VECTOR Smart Logger User Guide

Smart Logger
User Guide

Contents

Getting Started with Smart Logger

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Manual Application Note [Betreff]
Author…… PMC61
Restrictions…… Public Document
Abstract…… Step by step instructions to the initial operation of Smart Logger

Smart Logger

With the product group of Smart Loggers, Vector is breaking down the classic boundaries between user-controlled

measurement software and autonomously acting loggers. Install the logger hardware into the vehicle and wire your measurement systems, ECUs, bus systems, ADAS sensors, cameras, GNSS receivers and much more. Then transfer your existing CANape or vMeasure configuration to the Smart Logger with just a click of a button.
If no configuration is available yet, you can use a connected configuration PC to set up your logging task through the Smart Logger as if you were working with our desktop tools CANape or vMeasure. Define the measurement parameters, calculation algorithms and trigger conditions. Visualize measured and calculated signals. Test your configuration and track the measurement on your configuration PC whilst utilizing already existing wiring and connections.
The configuration and the measurement task are thus identical for development and vehicle/component test. Therefore, the Smart Loggers offer consistency and reliability through all phases of testing. With a web-based interface, the Mobile UI, you can start and stop the logging process and get information about the Smart Logger status. Vector Smart Logger is available in two versions: vMeasure log and CANape log. They are configured with their associated desktop applications, vMeasure log with vMeasure and CANape log with CANape.
Three hardware platforms are available for Vector Smart Loggers: VP6400, VP7400, and VP7500.
They are all specifically designed for use in road testing. They are designed to handle logging tasks reliably from demanding to high-end.

Hardware Setup and Configuration

2.1 Power Supply

Smart Loggers are designed to start-up when terminal 15 of the vehicle becomes active. The following chapters describe the required wiring for the different hardware platforms to achieve this behavior.

2.1.1 VP6400

Connect the open cable ends of the supplied power cable (part number 22515, see

1. Figure 2) to the permanent power supply of the vehicle (terminal 30/GND).
2. Connect the Molex Mini-Fit connector at the other end of the power cable to the Power 12/24V DC connector of the VP6400.
3. Connect the white lead with the red banana plug of the supplied Binder cable (part number 30012) to terminal 15 of the vehicle.
4. Connect the Binder connector at the other end of the cable to the Sync connector of the VP6400.

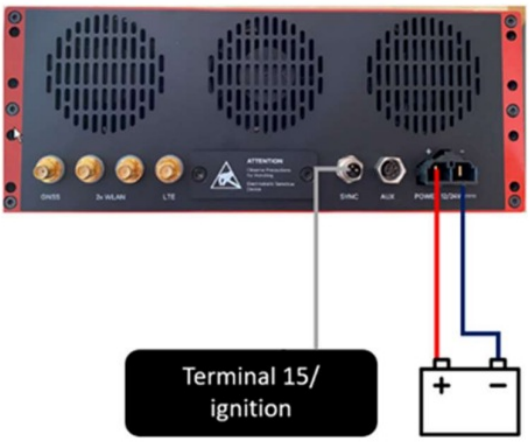

Figure 1: Connecting VP6400 to power supply

Figure 2: Power Cable Molex Mini-Fit (part number 22515)

Note

Power supply and terminal 15 line must have the same GND reference for proper functionality.

2.1.2 VP7400

Connect the open cable ends of the supplied power cable (VP7400: part number 22515, see

1. Figure 2) to the permanent power supply of the vehicle (terminal 30/GND).
2. Connect the Molex Mini-Fit connector at the other end of the power cable to the Power 12/24V DC connector

of the VP7400.

3. Connect the yellow ignition-line cable to terminal 15 of the vehicle.
4. Connect the other end of the cable to the SYSCTRL connector next to the power socket of the VP7400.

Note

Power supply and terminal 15 line must have the same GND reference for proper functionality.

2.1.3 VP7500

1. Connect the open cable ends of the supplied power cable (part number 22585) to the permanent power supply of the vehicle (terminal 30/GND).
2. Connect the Amphenol C10 connector to the Power 12/24V DC connector of the VP7500.
3. Connect the yellow ignition-line cable to terminal 15 of the vehicle.
4. Connect the other end of the cable to the SYSCTRL connector next to the power socket of the VP7500.

Note

Power supply and terminal 15 line must have the same GND reference for proper functionality.

2.2 Connection to the Configuration Computer

To configure and control the Smart Logger an ethernet connection between the Smart Logger and a configuration computer is required. Connect the configuration computer to the ethernet port labeled 1G MGMT at the VP6400 / VP7400 / VP7500, respectively.

Figure 3: Connecting VP6400 to configuration computer

Figure 4: Connecting VP7400 to configuration computer

Figure 5: Connecting VP7500 to configuration computer

2.3 IP Address Configuration

To establish an ethernet connection between the Smart Logger and the configuration computer both devices must be configured to use the same IP address subnet. Please ensure this or change the settings if required.

