

Tenda[®]

User Guide

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W322P 11N Wireless PCI Adapter

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Chapter 1 Introduction

W322P/P+ utilizes the most advanced wireless networking technology, IEEE802.11n (Draft 2.0), and well backwards complies with 802.11b/802.11g standards. It can effectively reduce "dead spots" and multiplies times of wireless signals in coverage area.

W322P/P+ supports WPS (Wi-Fi Protected Setup) encryption method which can free you from remembering long passwords. Soft Ap feature can help you establish wireless LAN networking as quickly as possible. Besides, it supports PSP, NDS and WII connecting with Internet and Xlink Kai to enjoy on-line gaming, and WMM function makes your voice and video more smooth.

 **Note:**

The only difference between W322P and W322P+ is that W322P+'s antenna can be detachable.

1.1 Product Feature

- Complies with IEEE 802.11n (Draft 2.0), IEEE 802.11g, IEEE 802.11b standards
- Provides 32-bit PCI interface
- Provides 300Mbps receiving rate and 300Mbps sending rate
- Supports 20MHz/40MHz frequency width
- Auto-detects and changes the network transmission rate
- Provides two work modes: Infrastructure and Ad-Hoc
- Supports Soft AP to establish your wireless LAN networking quickly
- Supports 64/128-bit WEP, WPA, WPA2 encryption methods and 802.1x security authentication standard
- Supports WPS (Wi-Fi Protected Setup) encryption method to free you from remembering long passwords
- Supports WMM to make your voice and video more smooth

1.2 Product Deployment

W322P/P+ Wireless PCI Adapter offers fast, reliable and cost-effective solution for wireless access. Deployment as follows;

- 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;
- Enterprise or individual who requires often changes in lay out of network cables;
- 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;
- Company or individual who avoids using expensive cables, renting cables or renting rights for access.

1.3 Indicator Description

In the front panel of W322P/P+, there is a LED indicator blinking when data communication is going on.

1.4 Package Contents

Unpack the packets, and please find the following items:

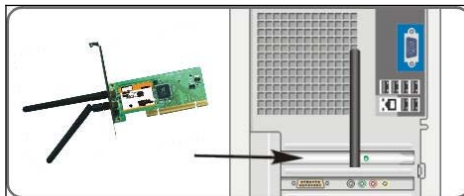
- One W322P/P+ 11N Wireless PCI Adapter
- One CD-ROM

Chapter 2 Installation Guide

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

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

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



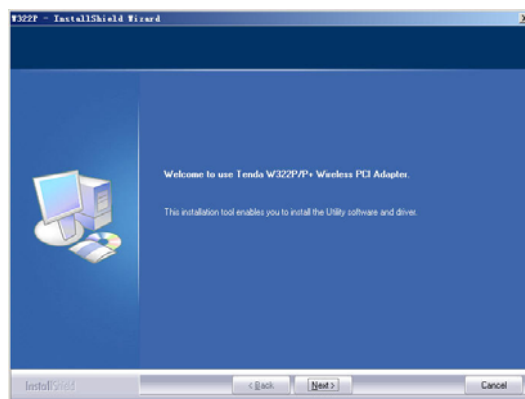
2. "Found New Hardware" system dialogue appears, and selects "Cancel" to use the included Setup Wizard for fast installation; of course, you also can select "Next" to install by manual.



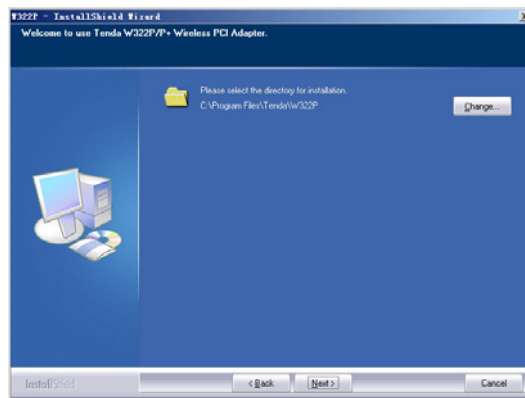
3. Insert the included CD-ROM into the CD-ROM drive of your computer, and the Welcome screen appears. (If not appear, double click the "Setup" icon.)



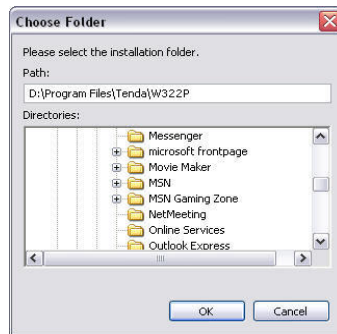
4. Click "Enter".



