



# Quick Start Guide

## Computer System Requirements

### Supported Systems

- Operating System: Windows 10 and 11
- USB: USB 2.0 and later

### Minimum Requirements

- Processor: Core i5 at 2.7 GHz
- RAM: 4 GB
- Free Hard Disk Space on C: drive: 20 GB

## Install Software

- From Download: Download the latest Frontline installer from FTE.  
<https://fte.com/products/default.aspx>. Once downloaded, double-click the installer and follow the directions.

When the installation is complete pin the Wireless Protocol Suite icon to your taskbar.



## 1. Sodera LE Front Panel

Frontline Sodera LE front panel is shown below. The panel provides controls to power up and shut down the Frontline Sodera LE hardware, and it provides indicators to show the power and capture status.



Sodera LE Front Panel Controls and Indicators

Table 1 - Sodera LE Front Panel Controls

Control	Description
<b>ANTENNA</b>	Connect to the front panel antenna SMA connector. Used for wideband wireless capture of <i>Bluetooth</i> Low Energy transmissions.

Table 1 - Soder LE Front Panel Controls (continued)

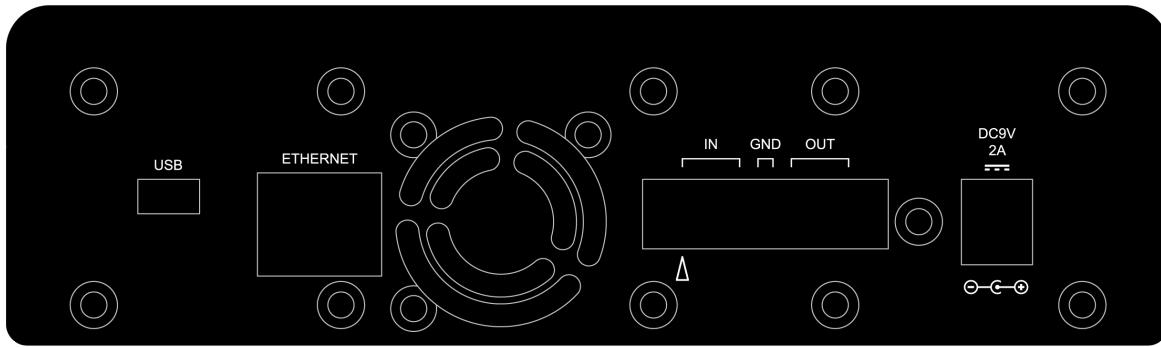
Control	Description
	Maximum useable signal level: -10 dBm.
<b>WIRED</b>	Low sensitivity RF input suitable for conductive testing that utilizes a wired connection from the devices under test (DUTs). Conductive testing allows for isolation of the DUTs from environmental interference.  Maximum useable signal level: 27 dBm.
<b>OVERLOAD</b>	RF overload indicator. If the RF signal level on either the ANTENNA or WIRED connector is too high, then this LED will light red. RF overload occurs when the signal level is greater than 27 dBm. Should an RF overload occur with the ANTENNA in use, try switching to the less sensitive WIRED connector to relieve the problem.
<b>POWER</b>	LED illuminates when the Soder LE unit has been powered up using the power button. See <a href="#">Table 2 - Soder LE Front Panel Power and Overload Indicators on page 2</a> for more information.
<b>EXT CLOCK</b>	Not used.
<b>Power Button</b>	Press and then release the button to power on or power off the system.

Table 2 - Soder LE Front Panel Power and Overload Indicators

Indicator	Color	State	Status Indicated
Power	None	Off	Unit is powered off.
	Green	Constant	Unit is powered on.
	Amber	Constant	Unit is powering on.
	Red	Blinking	Unit has reached thermal overload. See <a href="#">Applying Power on page 3</a> .
		Constant	Unit has reach thermal overload and has shut down. See <a href="#">Applying Power on page 3</a> .
Overload	Red	Occassional	Illuminates each time RF power at the Antenna or Wired connectors has exceeded 27 dBm.

