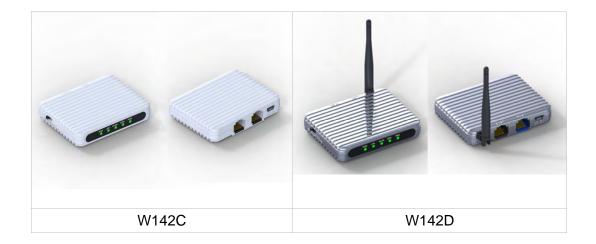
IEEE 802.11n Wireless Series

Wireless 11n 1T1R Router



User Manual

Version 2.1 Date: October 20, 2010

FCC Certifications



Federal Communication Commission Interference 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 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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

IMPORTANT NOTE:

FCC 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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CE Mark Warning

CE()

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class B for ITE, the essential protection requirement of Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility and R&TTE Directive 1999/5/EC to meet the regulation of the radio equipment and telecommunications terminal equipment.

Company has an on-going policy of upgrading its products and it may be possible that information in this document is not up-to-date. Please check with your local distributors for the latest information. No part of this document can be copied or reproduced in any form without written consent from the company.

Trademarks:

All trade names and trademarks are the properties of their respective companies. Copyright © 2010, All Rights Reserved.

經型式認證合格之低功率射頻電機,非經許可,公司、商號或使用者均不得擅自變更頻率、 加大功率或變更原設計之特性及功能。

低功率射頻電機之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停 用,並改善至無干擾時方得繼續使用。前項合法通信,指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Contents

| Unpacki | ng In | formation | 5 |
|---------|-------|---|---|
| Chapter | 1 | Introduction to the Wireless Router | |
| 1.1 | | General Description | 6 |
| 1.2 | | Key Features | 6 |
| 1.3 | | The Front Panel | 7 |
| 1.4 | | The Rear Panel | |
| Chapter | 2 | Installation and Basic Configuration | 9 |
| 2.1 | | Operation Mode | 9 |
| 2.2 | | Connect This Router to Your Network | 9 |
| 2.3 | | Configure the IP Address of Your Computer | 0 |
| Chapter | 3 | Web-Based Management13 | 3 |
| 3.1 | | Start the Web-Based Management Interface 13 | 3 |
| 3.2 | | The Graphic User Interface14 | 4 |
| 3.3 | | Setup Wizard 10 | 6 |
| 3.4 | | Wireless1 | 7 |
| | 3.4. | 1 Basic Settings1 | 7 |
| | 3.4. | 2 Advanced Settings 1 | 9 |
| | 3.4. | 3 Security2 | 0 |
| | 3.4. | 4 Access Control24 | 4 |
| | 3.4. | 5 Wireless Site Survey24 | 4 |
| | 3.4. | 6 WPS Settings2 | 5 |
| 3.5 | | TCP/IP Settings2 | 7 |
| | 3.5. | 1 LAN Interface Setup ······2 | 7 |
| | 3.5. | 2 WAN Interface Setup 2 | 8 |
| 3.6 | | Firewall Settings | 2 |
| | | MAC Filtering | 2 |
| 3.7 | | Management 33 | 3 |
| | 3.7. | 1 Status 3 | 3 |
| | 3.7. | 2 Statistics | 4 |
| | 3.7. | 3 Log 3- | 4 |
| | 3.7. | 4 Upgrade Firmware ·······3 | 5 |
| | 3.7. | 5 Save/Reload Setting3 | 6 |
| | 3.7. | 6 Password3 | 6 |
| | 3.7. | 7 Logout 3 | 7 |
| Appendi | x A: | Product Specifications3 | 8 |
| Appendi | x B: | Glossary3 | 9 |

Unpacking Information

Thank you for purchasing the product. Before you start, please check all the contents of this package.

The product package should include the following:

- 1. One Wireless Router
- 2. One USB cable
- 3. One CD

Note:

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact with your distributor.

Conventions

The router mentioned in this guide stands for IEEE 802.11n Wireless 1T1R Router without any explanation.

Chapter 1 Introduction to the Wireless Router

1.1 General Description

This is a wireless router with 1T1R SISO technology, providing an excellent network solution for home, SOHO and hotspot users. It complies with standards IEEE 802.11n with data rate up to 150 Mbps, and IEEE 802.11b/g with maximum data rate of 54 Mbps. It can also interoperate with all the 11/54 Mbps wireless (802.11b/g) products.

The router allows multiple users to share one broadband connection, as well as secures your private network. LAN users can share files, printers, or playing network games all at a blazing speed in a large area.