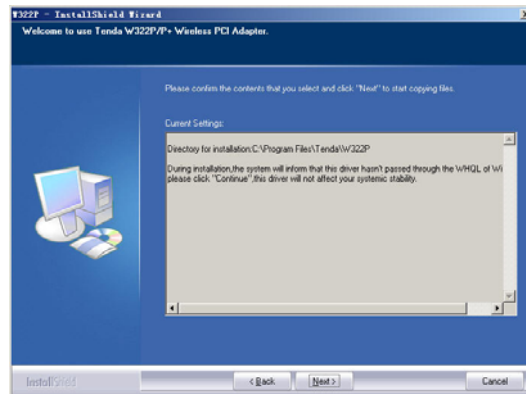
5. Click "Next" to start installing.



6. Click "Change.." to select the directory path, or click "Next".



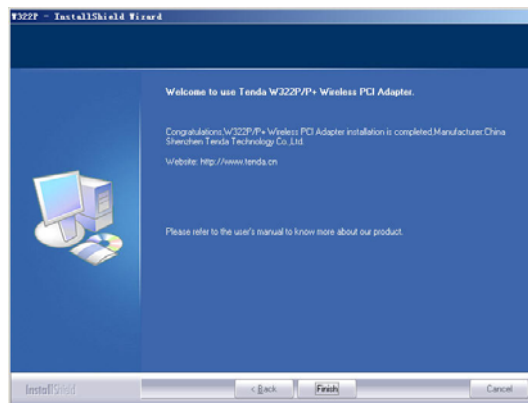
7. Select "OK" and "Next" in the following window.



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.



Chapter 3 Client Utility Interface

This software is for the W322P/P+ Wireless PCI Adapter management. If it does not appear, select "Start"—"All Programs"—"Tenda"—"W322P", or click the shortcut on your PC's desktop.

 **Note:**

In the Windows XP, you can select the included W322P/P+ Client Utility Interface or the Windows XP internal wireless application to configure the device.

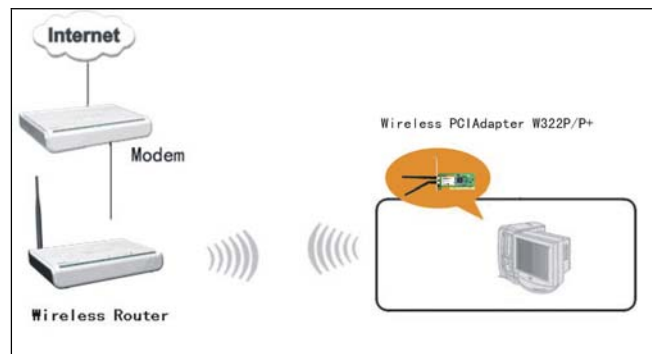
There are two client utility applications in W322P/P+: Station mode and AP mode.

 **Note:**

In this utility interface, Station Mode (Client Mode) is the default access way.

3.1 Station Mode

3.1.1 Station Mode Topology



In this mode, W322P/P+ serves as a client to receive the wireless signals to access the Internet.

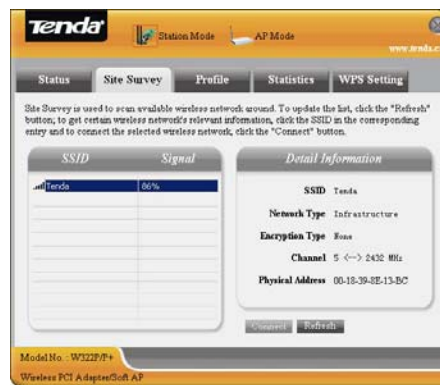
3.1.2 Status

In the Network Status window, it displays something on wireless adapter and wireless network status, including SSID, Authentication type, Encryption Type, IP address, subnet mask and gateway and so on.



3.1.3 Site Survey

The Site Survey is used to scan the available wireless network around, showing the wireless network's signal strength and other information which provides basis for you to access which wireless network.



Connect: select one entry in the wireless network list and click the button to connect the device with the selected network.

Refresh: rescan the wireless network around.

3.1.4 Profile Management

This window saves the general wireless parameters for different profiles, which is used to fast connect the wireless network you need.



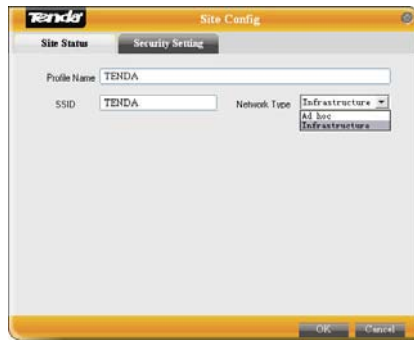
UP/DOWN: To change the profile's sequence in the list.

Connect: To activate one profile.