## 2. Soder LE Rear Panel Connectors

The rear panel is shown below. The panel provides connectors for external power and for connection to the computer hosting the Wireless Protocol Suite software.



Soder LE Rear Panel Connectors

**DC9V:** 1.7 mm jack connector to the Frontline supplied AC-to-9 VDC power adapter.

**USB :** USB 2.0 port for connecting the Soder LE unit to the host computer where the Wireless Protocol Suite software resides. This connector provides host computer command, control, and data transfer.

**Note:** All other connectors are not used.

### 3. Attach Antenna



Antenna Attachment Point

Remove the Frontline Soder LE hardware from the box and attach the antenna to the **ANTENNA** SMA connector on the front panel.

### 4. Applying Power

The Soder LE hardware is powered by an external 9 VDC power source using an AC-to-DC power adapter.

**Note:** Only use the Frontline supplied power adapter. Do not substitute another power adapter.

To apply power to the Sodera LE hardware, connect the provided AC-to-DC power adapter to the **DC9V** connector on the rear panel and then connect the adapter into an AC source.

To start the Sodera LE hardware, depress the Power button on the front panel and then release. This action will provide a clean start for the Sodera LE hardware.

The front panel **Power** LED indicator will be green.

Should the Sodera LE hardware reach thermal overload temperature between 50 °C and 60 °C (122 °F and 140 °F), it will shut down.