Edit

The default IP settings of the Smart Loggers for the ETH1 / 1G MGMT port are:
IP Address: 192.168.0.10
Subnet mask: 255.255.255.0
The following chapters describe how to change the IP settings for the configuration computer and the Smart Logger.

2.3.1 Adapt Configuration Computer IP Settings

Step by step guide to change the adapter settings on your configuration PC under Windows 10:

1. Open the Windows start menu and type in Network status and start the Network Status System Settings.
2. Switch to the tab Status.
3. Click on Change adapter option.

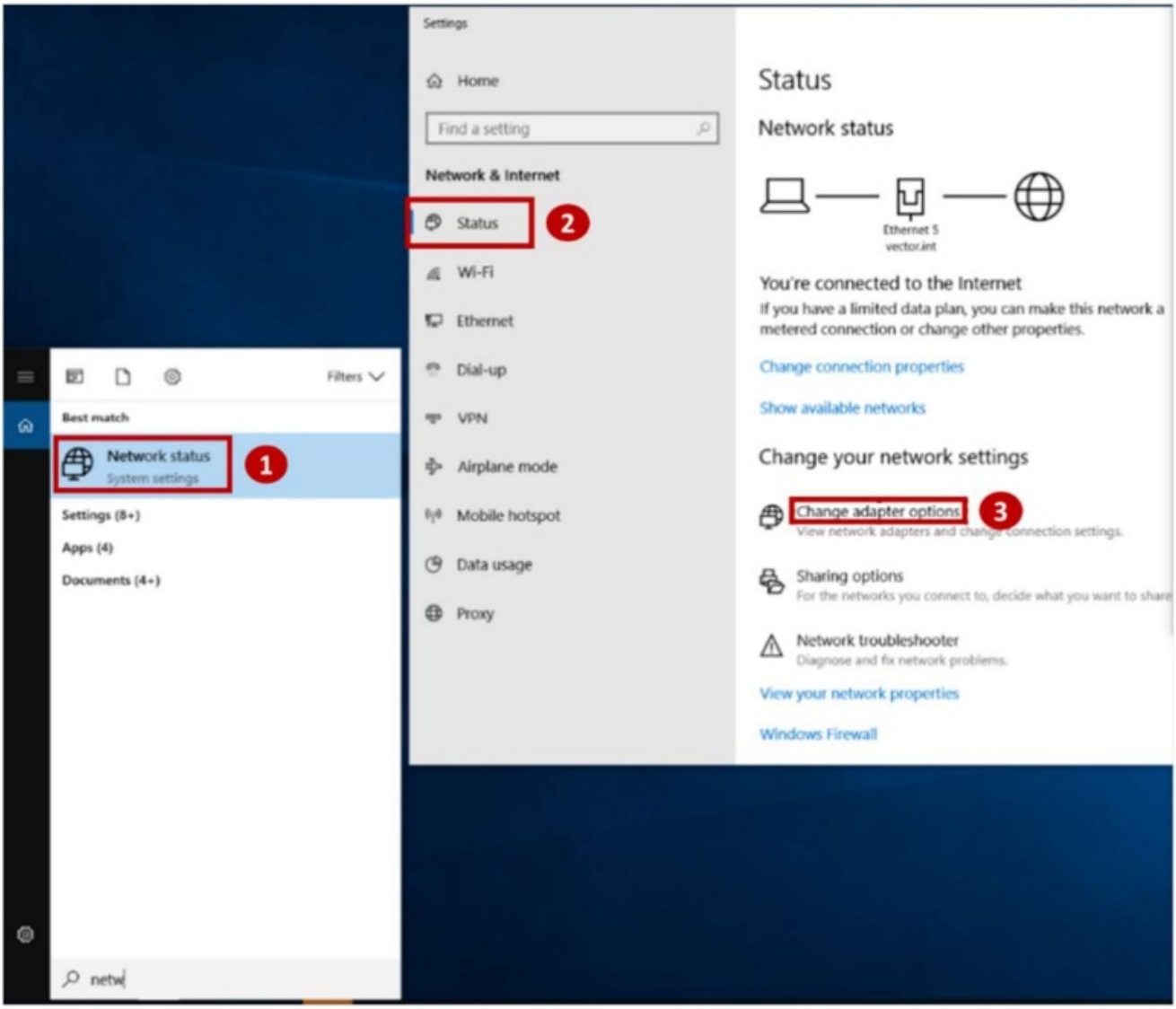

Figure 6: Change adapter options in Windows 10

4. Right click on the ethernet adapter, the Smart Logger is connected to, and select properties.
5. Select Internet Protocol Version 4 (TCP/IPc4) and click on properties.
6. Set the IP address and the subnet mask to match the Smart Logger settings, e.g.:

