

TL-WN322G 54M Wireless USB Adapter



• 2.4GHz • 802.11g/b

COPYRIGHT & TRADEMARKS

Specifications are subject to change without notice. **TP-LINK** is a registered trademark of TP-LINK Technologies Co., Ltd. Other brands and product names are trademarks or registered trademarks of their respective holders.

No part of the specifications may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from TP-LINK Technologies Co., Ltd. Copyright © 2007 TP-LINK Technologies Co., Ltd.

All rights reserved.

FCC STATEMENT

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.

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.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This device has been tested for compliance with FCC RF Exposure (SAR) limits in the typical laptop computer configuration and this device can be used in substantially similar laptop computers with side mounted PCMCIA slots. This device cannot be used with handheld PDAs (personal digital assistants) or other portable host devices. This device and its antenna must not be co-located or operated in conjunction with any other antenna or transmitter.

CE Declaration of Conformity

For the following equipment: TL-WN322G 54M Wireless USB Adapter

€1588**0**

Is here with confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.

The equipment was passed. The test was performed according to the following European standards:

- EN300328 V1.7.1 2006
- EN 301 489-17 V1.2.1 (2002-08)
- ► EN50392:2004
- ► EN60950-1:2001

European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835GHz; In France, the equipment must be restricted to the 2.4465-2.4835GHz frequency range and must be restricted to indoor use.

Package Co	ontents	1	
Chapter 1	Introduction	2	
1.1	Features2		
1.2	LED Status	2	
1.3	System Requirements	2	
1.4	Network Configuration	3	
Chapter 2	Installation Guide	5	
2.1	Before You Begin	5	
2.2	Installing the Drivers	5	
Chapter 3	Uninstall Guide	8	
3.1	Through Control Panel	8	
3.2	Through Programs	9	
Chapter 4	Software Configuration	12	
4.1	Station Mode Configuration	12	
4.1	1.1 More Setting	12	
	4.1.1.1 General Connection Setting	12	
	4.1.1.2 WEP Encryption	16	
	4.1.1.3 WPA/WPA2 Authentication with TKIP/AES Encryption	17	
	4.1.1.4 WPA-PSK Authentication	20	
	4.1.1.5 Profiles	20	
	4.1.1.6 Advanced Settings	21	
4.2	Wireless network mode configuration22		
Chapter 5	Examples for application	24	
5.1	Configuration of WEP Encryption24		
5.2	Configuration of PSP Mode		
Appendix A	A: Glossary	30	
Appendix E	B: Specifications	32	
Appendix C	C: Contact Information	33	

Package Contents

Open the package carefully, and make sure that none of the items listed below are missing.

- > One TL-WN322G 54M Wireless USB Adapter
- > One USB extension cable
- > One TL-WN322G 54M Wireless USB Adapter Resource CD, including:
 - Drivers and Utility
 - User Guide
 - Other Helpful Information



Note:

Make sure that none of the items listed above are missing. Do not discard the packing materials, in case of return; the unit must be shipped in its original package.

Chapter 1 Introduction

The TL-WN322G 54M Wireless USB Adapter is a USB 2.0 pen-size wireless adapter supporting IEEE 802.11b/g 2.4GHz radio operation. It provides high-speed wireless connection with data rate up to 54Mbps. Additionally, wireless roaming allows the user to move among different AP without losing the current connection. The adapter provides excellent security features including: TKIP, AES, WPA, and up to 256 bit WEP encryption security make the network almost impenetrable.

Featuring high performance transmission rates, simple installation and adaptability, as well as strong security the TL-WN322G 54M Wireless USB Adapter is the perfect solution for small office and home needs.

1.1 Features

- > Complies with IEEE 802.11b and IEEE 802.11g Standards.
- Provided 64/128/256 bit WEP Encryption.
- > Supports WPA, WPA2, IEEE 802.1X, TKIP, AES.
- Supports 54/48/36/24/18/12/9/6Mbps or 11/5.5/3/2/1Mbps wireless LAN data transfer rates.
- > USB 2.0 interface and compatible with USB 1.1.
- ➢ High Speed Data Rate Up to 54Mbps.
- > Supports Windows 98, ME, 2000, XP, 2003, 64bit XP.
- > Simulated AP Mode, And Supports PSP connection.

1.2 LED Status

The TL-WN322G 54M Wireless USB Adapter has a LED indicator and a built-in antenna for wireless connectivity.

