

User Guide

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W54U Wireless USB Adapter

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Chapter 1 Introduction

W54U Wireless USB Adapter complies with IEEE 802.11g and IEEE 802.11b standards, providing up to 54Mbps wireless transmission rate which is 5 times the common 802.11b products. It supports 64/128-bit WEP, WPA/WPA-PSK, WPA2/WPA2-PSK encryption and 802.1x security authentication mechanism to protect your network security. Besides, built-in omni-directional smart antenna frees you from wired cables, which allow you to share the Internet access anywhere, files and fun, easily and securely.

1.1 Product Features

- ◆ Supports IEEE 802.11g and IEEE 802.11b standards
 - ◆ Provides two work modes: Ad Hoc Mode and Infrastructure Mode
 - ◆ Provides up to 54Mbps transmission rate and up to 300 meters transmission distance
 - ◆ Detects the wireless network and changes the wireless transmission rate automatically
 - ◆ Supports 64/128-bit WEP, WPA/WPA-PSK, WPA2/WPA2-PSK data encryption, and 802.1x security mechanism to protect your network security
 - ◆ Provides easy configuration utility and monitor program, and supports Wireless Roaming function
 - ◆ Easy-to-use and UPnP supported
-

1.2 Product Deployment

54Mbps wireless USB Adapter offers fast, reliable and cost-effective solution for wireless access. Deployment as follows:

1. For staff who requires higher mobility in the office, they want to have access to traditional wired or wireless network in any place of the company
2. Enterprise or individual who requires often changes in lay out of network cables
3. Companies or places which are not suitable for LAN cable laying out because of budget or objective building, including places of great interests, rent places or places for short-term usage
4. Company or individual who avoids using expensive cables, renting cables or renting rights for access.

1.3 Package Contents

Unpack the packets, and please find the following items:

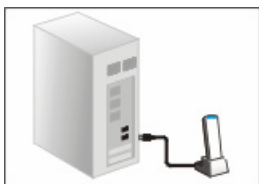
- One 54M Wireless USB Adapter
- One CD-ROM

Chapter 2 Installation Guide

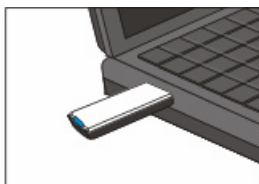
This chapter is to assist you how to use included the CD-ROM which comprises the Setup Wizard and the Client Configuration Software.

The following steps on Setup Wizard are taken the Windows XP as example.

1. Please insert the Wireless USB Adapter into the USB port of your computer.



Or



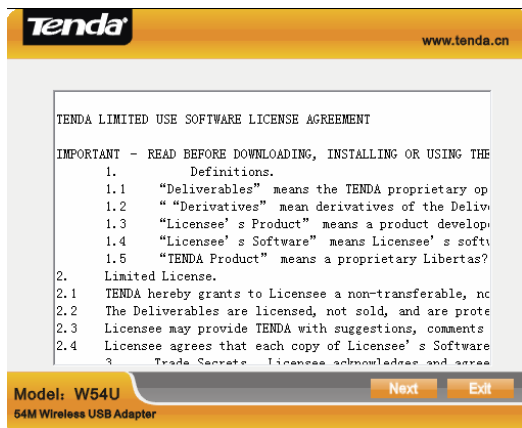
2. "Found New Hardware" system dialogue appears, and selects "Cancel".



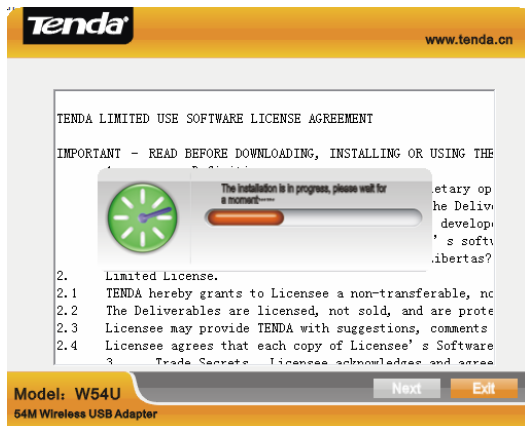
3. Insert the included CD-ROM into the CD-ROM drive of your computer, and the Welcome screen appears. (If not appear, double click the "Setup" icon.)