   > IP Address: 192.168.0. 1

   > Subnet mask: 255.255.255.0

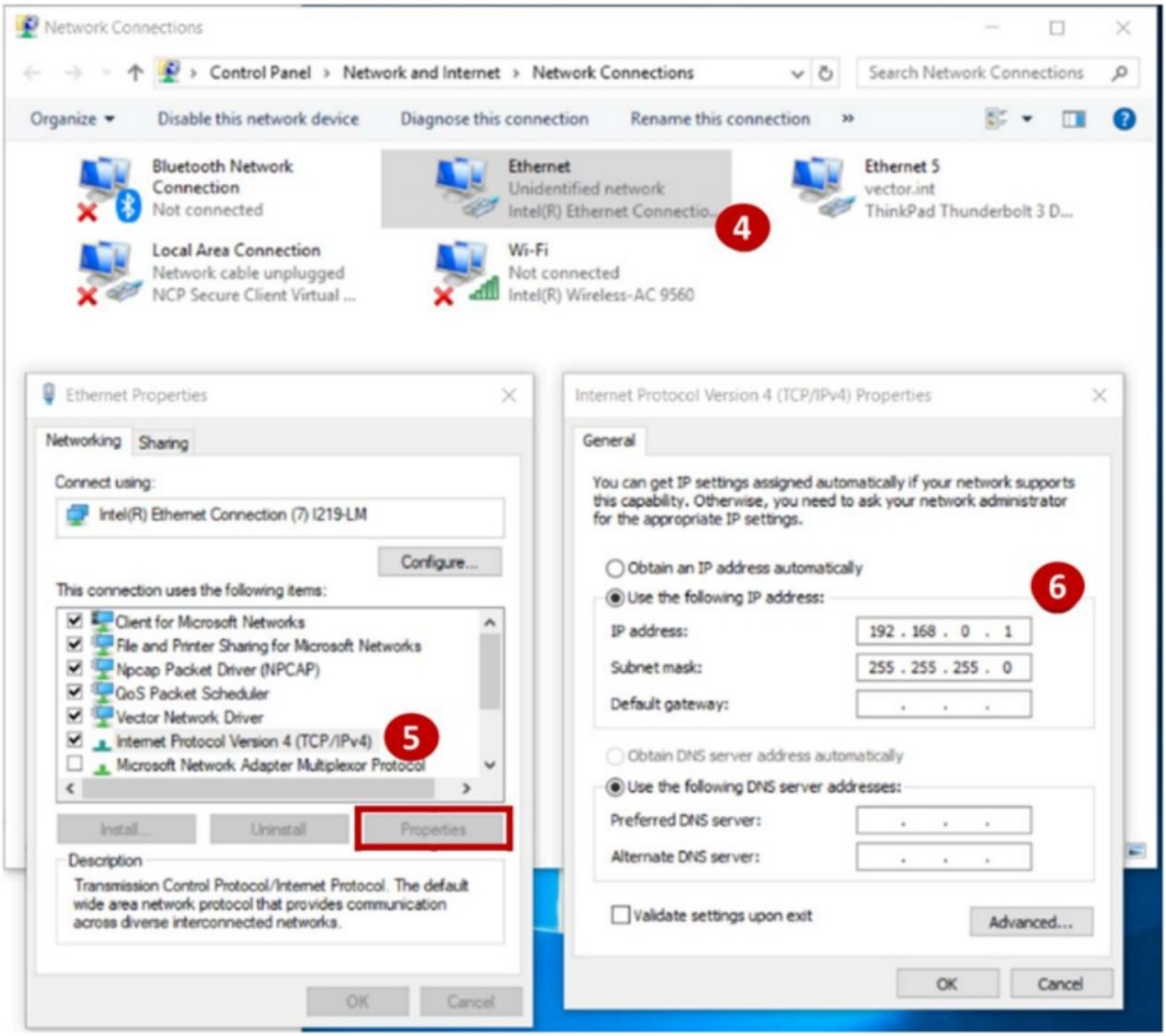

Figure 7: Channing IP address in Windows 10

7. Turn off the firewall to establish a connection between configuration PC and Smart Logger.

2.3.2 Adapt Smart Logger IP Settings

Upon delivery all Smart Loggers are configured with the IP setting described in chapter 2.1.3. To change these settings, you will have to connect at least once using matching settings on the configuration computer.
Once the adapter settings of the configuration computer are set, and the firewall is turned off follow these steps to adapt the IP settings of the Smart Logger:

1. Start the Vector Platform Manager.
2. Choose the Smart Logger from the drop-down list Selected devices.
3. After the connection between the Vector Platform Manager and the Smart Logger is established, switch to the tab Tool Platform and then to the sub-tab Network Settings.
4. Select the ETH1 / 1G LAN Port MGMT form the drop-down list Network adapter.