LED Indicator:

- > Ad-hoc Mode: Solid Green, whether the wireless device is connected or not.
- > Infrastructure Mode: Solid green while connected, and blinking during activity.

1.3 System Requirements

The following are the minimum system requirements in order to use the TL-WN322G 54M Wireless USB Adapter.

- > PC/AT compatible computer with a USB interface.
- > Windows 98/ME/2000/XP/2003/64bit XP operating system.
- > (Windows 98/ME don't support USB 2.0, the performance could influenced)

1.4 Network Configuration

To better understand how the wireless LAN products work together to create a wireless network, it might be helpful to depict a few of the possible wireless LAN PC card network configurations. The wireless LAN products can be configured as:

Ad-hoc (peer-to-peer) Mode

This is the simplest network configuration with several computers equipped with the PC Cards that form a wireless network whenever they are within range of one another. In ad-hoc mode, each client is peer-to- peer, would only have access to the resources of the other client and does not require an access point. This is the easiest and least expensive way for the SOHO to set up a wireless network.

The image below depicts a network in ad-hoc mode.

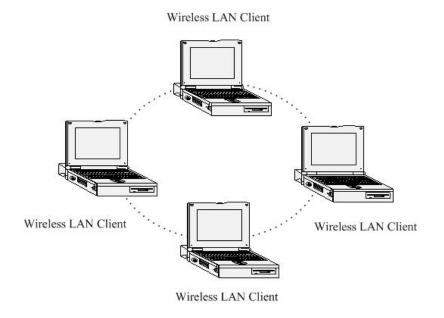


Figure 1-1 Ad-hoc mode.

Infrastructure Mode

The infrastructure mode requires the use of an access point (AP). In this mode, all wireless communication between two computers has to be via the AP. It doesn't matter if the AP is stand-alone or wired to an Ethernet network. If used in stand-alone, the AP can extend the range of independent wireless LANs by acting as a repeater, which effectively doubles the distance between wireless stations.

The image below depicts a network in infrastructure mode.

Wireless LAN Client

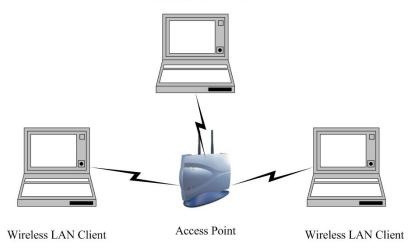


Figure 1-2 Infrastructure mode.

Chapter 2 Installation Guide

2.1 Before You Begin

Before installing the new drivers of your TL-WN322G 54M Wireless USB Adapter, you need to disable all of the Wireless LAN drivers that you have installed.

During the installation, Windows 98/ME/2000/XP/2003/64bit XP may need to copy systems files from its installation CD. Therefore, you may need a copy of the Windows installation CD at hand before installing the drivers.

2.2 Installing the Drivers

Follow the steps below in order to install the TL-WN322G 54M Wireless USB Adapter drivers:

- Insert the Resource CD into your CD-ROM drive, Click the Start button and choose Run. In the field that appears, enter F:\XXX\Setup.exe(if "F" is the letter of your CD-ROM drive; XXX represents the setup program path, which is labeled on the Resource CD).
- Once the setup begins you will see the Install Shield Wizard, as the image depicts below.

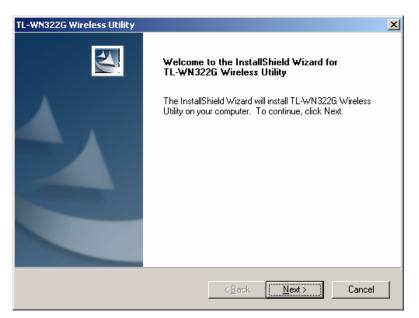


Figure 2-1 Install driver wizard

- > Click on the **Next** button to continue.
- Select the location where you would like the driver installed. Click on the Browse button to change the directory, or click on the Next button to continue using the default directory.

TL-TH322G Tireless Utility	×
Choose Destination Location Select folder where setup will install files.	Z
Setup will install TL-WN322G Wireless Utility in the following folder.	
To install to this folder, click Next. To install to a different folder, click Browse and sele another folder.	ct
Destination Folder E:\\TP-LINK\TL-WN322G Wireless Utility	se
InstallShield	Cancel

Figure 2-2 Install Shield—Choose Destination Location

> Wait a few moments until the files are copied to the computer.

