

SierraNet™ M648 Quick Start

Before Starting

Use this document for quick installation and setup. If you experience problems or need more information, see the *Net Protocol Suite User Manual* on the Installation DVD-ROM or at the Teledyne LeCroy web site. For details about the latest software version, see the Readme file on the Installation DVD-ROM.



SierraNet M648 Protocol Analyzer

1 Introduction

The SierraNet M648 analyzer is Teledyne LeCroy's 16, 32, 64G Fibre Channel; and 10, 25, 40, 50, 100, and 200* Gbps Ethernet (* via the QSFP-DD connections) Analyzer platform. It has four (4) Analog Pass Through SFP-56 ports; four (4) Digitally Retimed SFP-56 ports and two (2) Analog Pass Through/Digitally Retimed QSFPDD-56 ports. Up to 64 GB of capture memory allows for capturing of extensive line-speed data. The analyzer can be controlled either via a one (1) Gigabit Ethernet connection to the local network or via a USB connection.

The SierraNet M648 provides the user with easy-to-understand control panel and LED indicators. Major features of the M648 include triggering on back-to-back events, use of counters within trigger conditions, and multi-state (up to 24) triggering and filtering state machines with four transitions per state and FlexPort, which allows concurrent Ethernet and FC analysis.

The Net Protocol Suite™ software for controlling the analyzer and displaying the captured data installs on the latest Microsoft® Windows® version. See the Readme file for the latest information on host-machine requirements.

2 Components

The analyzer package includes the following components:

- ◆ SierraNet M648 Analysis platform
- ◆ USB 3.0 cable, 1 meter
- ◆ Gigabit Ethernet cable, 10 feet
- ◆ 2 QSFP-4XSFP fanout copper direct attach cables 30AWG, 1 meter
- ◆ 2 SFP+ to SFP+ direct attach cables 30AWG, 1 meter
- ◆ 2 SFP to SFP direct attach cables 28AWG, 0.5meter
- ◆ 2 QSFP-DD to X8 SFP direct attach cables 30AWG, 1 meter
- ◆ DB9M to DB9F Sync cable, 6 feet
- ◆ Three prong AC power cord
- ◆ C13-C14 10A power cord, 2 meter
- ◆ DVD-ROM with software and documentation
- ◆ This Quick Start guide

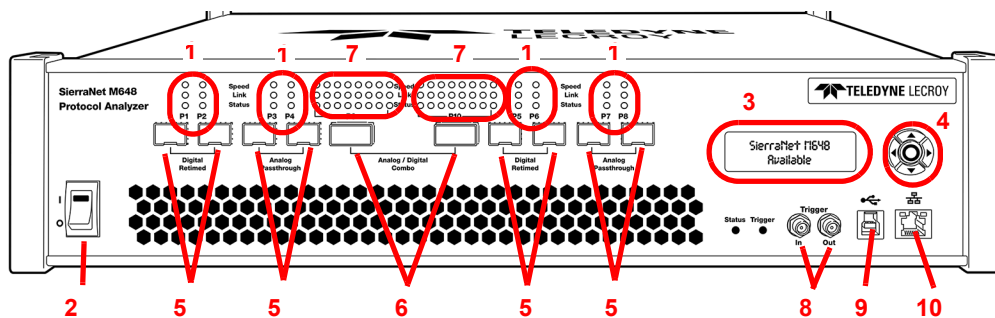
Please see the *Net Protocol Suite User Manual* on the installation DVD-ROM for component specifications and further details.

3 Unpacking the Analyzer

Inspect the received shipping container for any damage. Unpack the container and account for each of the system components listed on the accompanying packing list.

Visually inspect each component for absence of damage. In the event of damage, notify the shipper and Teledyne LeCroy. Retain all shipping materials for shipper's inspection.

4 Front Panel Description



Features

The Analyzer has the following features on the front:

- [1] LED Indicators for ports P1- P2, P3-P4, P5-P6, P7-P8 for Speed, Link and Status
- [2] Power Switch
- [3] Status and Configuration LCD Display
- [4] Front Panel 5-Buttons keypad
- [5] SFP+ 25 GbE / FC Gen6 connectors for ports P1-P2, P3-P4, P5-P6 and P7-P8
- [6] QSFP-DD connectors for ports P9-P10
- [7] LED Indicators for ports P9-P10: Bits [0:7] for Speed, Link and Status
- [8] External Trigger Input and Output (Trigger In/Trigger Out)
- [9] USB Port for host connectivity
- [10] Ethernet Port for network connectivity

Please see the *Net Protocol Suite User Manual* for details on the LEDs.

