



Model No.: W45AP/W40AP

Wireless N300 High Power Access Point Wireless N300 Ceiling Access Point

User Guide



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Conventions

This User Manual applies to W45AP & W40AP. As these two products share many similarities in their appearances and features, if not specifically indicated, this User Manual will take W45AP for example.



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Chapter 1 Product Overview

The Wireless AP, mini and exquisite, is a best-in-class 802.11n indoor access point designed specifically for wireless projects. With standard X-86 installation and existed structure, the device saves time and costs and provides an adequate level of service to all users who connect with legacy 802.11b/g adapters in addition to the latest 802.11n adapters for faster downloads and instant communication. Versatile and powerful, the Wireless AP offers multiple security modes, which makes your data transmission safe. Plus, the provided unified management utility based on X86 allows network administrators to centrally manage IP addresses, SSID and security settings, etc of APs on LAN, thus enabling a highly manageable and extremely robust wireless network.

1 Package Contents

Please verify that the package contains the following items:

- Wireless AP
- Power Adapter
- Screws
- Ethernet Cable
- Chassis
- CD
- Quick Installation Guide

If any of the above items are incorrect, missing, or damaged, please contact your reseller for immediate replacement.

2 Hardware Description

The wireless access point hardware functions are described below.



System Indicator LED

Solid: Device is functioning improperly.

Off: Device is receiving no electrical power or the LED is disabled manually.

Blinking: Device is functioning properly.





- RST: Restores the device to the factory default settings when pushed and held for 7 seconds (This
 button has been hidden by the outer frame of this device. Before pressing this button, you should
 remove the outer frame.).
- PoE/LAN: PoE Port for connecting to power supply or connecting to IEEE802.3af switch;/1000M
 Ethernet Port for connecting to an Ethernet LAN device such as a PC or switch, etc.

3 Product Features

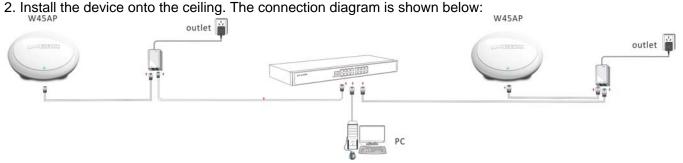
- Compliant with IEEE 802.11b/g/n;
- 1000M Ethernet port for wired LAN connection;
- PoE Port for connecting to power supply or connecting to IEEE802.3af switch;
- One RJ-45 10/100/1000 IEEE802.3ab、IEEE802.3u、IEEE802.3 auto-sensing Gigabit port for data transmission or power supply;
- Wireless rates of up to 300Mbps;
- Unified Management allows network administrators to centrally manage APs on LAN;
- WEP, WPA-PSK, WPA2-PSK and WPA-PSK/WPA2-PSK encryptions secure wireless network against unauthorized accesses;
- IEEE802.11b/IEEE802.11g/IEEE802.11n auto-sensing and auto-negotiating capabilities for all ports;
- Can be configured to select an optimum channel for device to operate on;
- Can be configured to adjust transmitting power;
- Supports 12V/1A power supply;
- Supports IP address and domain diagnostics;
- Supports AP and WDS mode.



Chapter 2 Installation

1 Physical Installation

1. Connect the device to 802.3af power adapter;



2 IP Configuration

The default IP address of your wireless access point is 192.168.0.254. If you are using the default IP subnet, the computer you are using to connect to the device should be configured with an IP address that starts with 192.168.0.x (where x can be any number between 1~253) and a Subnet Mask of 255.255.255.0; if you have changed the subnet of the wireless access point, the computer you are using to connect must be within the same subnet. If you are not clear about this configuration, please refer to Appendix 1: Configure PC.

3 Wireless Internet Connection

Win7 OS

1. Click on the desktop icon at the bottom of right hand corner;





2. Select the wireless network you wish to and click Connect;



3. Enter your security key and click **OK**(If you have configured it);



4. When displaying Connected, you have connected the wireless network successfully.





∆_{Note}

If you cannot find the icon at the bottom of right hand corner on your desktop, please refer to Appendix 2

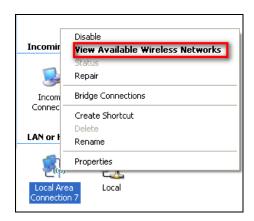
Join a Wireless Connection.

Windows XP OS

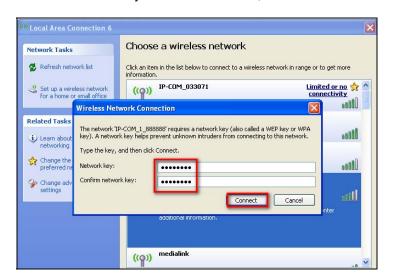
1. Right click My Network Places on your desktop and select Properties;



2. Right click Local Area Connection(wireless) and select View Available Wireless Networks;



3. Select the SSID you wish to connect, enter the network security key and click Connect;



4. When it displays Connected, you have connected to the network successfully.



Chapter 3 Advanced Settings

1 Web Login

To connect to the Wireless AP using the defaults IP address:

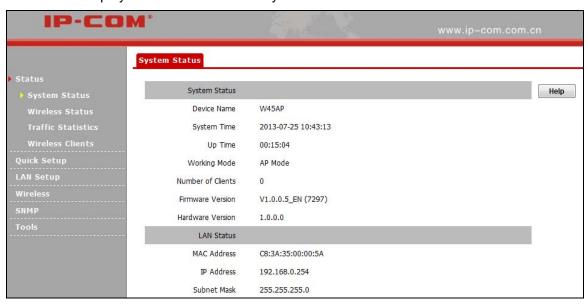
- 1. Open a Web browser.
- 2. Enter 192.168.0.254 into your browser.
- 3. Enter the default User Name admin and default Password admin into the login window.