IL-TH322G Wireless Utility	×
Setup Status	
TL-WN322G Wireless Utility is configuring your new software installation.	
Installing	
E:\\TP-LINK\TL-WN322G Wireless Utility\W32BRG55.EXE	
InstallShield	
יוזאנמווטדוופוע	Cancel



> The first part of the installation is complete. Click on the **Finish** button.

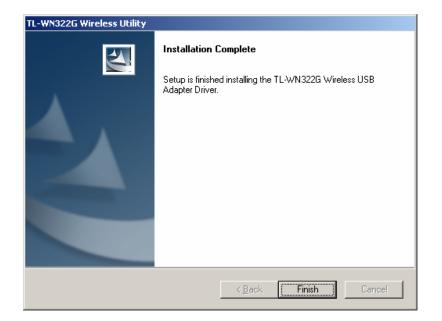


Figure 2-4 Installation Complete

At this point, carefully insert the device into the USB port of your computer. Windows will automatically detect the device and display the icon 😻 and 📶 below in the taskbar.

Chapter 3 Uninstall Guide

If the device installation is unsuccessful for any reason, the best way to solve the problem may be to completely uninstall the device and its utility and repeat the installation procedure again. Hereby, customers can use one of the following two methods to uninstall the Drivers and Utility.

3.1 Through Control Panel

Follow the steps below in order to uninstall the Drivers and Utility:

- 1. Click on Start > Settings > Control Panel > Add or Remove Programs
- 2. You will then see the following window. Select the **TL-WN322G Wireless Utility** and then click on **Remove**.

🐻 Add or Ren	nove Programs		
5	Currently installed programs:	Sort by: Name	•
C <u>h</u> ange or Remove	de TL-WN322G Wireless Utility	Size	<u>5,73МВ</u> 📥
Programs	Click here for support information.	Used g	occasionally
The second secon	To change this program or remove it from your computer, click Change or Remove.	Last Used On 2 Change	21/11/2006 Remove
Programs	🛄 WinPcap 3.1	Size	0,33MB
<u></u>	😼 WinRAR archiver	Size	2,74MB
Add/Remove	間 XMLinst	Size	1,28MB 👻
			Close

Figure 3-1 Add or Remove Programs

3. Click on the OK button to confirm the Uninstalling process.

TL-WN322G Wireless Utility - InstallShield Wizard
Preparing Setup Please wait while the InstallShield Wizard prepares the setup.
TL-WN322G Wireless Utility Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.
Confirm Uninstall
Do you want to completely remove the selected application and all of its features? OK Cancel
le se ll'étail a
InstallShield Cancel

Figure 3-2 Confirm the Uninstalling process.

4. The process will then remove TL-WN322G Wireless Utility and the drivers from your computer. Click on the **Finish** button and then remove the TL-WN322G 54M Wireless

USB Adapter.

TL-WN322G Wireless Utility	
	Maintenance Complete InstallShield Wizard has finished performing maintenance operations on TL-WN322G Wireless Utility.
	K Back Finish Cancel

Figure 3-3 Uninstalling process finished

3.2 Through Programs

Follow the steps below in order to uninstall the Drivers and Utility:

Click on Start > programs > TP-LINK> TL-WN322G Wireless Utility> Uninstall TL-WN322G Wireless Utility.

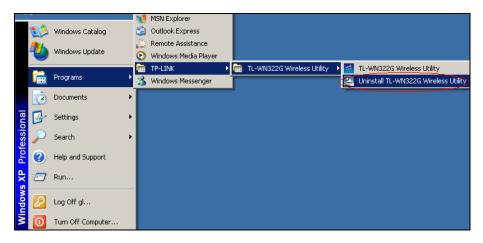


Figure 3-4 Uninstall from programs

- Then, process will go to Install Shield Wizard. The screen will pop up the following conversation "Do you want to completely remove the selected application and all of its features"
- > Click on the **OK** button to confirm the Uninstalling process.

TL-WN322G Wireless Utility - InstallShield Wizard	
Preparing Setup Please wait while the InstallShield Wizard prepares the setup.	
TL-WN322G Wireless Utility Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.	
Confirm Uninstall	
Do you want to completely remove the selected application and all of its features? OK Cancel	
InstallShieldCancel	

Figure 3-5 Confirm the Uninstalling process.

The process will then remove TL-WN322G Wireless Utility and the drivers from your computer.

