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1 INTRODUCTION

The **ZIC2410USB-WNA Wireless Network Adapter (WNA)** in conjunction with the ***Packet-Analyzer*** software monitors traffic over an IEEE 802.15.4 channel by capturing Over-The-Air (OTA) RF packet data in real-time. In addition, it supports a 2.4 GHz RF network and can scan channel levels. This document describes the **ZIC2410USB-WNA** and the installation and functions of the ***Packet-Analyzer*** program.

1.1 REFERENCED DOCUMENTS

Category	Document Code	Document Name
Software Manuals	*zic11_getstrt_sm*	***ZIC2410 Getting Started Guide***
	zic00_devpro	***ZIC2410 User Guide Device-Programmer Software Manual***
Hardware Manuals	*zic20_usbwna_ug*	***ZIC2410USB-WNA User Guide***

1.2 PREREQUISITES

Prior to running the ***Packet-Analyzer*** software the following should be performed:

- Software: The ***Packet-Analyzer*** application and the ***CP2101 USB Drivers*** should be installed.
- Hardware: A **ZIC2410USB-WNA Wireless Network Analyzer** should be connected to the PC.
- Hardware: An active network should be within the range of the WNA in order to observe functioning performance.

2 INSTALLATION

The CEL ***Packet-Analyzer*** application has been tested under the Windows XP Professional operating environment. Support for Windows Vista is untested and cannot be guaranteed, but successful operation has been reported once Windows XP Compatibility has been enabled. For details on enabling Windows XP compatibility in the Windows Vista operating system see Appendix A of this document.

2.1 INSTALLING THE *PACKET-ANALYZER* PROGRAM

The installation program for the CEL ***Packet-Analyzer*** application can be found on the CD in the **\ZIC2410\Tools\CEL ZigBee Packet-Analyzer** directory. The following is the detailed installation procedure. The procedure below details the ***Packet-Analyzer v3.25*** installation; a later version may be included on the CD.

1) Double click **'Setup.exe'**. The screen in Figure 1 will be displayed. Click **'Next'**.

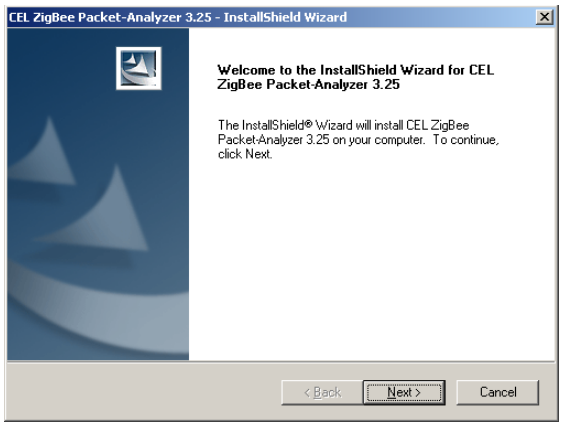


Figure 1 – *Packet-Analyzer*, Welcome

2) Read the License Agreement, select 'I accept the items of the license agreement' and click 'Next'.

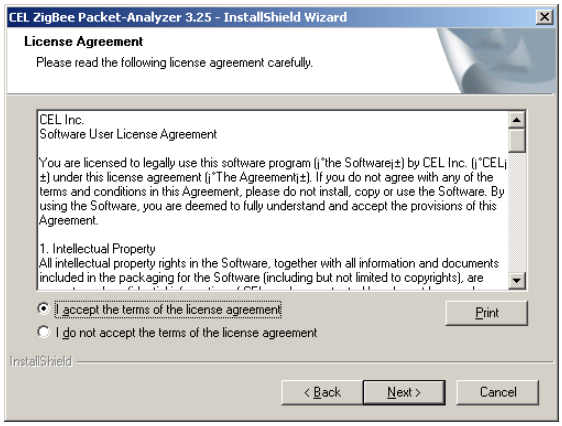


Figure 2 – *Packet-Analyzer*, License Agreement

3) Type in a user name and company name and click **'Next'**.