4. Click Login and your Web browser shall automatically display the home page. 2 Status

2.1 System Status

This screen displays this device's current system status.



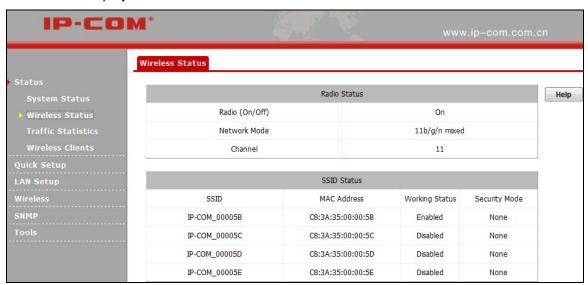
- 1. Device Name: Displays this device's name.
- 2. System Time: Displays system's current time.
- 3. Up Time: Displays the device's uptime.
- 4. Working Mode: Displays this device's current working mode
- 5. Number of Clients: Displays the information of connected wireless clients(if any).



- 6. Firmware Version: Displays Device's current firmware version.
- 7. Hardware Version: Displays Device's current hardware version.

2.2 Wireless Status

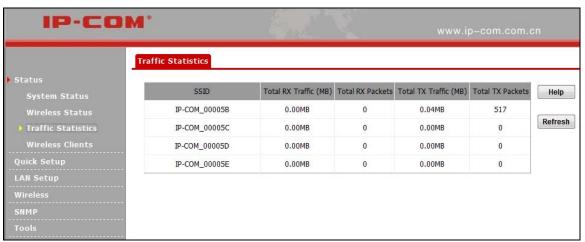
This section displays radio status and SSID status.



- 1. Radio ON/OFF: Displays the primary SSID's wireless status.
- 2. Network Mode: Displays currently operative network mode.
- 3. Channel: Displays the channel the device is currently operating on.
- 4. SSID: Displays the current SSID name.
- 5. MAC Address: Displays the current AP's MAC address.
- 6. Work Status: Displays the wireless signal's work status
- 7. Security Mode: Displays the current security mode.

2.3 Traffic Statistics

This section displays the AP's traffic statistics.



- 1. Total RX Traffic: Total RX bytes SSID has received.
- 2. Total RX Packets: Total RX packets SSID has received.
- 3. Total TX Traffic: Total TX bytes SSID has transmitted.
- 4. Total TX Packets: Total TX packets SSID has transmitted.



5. Total Link Speed: Total link speed rate has transmitted.

2.4 Wireless Clients

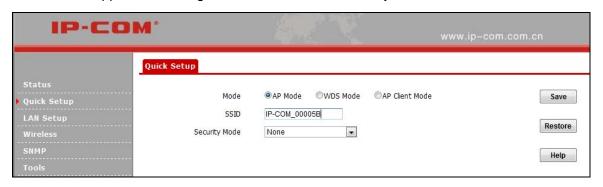
This section displays information of connected clients(if any).



- 1. MAC Address: Displays the connected wireless client's MAC address.
- 2. IP: Displays the connected wireless client's IP.
- 3. Encryption: Displays SSID's encryption type.
- 4. Bandwidth: Displays the current wireless client's bandwidth.
- 5. Connection Duration: Displays connection time SSID has connected to.

3 Quick Setup

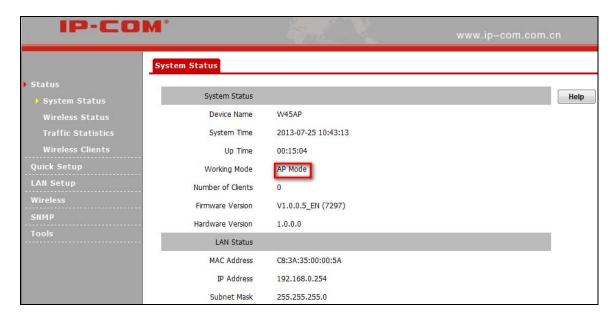
This device supports 3 working modes. You can select it as you need.



3.1 AP Mode

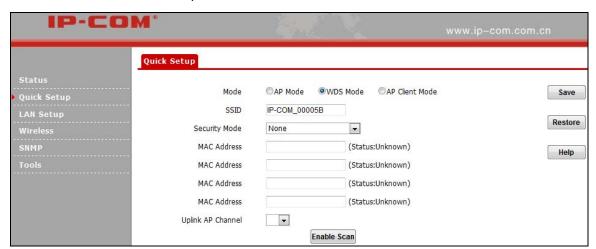
In this mode, you can achieve the conversion between cable signals and wireless signals. If this device is connected to the broadband interface of a hotel room, you can achieve network sharing among multiple PCs without any configuration.





