Quick Start Guide

frontline **802.11**

802.11 a/b/g/n Protocol Analyzer

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.

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1. Attach Antennas

Remove the Frontline 802.11 hardware from the box and attach the antennas to the two SMA connectors.


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2. Apply Power

1. Insert the 12 volt AC adapter DC connector int the POWER jack on the back panel.
2. Plug the 12 volt AC adapter into an AC power source. The front panel POWER light illuminates.

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3. Connect to the PC

1. Insert the USB cable into the USB jack on the back panel.
2. Insert the other end of the USB cable into a USB port on your PC.

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3. It may take as long as thirty seconds for Windows operating system to recognize that the ComProbe 802.11 is connected t the PC. The ACTIVITY light on the front panel will blink while the connection is established. When the ACTIVITY light is steady the 802.11 is ready to communicate with the ComProbe software on your PC.
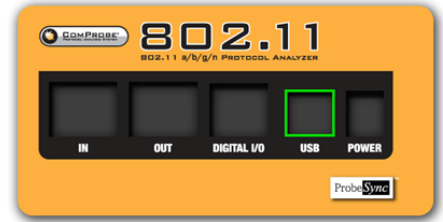
4. Connect for ProbeSync Operation (optional)

The Frontline 802.11 hardware has ProbeSync technology which allows for synchronization of Frontline hardware clocks and timestamping. One Frontline unit will act as the central unit by providing the clock to the peripheral unit receiving the clock. Do not confuse "central" and "peripheral" with *Bluetooth* device central and peripheral relationships. When using the Frontline 802.11 with a Frontline BPA 600 the BPA 600 must always be the central ProbeSync device.

802.11 ProbeSync Relationships

Central	Peripheral
No. 1 802.11	No. 2 802.11
BPA 600	802.11
Sodera	802.11

1. Using a CAT 5 Ethernet cable (less than 1.5 meters (4.9 feet)) insert one end to the central ComProbe device OUT jack.
2. Insert the other end of the cable into the peripheral ComProbe device IN jack.

## 5. Selecting a Data Capture Method

Now that the devices are on and the ComProbe 802.11 configured, the next step is to run the ComProbe software and select the data capture method.

Open (double click on) "Frontline ComProbe Protocol Analysis System" from the Start menu or from the "Frontline ComProbe Protocol Analysis System [version #] " desktop folder. Ensure that you have selected the latest ComProbe software if you have multiple versions installed.
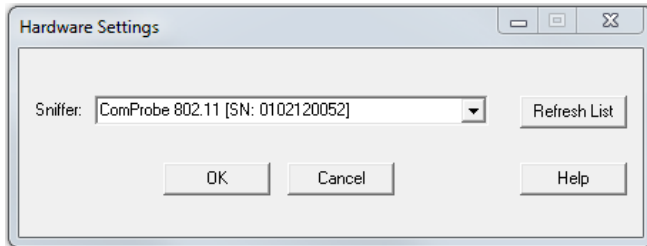
ComProbe software detects the hardware you have plugged in and automatically presents the appropriate shortcuts. If you have just a ComProbe 802.11 plugged in, you'll see only the **Virtual Sniffing** and **802.11 Air Sniffing** options presented:

1. Select **802.11**.
2. Click on the **Run** button.

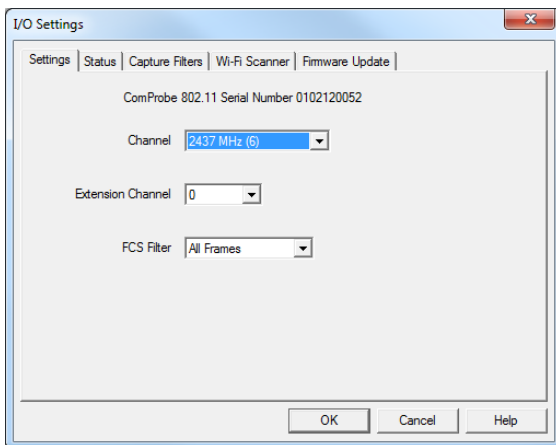ComProbe software will open with the **Control** Window .
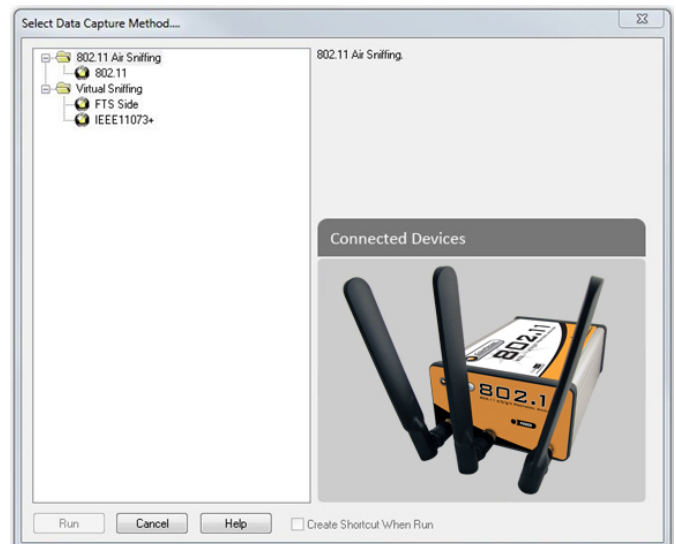
6. Hardware Settings