Speed LEDs

	Ethernet	Fibre Channel
Yellow	● Auto-Negotiation	● 16G FC
Green	● 10/40 GigE	● 32G FC
Blue	● 25/50/100 GigE	● 64G FC

Link Activity LEDs

Green	● Network activity Detected
Yellow	● Link up, no activity
No Color	● No link

Status LEDs

Yellow Blinking	● Waiting for trigger
Yellow Solid	● Triggered
Red	● Error detected
No Color	● No Activity

5 Front Panel Buttons

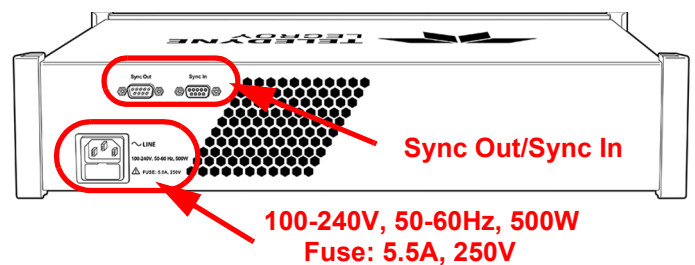
The following parameters can be viewed and/or configured directly on the front panel, using the display and 5 button keypad:

- Display of IP address
- Display of model name: "SierraNet M648"
- Connection status
- Display of unit name
- IP configuration
 - IP mode dynamic, or
 - IP mode static

6 Rear Panel Description

The back of the SierraNet M648 system has SYNC OUT / SYNC IN connectors that can be used to daisy-chain multiple analysis systems. It also has a 100-240V, 50-60Hz, 500W AC connector with a 5.5 A, 250 V fuse.

Note: Do not open the enclosure. No user serviceable parts are inside.



7 Installing the Software

1. Insert the Installation DVD-ROM into the DVD drive on the host machine. The installation automatically starts, unless Auto Run is off. In that case, select the DVD-ROM from "My Computer" and click **Setup**. Follow the instructions to complete the installation.

2. Restart the computer before using the software.

Note: If you get an error message during installation of the drivers, consult your system administrator.

8 Setting Up and Connecting

Note: You must install the Net Protocol Suite software (Section 7) before connecting the analyzer to the host machine for the first time.

To set up the analyzer:

1. Connect the Ethernet cable between the SierraNet M648 Analyzer's Ethernet Port and an Ethernet Port on the host machine, an Ethernet switch or Gigabit Ethernet interface. Alternatively, connect a USB cable from the USB port on the analyzer to the host machine. After the analyzer is turned on, the host machine will detect the analyzer and load the driver files.

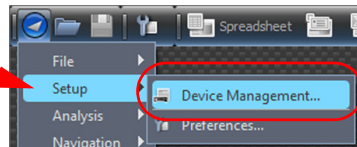
2. Connect the analyzer to a 100V–240V, 50Hz–60Hz, power outlet and turn on the Power switch. At power on, the analyzer will go through initialization as shown on the LCD display.
3. Connect your devices under test using either optical modules and fibre cables or appropriate copper cabling, suitable for your configuration.
4. Connect your devices under test to port pairs P1/P2, P3/P4, P5/P6, P7/P8 and/or P9/P10.

For an illustration of the cabling, see the Introduction chapter of the *Net Protocol Suite User Manual*.

9 Connecting the Analyzer to the Application

To launch the analyzer's application software, select **Start > All Programs > LeCroy > Net Protocol Suite**.

Select **Menu > Setup > Device Management** (see screen capture below) to display the Device Management dialog.



Connecting via USB

The application automatically detects USB-connected analyzers. No further setup actions are needed.

