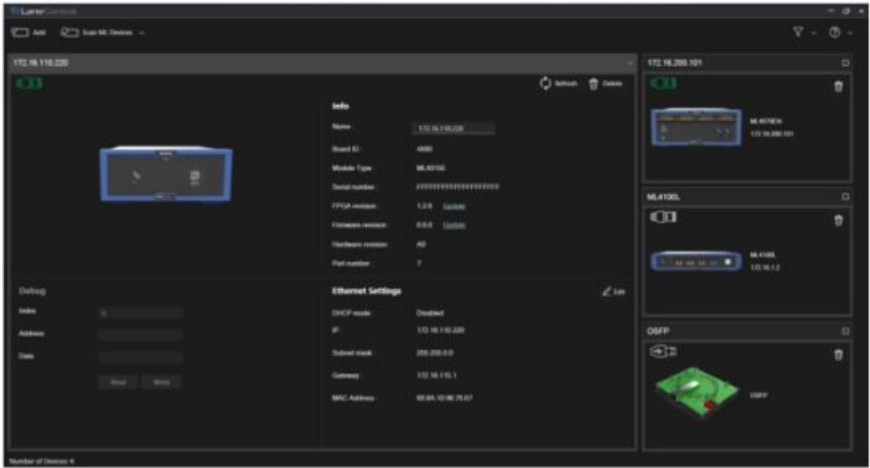To see more info about a device, you can click on its title bar to maximize it.

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)
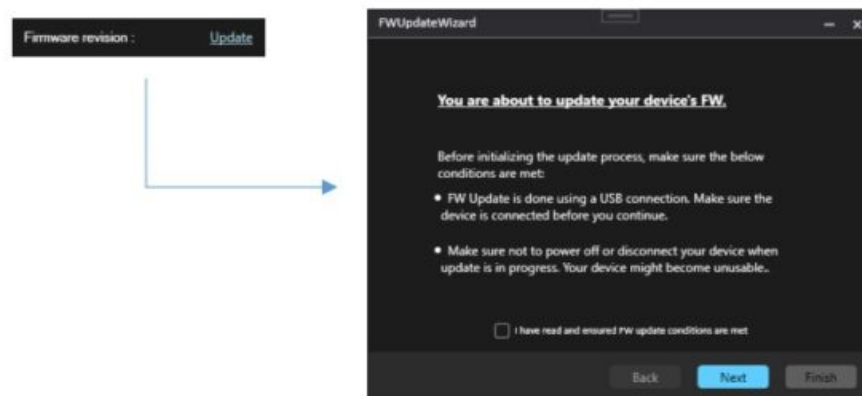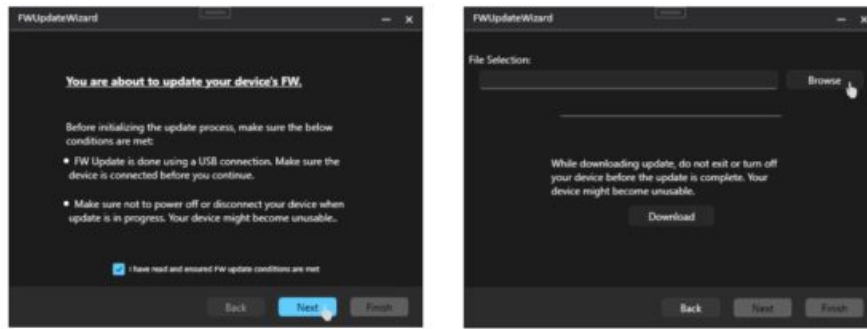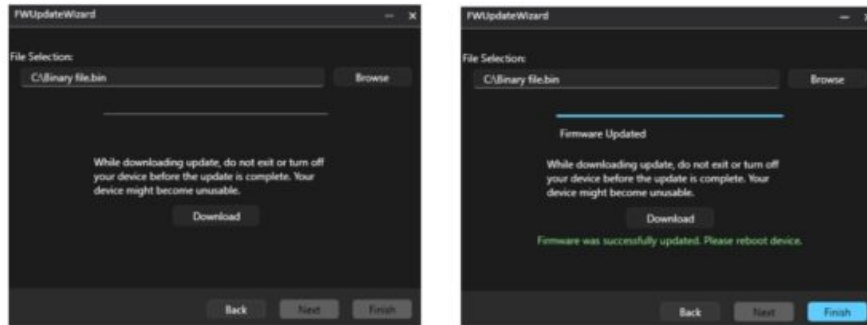

Figure 9: FW/ FPGA Update Wizard

- 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	✔ FW ≥ v1.9	✔ FW ≥ v1.9	✔ FW ≥ v1.9	✔	✔
ML4039D	✔ FW ≥ v1.3	✔ FW ≥ v1.3	✔ FW ≥ v1.3	✔	✔
ML4039E	✔ FW ≥ v1.1	✔ FW ≥ v1.1	✔ FW ≥ v1.1	✔	✔
ML4039E-ATE	✔	✔	RO	✔	✔
ML4079D	✔ FW > v1.4	✔ FW > v1.4	RO	✔	✔
ML4079EN	✔	✔	✔	✔	✔
ML4100L	✔ FPGA > v1.1.1	✔ FPGA > v1.1.1	NA	✔	✔
ML4081	✔	✔	✔	✔	✔
ML4015E	✔ FPGA > v1.2.2	✔ FPGA > v1.2.2	✔	✔	✔
ML406B	✔ FPGA > v1.5.2	✔ FPGA > v1.5.2	✔	✔	✔
ML4035	✔ FPGA > v1.3	✔	✔	✔	✔
ML4025-PLS	✔	✔	✔	✔	✔
ML4079ELN	✔	✔	✔	✔	✔
ML4100L-V2	✔	✔	NA	✔	✔

Documents / Resources

multiLane 2024 Automated Transceiver LaneControl [pdf] User Guide
2024, 2024 Automated Transceiver LaneControl, Automated Transceiver LaneControl, Transceiver LaneControl, LaneControl

References

- **User Manual**