3.2 WDS Mode

In this mode, this device can provide access to at most 4 APs.



- 1. SSID: Displays the device's SSID. The default is this device's primary SSID. Once WDS is enabled, the primary SSID will be modified to the first remote AP's SSID.
- 2. Security Mode: You can configure primary SSID's security mode and it should be kept the same as that of the remote AP.
- 3. MAC Address: You can enter the remote MAC address manually or open scan to add it automatically.
- 4. Uplink AP Channel: When WDS is enabled, please keep all APs on the same channel.
- 5. Enable Scan: Scans wireless signals nearby.

△Note

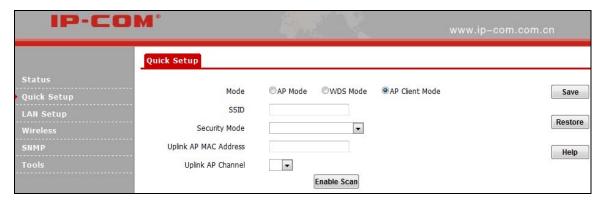
- 1. In WDS mode, the two APs should support WDS and you should keep their SSIDs, channels, security modes and keys the same. As for IP address, they should not be the same but on the same network segment;
- 2. Once the security mode has been changed, please reboot the device.

3.3 AP Client Mode

In this mode, this device negotiates with the uplinked AP successfully and also provides access to lower



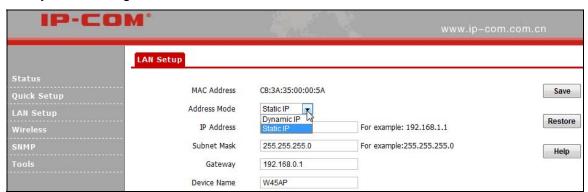
clients. The device's SSID won't be changed.



- 1. SSID: You can configure the uplinked AP's SSID name here.
- 2. Security Mode: You can configure the uplinked AP's security mode here.
- 3. MAC Address: You can configure the uplinked AP's MAC address here.
- 4. Uplink AP Channel: You can configure the uplink AP's channel here.
- 5. Enable Scan: Scans wireless signals nearby.

4 LAN Setup

Here you can configure the LAN IP address and subnet mask.



- 1. MAC Address: Displays the LAN's MAC address.
- 2. Address Mode: Two modes are available: Static IP and Dynamic IP.
- 3. IP address: Displays the device's LAN IP address. When the address mode is Static IP, you can change it as you need. The default is 192.168.0.254.
- 4. Subnet Mask: Displays the device's LAN subnet mask. The default is 255.255.255.0.
- 5. Gateway: Displays the device's gateway.
- 6. Device Name: Displays the device name.



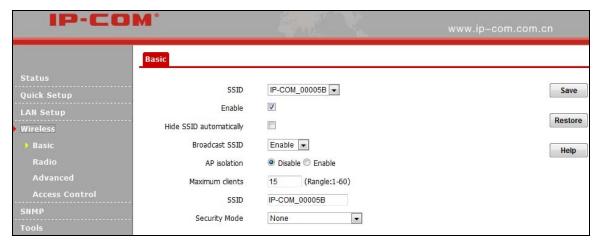
If you change this IP address, you must use the new one to re-log on to this web utility.

5 Wireless

5.1 Basic

This section describes how to configure the available wireless settings.

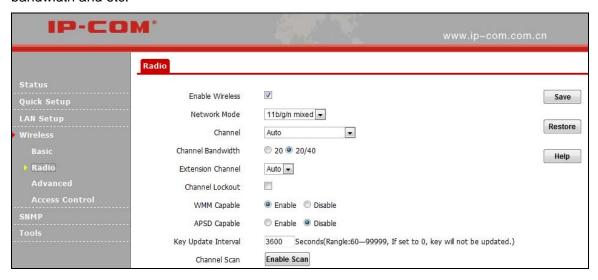




- 1. SSID: Select the SSID from the drop-down list. It supports 4 SSIDs at most.
- 2. Enable: When select this item, wireless will be enabled.
- 3. Hide SSID Automatically: When number of clients outnumbers the maximum value, SSID will be hidden automatically.
- 4. SSID Broadcast: This option allows you to have your network name (SSID) publicly broadcast or if you choose to disable it, the SSID will be hidden. It is enabled by default.
- 5. AP Isolation: Isolates clients connecting to the same SSID.
- 6. Maximum Clients: Displays the number of clients can be connected to the current SSID. Total number should be within 60.
- 7. SSID: Displays the SSID name and you can change the name here.
- 8. Security Mode: Select WEP, WPA-PSK, WPA2-PSK or Mixed WPA /WPA2-PSK.
- (1)WEP: Enter a WEP key that is either 5~13 ASCII characters or 10~26 Hex characters if you select the WEP encryption.
- (2)WPA-PSK/WPA2-PSK: You can enable personal (PSK) or mixed mode, but you must make sure that the wireless client also supports the selected encryption method. Enter a security key that is either 8-63 ASCII characters or 8-64 Hex characters.