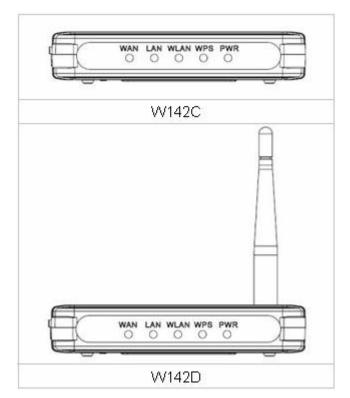
As to information security, this router supports up-to-date security encryption, such as WPA, WPA2, open shared key, and pair-wise key authentication services, ensuring you the best encryption types. What's more, this router supports energy efficient Ethernet and saves power consumption, prefering a cost-effective network connection.

1.2 Key Features

- > Comply with IEEE 802.11n and IEEE802.11b/g wireless standards
- > 2.4GHz frequency band and 1T1R
- High speed transfer rate up to 150Mbps
- Support auto-MDI/MDI-X, backpressure and flow control
- Support IEEE802.1x port-based and MAC-based network access control
- Support wireless data encryption with WPA, WPA2, Open shared key, and pair-wise key authentication services
- > Support Static IP, DHCP Client, PPPoE, Firewall and NAT IP Sharing
- Support IEEE802.3az Energy Efficient Ethernet
- Provide one WPS/RESET button
- Provide one slide switch to control AP/Router/Client mode

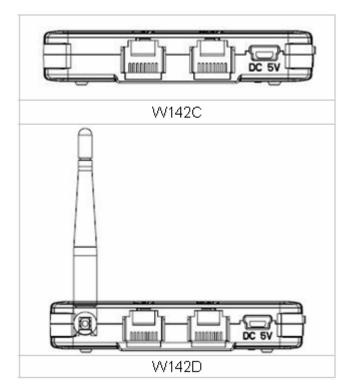
1.3 The Front Panel

The front panel of the Wireless Router:



| Name | Status | Indication |
|--------------|----------------------|--|
| PWR | Green | Power on |
| FWR | Dark | Power off |
| | Blink green one time | System reboot |
| WPS | Blink green | WPS connecting |
| | Dark | System stability |
| | Off | The wireless function is disabled. |
| WLAN | Flashing | The wireless function is enabled. |
| | Flashing fast | Sending or receiving data over wireless. |
| | Off | There is no device linked to the corresponding port or the connection is dropping off. |
| WAN / LAN | On | There are devices linked to the corresponding ports but no data transmitted or received. |
| | Flashing | Sending or receiving data over corresponding port. |

1.4 The Rear Panel



The rear panel of the Wireless Router is shown below.

- LAN: Through this port, you can connect the router to your PCs and the other Ethernet network devices.
- WAN: This WAN port is where you will connect the cable/DSL Modem, or Ethernet.
- DC IN:

Plug the circle end of the power adapter firmly into the rear panel of the router, and put the other end into an electric service outlet, then the system is ready.

• WPS/Reset Button:

Click this button for once it means to start PBC configuration method, in which users can easy setup WPS connection.

If you push the button for more than 5 seconds and then release it, the system will return to factory default setting. In the meantime, system rewrites flash to default value and then system reboot. Approximately 60 seconds later, the whole system parameters have returned to factory default value. If the process has been interrupted by any reason(like power off), the system will fail. Before perform the process, please ensure a safe operating environment!

Warning : Incomplete factory setting recovery procedure will cause the Wireless Router malfunction ! If you are unfortunately in this situation, do not try to repair it by yourself. Consult your local distributor for help!

Chapter 2 Installation and Basic Configuration

This chapter will guide you steps by steps to install and configure the Wireless Router. We suggest you go over the whole chapter first and then do more advanced operation.

2.1 Operation Mode

In this device, there are three modes for your selection:

- > AP mode
- Router mode
- Client mode

Different mode functions different. You can glide the slide switch on the left side of the device to the left hand side (AP mode), middle (Router mode) or right hand side (Client mode) to choose the mode you want.

Before installation, please choose an operation mode first and then go on other configurations.

2.2 Connect This Router to Your Network

Steps to build up the network:

- 1. Connect the phone line from the wall socket to the line-in port on the ADSL modem, or the coaxial cable to the line-in port on the cable modem.
- 2. **A---Router Mode:** Connect the ADSL or cable modem to the Ethernet WAN port on the back of the Wireless Router by using the UTP cable.

B---AP Mode: Connect a router to one of the two ports on the back of this device by using the UTP cable.