IL-TH322G Tireless Utility	×
Setup Status	No.
TL-WN322G Wireless Utility is configuring your new software installation.	
Uninstalling	
E:\Program Files\TP-LINK\TL-WN322G Wireless Utility\ZDWIan.INI	
InstallShield	Cancel

Figure 3-6 Uninstalling TL-WN322G Wireless Utility and the drivers

Click on the Finish button and then remove the TL-WN322G 54M Wireless USB Adapter.

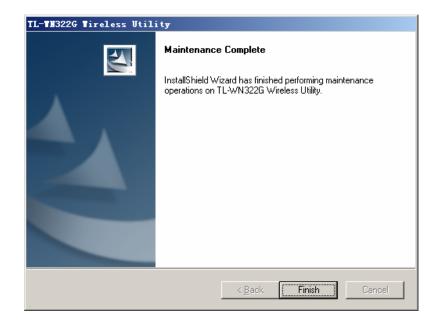


Figure 3-7 Uninstalling process finished

Chapter 4 Software Configuration

4.1 Station Mode Configuration

This chapter focuses on how to configure the device in Station mode (wireless LAN client)

> Current Network Information

The **Current Network Information** screen displays the current status of the wireless radio as a station.

🕌 TL-WN322G Wire	less Utility			_ 🗆 🗙
Network A	dapter:	Mo	ode: Station	•
TL-WN32	2G Wireless US	SB Adapter		•
Available Network SSID WLAN_AP TEST TP-LINK	Strength 84% 100% 80% 95%	Selected Network Info Channel: 6 Type: Infrastruc Encrypt: Off BSSID: 00 0A EB	ture 00 23 11	
Refrest	n		Connect this	site
Link Status: Signal Strength: Link Quality:	Connected to	Access Point, BSSID=	00 00 55 66 66	66 100% 97%
Tx Frame:	62	Rx Frame: 73		

Figure 4-1 Current Network Information

4.1.1 More Setting

4.1.1.1 General Connection Setting

The **General Connection Setting** allows you to configure the SSID, network type, authentication, and encryption type.

Tore Setting
General Connection Setting
WirelessMode 2.4GHz(802.11b+g)
Channel 6
SSID TEST 🗖 any
Network Type Infrastructure
Authentication Auto
Encryption Disable Change
Encryption Setting
WEP Encryption Key Setting WPA Encryption Setting
Profile Profile Name
Load Save Current Delete
Other
For more advanced setting, information
Advanced Setting Information

Figure 4-2 More setting

> You can click "Change" button to change general connection settings.

ore Setting
General Connection Setting
WirelessMode 2.4GHz(802.11b+g)
Channel 6
SSID TEST 🗖 any
Network Type Infrastructure
Authentication Auto
Encryption Disable
Encryption Setting
WEP Encryption Key Setting WPA Encryption Setting
Profile Name
Load Save Current Delete
Other
For more advanced setting, information
Advanced Setting Information

Figure 4-3 More setting—Click Change

ore Setting
General Connection Setting
WirelessMode 2.4GHz(802.11b+g)
Channel 6
SSID TEST 🗖 any
Network Type Infrastructure
Authentication Auto
Encryption WEP Apply
Encryption Setting
WEP Encryption Key Setting WPA Encryption Setting
Profile
Profile Name
Load Save Current Delete
Other
For more advanced setting, information
Advanced Setting Information

Figure 4-4 More setting—WEP

- SSID: Enter the SSID of the network. The SSID is a unique name shared among all points in your wireless network. The SSID must be identical for all points in the network, and is case-sensitive. Place a check in the any box if you would like the device to connect to the first available Access Point with the strongest signal.
- > Network Type: Select a network type from the drop-down list.
- Infrastructure or Ad-hoc: If you select infrastructure, the device must be connected to an Access Point. If you select ad-hoc, you may connect the device to another WLAN client adapter (such as this one).
- Authentication: Select an authentication type from the drop down list. Options available are: Auto, Open System, Shared Key, WPA, WPA-PSK, WPA2, WPA2-PSK.
- Encryption: Select an encryption type from the drop-down list. Options available are: Disable, WEP, TKIP, AES.
- **Note:** Refer to the **WEP encryption** and **WPA encryption** sections in this chapter to configure the security settings.

4.1.1.2 WEP Encryption

You may select 64, 128 or 256 bit WEP (Wired Equivalent Privacy) key to encrypt data (Default setting is Disable). WEP encrypts each frame transmitted from the radio using one of the Keys from a panel. When you use WEP to communicate with the other wireless clients, all the wireless devices in this network must have the same encryption key or pass phrase.