5.2 Radio

Here you can configure basic wireless settings including network mode, channel, extension channel, channel bandwidth and etc.

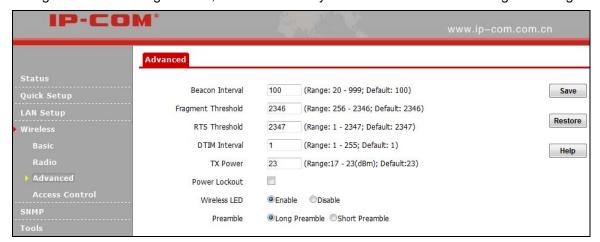




- 1. Enable Wireless: Check/uncheck to enable/disable the wireless feature.
- 2. Network Mode: Select a right mode according to your wireless client. The default mode is 11b/g/n mixed.
- 11b mode: Select it if you have only 11b wireless devices in your wireless network. Up to 11Mbps wireless rate is supported on this mode.
- 11g mode: Select it if you have only 11g wireless devices in your wireless network. Up to 54Mbps wireless rate is supported on this mode.
- 11b/g mixed mode: Select it if you have 11b and 11g wireless devices in your wireless network.
- 11b/g/n mixed mode: Select it if you have 11b, 11g and 11n wireless devices in your wireless network. In this mode wireless connection rate is negotiated.
- 3. Channel: Select from 1~13 channels or Auto. The best selection is a channel that is the least used by neighboring networks.
- 4. Channel Bandwidth: Select a proper channel bandwidth to enhance wireless performance. Select 20/40M frequency width when device is operating in 11n, select 20M frequency width when device is operating in non-11n mode.
- 5. Extension Channel: This is used to ensure N speeds for 802.11n devices on the network.
- 6. WMM-Capable: WMM is QoS for your wireless network. Enabling this option may better stream wireless multimedia data such as video or audio (recommended).
- 7. ASPD Capable: Select to enable/disable the auto power saving mode. By default, this option is disabled.

5.3 Advanced

This section allows you to configure advanced wireless settings. If you are new to networking and have never configured these settings before, we recommend you to leave the default settings unchanged.



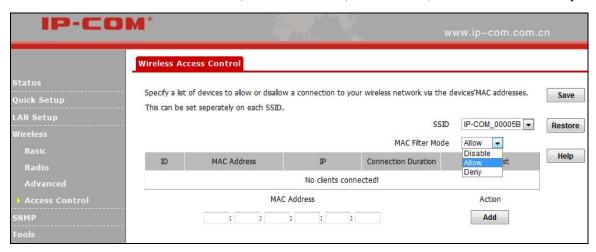
- 1. Beacon Interval: This is a time interval between any two consecutive Beacon packets sent by an Access Point to synchronize a wireless network. Specify a valid value between 20 and 999. The default setting is 100.
- 2. Fragment Threshold: Specify a valid Fragment Threshold value between 255 and 2346. The default is 2346. Any wireless packet exceeding the preset value will be divided into several fragments before transmission.
- 3. RTS Threshold: Specify a valid value between 1 and 2347. The default is 2347. If a packet exceeds the preset value, RTS/CTS scheme will be used to reduce collisions. A smaller value is recommended if you have distant clients or interference on your network.



- 4. DTIM Interval: A DTIM (Delivery Traffic Indication Message) Interval is a countdown informing clients of the next window for listening to broadcast and multicast messages. When such packets arrive in the router's buffer, the router will send DTIM (delivery traffic indication message) and DTIM interval to alert clients of the receiving packets. Specify a valid value between 1-255. The default is 1.
- 5. TX Power: Control TX power. Specify a valid value between 17 and 23. The default is 23.
- 6. Power Lockout: Once enabled, you cannot change power manually.
- 7. Wireless LED: You can enable or disable wireless LED.
- 8. Preamble: The 8 bytes of the preamble and the Start of Frame create a pattern of 64 bits. 7 bytes of the preamble are for synchronization and 1 byte is for SFD, which basically says here comes a new frame, being a "get ready" notification. There are two types of preambles: long preamble and short preamble. By default, the device transmits data using the long preamble.

5.4 Access Control

Specify a list of devices to allow or disallow a connection to your wireless network via the device's MAC addresses. To deactivate this feature, select "Disable"; to activate it, select "Allow" or "Deny".



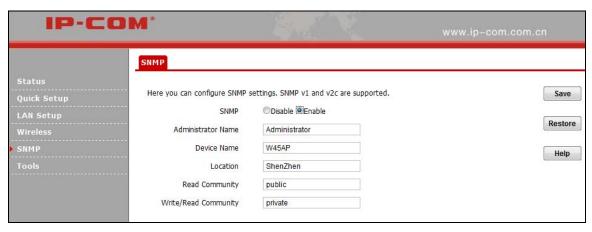
MAC Filter Mode: Select Allow or Deny from the drop-down list.

- 1. To permit a wireless device to connect to your wireless network, select **Allow**, enter its MAC address, click **Add** and then **OK**. Then only this device listed as "Allowed" will be able to connect to your wireless network; all other wireless devices will be forbidden.
- 2. To disallow a wireless device to connect to your wireless network, select **Deny**, enter its MAC address, click **Add** and then **OK**. Then this device listed as "Denied" will be unable to connect to your wireless network.