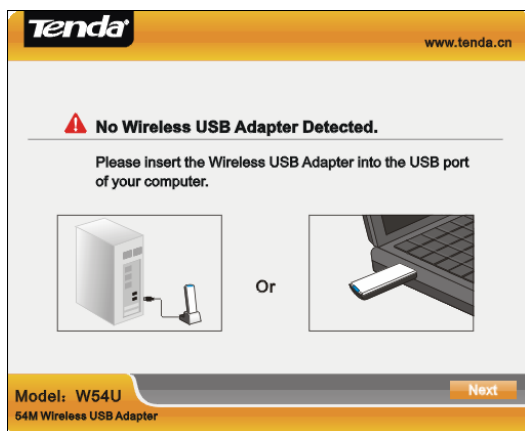
4. Click "Next".



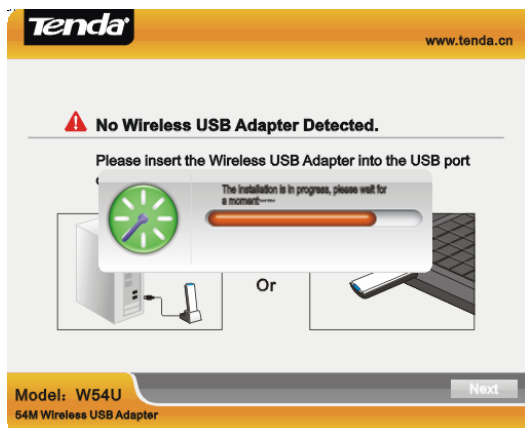
5. After you read the Copyright Statement, click “Next”.



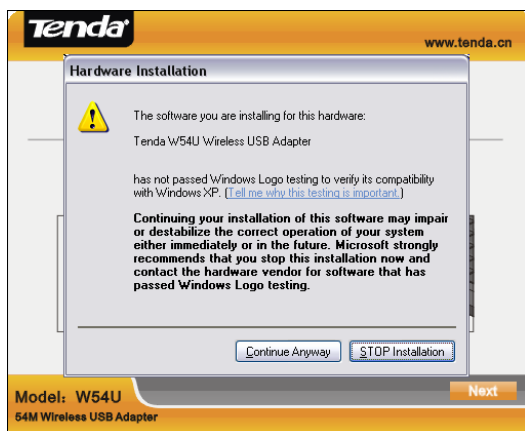
6. If there is no wireless USB adapter or incorrect connection, the “No wireless USB Adapter detected” appears. Please follow the figure shown to connect the USB.



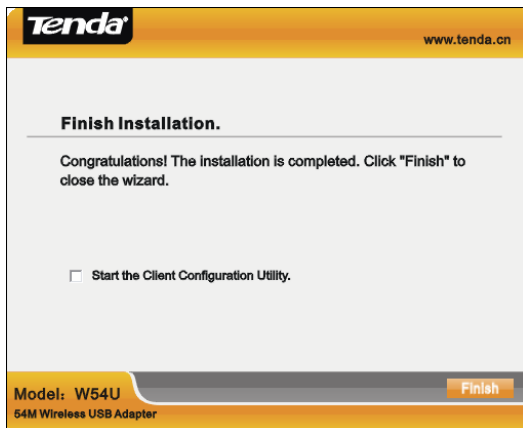
7. Click “Next”, and the installation is in progress.



8. During the installation, the following dialogue maybe appears. Click the “Continue Anyway” to continue. There is no security threat to your computer.



9. Click "Finish" to complete the installation.

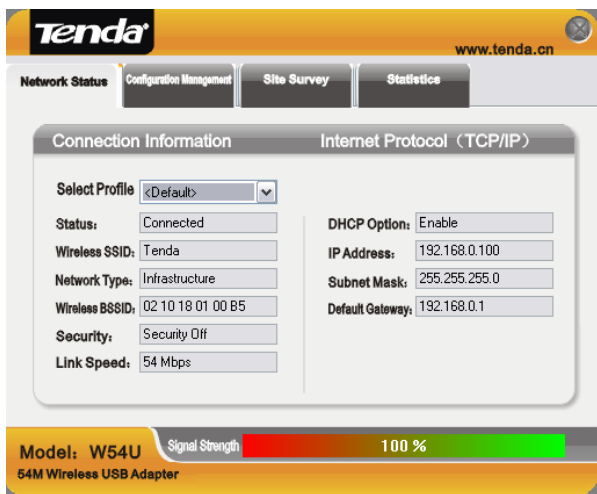
**Note:**

If your operating system is Windows 98 or Vista, you need select the corresponding driver file on CD-ROM to install it manually.