- > Authentication: Select Open System or Shared Key from the drop-down list. If you are not sure what to choose, please select **auto**.
- > **Encryption:** Select WEP from the drop-down list.
- > Click on the **WEP Encryption Key Setting** button. You will see the figure below.

Π	P Key Setting		×	
	-WEP Key Setting-			
	Key Length:	💿 64 bit 🛛 128 bit 🔿 256 bit		
	Default Key ID:	#1		
	Key Format:	Hexadecimal C ASCII		
	Key Value: #1:	*****		
	#2:	*****		
	#3:	*****		
	#4:	*****		
	The key is provided via 802.1x authentication			

Figure 4-5 WEP Key Setting

- Key Length: Select an encryption key length: 64, 128 or 256 bit. The setting must be the same as the Access Point.
- Default Key ID: Since you can specify up to 4 different WEP keys, select the WEP key value that will be used for this network.
- > Key Format: Select Hexadecimal or ASCII.
- Key Value #1 #4: You may enter up to 4 different WEP keys. However, only that WEP key will be used that is defined by the Default Key ID.

Key Length:	© 64 bit 🔿 128 bit 🔿 256 bit
Default Key	ID: #1 🔽
Key Format:	🖲 Hexadecimal 🔹 C ASCII
Key Value:	#1: *********
	#2: ********
	#3: ********
	#4: ******

Figure 4-6 Disabled WEP key settings

- The key is provided via IEEE 802.1X authentication: Place a check in this box is IEEE 802.1X authentication is used. By selecting this option, the WEP key settings will be disabled.
- > Click on the **Apply** button, and then you can use the IEEE 802.1X authentication.

4.1.1.3 WPA/WPA2 Authentication with TKIP/AES Encryption

WPA (Wi-Fi Protected Access) was designed to improve upon the security features of WEP (Wired Equivalent Privacy). The technology is designed to work with existing Wi-Fi products that have been enabled with WEP. WPA provides improved data encryption through the Temporal key Integrity Protocol (TKIP), which scrambles the keys using a hashing algorithm and by adding an integrity checking feature which makes sure that keys haven't been tampered with.

ore Setting
General Connection Setting
WirelessMode 2.4GHz(802.11b+g)
Channel 6
SSID TEST 🗖 any
Network Type Infrastructure
Authentication Auto
Encryption Disable Apply
Disable WEP Encryption Setting WEP Encryption Key Setting WEP Encryption Key Setting
Profile
Profile Name
Load Save Current Delete
Other
For more advanced setting, information
Advanced Setting Information

Figure 4-7 More settings—TKIP

- > Authentication: Select WPA from the drop-down list.
- > Encryption: Select TKIP or AES from the drop-down list.
- > Click on the **WPA Encryption Setting** button.

In this section you can configure the settings for TLS or PEAP. TLS (Transport Layer Security) is an IETF standardized authentication protocol that uses PKI (Public Key Infrastructure) certificate-based authentication of both the client and authentication server.

TPA	Setting			×
	-Connect Infomatio	n		
	Protocol:	TLS	▼	
	Phase2Auth:		<u>_</u>	
	User Name:			
	Password:			
	🔲 Validate Serve	r Certificate		
	Pre-shared Key —			
	Passphrase:			
	Key Format:	• ASCII	C Hexadecimal	
	Certificate			
			•	
			Apply	

Figure 4-8 WPA setting

- > Protocol: Select TLS from the drop-down list.
- > User Name: Enter the user name that is used for authentication purposes.
- Passphrase: Enter a WPA passphrase. For ASCII text, enter 8-63 characters, for hexadecimal enter 64 characters).
- Certificate: Make sure that you have downloaded and installed the certificate on the computer. Then select the appropriate certificate from the drop-down list.
- > Click on the **Apply** button to save the changes.

The PEAP authentication type is based on EAP TLS authentication, but uses a password instead of a client certificate for authentication. PEAP uses a dynamic session-based WEP key, which is derived from the device and RADIUS server, to encrypt data.

4.1.1.4 WPA-PSK Authentication

ore Setting	×		
_ General Conne	ction Setting		
WirelessMode	2.4GHz(802.11b+g)		
Channel	6 💌		
SSID	TEST 🗖 any		
Network Type	Infrastructure		
Authentication	WPA PSK		
Encryption	Disable Apply		
Encryption Sett	WEP TKIP AES Ion Key Setting WPA Encryption Setting		
Profile Name			
	Load Save Current Delete		
Other			
For more advanced setting, information			
Advanced Setting Information			

Figure 4-9 WPA-PSK Authentication

- > Authentication: Select WPA-PSK from the drop-down list.
- > **Encryption:** Select an encryption type from the drop-down list.
- > Click on the **Apply** button to save the changes.