7 SNMP

The Simple Network Management Protocol (SNMP) is widely used in local area networks (LANs) for collecting information, managing, and monitoring network devices, such as servers, printers, hubs, switches, and routers. Specialized software in each SNMP capable device, known as an Agent, continuously monitors the status of the device and reports the results to the SNMP Manager software, which can then act on the report. This device supports both SNMP v1 and SNMP v2C.





Click **Enable** to enable the SNMP feature.

- 1. Administrator Name: Input the administrator's name.
- 2. Device Name: Input the name of the AP, e.g., WIRELESS AP.
- 3. Location: Input the AP's location.
- 4. Read Community: Indicates the community read access string to permit reading this AP's SNMP information. The default is Public.
- 5. Write/Read Community: Indicates the community write/read access string to permit reading and re-writing this AP's SNMP information. The default is Private.

8 Tools

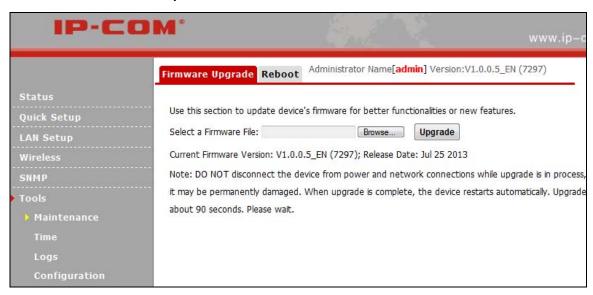
8.1 Maintenance

Firmware Upgrade

Firmware upgrade is released periodically to improve the functionality of your device or to add new features.

If you run into a problem with a specific feature of the device, log on to our website (http://www.ip-com.com.cn/) to download the latest firmware to update your device.

Click **Tools** > **Firmware Update** to enter the screen below:



To upgrade device software:

1. Open a web browser and go to http://www.ip-com.com.cn/ to download latest firmware.



- 2. Unzip the compressed upgrade file (.ZIP file).
- 3. Click **Browse** to locate and select upgrade file on your hard disk.
- 4. Click **Update** to upgrade device firmware.
- 5. When the firmware upgrade completes, your wireless access point will automatically restart.
- 6. Restore the AP back to factory default settings after reboot.

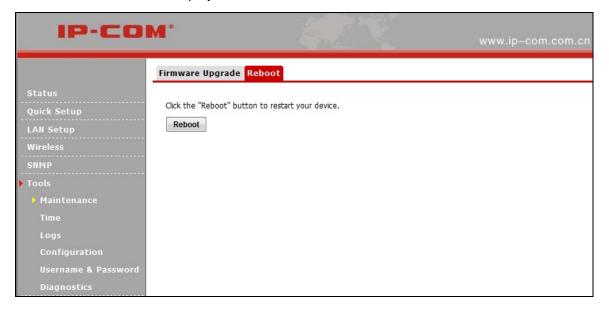
△Note

When uploading software to the Wireless AP, it is important not to disconnect the device from power supply. If the power supply is interrupted, the upload may fail, corrupt the software, and render the device inoperable. When the upload completes, your wireless access point will automatically restart. The upgrade process typically takes about several minutes.

Reboot

The Reboot option restarts the wireless access point using its current settings. Connections will be lost during reboot.

Click **Tools** > **Reboot** to display screen below:

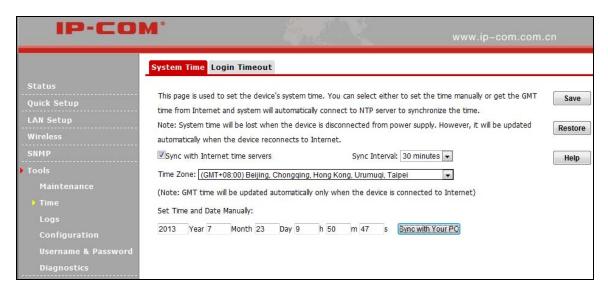


8.2 Time

System Time

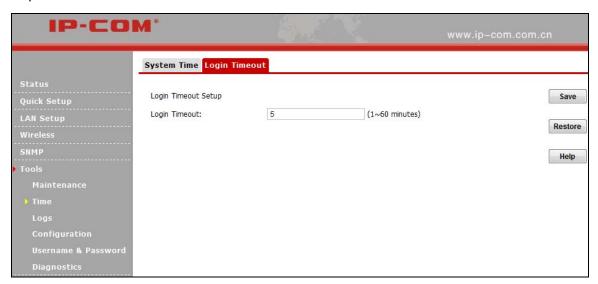
This page is used to set the device's system time. You can choose to set the time manually or get the GMT time from the Internet and the system will automatically connect to NTP server to synchronize the time





Login Timeout

Here you can configure the web login timeout (1-60 minutes). The default is 5 minutes. Device returns to login window automatically depending on the specified login timeout and user name/password will be required.