Chapter 3 Client Configuration Software

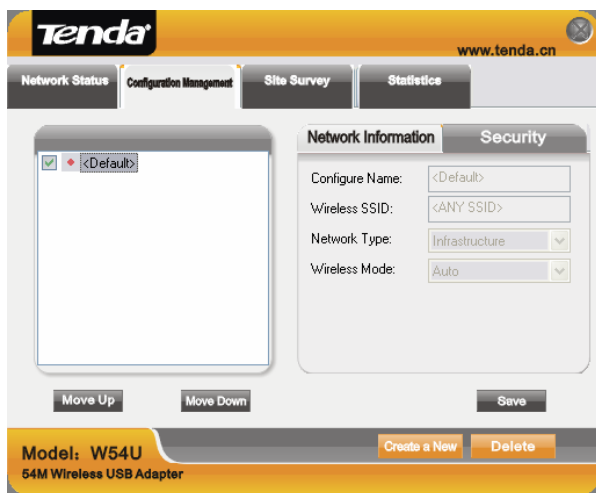
This software is for the W54U Wireless USB Adapter management. If it does not appear, select “Start”—“All Programs”—“TENDA”—“W54U”.

3.1 Network Status



The current Network Status of the Wireless USB Adapter

3.2 Configuration Management



In this screen, you allow to create new profiles for different network requirements and save them.

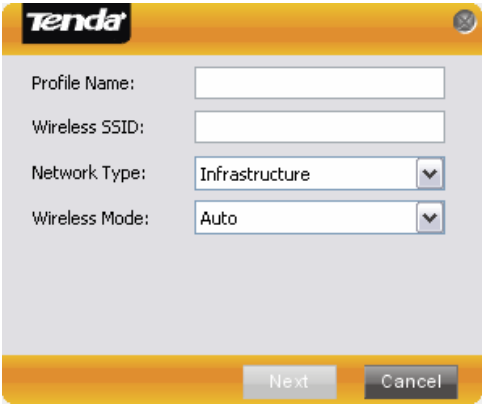
Create a New: click this button to create new profiles for Infrastructure mode and Ad-Hoc mode.

Ad-hoc Mode: allows joining one BSS (Basic Service Set) (Usually Point to Point) and do not need access point.

Infrastructure Mode: allows joining one ESS (Extended Service Set) and needs access point.

Delete: select one configuration profile to delete it.

Save: click to save any modification and setting for the configuration profile.

A screenshot of the Tenda software configuration window for Infrastructure Mode. The window has a yellow header with the Tenda logo. It contains four input fields: 'Profile Name', 'Wireless SSID', 'Network Type' (set to 'Infrastructure'), and 'Wireless Mode' (set to 'Auto'). At the bottom, there are 'Next' and 'Cancel' buttons.

Profile Name:

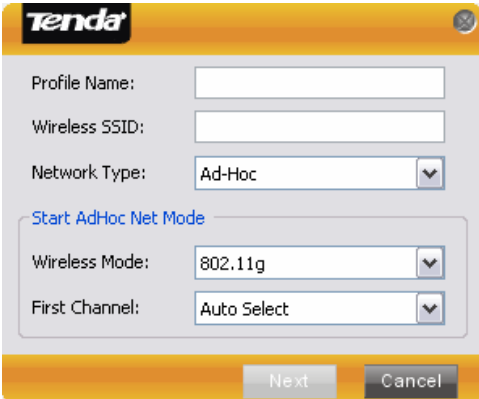
Wireless SSID:

Network Type: Infrastructure ▼

Wireless Mode: Auto ▼

Next Cancel

Infrastructure Mode

A screenshot of the Tenda software configuration window for Ad-Hoc Mode. The window has a yellow header with the Tenda logo. It contains four input fields: 'Profile Name', 'Wireless SSID', 'Network Type' (set to 'Ad-Hoc'), and 'Wireless Mode' (set to '802.11g'). Below these is a section titled 'Start AdHoc Net Mode' with two more input fields: 'First Channel' (set to 'Auto Select') and 'Wireless Mode' (set to '802.11g'). At the bottom, there are 'Next' and 'Cancel' buttons.