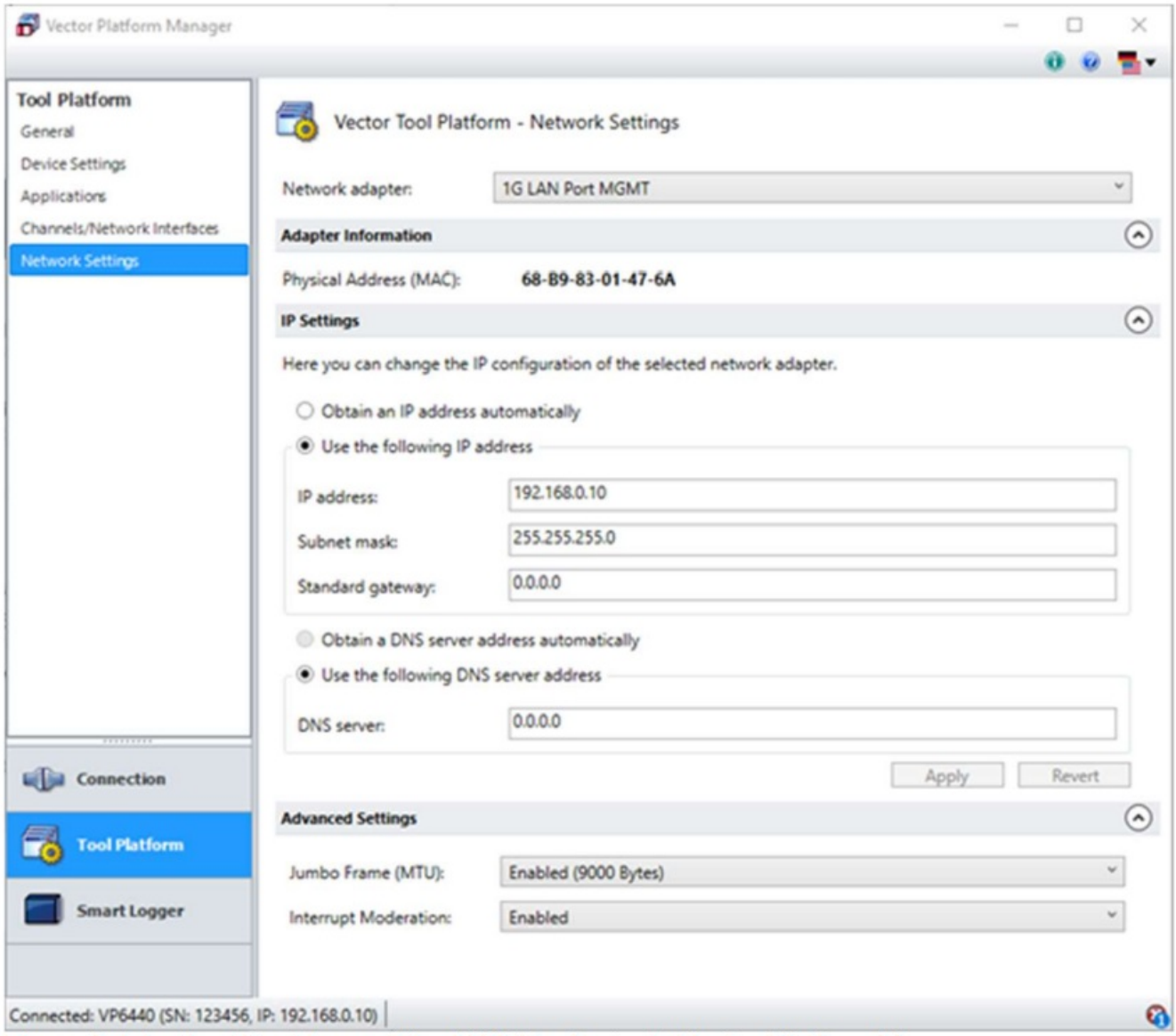

Figure 8 Adapting IP address of the MGMT adapter in Vector Platform Manager

5. Change the adapter setting in the section IP Settings.

Note The adapter settings must be set static.

6. Click the button Apply.

Note

After clicking the button Apply the connection to the Smart Logger will be lost. You will then have to adapt the network adapter settings of the configuration computer to match the new IP settings of the Smart Logger before reconnecting.

Smart Logger Configuration

Vector Smart Loggers are available in two version, as vMeasure log and CANape log. The configuration tools for these two versions are vMeasure and CANape, respectively. In terms of configuring a Smart Logger both versions are alike.

3.1 Connecting the Configuration tool to your Smart Logger.

1. After setting up the hardware and configuring the Ethernet interfaces, as described in chapter 2, boot the Smart Logger. Ensure, that the firewall of the configuration PC is turned off.
2. Start the configuration tool.