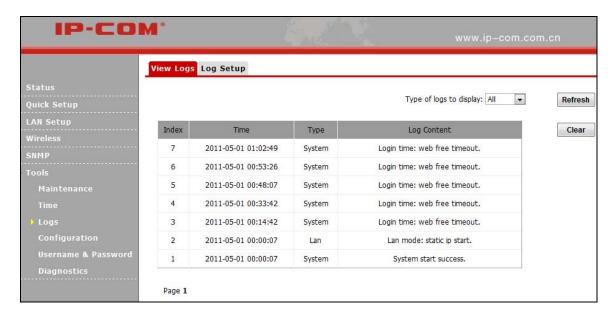


8.3 Logs

View Logs

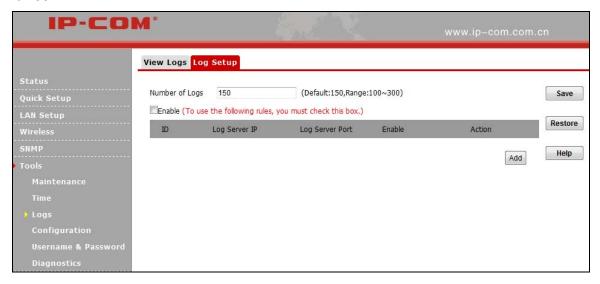
Here you can view the history of the device's actions. Click **Refresh** to update current log info or click **Clear** to clear all logs.





Log Setup

Here you can set up number of logs and rules of log settings. Up to 300 entries can be logged. The default is 150.



8.4 Configuration

Backup & Restore

This section allows you to save a copy of the device configurations on your local hard drive or to restore the previous configurations back to the device.

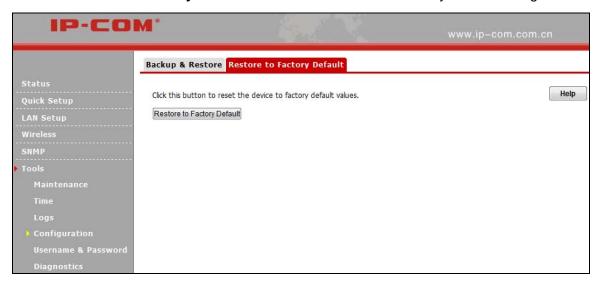
- 1. **Backup**: Once you have configured the device the way you want it, you can save these settings to a configuration file on your local hard drive that can later be imported to your device in case that the device is restored to factory default settings. To do so, click the **Backup** button and specify a directory to save settings on your local hardware.
- 2. **Restore**: Click the **Browse** button to locate and select a configuration file that is saved previously on your local hard drive and then click **Restore** to restore it. Configurations will be restored after device reboot.





Restore to Factory Default

Click the **Restore to Factory Default** button to reset Device to factory default settings.



Factory Default Settings:

User Name: admin

Password: admin

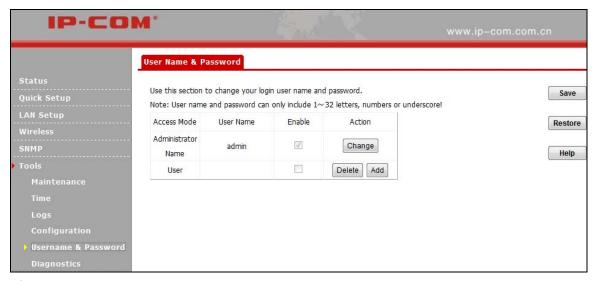
IP Address: 192.168.0. 254

Subnet mask: 255.255.255.0

8.5 User Name & Password

Here you can change the user name and password for web login. The default password is **admin**. We suggest that you change this password to a more secure password.



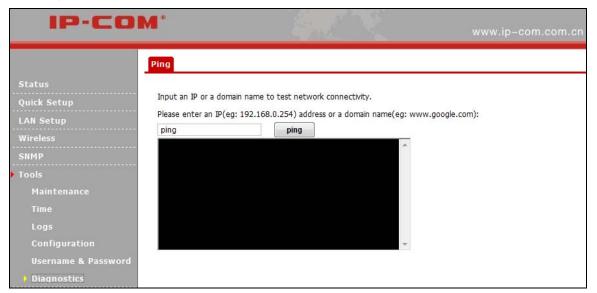


△Note

You must log in as an administrator to make any change.

8.6 Diagnostics

This page allows you to test your network connection.