Profile Name:

Wireless SSID:

Network Type: Ad-Hoc ▼

Start AdHoc Net Mode

Wireless Mode: 802.11g ▼

First Channel: Auto Select ▼

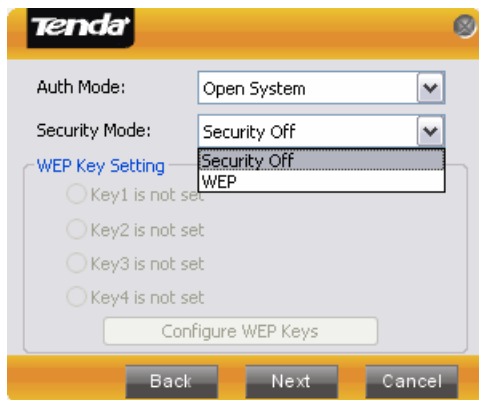
Next Cancel

Ad-Hoc Mode

If the Infrastructure mode is selected, give a name to the configuration profile and click “Next”. The Security screen will appear.

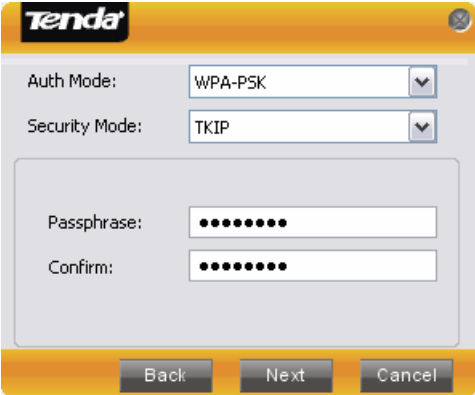


Select one authentication mode



Select one encryption method

Take Infrastructure mode for example: select Authentication Mode/WPA-PSK, Encryption Method/TKIP, and enter the Passphrase.



The image shows a Tenda configuration window with a yellow header and a grey body. It contains two dropdown menus: 'Auth Mode' set to 'WPA-PSK' and 'Security Mode' set to 'TKIP'. Below these are two text input fields for 'Passphrase' and 'Confirm', both masked with black dots. At the bottom are three buttons: 'Back', 'Next', and 'Cancel'.

Auth Mode: WPA-PSK

Security Mode: TKIP

Passphrase:

Confirm:

Back Next Cancel

Click "Next" and "Finish" to complete the configuration.



The image shows the same Tenda configuration window, now displaying the final configuration profile. The settings listed are: Configuration Profile: Tenda, Wireless SSID: Tenda, Network mode: Infrastructure, Channel: Auto Select, Encryption: TKIP, and Authentication: WPA-PSK. At the bottom are three buttons: 'Back', 'Finish', and 'Cancel'.

Configuration Profile: Tenda

Wireless SSID: Tenda

Network mode: Infrastructure

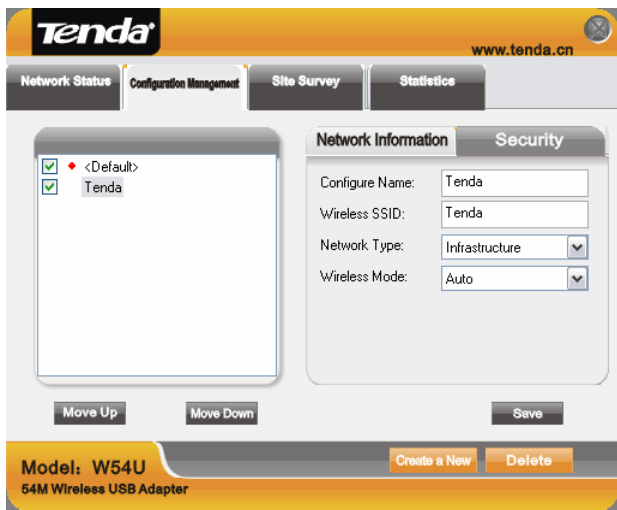
Channel: Auto Select

Encryption: TKIP

Authentication: WPA-PSK

Back Finish Cancel

Back to “Configuration Management” screen and you can find the configured profile is displayed in the left textbox.