3. Create a new project in vMeasure or a new container project in CANape.
4. Switch to the ribbon Logger.

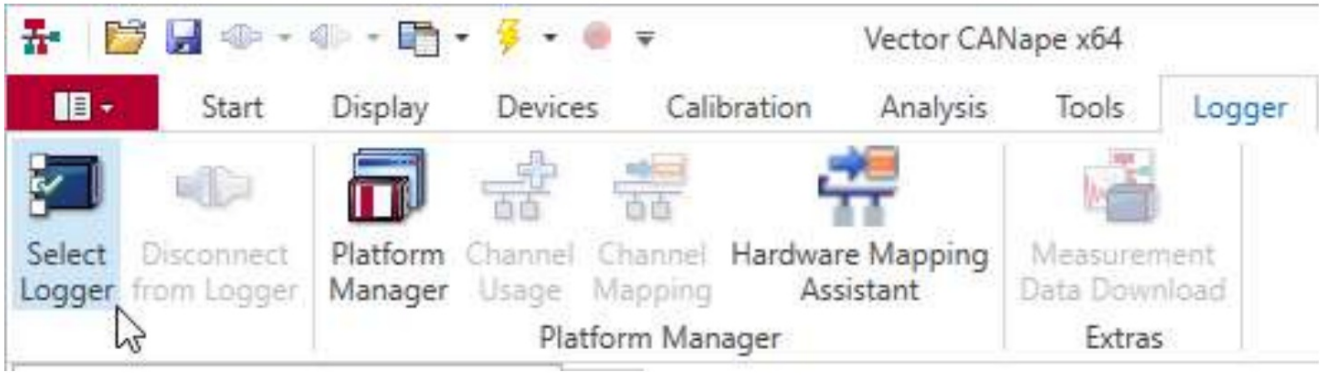

Figure 9: Logger ribbon in Vector CANape

5. Click on Select Logger to open the Smart Logger selection dialog.
6. Select your Smart Logger and confirm the dialog.

Note

The red frame around the configuration tool GUI depicts, that you are now connected with the Smart Logger. Any modification done in the configuration tool is executed on the Smart Logger. The configuration of interfaces connected to or built-in the Smart Logger is done from the ribbon Logger.

3.2 Transferring existing Project

1. Follow the steps described in chapter 3.1. However, instead of creating a new project in step 3 load your existing project to the configuration tool.
2. With step 6 the existing project is deployed to the Smart Logger.
3. Connect all devices to the Smart Logger.
4. Check on the ribbon Logger that the channel mapping of the Smart Logger matches the project.

Note

Existing project might need to be adapted to the logging use-case. The Smart Logger usecase dictates an autonomous operation.

3.3 Starting a measurement

With the configuration tool a measurement is started by clicking on the lightning icon Start on the ribbon Start or in the quick access tool bar.

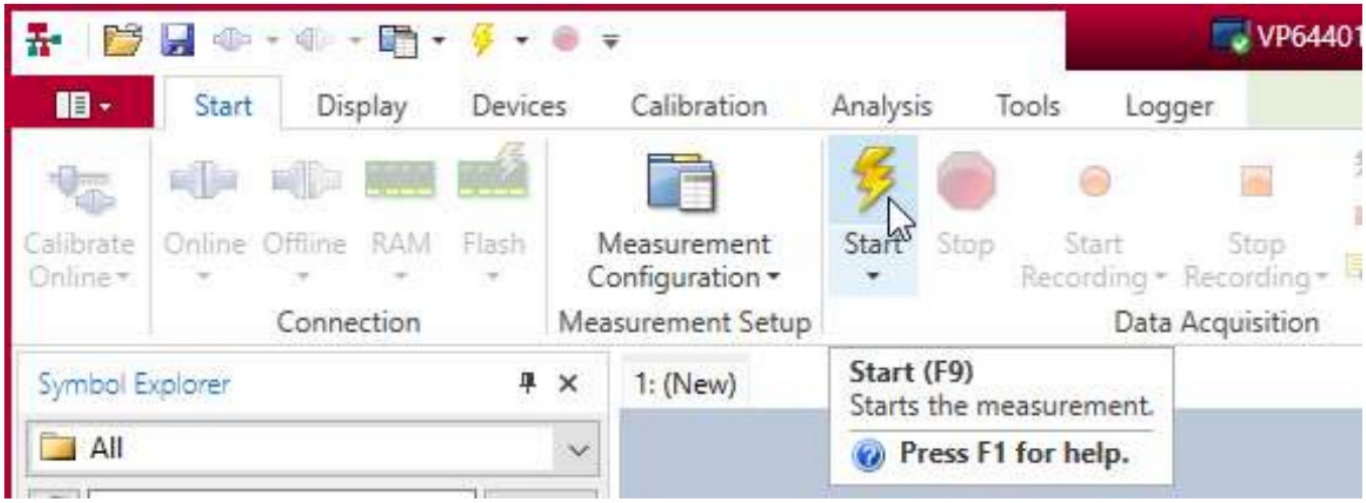

Figure 10: Starting a measurement in CANape

Every reboot of the Smart Logger starts a new measurement.
The recording of measurement data can be configured separately. Check the recorder configuration within the Measurement Configuration on the ribbon Start.