C---Client Mode: Skip step 1 and Go to steps 3 directly.

- 3. Plug-in the power adapter to the modem and turn on the power. Install the Ethernet card into the computer by referring to the User Guide that came with the card.
- 4. Connect the computer to the Wireless Router by using standard twisted-pair Ethernet cable from the computer's Ethernet card to a 10/100Mbps Ethernet LAN port on the back of the Wireless Router. (In AP/Client mode both the ports can be used as LAN ports)
- 5. Plug-in the power adapter to the router and the other side to the wall outlet.

2.3 Configure the IP Address of Your Computer

In order to communicate with this Wireless Router, you have to configure the IP address of your computer to make it compatible with the device.

Note: The router supports DHCP server and it is enabled as default. Users who configure his IP address as "**Obtain an IP address automatically**" may skip the following IP configuration instruction.

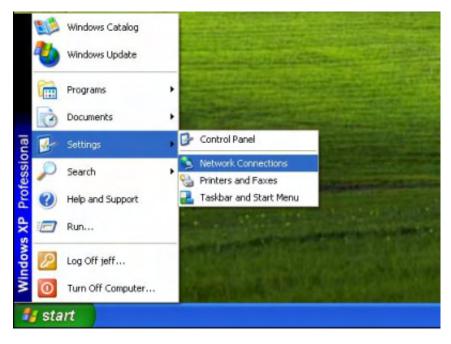
1. The default network setting of the device:

IP address: 192.168.100.1 Subnet Mask: 255.255.255.0 DHCP Server: enable

- In the following TCP/IP configuration guide, the IP address "192.168.100.2" is assumed to be your IP address if you want to specify IP addresses manually. Please **DO NOT** choose "192.168.100.1" as the IP address, for the IP address "192.168.100.1" has been set as the default IP for this device.
- 3. The following TCP/IP configuration guide uses windows XP as the presumed operation system.

Procedures to configure IP addresses for your computer:

If you are in Classic Start menu view, click Start > Settings > Network Connections.
 If you are in Start menu view, click Start > Control Panel > Network Connections.



2. Right-click Local Area Connection item and click Properties.

| S Network Connections | | |
|--|---|--------|
| File Edit View Favorites Tools | Advanced Help | A. |
| 🕞 Back 👻 🌍 👻 🏂 🔎 S | Search 🎼 Folders | |
| Address 💊 Network Connections | | 💙 🔁 Go |
| Network Tasks Create a new connection Set up a home or small office network Disable this network device Repair this connection Rename this connection View status of this connection View status of this connection Change settings of this connection | Internet Gateway Internet Connection Disabled Internet Connection LAN or High-Speed Internet | |
| Other Places Image: Control Panel Image: Control Panel Image: My Network Places Image: My Documents Image: My Computer | Create Shortcut Delete Rename Properties | |
| Details Cocal Area Connection LAN or High-Speed Internet Enabled | | |

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

| 🕹 Local Area Connection Properties 🛛 🔹 💽 |
|---|
| General Authentication Advanced |
| Connect using: |
| B Realtek RTL8139 Family PCI Fast Ethernet NIC |
| Configure |
| This connection uses the following items: |
| 🗹 📙 QoS Packet Scheduler 🛛 🔼 |
| |
| |
| Install Uninstall Properties |
| Description |
| Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks. |
| Show icon in notification area when connected |
| |

4. You may choose **Obtain an IP address automatically** (recommend) to get an IP address automatically. Or you can choose **Use the following IP address** to specify an IP address manually. Please click the **OK** button after your configuration.

| | automatically if your network supports ed to ask your network administrator for |
|---|--|
| Obtain an IP address autom | atically |
| Use the following IP addres | 5: |
| IP address: | 192.168.100.2 |
| Subnet mask: | 255 . 255 . 255 . 0 |
| Default gateway: | 192 . 168 . 100 . 1 |
| Obtain DNS server address | automatically |
| Output the following DNS served as a served of the serv | er addresses: |
| Preferred DNS server: | 202 . 96 . 128 . 86 |
| Alternate DNS server: | 202 . 96 . 128 . 166 |
| | Advanced |

Chapter 3 Web-Based Management

3.1 Start the Web-Based Management Interface

The device uses Web as the management interface. You can use a browser to access the management interface easily. Please follow the steps listed below.