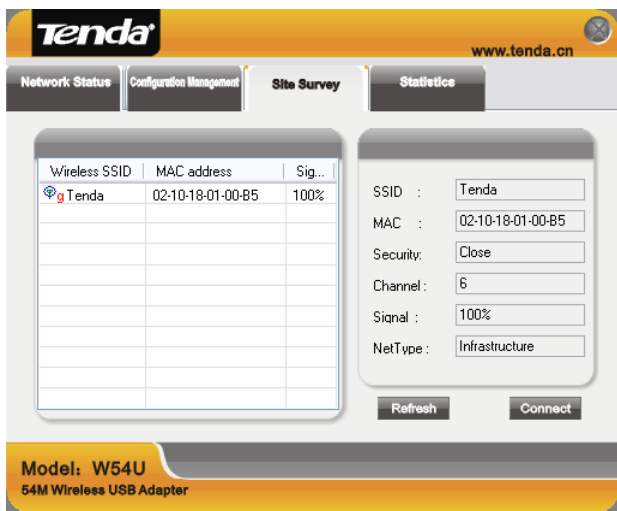


Note:

1. A SSID is the public name of a wireless network. Only the same SSID can communicate with each other on a WLAN.
2. You need to know and keep the same authentication mode and encryption method on a WLAN.

3.3 Site Survey

Site Survey lists other wireless device's status, including the SSID, Signal Strength, Channel and MAC Address and so on as shown below.



Refresh: click it to update the current wireless information scanned.

Connect: select one wireless network scanned in the list, and click "Connect" to start the wireless network connection.

3.4 Statistics

It is about the traffic statistics of wireless network. From this screen, you can know the general transmitted/received data information.



Appendix One: Acronyms and Terms

WLAN	Wireless Local Area Network
802.11	A family of specifications developed by the IEEE for WLAN technology.
802.11a	An extension to 802.11 WLAN standard that provides up to 54 Mbps transmission in the 5 GHz UNI radio band.
802.11b	An extension to 802.11 WLAN standard that provides up to 11 Mbps transmission in the 2.4 GHz ISM radio band. 802.11b uses DSSS modulation.
802.11g	An extension to 802.11 WLAN standard that provides up to 54 Mbps transmission in the 2.4 GHz ISM radio band. 802.11g uses OFDM modulation and is backwards compatible with 802.11b.
Ad-Hoc	A group of computers each with wireless adapters, connected as an independent WLAN.
AES	Advanced Encryption Standard
BSSID	Basic Service Set ID
DHCP	Dynamic Host Configuration Protocol
DSSS	Direct Sequence Spread Spectrum. DSSS is one of two types of spread spectrum radio. The other is frequency-hopping spread spectrum(FHSS).
QoS	Quality of Service

OFDM	Orthogonal Frequency Division Multiplexing
RADIUS	Remote Authentication Dial In User Service
RTS	Request to Send
SSID	Service Set Identifier. A 32-character unique identifier attached to the header of packets sent over a WLAN that acts as a password when a mobile device tries to connect to the BSS.
TCP/IP	Transmission Control Protocol/Internet Protocol
TKIP	Temporal Key Integrity Protocol
WDS	Wireless Distribution System
WEP	Wired Equivalent Privacy. A security protocol for WLANs defined in the IEEE 802.11 standard.
WPA	Wi-Fi Protected Access
WPA2	Wi-Fi Protected Access 2. The next generation of Wi-Fi security, based on the 802.11i standard.
WPA2-PSK	Wi-Fi Protected Access 2-Pre-shared Keys
WPA-PSK	Wi-Fi Protected Access-Pre-shared Keys

Appendix Two: Product Specification

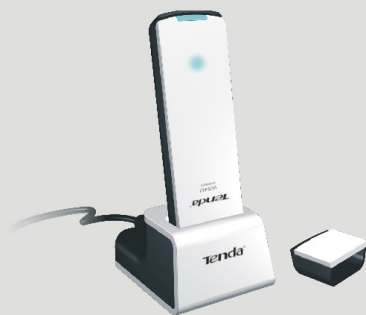
Standard	IEEE802.11g, IEEE802.11b, IEEE802.11e (QoS)
Port	USB1.1,USB2.0
Frequency Range	2.4~2.4835GHz
Transmission Rate	54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps
Antenna Gain	2dbm
Transmission Power	Max. 20dbm
Modulation Method	OFDM, CCK
Working Temperature	0℃~55℃
Storage Temperature	-20℃~65℃
Working Humidity	10%~90% RH non-condensing