3.4 Downloading recorded data

1. Click on Measurement Data Download on the ribbon Logger.

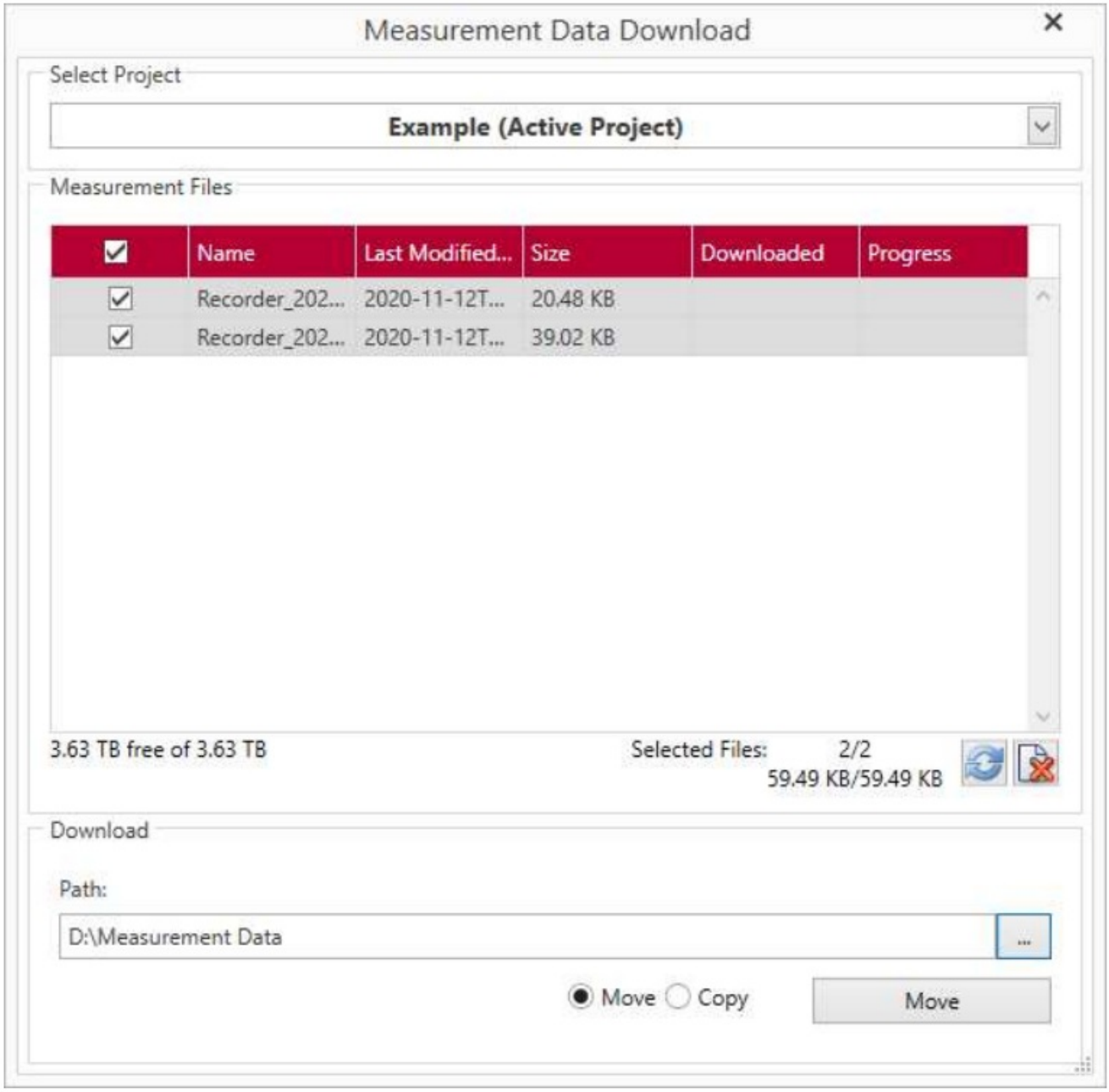

Figure 11: Measurement Data Download

2. All measurement files recorded with the currently active project are listed in the section Measurement Files. To download data from previously used project, scroll through the drop-down menu. Select Project at the very top of the dialog.
3. Select individual files or all files to be downloaded from the Smart Logger.
4. State the directory the measurement data shall be downloaded to and if you want the data to be moved or just copied.
5. Click the button Move/Copy to start the download.

Mobile UI

The Mobile UI is a web-based user interface that allows you to pause and resume recordings, monitor vital Smart Logger properties and display currently recorded signals. The mobile UI can be accessed with any browser from any WiFi connected device.

Note

The VP6400 is available with in-built WiFi adapters in the EU only. For all other countries please use an external WiFi adapter from LM Technologies. Driver sets for the WiFi adapter LM007 and LM808 are included in the Smart Logger OS.