Connecting via Ethernet

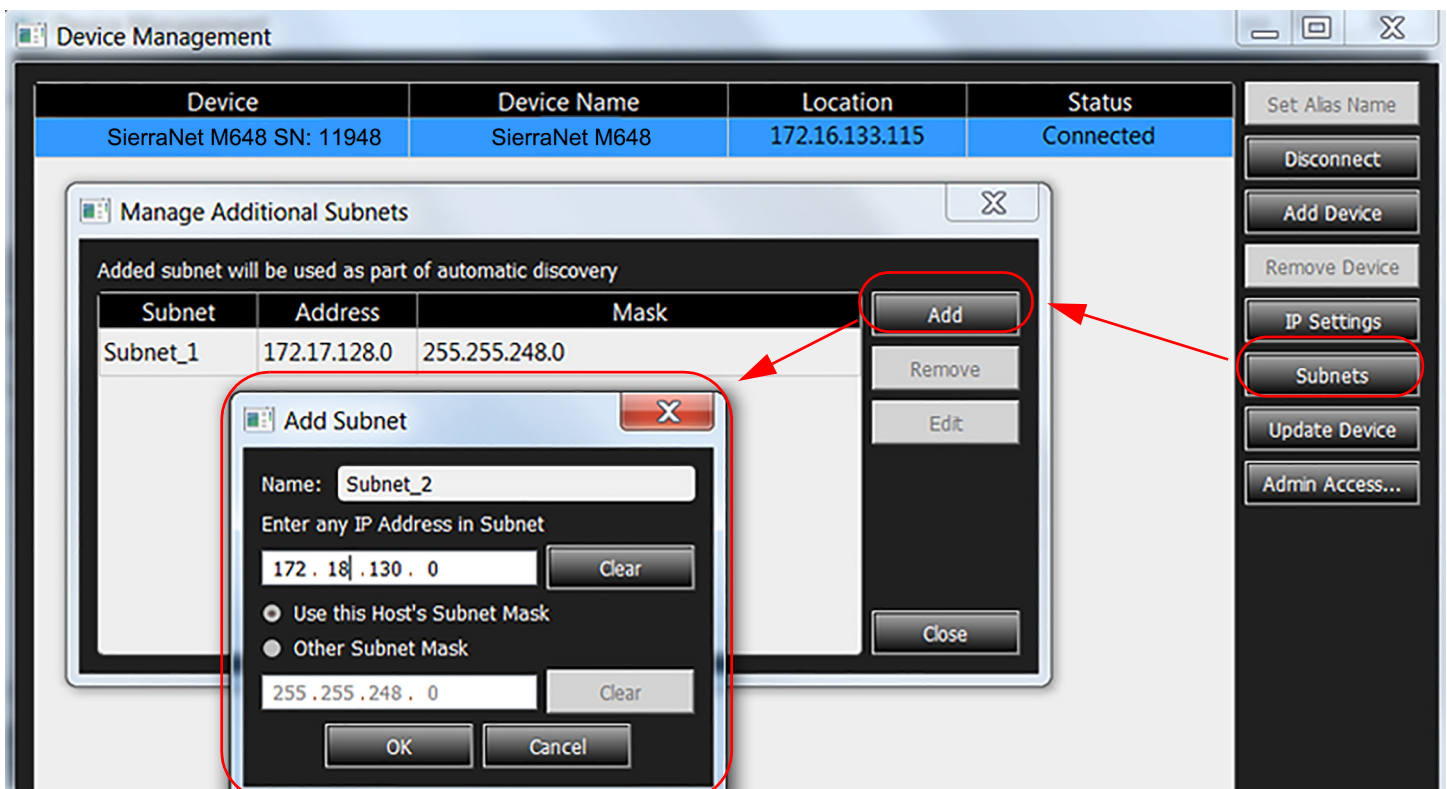
To connect to the network, the SierraNet M648 must be assigned an IP address. Typically, the IP address will be assigned automatically, if the network has a DHCP server.

Same Subnets

Once the IP Address is assigned, the SierraNet M648 analyzer is automatically detected by the application if the analyzer and the host machine are on the same subnet.