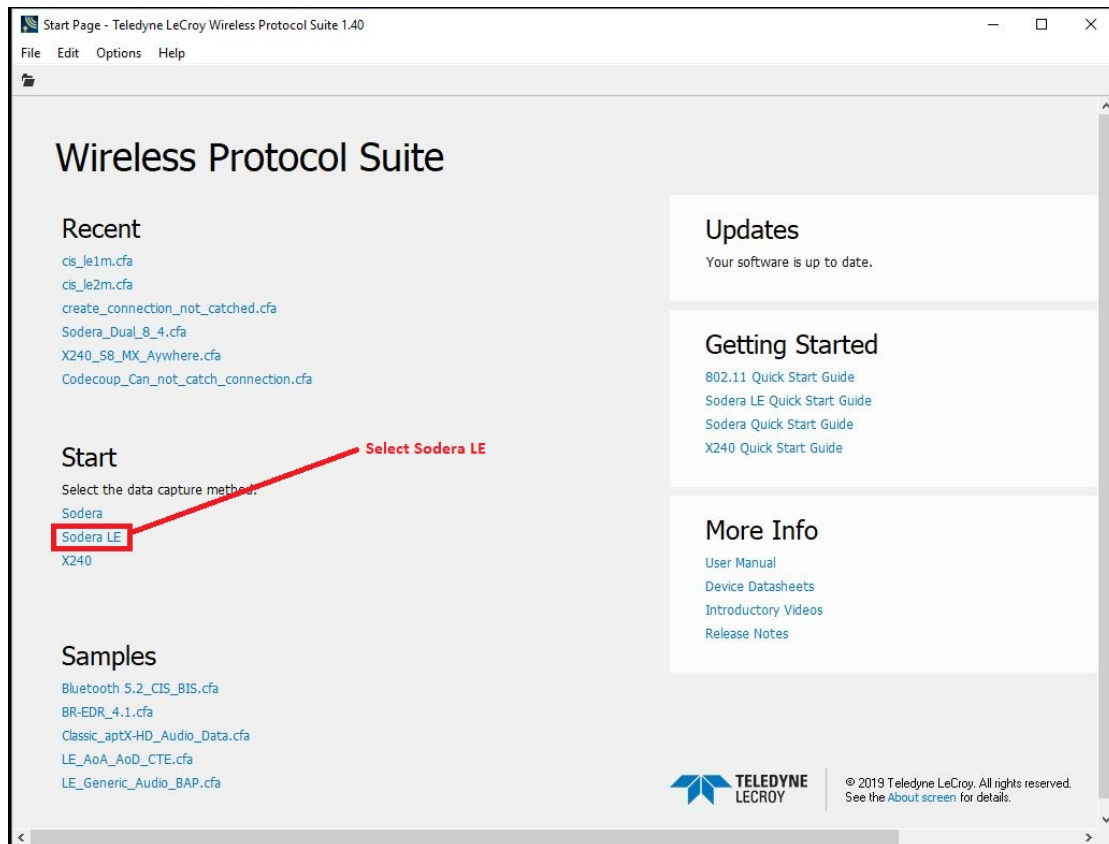


Sodera LE Rear Panel Airflow

If the fan becomes blocked, the Sodera LE unit will power down. Should this happen check that nothing is blocking the airflow to the unit's air inlet, or that nothing is impeding the fan from spinning freely. Clear any obstructions and then apply power to the unit.

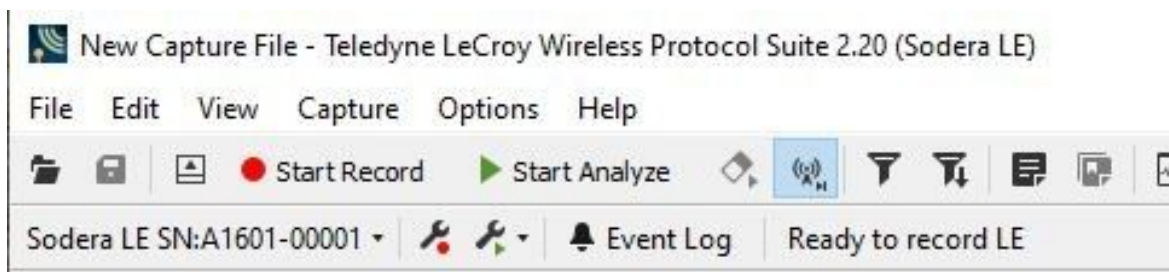
## 5. Sodera LE Data Capture Method

When the **Sodera LE Analyzer** is connected to the Host PC running the **Wireless Protocol Suite** the **Start Page** window will display the **Sodera LE** option.



**Wireless Protocol Suite Start Page**

Select Sodera LE to bring up the Wireless Protocol Suite window. When the Main Application Window is Displayed, you will see toolbars with the following functions:



**Sodera LE Toolbars**

To begin recording Bluetooth traffic, click on the **Start Record** button. Addresses of captured *Bluetooth* devices will appear on the **Device Database** View. The Device Database is available from menu in the toolbar.