4.1.1.5 Profiles

Multiple profiles can be created for different Network Names (SSIDs) and security settings. This allows a user to quickly associate with another network, instead of entering the credentials each time.

More Setting	×
General Connection Setting	
WirelessMode 2.4GHz(802.11b+g)	N.S.
Channel 6	
SSID TEST 🗖 any	
Network Type Infrastructure	
Authentication WPA PSK	
Encryption WEP Appl	у
Encryption Setting	
WEP Encryption Key Setting WPA Encryption Setting	
Profile Profile Name Profile	
Load Save Current Delet	•
Other For more advanced setting, information	
Advanced Setting Information	n

Figure 4-10 More Setting—Profile

- Profile Name: Displays the name of current profile. One device can have many profiles, but only one profile can be loaded at a time.
- > Load: Select a profile from the drop-down list and then click on the Load button.
- Save Current: Enter a new profile name and then click on the Save Current button to save the profile.
- Delete: To delete an existing profile, select it from the drop-down list and then click on the Delete button.

4.1.1.6 Advanced Settings

The Advanced Settings allows you to configure the user interface language, power consumption, and threshold values.

Advanced Setting	X
Power Consumption Setting Continuous Access Mode (CAM). Maximum Power-Saving Mode. Frast Power-Saving Mode. Fragmentation Threshold	PSP XLink Mode WMM QoS Mode Disable) > 2346
0 < 2347 (Disable) > 2347

Figure 4-11 Advanced Setting

Power Consumption Setting: If your desktop or notebook is connected to external power, select Continuous Access Mode (CAM), if your notebook is using a battery, select Maximum Power-Saving Mode, or Fast Power-Saving Mode.

4.2 Wireless network mode configuration

The screen of wireless network mode displays as below:

📹 TL-W	N322G Wireless Utility		
	Network Adapter:	Ņ	1ode: 🛛 Access Point 💌
112	TL-WN322G Wireless U	JSB Adapter	
	ct Station List: on MAC Address	Current Network Set	tting
00 00	55 66 66 66	Channel: 6	
		SSID: WLAN_A	P
		WEP: Disable	
		Tx Power: Level 0	
			More Setting
			_
	Tx Frame: 76	Rx Frame: 97	<u>al</u>

Figure 4-14 Wireless network mode

The more setting screen:

ccess Point S	etting X
_General Conn	ection Setting
Wireless Mode	802.11b+g Mixed Mode
Channel	6
SSID	WLAN_AP
	Hide SSID Change
Authenticatior	Open System
WEP	Disable Setting
Fragment	,
RTS/CTS	J Disable
Preamble	Long
MAC Address	Filter: Setting
Bridge Adapte	r:
No bridge	

Figure 4-15 Access point setting

Chapter 5 Examples for application

5.1 Configuration of WEP Encryption

Suppose you have an installed and using AP, the SSID is TEST and it adopts 64 bit WEP encryption with the key "1111111111".

To establish a connection with this AP, you should follow five steps below:

Double click "TEST" in available network taskbar to connect this network.

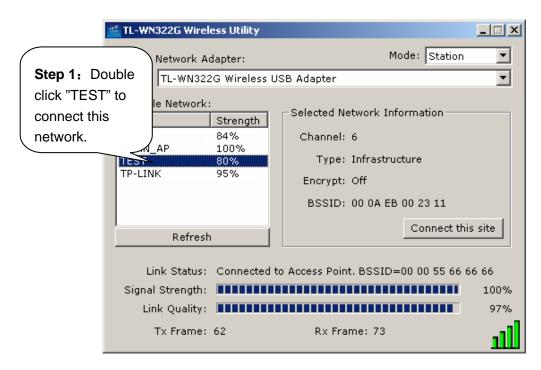
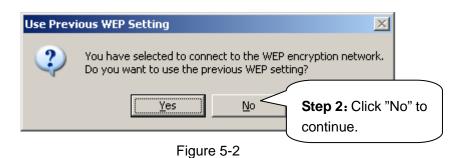


Figure 5-1

Click "No" to continue.