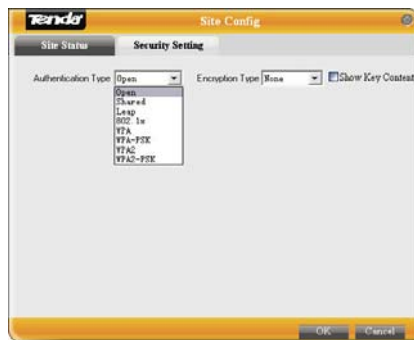
New: To create a new profile and configure the site status and security setting.

Modify: To modify one existing profile.

Delete: To delete one existing profile.



(Site Status)



(Security Setting)

3.1.5 Statistics

Statistics is used to summarize Rx and Tx data packets, including the success and error packet amount.



Clear: click this button to renew the statistics.

3.1.6 WPS Setting

WPS setting is enabled only on WPS-compliant devices.



PIN: Enter the Pin code and click the "PIN" to automatically connect the wireless adapter with wireless devices around.

PBC: Click the "PBC" to complete auto-check and connections between wireless adapter and other wireless device.

Refresh: to update the Pin code.

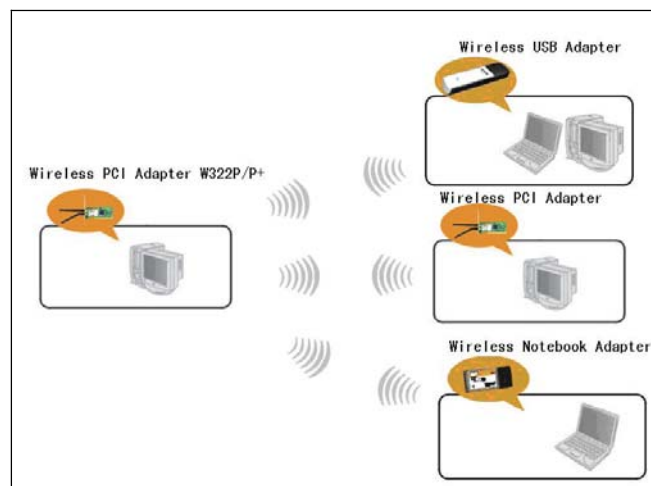
Rescan: to rescan the WPS-compliant wireless network around.

Disconnect: to disconnect the connected wireless network.

3.2 AP Mode

3.2.1 AP Mode Topology

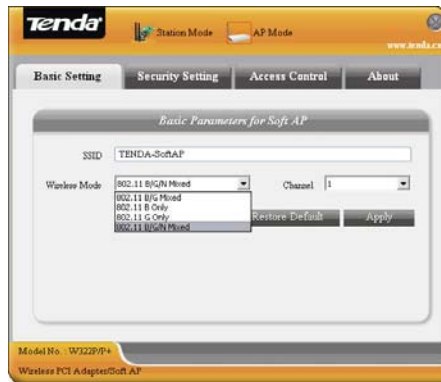
The device also can serve as an access point to transmit wireless signals and create wireless network, allowing other wireless clients to access the network.



Click the AP Mode icon to enter the AP Mode interface.

3.2.2 Basic Setting

This window is used to configure the AP's basic parameters, including SSID, Wireless Mode and Channel.



SSID: Wireless network's ID name scanned by wireless adapter.

Wireless Mode: 802.11b/802.11g/802.11b/g mixed.

Channel: 1~11 channels provided.

Restore Default: to restore the set parameters to default factory default settings.

Apply: to make the changes made take effect.

3.2.3 Security Setting

This window is used to configure the wireless network's security authentication, providing WEP, WPA-PSK, WPA2-PSK, and WPA-PSK/WPA2-PSK encryption methods.



WEP: 10/26 bits Hex or 5/13 ASCII support.

WPA-PSK: 8~32 bits ASCII support.

WPA2-PSK: 8~32 bits ASCII support.

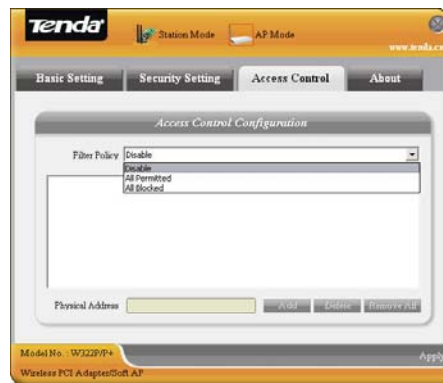
WPA-PSK/WPA2-PSK: 8~32 bits ASCII support.

 **Note:**

1. The Hex characters include 0~9 numbers and a~f letters.
2. ASCII characters include any numbers/letters and characters.

3.2.4 Access Control

Access Control is based on the MAC address to decide that the specified client connects to the wireless network, or disables it to access the wireless network.



Filter Policy:

Disabled: to disable the filter function.

All Permitted: to permit all clients in the list to access the wireless network.

All Blocked: to refuse all clients in the list to access the wireless network.

MAC Address: to input the client's MAC address to implement the corresponding filter policy. For example: b0000a8cd702.