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V2.0

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说明书



W54U 无线USB网卡

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第一章 产品简介

W54U 无线 USB 网卡兼容 IEEE 802.11g、IEEE 802.11b 标准, 无线传输速率高达 54Mbps, 是普通 11b 产品的 5 倍; 支持 64/128 位 WEP 数据加密, 同时支持 WPA/WPA-PSK、WPA2/WPA2-PSK、802.1x 安全机制, 保证您的无线网络安全。内置全向智能天线, 让您不再被有线固定式的束缚, 更提高了使用上的便利性及机动性, 方便快捷的移动式共享网络资源。

1.1 产品特性

- ◆ 支持 IEEE 802.11g、IEEE 802.11b;
- ◆ 支持两种工作模式: Ad Hoc Mode 和 Infrastructure Mode;
- ◆ 最大传输速度可达 54Mbps, 最远传输距离可达 300 米;
- ◆ 自动侦测网络及变换传输速率;
- ◆ 支持 64/128 位 WEP 数据加密, 同时支持 WPA/WPA-PSK、WPA2/WPA2-PSK、802.1x 安全机制, 保证您的无线网络安全;
- ◆ 提供简单的配置、监控程序;
- ◆ 支持无线漫游功能;
- ◆ 轻松安装与设定, 即插即用, 方便快捷;

1.2 产品应用

54M 无线 USB 网卡为无线访问提供快速、可靠、低成本解决方法。具体应用如下:

- 1、那些想在企业里有更强移动性的工作人员，他们希望在公司内部的任意地方都能访问传统的有线或无线网络；
- 2、那些要求某个区域或整个场所的局域网布线要能经常改变的企业、个人；
- 3、由于建筑或预算的限制，那些不适合进行局域网布线的公司，比如历史古建筑物、租用地或是临时地点；
- 4、避免使用昂贵的电缆线、租用线路或者通行权的公司、个人。

1.3 物品清单

W54U 无线 USB 网卡主要由以下部件组成。

54M 无线 USB 网卡	1 块
使用光碟	1 张
保修卡	1 条

第二章 安装指南

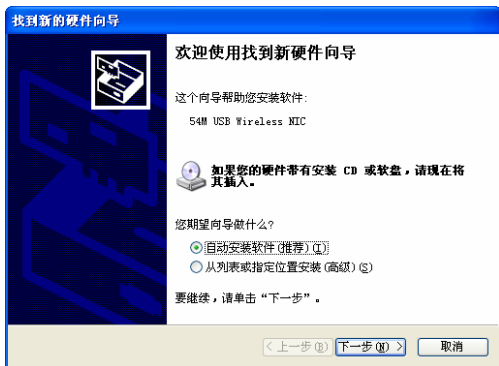
本章节指导您如何使用产品附带的光盘软件进行网卡软件包程序的安装，软件包程序已把驱动程序、配置软件整合在一起，即在安装其配置软件的过程中，将会自动安装其驱动程序。

本安装步骤以 Windows XP 操作系统为例进行说明，其它系统下的安装过程，请参照本手册和操作系统的相关提示进行。

1、把无线网卡插入电脑的 USB 接口。



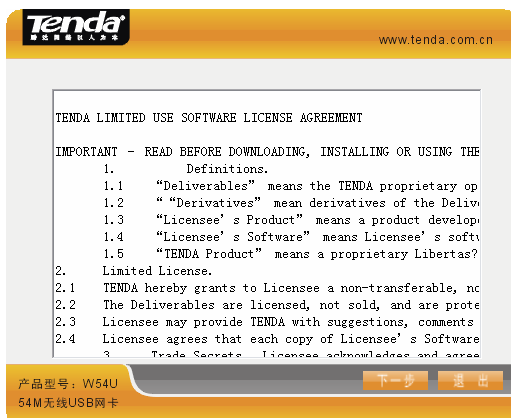
2、系统将会弹出“找到新硬件”的对话框，这里，我们推荐您选择“取消”按钮，使用随附的快速安装光盘，可以帮助您轻松安装驱动程序和配置软件；当然，您也可以点击“下一步”，手动安装驱动程序。