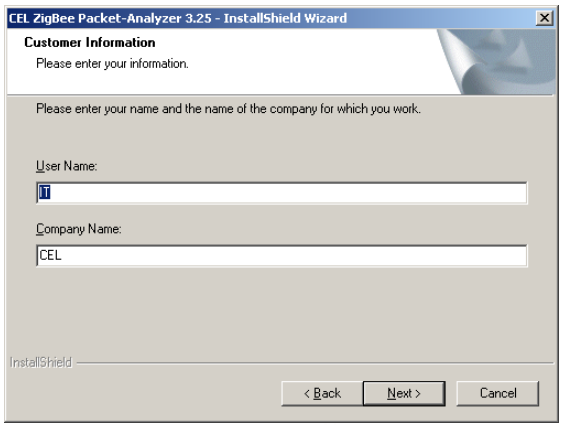


Figure 3 – *Packet-Analyzer*, Company Information

4) Select the installation path and click **'Next'**. (By default, the installation path is set to **C:\Program Files\CEL\CEL ZigBee Packet-Analyzer 3.xx**)

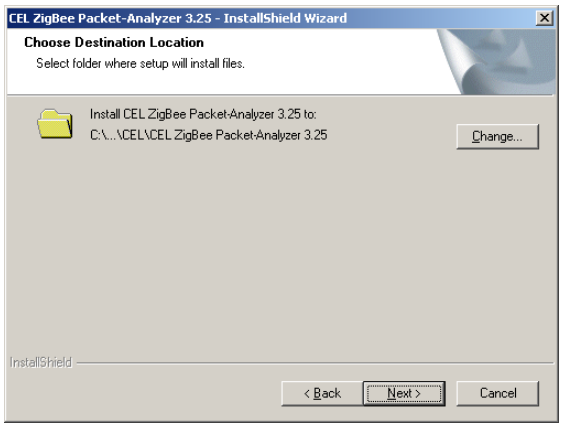


Figure 4 – *Packet-Analyzer*, Installation Location

5) Click **'Install'** to begin the installation.

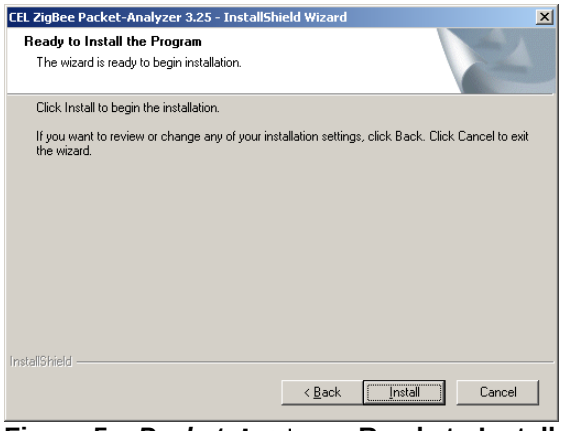


Figure 5 – *Packet-Analyzer*, Ready to Install

6) While the software is being installed, the screen in Figure 6 will be displayed

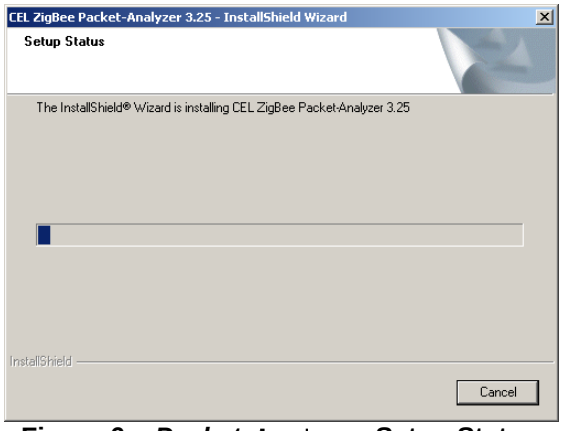


Figure 6 – *Packet-Analyzer*, Setup Status

7) When the installation is completed, Figure 7 will be display. Click **'Finish'**.

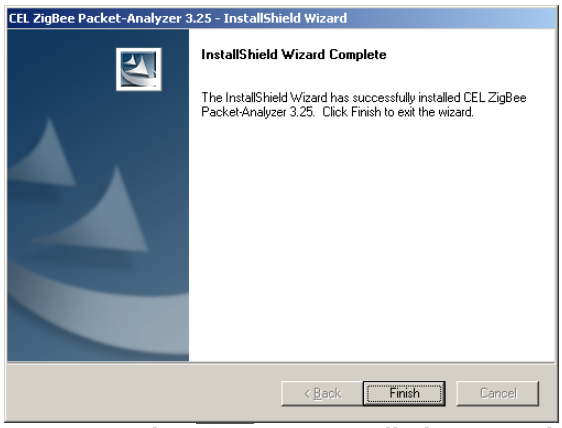


Figure 7 – *Packet-Analyzer*, Installation Complete

The CEL ***Packet-Analyzer*** application has been successfully installed. The icon

should now be displayed on the user's desktop.

2.2 INSTALLING THE USB DRIVER

In order to connect the **ZIC2410USB-WNA** to a PC through the USB port, it is necessary to install the CP2101 USB driver (if it has not already been installed). Please refer to the ***"ZIC2410 Getting Started Guide"*** for complete installation instructions.