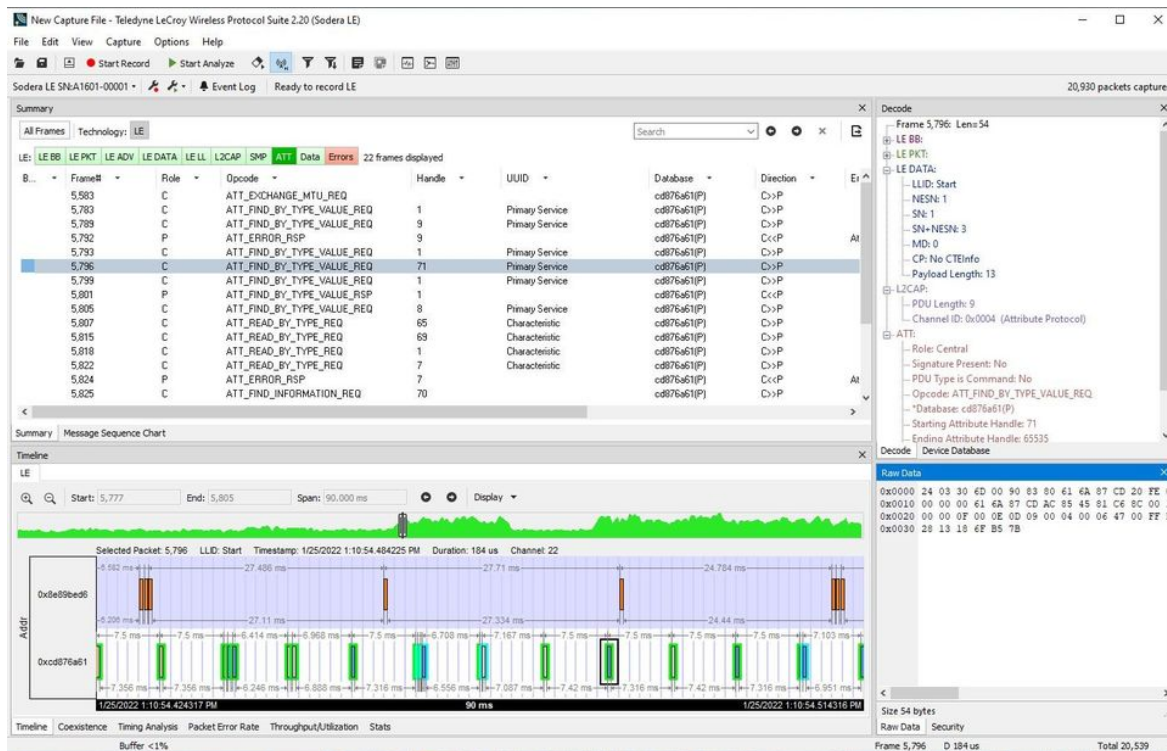


Select **Sodera LE** to bring up the **Wireless Protocol Suite** window. The **Sodera Main window** icon will be placed in your taskbar at the bottom of your screen.



Wireless Protocol Suite Application Icon

## 6. Wireless Protocol Suite



Sodera LE Control Window

## 7. Record: Begin Capture

When starting a capture session all of these actions occur:

- The active status of all devices is cleared in the **Device Database** pane and the **Wired Devices** pane.
- The **Security** pane is emptied.
- The **Event Log** pane retains all prior logged events.



On the **Wireless Protocol Suite** Toolbar, click on the **Start Record** button or select **Start Record** from the **Capture** menu option. The **Start Record** button is also available in the **Wireless Protocol Suite** main window. In the Main window you can also select **Start Recording** from the **Capture** menu option. When the **Start Record** button changes to **Stop Record**, the Sodera hardware is capturing data from all active **Bluetooth** devices within range and is recording data on the PC.

#### ■ Stop Record

On the **Wireless Protocol Suite** Toolbar, clicking on the **Stop Record** button, or selecting **Stop Recording** from the **Capture** menu options will halt live capture. From the Main window you can click the **Stop Record** button or select **Stop Recording** from the **Capture** menu list to stop recording as well.

The **Device Database** View populates with any newly discovered devices. Selecting devices for analysis can be done while recording.

The **Security** View will show all encrypted *Bluetooth* links.



The **Event Log** View will begin to populate with information, warnings, and error messages.

The **Status Bar** will show a running total of captured packets.

**Note:** Starting a new capture session will clear all unsaved data from both the Sodera hardware and the **Wireless Protocol Suite**. If it has not been saved, then a pop-up warning message will appear.

## 8. Selecting Devices for Analysis

Once a capture session starts by clicking on **Start Record** on the Main Window Toolbar, data from all active devices within range or data from wireless or wired connections is being captured. To analyze the data using the **Wireless Protocol Suite**, select specific devices of interest to include in the analysis.

In the **Device Database** view, place a check in the row of each active device   to be analyzed. Active devices can also be selected while the recording is in process.

**Note:** Data filtered by the device selection is an “OR” function, not an “AND” function. When selecting device1, device2, device3,... the recorded data filtered into the analyzer is data involving device1 OR device2 OR device3 OR .... However, if in the Options menu, analysis of LE Empty packets is selected, an AND function is included. For example: (device2 AND LE Empty packets) OR (device3 AND LE Empty packets).

The following table lists some common data capture and device selection scenarios.

Once Devices are selected, analysis of the capture can begin.