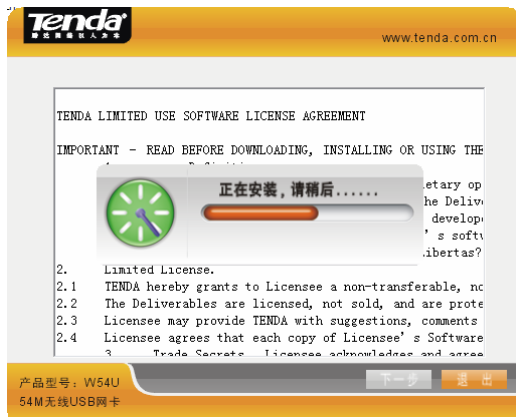
- 3、把随机附带的光盘放进您计算机的光驱中，程序会自动运行，（如果没有自动运行，请双击光盘中的“Setup”文件）弹出欢迎界面。



- 4、点击“下一步”弹出版权声明页面。



5、在您仔细阅读完版权声明后，请点击“下一步”。



6、假如您没有插入无线网卡或者网卡连接不正确，系统会提示“没有检测到无线网卡”，请按照图示正确连接无线网卡。



- 7、 点击“下一步”，系统将自动安装驱动和配置软件。



- 8、 在安装过程中，会弹出“没有找到数字签名”的对话框，请点击“仍然继续”以继续安装，这不会影响配置软件的使用和您电脑系统的安全。



9、最后，系统会提示安装完成，点击“完成”退出安装指南。



注意：在 Windows98 和 Vista 操作系统下，需从光盘中选择对应操作系统的驱动文件，手动安装该驱动！

第三章 无线网卡配置软件的使用

本配置软件可以对 W54U 无线网卡进行管理，所有的功能均可通过本软件设置。假如配置软件没有自动运行。请点“开始---程序---TENDA---W54U”，弹出软件的设置页面。

3.1 网络状态



显示网卡当前的工作状态

3.2 配置管理



在配置管理中可以预先设置、保存好配置参数，同时储存多个配置文件以适应不同网络的需要。

新建：可以新建一个用户配置文件，并且可以对其进行设置；点击**新建**，弹出下面的框图，包含了对配置文件的基本设置。分别是 Infrastructure 模式和 Ad-Hoc 模式：

①**对等（Ad-hoc）模式：**允许加入一个基本服务集群，即点对点模式，即不要求访问接入点 AP；

②**基础结构（Infrastructure）模式：**允许加入一个扩展基本服务集群，即连接访问接入点。

删除：选中**配置文件名称**就可删除已有的配置文件。

保存：保存对当前配置文件的修改。



The image shows a configuration window titled 'Tenda' with a close button in the top right corner. It contains four configuration fields: '配置名称:' (Configuration Name) with an empty text box, '无线SSID:' (Wireless SSID) with an empty text box, '网络类型:' (Network Type) with a dropdown menu set to 'Infrastructure', and '无线模式:' (Wireless Mode) with a dropdown menu set to 'Auto'. At the bottom, there are two buttons: '下一步' (Next Step) and '取消' (Cancel).

配置名称:

无线SSID:

网络类型: Infrastructure ▼

无线模式: Auto ▼

下一步 取消

Infrastructure 模式



The image shows a configuration window titled 'Tenda' with a close button in the top right corner. It contains five configuration fields: '配置名称:' (Configuration Name) with an empty text box, '无线SSID:' (Wireless SSID) with an empty text box, '网络类型:' (Network Type) with a dropdown menu set to 'Ad-Hoc', and a section titled '启动AdHoc网络无限模式' (Start Ad-Hoc Network Infinite Mode) which contains '无线模式:' (Wireless Mode) with a dropdown menu set to '802.11g' and '首选信道:' (Preferred Channel) with a dropdown menu set to 'Auto Select'. At the bottom, there are two buttons: '下一步' (Next Step) and '取消' (Cancel).