3 CONNECTING THE ZIC2410USB-WNA TO THE PC

After finishing the installation of the ***Packet-Analyzer*** software, and loading any necessary drivers, connect the **ZIC2410-WNA** to a PC via a USB port.

A red LED indicates that the **ZIC2410USB-WNA** has been powered. The amber LED blinks when the network adapter is actively capturing data through the ***Packet-Analyzer*** software or when the ***Packet-Analyzer*** tool is scanning in the ZigBee Spectrum Scanner mode.

3.1 REGISTERING THE USB DRIVER DEVICES

When the ZIC2410USB-WNA is connected through a USB cable for the first time, the PC will respond that it has detected two pieces of new hardware, a **Cygnal USB Composite Device**, and a **CP2101 USB to UART Bridge Controller**. Complete the process of registering **both** hardware devices using the 'Found New Hardware Wizard'.

For a detailed explanation of this procedure, please refer to ***"ZIC2410 Getting Started Guide"***.

3.2 IDENTIFYING THE COM PORT

It is necessary now to determine the COM port number on the PC, to which the Wireless Network Analyzer has been assigned. Windows Device Manager on the PC can be used to do so, and to check that the hardware and associated drivers have been properly installed.

The Windows Device Manager can be accessed by right-clicking the mouse on the **'My Computer'** icon (either on the desktop or in the **'Start'** Menu). Click on **'Properties'** at the bottom of the pop-up menu. Click on the **'Hardware'** Tab and find and click on **'Device Manager'**. Double-click on **'Ports (COM & LPT)'**.

The port **'CP2101 USB to UART Bridge Controller (COM#)'** should be on the list.

For a detailed procedure for determining the COM port number (#) please refer to **"Appendix 1"** of ***"ZIC2410 Getting Started Guide"***.

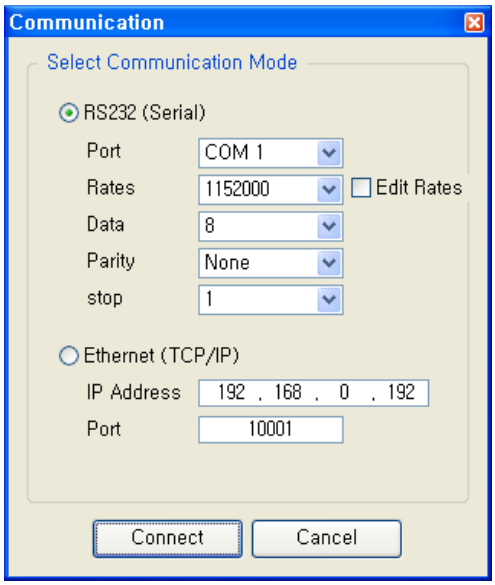
> **NOTE:** It is important to take note here of the COM port that has been assigned to the WNA. It will be needed later in this procedure for establishing a connection with the Packet-Analyzer software.

3.3 CONNECTING TO THE PROGRAM

Start the ***Packet-Analyzer*** program by double-clicking the icon on the desktop and click the **'Setup-Connection'** icon ( ). The **'Communication Window'** in Figure 8 will be displayed.

3.3.1 SERIAL CONNECTION

1) Select **'RS232 (Serial)'** for connection through a USB cable.



- **Port**: Select the COM port to which the **ZIC2410USB-WNA** is connected (as identified in Section 3.2 above).
- **Rate**: Set the Baud Rate to 115200.
- **Data**: Set the number of Data bits to 8.
- **Parity**: Set the Parity check to 'None'.
- **Stop**: Set the number of Stop bits to 1.

Figure 8 – Screen, *Packet-Analyzer* (Select Com Mode)

2) Input the five parameters above, and click **'Connect'**.

3) If the connection is successful, Figure 9 will be displayed. If not, Figure 10 will be displayed. In the case of an error, check to be sure that the correct COM port and connection parameters has been set correctly.

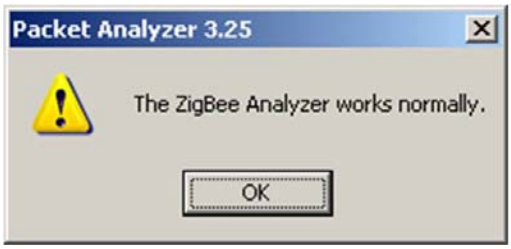


Figure 9 – *Packet-Analyzer,* Success

Figure 10 – *Packet-Analyzer*, Error

4) Click **'OK'** to continue or try again.

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