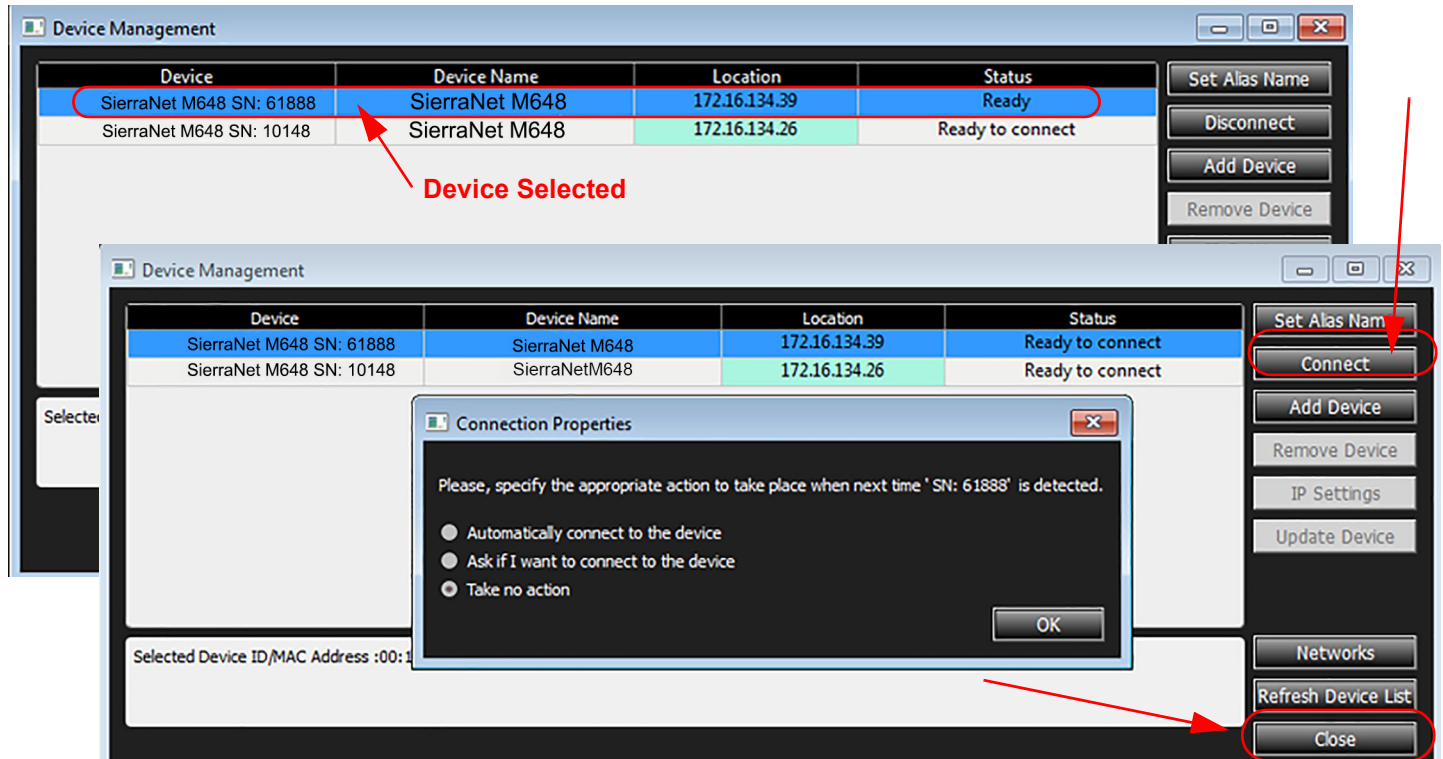
Different Subnets

If the analyzer and the host machine are located on different subnets, then the IP address of the analyzer's subnet needs to be configured manually by the user. Use the **Manage Additional Subnets -> Add Subnet** feature by clicking the **Subnet** button in the **Device Management** dialog (see below).



Click **Refresh Device List** (see screen captures below) to display all the devices on the network. Select a device and click **Connect**.

To start using the protocol analyzer and software, see the S/W and H/W Installation and Setup chapter of the Net Protocol Suite User Manual.

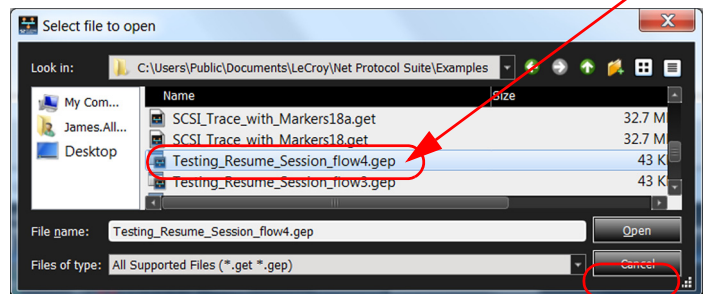
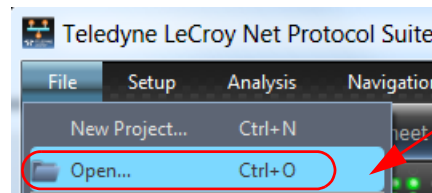
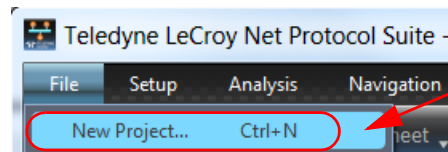


10 Operating the SierraNet M648 System

Before operating the system, review the Net Protocol Suite User Manual (accessible from the application's Help menu) to get familiar with the capabilities and settings. The default capture mode is 'Easy Mode' on the Analyzer's Triggering/Filtering Settings.

Getting Started with Protocol Analysis

To use the SierraNet M648 software for protocol analysis, select **File > New Project** for a new protocol analyzer project or open one of the sample projects from the Examples folder (look for a .gep file).



Teledyne LeCroy Customer Support

Online Download

Periodically check the Teledyne LeCroy Protocol Solutions web site for software updates and other support related to this product.

Web: teledynelecroy.com/tm/software/PSG

E-mail: psgsupport@teledyne.com

Support: teledynelecroy.com/support/contact



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