WEP Key Setting	×
WEP Key Setting	
Key Length: © 64 bit C 128 bit C 256 bit	
Default Key ID: #1	
Key Format: © Hexadecimal © ASCII	
Key Value: #1: *********	
#2: /********	
#3: ********	
#4: *******	
The key is provided via 802.1x authentication	Step 3: Click
	"Change"

Figure 5-3

In WEP key setting dialogue box click "change" to continue our setting.

- ➤ Key length: 64 bit
- Default key ID: #1
- > Key format: Hexadecimal
- > Key value: enter "1111111111" in #1

Click the close button in top right left of the screen, and it will return to the screen of wireless utility. till now we have finished WEP encryption configuration.

ī)
	TEP Key Setting	step 6 :
	- WED Key Cattlea	lick here.
	Key Length: • 64 bit • 128 bit • 256 bit	
	Default Key ID: #1 Step 4 :	Set the
	Key Format: Hexadecimal C ASCII options as the	
	Key Value: #1: 1111111111 show, these	e are the
	#2. ************************************	e Access
	Point.	
	#3: *********)
	#4: *******	
	The key is provided via 802.1x authentication Step 5	: Click
1		to finish
	Figure 5-4 your settin	gs.
Click the "X	3)	

5.2 Configuration of PSP Mode

There is two parts of this setting:

Part 1: Configuration of our TL-WN322G 54M Wireless USB Adapter

Step One: Select "Access Point" from the drop down list.

📹 TL-W	N322G Wireless Utility		
12	Network Adapter:		Mode: 🛛 Access Point 💌
	TL-WN322G Wireless U: ct Station List: on MAC Address	Current Network Se	etting
00 00	55 66 66 66	Channel: 6	
		SSID: WLAN_/	AP
		WEP: Disable	
		Tx Power: Level 0	
			More Setting
	Tx Frame: 76	Rx Frame: 97	ոլ



Step Two: Select "More Setting", you can use default network SSID WLAN-AP, channel 6, and then choose WEP Encryption, and enter WEP keys.

Access Point S	etting X
General Conn	ection Setting
Wireless Mode	802.11b+g Mixed Mode
Channel	6
SSID	WLAN_AP
	Hide SSID Change
Authentication	Open System
WEP	Disable Setting
Fragment	Uisable
RTS/CTS	Disable
Preamble	Long
MAC Address	Filter: Setting
Bridge Adapte	er:
No bridge	<u> </u>

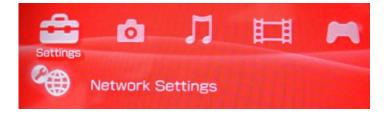
Figure 5-6

Remark:

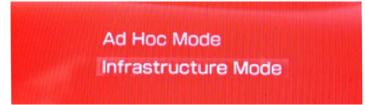
You can change the default network SSID and channel by yourself. If you didn't startup WEP Encryption, any PSP could link in, and the wireless network won't be protected by encryption key.

Part 2: PSP setting

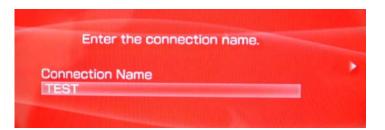
Step One: Choose "Network Settings"



Step Two: Choose "Infrastructure Mode"



Step Three: Establish a new connection , enter the name of this connection. (any is ok),we use TEST for example.



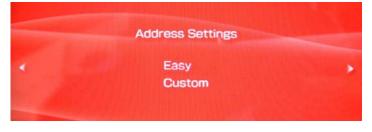
Step Four: Select SCAN, and let PSP scan the nearer AP automatic, then choose the default network SSID WLAN_AP of TL-WN322G 54M Wireless USB Adapter.

SSID	Security	Signal Strength
WLAN AP	None	100%

Step Five: "WLAN Security Setting" If you haven't set pass phrase. select the first "None" .if you have set the pass phase, select the second "WEP", the pass phase must identical with WEP key that you have set.



Step Six: Select address settings mode-Easy



Step Seven: In "I

In "IP Address Setting"screen ,we select "Manual"



Step Eight: In "Address Setting" screen, please set IP address

	IP Address	192	168	0	2	
	Subnet Mask	255	255	255	0	
€	Default Router	192	168	0	1	
	Primary DNS	202	96	128	166	
	Secondary DNS	202	96	134	133	

Step Nine: "Proxy Server" select "Do Not Use"



Step Ten: Select "Test Connection"



Step Eleven: Test network connection. After the configuration that was set above, we can connect to web successfully. Till now, we have finished the configuration of PSP mode.