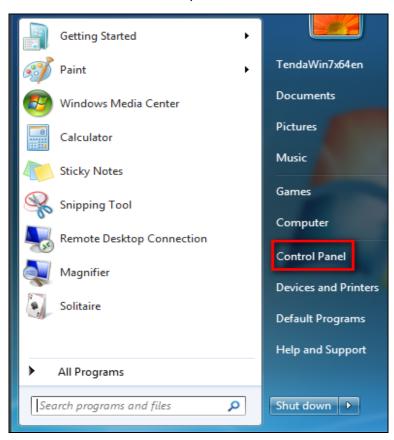




Appendix 1 Configure PC

WIN7 OS Configuration

1. Click Start>Control Panel;

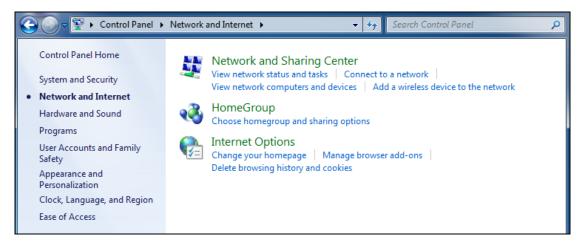


2. Enter Control Panel and click Network and Internet;

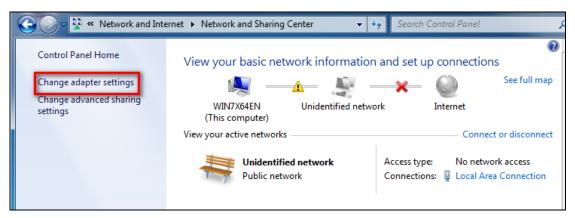




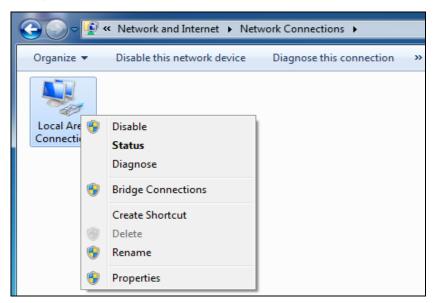
3. Click Network and Sharing Center;



4. Click Change adapter settings;

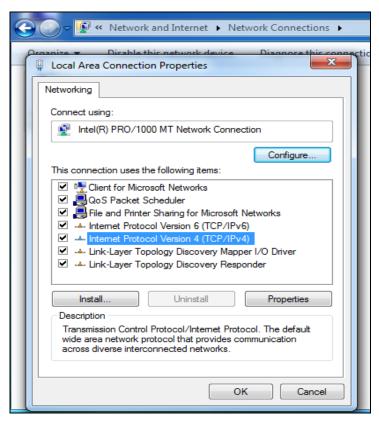


5. Right click Local Area Connection and select Properties;

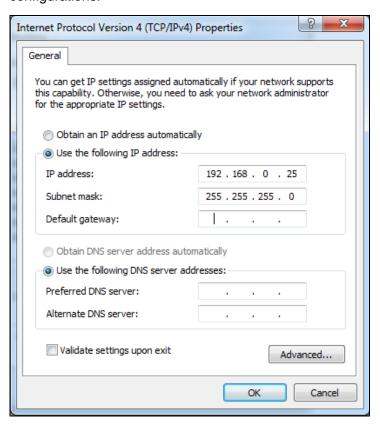




6. Select Internet Protocol Version 4(TCP/IPv4) and click Properties;



7. Select **Use the following IP address**, enter 192.168.0.X (where x can be any number between 1~253) in the IP address bar and 255.255.255.0 in the subnet mask and then click **OK** to save the configurations.



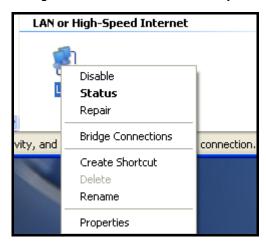


Windows XP OS Configuration

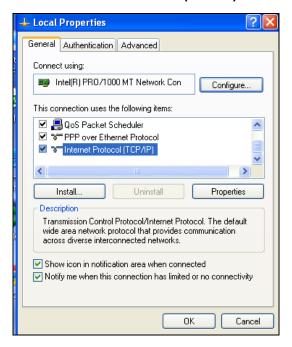
1. Right click My Network Places and select Properties;



2. Right click Local and select Properties;

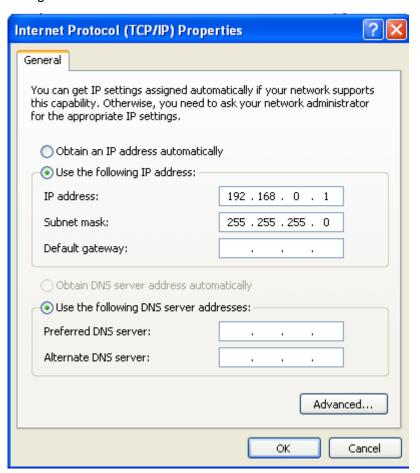


3. Select Internet Protocol(TCP/IP) and click Properties;





4. Select **Use the following IP address**, enter 192.168.0.X (where x can be any number between 1~253) in the IP address bar and 255.255.255.0 in the subnet mask and then click **OK** to save the configurations.





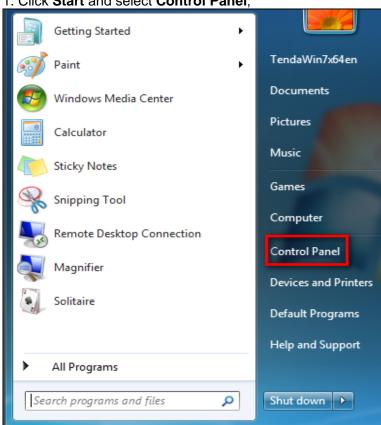
Appendix 2 Join a Wireless Connection

△Note

For wireless connection, desktop computers need to be equipped with network cards first.