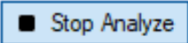
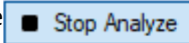
## 9. Starting Analysis

#### ▶ Start Analyze

The analysis begins by clicking on the **Start Analyze** button in the **Wireless Protocol Suite** Main window. The Sodera LE analyzer will begin sending captured packets involving the selected device to the **Wireless Protocol Suite**.

#### ■ Stop Analyze

Once analysis has begun, you cannot change the device selection. All device rows in the **Device Database** View are grayed-out. To stop the analysis, click on the **Stop Analyze** button. You can then change your device selection and restart analysis by clicking on the **Start Analyze** button.

To stop the analysis, click on the  button in the Sodera datasource or click the  button on the **Wireless Protocol Suite** Main window. You can also select the **Stop Analyze** option in the **Capture** menu in the Sodera datasource or **Stop Analyzing** option in the **Capture** menu in the Main window as well.

Conducting analysis from a capture file is identical to the live capture method.

**Wireless Protocol Suite:** Main Window

**Wireless Protocol Suite:** Main Window

The Application Window icon will be shown in your task bar, see below:



Wireless Protocol Suite Application Icon

## 10. Saving Analyzed Data to Disk

**Note:** **Start Record** is not available when viewing a previously recorded Capture file. **Start Analyze/Stop Analyze** is available in **Wireless Protocol Suite** application window, allowing different analyses to be performed on previously recorded and saved captures.

**Note:** Choose File Location from the File menu to change the default file location.

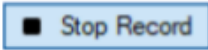
1. Click on either
  - the **Start Record** button on the datasource toolbar,,
  - or the **Start Record** under Capture in the datasource,,
  - or the Start Recording under the Capture option in the Main window.


The Sodera LE analyzer will begin capturing data from all wireless devices within range.

2. In the **Device Databases** View select the active devices for analysis.
3. : Click on either
  - the **Start Analyze** button Start Analyze under the Capture menu in the Sodera LE datasource window,
  - or c lick on Start Analyze button in the Wireless Protocol Suite Main window,
  - or Start Analyzing under Capture menu

to begin capturing data traffic.

4. Files are placed in **My Capture Files** folder by default and have a .cfa extension.
5. Watch the Status Bar on the Wireless Protocol Suite Main window to monitor how full the file is.

6. Click on **Stop Record**  button to stop recording.

7. Click the **Stop Analyze**  button to stop analyzing.





8. To clear captured data, click the **Clear** icon .

- If you select **Clear** after stopping analysis, a dialog appears asking whether you want to save the data.
  - You can click **Save File** and enter a file name when prompted .
  - If you choose **Do Not Save**, all data will be cleared.
  - If you choose **Cancel**, the dialog closes with no changes.
- If you select the **Clear** icon while a capture is occurring:
  - The capture stops.
  - A dialog appears asking if you want to save the capture.
  - You can select **Yes** and save the capture or select **No** and close the dialog. In either case, the existing capture file is cleared and a new capture file is started.
  - If you choose **Cancel**, the dialog closes with no changes.

**Note:** The Sodera LE/Frontline software system does not support host PC hibernation or sleep mode. If the PC does inadvertently go into hibernation or sleep mode, the user should close and then restart the Frontline software.

## 11. Sodera LE Technical Specifications/Service Information

- Dimensions: 160 mm wide X 56 mm tall X 167 mm deep (6.3" X 2.2" X 6.6" )
- Weight: 1.4 kg (3.1 lb)
- Humidity: Operating: 0% - 90% (0 °C – 35 °C), non-condensing
- Temperature: 0 °C to +40 °C (32 °F to +104 °F)
- Power Input: 9 VDC (tip positive)
- Max Power: 12 W

## Service Notes

The Sodera LE hardware does not contain any user serviceable items. Any repairs and maintenance must be performed by a service technician that has been trained and approved by Frontline.

Before any service is performed on the Sodera LE hardware, all power sources must be removed. This includes disconnecting any power sources from the **DC9V** input power connector on the rear panel.

*This quick start guide provides sufficient information to begin the data capture. Detailed hardware and software information is contained in the Sodera LE User Manual. The manual is available on FTE.com.*

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