配置名称:

无线SSID:

网络类型: Ad-Hoc ▼

启动AdHoc网络无限模式

无线模式: 802.11g ▼

首选信道: Auto Select ▼

下一步 取消

Ad-Hoc 模式

若选定 Infrastructure 模式，输入一个配置名称，再点击“下一步”，会弹出进一步的“安全”配置窗口，包括认证方式和加密方式。



认证方式选择



加密方式选择

以 **Infrastructure** 模式，选 **WPA-PSK** 为验证方式，**TKIP** 加密方式为例来说明配置的步骤。在验证方式处选择 **WPA-PSK**，它的加密方式，会自动选择为 **TKIP**，然后在密码栏中输入密码并在确认栏输入同样的密码确认，如下图：



The image shows a Tenda wireless network configuration window. At the top is the Tenda logo. Below it, there are two dropdown menus: '认证方式:' (Authentication Method) set to 'WPA-PSK' and '加密方式:' (Encryption Method) set to 'TKIP'. Below these are two password input fields: '密 码:' (Password) and '确 认:' (Confirm), both masked with asterisks. At the bottom are three buttons: '上一步' (Previous Step), '下一步' (Next Step), and '取 消' (Cancel).

再单击“下一步”，显示完成状态页，点击“完成”按钮完成配置文件的新建。



返回到“**配置管理**”窗口，在左边的配置文件栏，就增加了刚刚以“Tenda”为名字的配置文件。



注意:

1、SSID 用以区分不同的无线网络工作组，任何无线接入器或其他无线网络设备要想与某一特定的无线网络工作组进行连接，就必须使用与该工作组相同的 SSID。

2、您必须知道所要连接的接入点（AP）的加密方式及其密钥，可在数据加密中填上 AP 的加密类型，在网络密钥中填上 AP 的密钥。

3.3 站点检测

显示当前设备（无线网卡）搜索到的其他无线设备及其工作状态包括 SSID、信号强度、信道和 MAC 地址等（如图所示）。



“刷新”，可以更新当前无线列表；

“连接”，首先选择要连接的无线网络，点击“连接”即可连接无线网络。

3.4 流量统计

显示当前设备（无线网卡）与其他无线设备连接时一些数据量的统计，可以了解到当前无线设备间数据的交换情况（如图所示）。



附录一：常用术语解释

802. 11a 工作在 5GHz 频带的 54Mbit/s 速率无线以太网协议；
802. 11b 业界标准——工作在 2. 4GHz 的 11Mbit/s 速率无线以太网协议；
802. 11e 定义了无线局域网的服务质量（quality-of-service），例如支持语音 IP；
802. 11g 802. 11b 的继任者，在 2. 4GHz 提供 54Mbit/s 的数据传输率；
802. 11h 对 802. 11a 的补充，使其符合 5GHz 无线局域网的欧洲规范；
802. 11i 无线安全标准，WPA 是其子集；
802. 11j 日本所采用的等同于 802. 11h 的协议；
802. 11n 预计在 2008 年所采用的建议规范，此规范将使得 802. 11a/g 无线局域网的传输速率提升一倍；
802. 15 基于蓝牙的个域网标准；
802. 16 关于固定无线带宽（fixed-wireless broadband）的标准；
802. 16a 也被称为 WiMax，在 30 英里范围内提供高达 70Mbit/s 的数据传输率；
802. 20 提供 1Mbit/s 速率的无线城域网；
802. 1x 基于 EAP 的认证方案；
- WEP Wired Equivalent Privacy，采用静态加密密钥的有线等效协议；
- WPA Wireless Protected Access，无线（或 Wi-Fi）保护访问，采用旋转密码（rotating keys）的 WEP 替代技术；
- RSN Robust Security Network，强健的安全网络，WPA 的替代品，基于 802. 1x 以及先进加密标准。

附录二：产品规格

支持标准	IEEE802.11g, IEEE802.11b, IEEE802.11e (QoS)
支持端口	USB1.1, USB2.0 接口
频率范围	2.4~2.4835GHz
传输速率	54 Mbps、48 Mbps、36 Mbps、24 Mbps、18 Mbps、 12 Mbps、9 Mbps、6 Mbps、11 Mbps、5.5 Mbps、 2 Mbps、1 Mbps
天线增益	2dbm
发射功率	20dbm(最大值)
调制技术	OFDM (正交频分复用), CCK (补码键控)
工作温度	0℃~55℃
存储温度	-20℃~65℃
工作湿度	10%~90% RH 无凝结