- 1. Open the Internet Web browser.
- 2. Type 192.168.100.1 into the URL Web address location and press Enter.
- 3. The Login window appears.
- Enter admin in the User Name location (default value).
- Enter admin in the Password location (default value).
- Click OK button.

| Connect to 192 | 2.168.100.1 | ? 🛛 |
|-------------------|------------------|--------|
| | | |
| Wireless Access P | oint | |
| User name: | 2 | ~ |
| Password: | | , |
| | Remember my pass | word |
| | | |
| | ОК | Cancel |

3.2 The Graphic User Interface

After the password authorization, the information page shows up as the home page of the graphic user interface. You may click the menu link on left column of the window to get access to each configuration page.

Router Mode:

| 80 | 2.11n | Wireless | Broadband | Router |
|---|-----------------------------|---------------------------|---|--------|
| Site contents: Setup Wizard | Access Point | Status | | |
| Wireless Basic Settings Advanced Settings | This page shows the current | | the device. | |
| Security | System | | | |
| WPS | Uptime | Oday:Oh:13m:23s | | |
| TCP/IP Settings | Firmware Version | VER:B.13 | | |
| LAN Interface | Build Time | Thu Sep 2 15:57:38 CST 20 | 010 | |
| WAN Interface | Operation Mode | Router[Gateway] | | |
| Firewall | Wireless Configuration | 1 | | |
| 📔 MAC Filtering | Band | 2.4 GHz (B+G+N) | | |
| Management | SSID | 11n-Travel-Router | | |
| 🍯 Status | Channel Number | 6 | | |
| Statistics | Encryption | WPA2 Mixed | | |
| Log | BSSID | 00:e0:4c:81:96:cc | | |
| Upgrade Firmware Save/Reload Setting | Associated Clients | 0 | | |
| Password | TCP/IP Configuration | | and the second se | |
| Logout | IP Address | 192.168.100.1 | | |
| Logodi | Subnet Mask | 255.255.255.0 | | |
| | Default Gateway | 192.168.100.1 | | |
| | DHCP Server | Enabled | | |
| | MAC Address | 00:10:4c:88:90:b1 | | |
| | WAN Configuration | | the second s | |
| | Attain IP Protocol | Fixed IP Disconnected | | |
| | IP Address | 192.168.3.2 | | |
| | Subnet Mask | 255.255.0.0 | | |
| | Default Gateway | 192.168.3.1 | | |
| | MAC Address | 00:10:4c:89:99:b9 | | |

AP Mode:

| 80 | 2.11n | Wireless | Broadband | Route |
|---|-----------------------------|-----------------------------------|---|-------|
| Site contents | Access Point | Status | | |
| ∃ Wireless | a second second second | | | |
| Basic Settings Advanced Settings Security | This page shows the current | status and some basic settings of | the device. | |
| 📄 Access Control | System | | | |
| VPS | Uptime | Oday:Oh:Om:12s | | |
| TCP/IP Settings | Firmware Version | VER:B.13 | | |
| LAN Interface | Build Time | Thu Sep 2 15:57:38 CST 20 | 10 | |
| Status | Operation Mode | AP[Bridge] | | |
| | Wireless Configuration | 1 | and the second se | |
| Log | Band | 2.4 GHz (B+G+N) | | |
| 🔄 🚺 Upgrade Firmware | CII22 | 11n-Travel-Router | | |
| 📑 📔 Save/Reload Setting | Channel Number | 6 | | |
| Password | Encryption | WPA2 Mixed | | |
| Logout | BSSID | 00:e0:4c:81:96:cc | | |
| | Associated Clients | 0 | | |
| | TCP/IP Configuration | | | |
| | IP Address | 192.168.100.1 | | |
| | Subnet Mask | 255.255.255.0 | | |
| | Default Gateway | 0.0.0.0 | | |
| | DHCP Server | Disabled | | |
| | MAC Address | 00:10:4c:88:90:b1 | | |
| | WAN Configuration | | | |
| | Attain IP Protocol | Fixed IP Disconnected | | |
| | IP Address | 0.0.0.0 | | |
| | Subnet Mask | 0.0.0 | | |
| | Default Gateway | 0.0.0 | | |
| | MAC Address | 00:10:4c:89:99:b9 | | |