4.1 Connecting via WiFi

1. Set up a hotspot with the device you want to display the mobile UI with. For details on how to set it up please have a look in the manual of your device.
2. Connect an external WiFi adapter to the Smart Logger (skip this step if your VP6400 has an inbuilt WiFi adapter.)
3. Disable the firewall on your computer.
4. Start the configuration tool.
5. Switch to the ribbon Logger.
6. Click on the button Platform Manager to open the Vector Platform Manager.
7. Select your Smart Logger from the drop-down list in the section Device Selection.

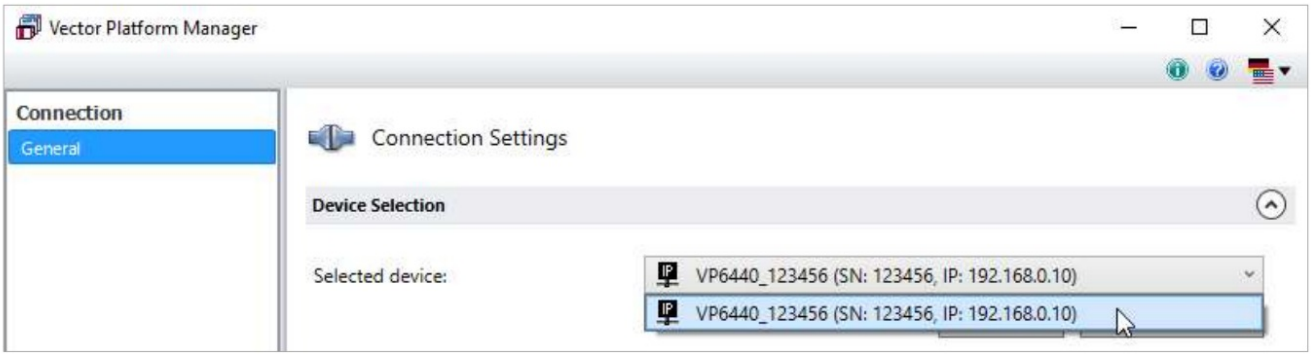

Figure 12: Device selection in Vector Platform Manager

8. Switch to the ribbon Tool Platform and there to the sub-ribbon Network Settings.
9. Select the WiFi Adapter form the drop-down list Network adapter.
10. In the section WLAN Settings switch the mode to Infrastructure. All available WiFi networks in range are listed in the table Infrastructure.
11. Select the network referring to your hotspot and connect to it.