Add: to add the entered MAC address into the list.

Delete: to delete one existing MAC address in the list.

Remove All: to delete all clients' MAC address in the list.

Apply: to make the changes made take effect.

3.2.5 About

This window displays something about software version and wireless adapter.



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

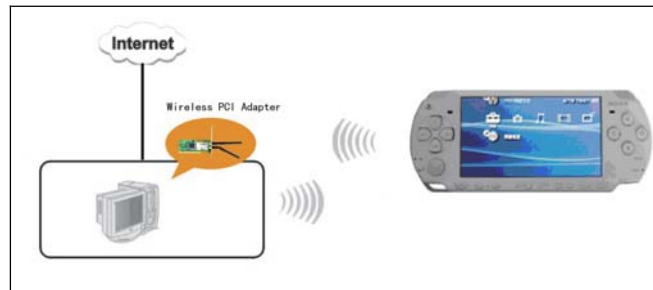
- WEP** Wired Equivalent Privacy. A security protocol for WLANs defined in the IEEE 802.11 standard.
- WPA** Wi-Fi Protected Access
- WPA2** Wi-Fi Protected Access 2. The next generation of Wi-Fi security, based on the 802.11i standard.
- WPA2-PSK** Wi-Fi Protected Access 2-Pre-shared Keys
- WPA-PSK** Wi-Fi Protected Access-Pre-shared Keys

Appendix Two: Product Specification

Standard	IEEE802.11g, IEEE802.11b, IEEE802.11n
Port	32-bit PCI 2.2 interface
Frequency Range	2.4~2.4835GHz
Transmission Rate	Provides 300Mbps receiving rate and 300Mbps sending rate
Antenna Gain	2T2R 2.2dBi antennax 2
Transmission Power	Max. 19dbm
Modulation Method	OFDM, CCK
Working Temper.	0℃~40℃
Storage Temper.	-40℃~70℃
Working Humidity	10%~90%RH non-condensing

Appendix Three: How to connect with PSP

1. Topology of PSP connecting with W322P/P+

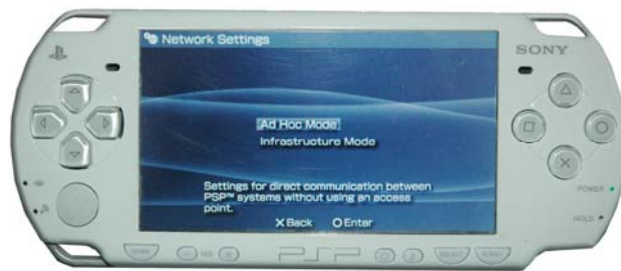


2. To configure PSP with Ad-Hoc mode

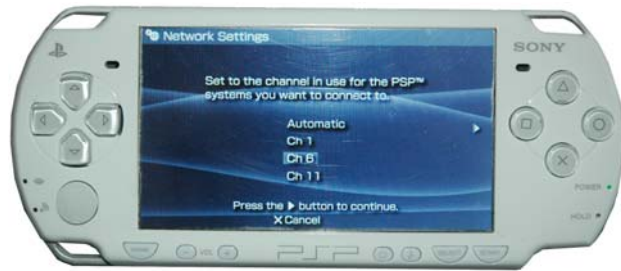
Select Network Settings



Select Ad-Hoc mode



Select Channel



3. In W322P/P+ Utility Interface scan PSP and double-click to connect the wireless network.

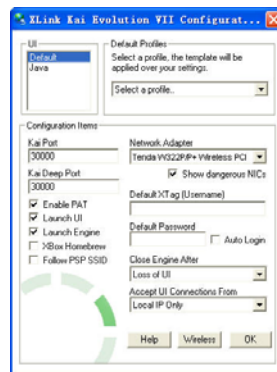


4. In Site Survey check "enable PSP connection mode" box.



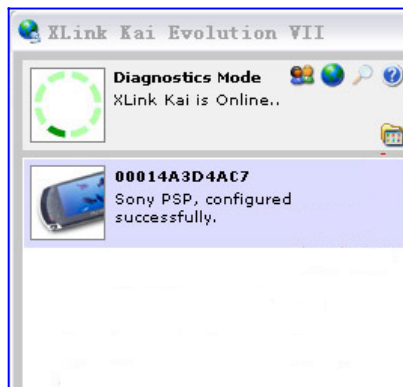
5. To configure Xlink Kai

Select "Start" → "All programmers" → "Xlink Kai Evolution VII" → "Start Kai Config" to configure the user name, password and other parameters as follows.



6. Login Xlink Kai

Select "Start" → "All programmers" → "Xlink Kai Evolution VII" → "Start Kai". PSP will connect with Xlink Kai automatically. The following window will indicate the connection is established well now.



FCC WARNING

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This device must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: The manufacturer is not responsible for and radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.