Client Mode:

| 80 | 2. 11n | Wirele <u>ss</u> | Broadband | Router |
|--------------------------------------|-----------------------------|-----------------------------------|--|--------|
| ite contents: | Access Point | Status | | |
| Setup Wizard | | | | |
| Vireless | This page shows the current | status and some basic settings of | the device. | |
| Advanced Settings | | | | |
| Security | System | | | |
| 📑 Access Control | Untime | Oday Oh 3m 42s | | |
| 📲 Site Survey | Firmware Version | VER:B.13 | | |
| 📑 WPS | Build Time | Thu Sep 2 15:57:38 CST 20 | 10 | |
| TCP/IP Settings | Operation Mode | Client | | |
| - EAN Interface | Wireless Configuration | | the second s | |
| Firewall | Band | 2.4 GHz (B+G+N) | | |
| MAC Filtering | SSID | mis AP | | |
| Management | Channel Number | 1 | | |
| 📋 Status | Encryption | Disabled | | |
| 📑 Statistics | BSSID | 00:11:22:33:aa.cc | | |
| | State | Connected | | |
| Upgrade Firmware Save/Reload Setting | TCP/IP Configuration | | | |
| Password | IP Address | 192.168.100.1 | | |
| Logout | Subnet Mask | 255.255.255.0 | | |
| | Default Gateway | 192.168.100.1 | | |
| | DHCP Server | Enabled | | |
| | MAC Address | 00:10:4c:88:90:b1 | | |
| | WAN Configuration | | | |
| | Attain IP Protocol | Fixed IP Connected | | |
| | IP Address | 192.168.3.2 | | |
| | Subnet Mask | 255.255.0.0 | | |
| | Default Gateway | 192.168.3.1 | | |
| | MAC Address | 00:e0:4c:81:96:cc | | |

3.3 Setup Wizard (Router mode and Client mode)

If you are using the router for the first time, please follow the procedures of the setup wizard to do a step-by-step configuration.

Note: The configurations in AP, Router and Client modes are almost the same. The following guide mainly introduces this device under the Router mode environment. Users want to do management in AP/Client mode please refer to the Router mode. The following instruction makes an overall introduction to the Setup Wizard

1. Click "Setup Wizard" on the left menu link, and then click the "Next" button to proceed.

| Setup Wizard |
|--|
| The setup wizard will guide you to configure access point for first time. Please follow the setup wizard step by step. |
| Welcome to Setup Wizard. |
| The Wizard will guide you the through following steps. Begin by clicking on Next. |
| |
| |
| |
| Next>> |

2. Select a WAN access type for the router to connect to the Internet. And then click the "Finish" button. Or you can click "Back/Cancel" for any changing. You may get those parameters from your ISP. WAN Access Type: Static IP, DHCP Client and PPPoE.

| 1. WAN Inter | face Setup | |
|------------------|--|-----|
| | e the parameters for Internet network which connects to the WAN port of may change the access method to static IP, DHCP, PPPoE by click the ype. | |
| WAN Access Type: | DHCP Client Static IP DHCP Client PPPoE | |
| | Cancel <-Back Finis | hed |

3.4 Wireless

3.4.1 Basic Settings

You can set up the configuration of your Wireless basic settings and monitor the Wireless Clients associate with your router.

| | rure the parameters for wireless LAN clients which may connect to your ay change wireless encryption settings as well as wireless network paramet |
|---------------------|--|
| Disable Wireles | s LAN Interface |
| Multiple AP | |
| SSID: | 11n-Travel-Router |
| Channel Width: | 20MHz 😪 |
| Control Sideband: | Lower w |
| Channel Number: | Auto 💌 |
| Country: | USA(FOC) |
| Broadcast SSID: | Enabled V |
| Associated Clients: | Show Active Clients |

| Items | Information |
|-----------------------------------|---|
| Disable Wireless LAN Interface | Mark the checkbox to disable interface of Wireless LAN. |
| Multiple AP | The Multiple AP button is to show and update the wireless settings for Multiple APs. Click this button to do more configurations. |
| SSID | Service set identifier (SSID) for the name of the wireless network. |
| Channel Width | Select 20MHz or 40MHz as the wireless channel frequency. |
| Control Sideband | Upper, Lower |
| Channel Number | Select a channel (Auto, 1~13) for the wireless network of this device. |
| Country | It contains USA(FCC), Canada(IC), Europe(ETSI), Spain, France, Japan(MKK) for your selection. |
| Broadcast SSID | If you enable "Broadcast SSID", every wireless station located within the coverage of this wireless router can discover this wireless router easily. If you are building a public wireless network, enabling this feature is recommended. Disabling "Broadcast SSID" can be more safe. |

Wireless 11n 1T1R Router

| Associated Client | Click "Show Active Clients" button, then an "Active Wireless Client Table" will pop up. You can see the status of all active wireless stations that are connecting to the access point. |
|-------------------|---|
|-------------------|---|

* Please click on the Apply Changes button or the Reset button at the bottom to save/reset the configurations.