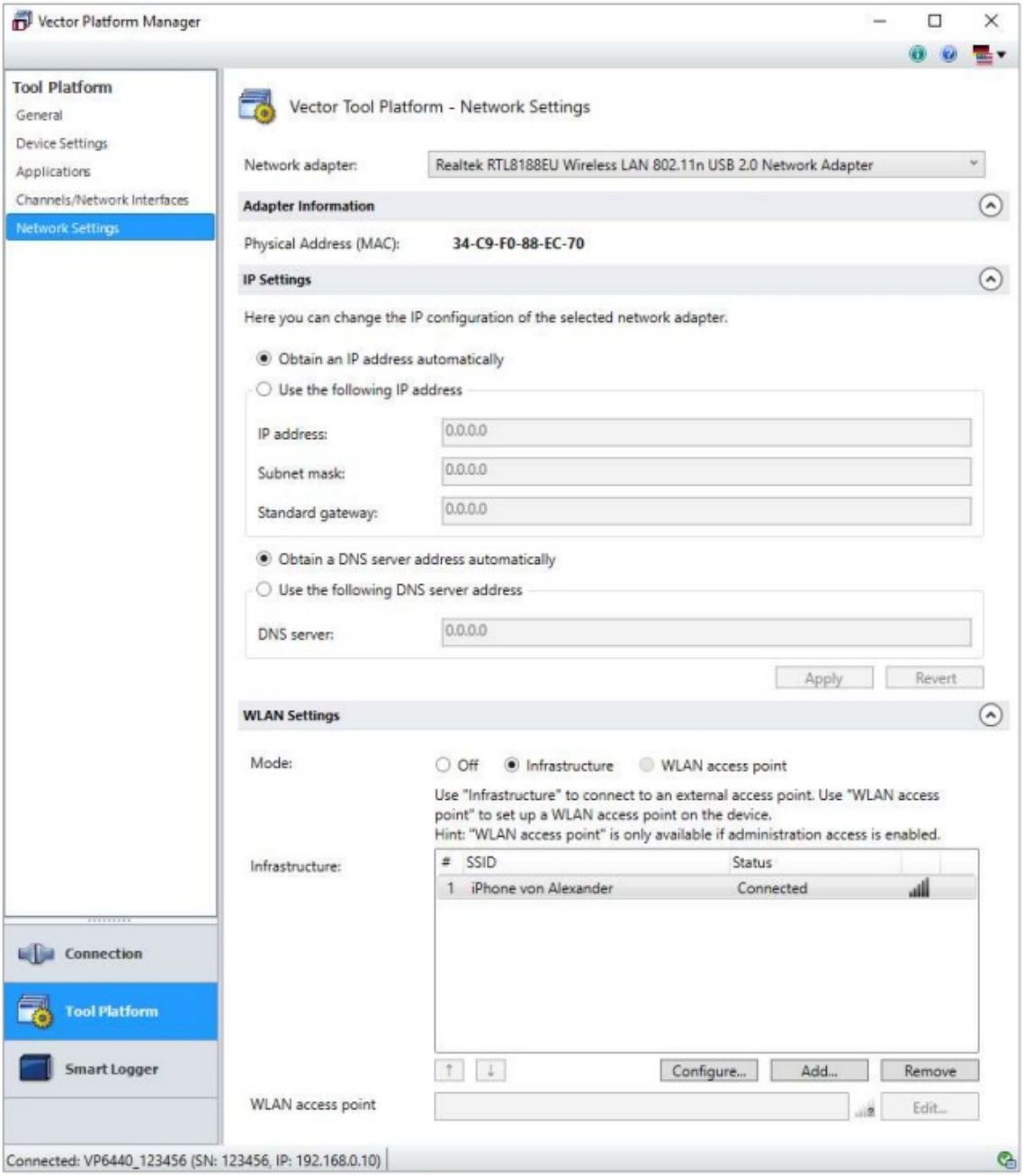

Figure 13: Selection of network in Vector Platform Manager

12. After connection is established refresh the display page, e.g. by switching the sub-ribbon back and forth. The IP address of your Smart Logger is displayed in the section IP Settings.

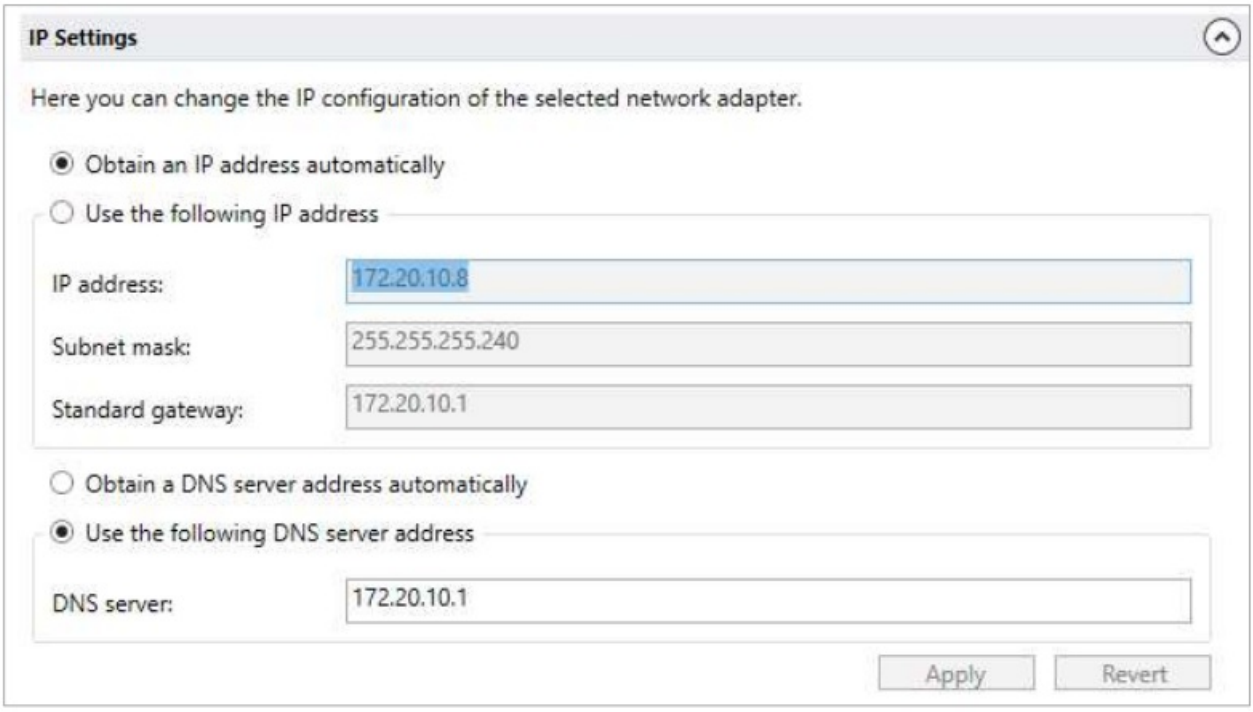

Figure 14: IP Settings

13. Type in the IP address the browser of the device you want to display the Mobil UI in. Your browser will be automatically redirected to the Mobile UI.

Additional Resources

> **VP6400 Product Family Manual**
> **> VP7400 Product Family Manual**
> **> VP7500 Product Family Manual**

Contacts

For a full list with all Vector locations and addresses worldwide, please visit **https://vector.com/contact/**.

Documents / Resources

	**VECTOR Smart Logger** [pdf] User Guide Smart Logger, Logger, PMC61

References

- Vector Group | Vector