Win7 OS

1. Click Start and select Control Panel;

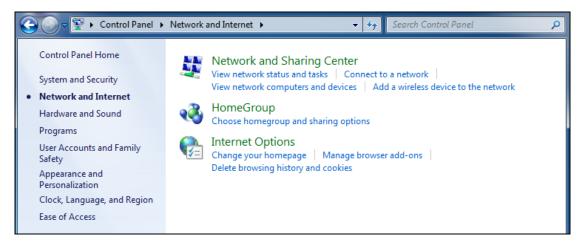


2. Enter Control Panel and click Network and Internet;

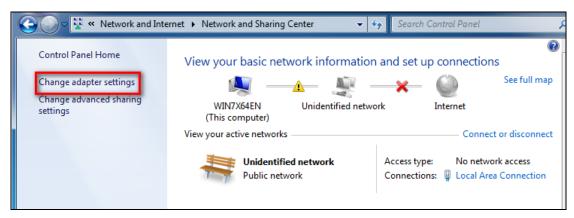




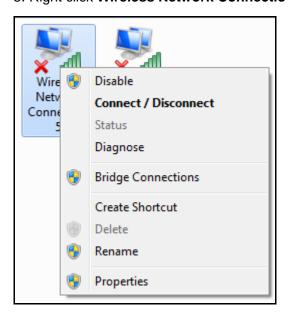
3. Click Network and Sharing Center;



4. Click Change adapter settings;

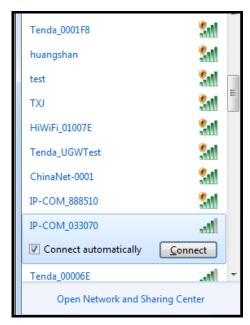


5. Right click Wireless Network Connection and select Connect/Disconnect;





6. Select the wireless network you wish to and click Connect;



7. Enter your security key and click **OK**(If you have configured it);



8. When displaying Connected, you have connected the wireless network successfully.



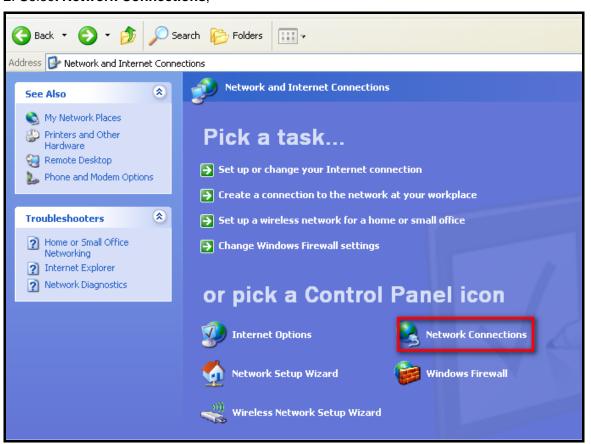


Windows XP OS

1. Click Start and select Control Panel;

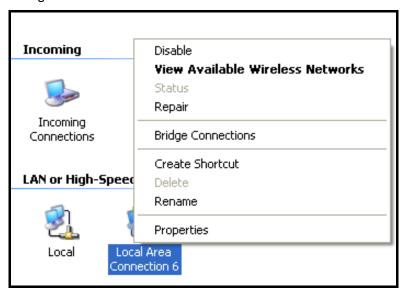


2. Select Network Connections;

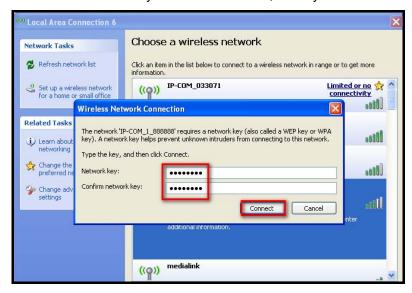




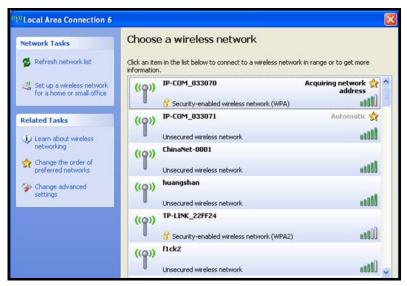
3. Right click Local Area Connection and select View Available Wireless Networks;



4. Select the network you wish to connect, enter your network key and click Connect;



5. When it displays **Connected**, you have connected to the network successfully;





Appendix 3 Default settings

Parameters		Default Settings
AP Web Login	Address	192.168.0.254
	Username	admin
	Password	admin
Quick Setup	Working Mode	AP Mode
I ANI Catura	IP Address	192.168.0.254
LAN Setup	Subnet Mask	255.255.255.0
	Gateway	192.168.0.1
	Wireless Setup	Enabled
	Primary SSID	IP-COM_XXXXXX
	Network Mode	11/b/g/n mixed
	SSID Broadcast	Enabled
	AP Isolation	Disabled
Wireless	Channel	Auto
	Channel Bandwidth	20/40
	Channel Extension	Auto
	WMM Capable	Enabled
	APSD Capable	Disabled
	Security Mode	None
	Access Control	Disabled
SNMP	SNMP	Disabled
Tools	Time	Sync with Internet time servers



Appendix 4 Safety and Emission Statement

$C \in$

CE Mark Warning

This is a Class B product In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. This device complies with EU 1999/5/EC. NOTE:(1)The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.(2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.



FCC Statement

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 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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.



This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

NOTE: (1)The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.(2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

NCC Notice

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