Multiple AP

1. Multiple APs

| | le APs | pops up after clicking | the button | |
|--------------|--------------------|-----------------------------------|----------------|--------------------|
| iis page sho | ws and updates the | wireless setting for multiple APs | | |
| No. | Enable | CII22 | Broadcast SSID | Active Client List |
| SSID2 | | 11n-Travel-Row | Enabled 😽 | Show |
| SSID3 | | 11n-Travel-Row | Enabled | Show |
| SSID4 | | 11n-Travel-Row | Enabled 🔽 | Show |
| Apply Cha | anges Reset | | | |

Click "Enable" to activate this AP, and then click the button "Show", "Active Wireless Client Table -AP1" window pops up as the following:

| This table shows the client. | MAC address, tra | nsmissión, receiptic | on packet counter | is and encrypte | d status for each | associated wireless |
|------------------------------|------------------|----------------------|-------------------|-------------------|-------------------|---------------------|
| MAC Address | Mode | Tx Packet | Rx Packet | Tx Rate (Mbps) | Power Saving | Expired Time (s) |
| None | | | | | | - |
| Refresh Clos | | | | | | |

Wireless 11n 1T1R Router

button.

Show Active Clients

2. Active Wireless Client Table

This is the window that pops up after clicking the

| | | | 1.1.1 | | | | |
|---|---|-----------|--------------------|--|--------|----------|--|
| Active | Wireless | Client Ta | able | | | | |
| | | | relation packet co | | | | |
| | | | | | | | |
| MAC | Mode | Tr Packet | Ra Packet | Tz Rate | Power | Expired | |
| Address | | | | (Mbps) | Saving | Time (s) | |
| The second se | and the second se | 100 | 120 | and the second s | | | |
| | | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | | | |
| | Close | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | - | | |
| | Close | | | | | | |

3.4.2 Advanced Settings

You can set advanced wireless LAN parameters for this router. We recommend not changing these parameters unless you know what changes will be on this router.

| and the second | ore technically | advanced users who have a sufficient knowledge about changed unless you know what effect the changes will have |
|--|-----------------|---|
| on your Access Point. | | |
| Fragment Threshold: | 2346 | (256-2346) |
| RTS Threshold: | 2347 | (0-2347) |
| Beacon Interval: | 100 | (20-1024 ms) |
| Preamble Type: | ⊙ Long F | Preamble 🗢 Short Preamble |
| RF Output Power: | ● 100% | ● 70% ● 50% ● 35% ● 15% |
| Apply Changes | Reset | |

| Items | Information |
|--------------------|--|
| Fragment Threshold | This value should remain at its default setting of 2346. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 256 to 2346. Setting the fragmentation threshold too low may result in poor performance. |
| RTS Threshold | Request To Send threshold. This value should remain at its default setting of 2347. If you encounter inconsistent data flow, only minor modifications to the value range between 0 and 2347 are recommended. |
| Beacon Interval | Beacons are packets sent by an access point to synchronize a wireless network. Specify a beacon interval value. Default (100ms) is recommended. |
| Preamble Type | The length of CRC blocks in the frames during the wireless communication. |
| RF Output Power | Select the signal strength for the wireless network. |

* Please click on the Apply Changes button or the Reset button at the bottom to save/reset the configurations.

3.4.3 Security

The Security function protects your wireless network from invasion. We provide WEP and WPA encryption to secure your wireless network. Please select "Disable", "WEP", "WPA", "WPA2", or "WPA2-Mixed" in the drop list. If you select "Disable", any data will be transmitted without encryption and any station can access the router.

| Wireless Securi | ty Setup |
|---|--|
| This page allows you setup the w any unauthorized access to your v | ireless security. Turn on WEP or WPA by using Encryption Keys could prevent vireless network. |
| Select SSID: 11n-Travel-Ro | nuter 🖌 🛛 Apply Changes 🛛 Reset |
| Encryption: | WEP |
| Authentication: | 🔍 Open System 🔍 Shared Key 💿 Auto |
| Key Length: | 64-bit 💌 |
| Key Format: | Hex (10 characters) |
| Encryption Key: | ••••• |
| Show Password: | |

| Items | Information |
|---------------|--|
| Select SSID | Please choose a SSID you have set for this router in the <u>Wireless ></u> <u>Basic Settings</u> from the drop-down list. The SSID will be shown on the wireless network for recognizing. |
| Encryption | There are 5 modes for you to select: Disable, WEP, WPA, WPA2, and WPA2-Mixed. Please refer to the following description. |
| Show Password | Select to show the password or not. |

* Please click on the **Apply Changes** button or the **Reset** button to save/reset the configurations.