From the **Control Window**, select **Hardware Settings** from the **Options** menu. Verify that your ComProbe 802.11 appears in the **Sniffer** field. If the 802.11 does not appear then click on the **Refresh List** button.

Click on the **OK** button.

7. IO Settings

From the **Control Window**, select **I/O Settings** from the **Options** menu.

Channel - Select the channel you wan to capture from the drop-down.

Extension Channel - Allows you to extend the range of channels available

0 = Standard 1-14 Wi-Fi channels

-1 = Expanded channels below the standard range

+1 = Expanded channels above the standard range

FCS Filter - The Frame Check Sequence (FCS) filter selects whether or not frames with invalid FCS should be captured. Options are **All Frames**, **Valid Frames only**, and **Invalid Frames only**.

These settings are sufficient to begin a capture session. Additional I/O settings tabs provide refined capture options beyond these fundamental settings. Refer to the ComProbe User Manual provided with the installation package or on FTE.com.
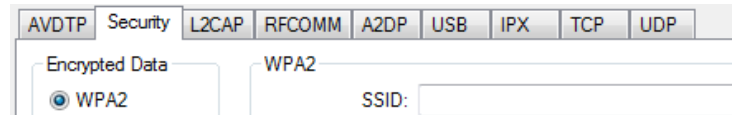
8. Security Settings

On the Set Initial Decoder Parameters dialog, the security tab allows specifying a key for software decryption of 802.11 frames.

To access this dialog:

1. In the **Options** menu on the **Control** window and choose **Set Initial Decoder Parameters.**
2. Select the **Security** tab.

Set the WPA2 or WEP parameters.

1. Select the **WPA2** radio button. This activates the **WPA2** and **WEP** text boxes.

2. There are two values to set for the **WPA2** and **WEP** keys.

   a. **WEP SSID** (Service Set Identifiers) - the station ID of the 802.11 communications link.
   b. **WEP Passkey** - .the shared passkey phrase used in communications.

3. Select **OK** to save the settings and close the dialog.

For additional information on setting up *Bluetooth* AMP or Pre-Shared Key security refer to the Frontline 802.11 User Manual.

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9. Start Capture

- Click the Start Sniffing icon on the **Control window.**
- As data is being captured, the **Capture Status** message in the **Control** window indicates the synchronization status of the 802.11 analyzer.
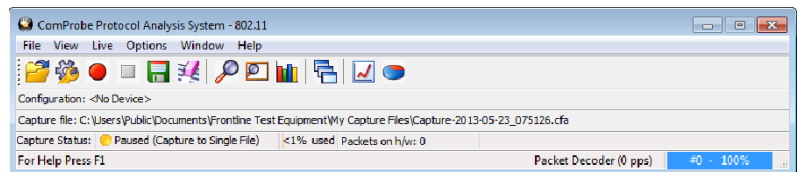
When you are capturing data, there are several important concepts to consider.

- Files are placed in **My Capture Files** by default and have a .cfa extension. Choose Directories from the Options menu on the **Control** window to change the default file location.
- Watch the status bar on the **Control** window to monitor how full the file is. When the file is full, it begins to wrap , which means the oldest data will be overwritten by new data.
- Click the **Stop** icon to temporarily stop data capture. Click the **Start Capture** icon again to resume capture. Stopping capture means no data will be added to the capture file until capture is resumed, but the previously captured date remains in the file.

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10. Analyze Data

From the **Control window** toolbar select the following icons to view and analyze the captured data.

- Event Display - for framed data, used to conduct byte-level analysis.
- Frame Display - for framed data, used to conduct protocol-level analysis.
- Show Statistics- supplies basic information about the data on the network..
- Coexistence View -provides a graphical view of packet in time sequence.
- Wi-Fi Error Statistics - displays the percentage of packets with and without errors in a pie chart and in a table.

This quick start guide provides sufficient information to begin the data capture. Detailed hardware and software information is contained in the Frontline 802.11 User Manual. The manual is available on FTE.com.