Appendix A: Glossary

- IEEE 802.11b The IEEE 802.11b standard specifies a wireless networking at 11 Mbps using direct-sequence spread-spectrum (DSSS) technology and operating in the unlicensed radio spectrum at 2.4GHz, and WEP encryption for security. IEEE 802.11b networks are also referred to as Wi-Fi networks.
- IEEE 802.11g Specification for wireless networking at 54 Mbps using direct-sequence spread-spectrum (DSSS) technology, using OFDM modulation and operating in the unlicensed radio spectrum at 2.4GHz, and backward compatibility with IEEE 8021b devices, and WEP encryption for security.
- Ad-hoc Network An ad-hoc network is a group of computers, each with a wireless adapter, connected as an independent IEEE 802.11 wireless LAN. Ad-hoc wireless computers operate on a peer-to-peer basis, communicating directly with each other without the use of an access point. Ad-hoc mode is also referred to as an Independent Basic Service Set (IBSS) or as peer-to-peer mode, and is useful at a departmental scale or SOHO operation.
- Infrastructure Network An infrastructure network is a group of computers or other devices, each with a wireless adapter, connected as an IEEE 802.11 wireless LAN. In infrastructure mode, the wireless devices communicate with each other and to a wired network by first going through an access point. An infrastructure wireless network connected to a wired network is referred to as a Basic Service Set (BSS). A set of two or more BSS in a single network is referred to as an Extended Service Set (ESS). Infrastructure mode is useful at a corporation scale, or when it is necessary to connect the wired and wireless networks.
- SSID A Service Set Identification is a thirty-two character (maximum) alphanumeric key identifying a wireless local area network. For the wireless devices in a network to communicate with each other, all devices must be configured with the same SSID. This is typically the configuration parameter for a wireless PC card. It corresponds to the ESSID in the wireless Access Point and to the wireless network name.
- WEP (Wired Equivalent Privacy) A data privacy mechanism based on a 64 bit or 128 bit or 256 bit shared key algorithm, as described in the IEEE 802.11g standard.
- Wi-Fi A trade name for the IEEE 802.11b wireless networking standard, given by the Wireless Ethernet Compatibility Alliance (WECA, see http://www.wi-fi.net), an industry standards group promoting interoperability among IEEE 802.11b devices.
- WLAN (Wireless Local Area Network) A group of computers and associated devices communicate with each other wirelessly, which network serving users are limited in a local area.
- WPA (Wi-Fi Protected Access) A wireless security protocol use TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server.
- AP- Access Point

- > PSK- Pre-Shared Key
- > TKIP- Temporal Key Integrity Protocol
- > AES- Advanced Encryption Standard
- > TLS- Transport Layer Security
- > TTLS- Tunnel Transport Layer Security
- > PEAP- Protected Extended Authentication Protocol
- > RADIUS- Remote Authentication Dial In User Service

Appendix B: Specifications

	Normal	
Interface	A-type USB 2.0 Connector	
Standards	IEEE 802.1b; IEEE 802.1g	
Operating System	Windows 98, ME, 2000, XP, 2003, 64bit XP	
Transmission	In door up to 100m, out door up to 300m (It is limited to the	
Distance	environment).	
Radio Data Rate	54/48/36/24/18/12/9/6 Mbps 11g OFDM,11/5.5/3/2/1 Mbps 11b	
	DSSS,(Auto Rate Sensing)	
Modulation	11g OFDM , 11b CCK/DSSS	
Media Access	CSMA/CA with ACK	
Protocol		
Transmit Power	15dBm (Typical)	
Data Security	WPA; 64/128/256 bit WEP; TKIP/AES; IEEE 802.1X authentication	
Frequency	2.4~2.4835 GHz	
Spread Spectrum	Direct Sequence Spread Spectrum (DSSS)	
Safety& Emissions	FCC, CE	

Physical Environmental	
Operating Temp	0°C∼55°C (32°F∼104°F)
Storage Temp	-40℃~70℃ (-40°F~158°F)
Humidity	5% \sim 90% RH, Non-condensing
Dimensions	$24 \times 10 \times 05$ inch (857 $\times 250 \times 110$ mm)
(W×D×H)	3.4×1.0×0.5 inch (85.7×25.9×11.8 mm)

Appendix C: Contact Information

For help with the Installation or operation of the TP-LINK TL-WN322G 54M Wireless USB Adapter, please contact us.

Website: http://www.tp-link.com