1. Security Mode – Disable

Select "Disable" means to access your wireless network without any encryption.

| s Security So | etup | |
|---------------------------------|---|--|
| | | 'PA by using Encryption Keys could prevent |
| California (o Aout Mileiters II | CIWOIK. | |
| 11n-Travel-Router 💌 | Apply Changes | Reset |
| ption: | Disable 👽 | |
| | you setup the wireless se l access to your wireless n <mark>11n-Travel-Router </mark> | |

2. Security Mode -- WEP

| Wireless Security S | etup |
|---|--|
| This page allows you setup the wireless s any unauthorized access to your wireless | security. Tum on WEP or WPA by using Encryption Keys could prevent network. |
| Select SSID: 11n-Travel-Router 🕶 | Apply Changes Reset |
| Encryption: | WEP |
| Authentication: | 🔍 Open System 🔍 Shared Key 💿 Auto |
| Key Length: | 64-bit 💌 |
| Key Format: | Hex (10 characters) |
| Encryption Key: | |
| Show Password: | |

| Items | Information |
|----------------|--|
| Select SSID | Please choose a SSID you have set for this router in the <u>Wireless ></u> <u>Basic Settings</u> from the drop-down list. The SSID will be shown on the wireless network for recognizing. |
| Encryption | Select a security encryption mode for this router. |
| Authentication | There provide three options for selecting: Open System, Shared Key, Auto. |
| Key Length | Select "64-bit" or "128-bit" as the key encryption length. |
| Key Format | Select "ASCII ¹ " or "Hex ² " to setup the key value. |
| Encryption Key | Enter the key according to the key format you select. |
| Show Password | Select to show the password or not. |

* Please click on the **Apply Changes** button or the **Reset** button to save/reset the configurations.

3. Security Mode – WPA / WPA 2

Wireless Security Setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.

| Select SSID: 11n-Travel-Router 💌 | Apply Changes Reset |
|----------------------------------|---------------------|
| Encryption: | WPA-PSK |
| WPA Cipher Suite: | 🗹 TKIP 🔲 AES |
| Pre-Shared Key Format: | Passphrase 🗸 |
| Pre-Shared Key: | ••••• |
| Show Password: | |

| Items | Information | |
|--------------------------|---|--|
| Select SSID | Please choose a SSID you have set for this router by clicking "Wireless > Basic Settings" from the drop-down list. The SSID will be shown on the wireless network for your recognition. | |
| Encryption | Select a security encryption mode for this router. | |
| WPA/WPA2 Cipher Suite | WPA Cipher Suite: the default setting is TKIP. | |

¹ ASCII (American Standard Code for Information Interchange) is a code for representing English letters as numbers from 0-127. ² Hexadecimal digits consist of the numbers 0-9 and the letters A-F.

| | WPA2 Cipher Suite: the defaulting setting is AES | |
|--------------------------|--|--|
| Pre-Shared Key Format | To decide the format, select "Passphrase" or "Hex" in the drop list. | |
| Pre-Shared Key | Enter the "Pre-shared Key" according to the pre-shared key format you select. This is the shared secret between AP and STA. This field must be filled with character longer than 8 and less than 64 lengths. | |
| Show Password | Select to show the password or not. | |

* Please click on the **Apply Changes** button or the **Reset** button to save/reset the configurations.

4. Security Mode – WPA2-Mixed

| Wireless Security Se | etup |
|---|--|
| This page allows you setup the wireless set any unauthorized access to your wireless m | curity. Turn on WEP or WPA by using Encryption Keys could prevent etwork. |
| Select SSID: 11n-Travel-Router 💉 | Apply Changes Reset |
| Encryption: | WPA2-Mixed |
| WPA Cipher Suite: | 🗹 TKIP 🔲 AES |
| WPA2 Cipher Suite: | TKIP 🗹 AES |
| Pre-Shared Key Format: | Passphrase 🐱 |
| Pre-Shared Key: | |
| Show Password: | |

| Items | Information |
|-------------------------|---|
| Select SSID | Please choose a SSID you have set for this router by clicking "Wireless > Basic Settings" from the drop-down list. The SSID will be shown on the wireless network for your recognition. |
| Encryption | Select a security encryption mode for this router. |
| WPA / WPA2 Cipher Suite | The Cipher Suite is mixed (TKIP and AES). |
| Pre-Shared Key Format | To decide the format, select "Passphrase" or "Hex" in the drop list. |
| Pre-Shared Key | Enter the "Pre-shared Key" according to the pre-shared key format you select. This field must be filled with character longer than 8 and less than 64 lengths. |
| Show Password | Select to show the password or not. |

* Please click on the **Apply Changes** button or the **Reset** button to save/reset the configurations.

3.4.4 Access Control

To restrict the station access authentication of the clients, you can set up the control list in this page.

| ou choose 'Allowed Listed', only thos trol list will be able to connect to you nts on the list will not be able to conn | Access Point. When 'Deny Li | |
|---|-----------------------------|--------|
| reless Access Control Mode: | Disable | |
| AC Address: | Comment: | |
| Apply Changes Reset | | |
| rrent Access Control List: | | |
| MAC Address | Comment | Select |

| Items | Information | |
|---------------------------------|--|--|
| Wireless Access Control Mode | Click the drop list to choose the access control mode. You may select "Allow listed" to give those MAC addresses access to this device or select "Deny Listed" to ban it or select "Disable". | |
| MAC Address & Comment | Fill in the MAC address that you wish to control, and give a definition to it. | |
| Current Access Control list | List the MAC Access Control settings you have added before. Click on the list to change configuration. To Delete the station on the list, mark the check box in the select item and click the "Delete Selected". If you want to delete all stations on the list, click "Delete All" to remove all of them. | |

* Please click on the **Apply Changes** button or the **Reset** button to save/reset the configurations.

3.4.5 Wireless Site Survey (only in Client mode)

If you are under the **Client mode**, click **Wireless** > **Wireless Site Survey** in the menu links to display the screen as shown below.

This page shows the available wireless network information. When you use this device as a client station (STA), you may connect to other AP or Router. Select one of the networks existing in the list of the site survey table and click "Connect" then your device can share the same

network with others successfully. Click the "Refresh" button can scan nearby Router and AP again.

| Wireless Site Survey | | | | | | |
|--|-----------------------------------|---------|------------|---------|--------|--------|
| his page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could hoose to connect it manually when client mode is enabled. | | | | | | |
| List of ADs | | | | | | |
| List of APs SSID BSSID Channel Type Encrypt Signal Select | | | | | | |
| | BSSID | Channel | Туре | Encrypt | Signal | Select |
| | BSSID 00:08:54:9a:79:1d | 1 | Type AP | Encrypt | Signal | Select |

3.4.6 WPS Settings

The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simplify the security setup and management of Wi-Fi networks. This router supports the configuration setup using PIN configuration method or PBC configuration method through an internal or external registrar.

| Wi-Fi Protect | ed Setup | |
|------------------------|------------|--|
| | | S (Wi-Fi Protected Setup). Using this feature could let ing and connect to the Access Point in a minute without |
| Disable WPS | | |
| WPS Status: | 🔘 Coi | nfigured 🔿 UnConfigured |
| | R | eset to UnConfigured |
| Self-PIN Number: | 031417 | 48 |
| Push Button Configurat | ion: Start | PBC |
| Apply Changes F | ieset | |
| Authentication | Encryption | Key |
| Open | WEP | 1234567890 |
| | | |
| Client PIN Number: | | Start PIN |

| Items | Information | |
|------------------------------|--|--|
| Disable WPS | Click this checkbox to undo WPS. | |
| WPS Status | You cannot manually select the items here. The WPS Status will change from "UnConfigured" to "Configured" after you enable WPS function and setup a wireless security key for this device. | |
| Self-PIN Number | If you use this device as a client, you can use this code when trying to connect this device to other AP by using the PIN method. | |
| Push Button Configuration | Push Button Communication (PBC) method uses a simple action of pushing a button on both the AP and the new STA to reach the function of easy setup WPS connection. You can simply click the Start PBC button in this GUI page or click the WPS button under the case of the router. After click on the button, please run the client's WPS and push the PBC button within 2 minutes. | |
| Current Key Info | This field displays the current key information you configured. | |
| Client PIN Number | Personal Identification Number (PIN) method. Users have to fill in the PIN code of enrollee device and click the Start PIN button to make communication between the AP and the enrollee device. After click on the button, please run the client's WPS and push the PIN button within 2 minutes. | |

*Please click on the **Apply Changes** button or the **Reset** button at the bottom to save/reset the configurations.

If you are under the **Client mode**, the interface is different.

Click **Wireless** > **WPS** in the menu links to display the screen as shown below.

In this page you can connect your device to other networks by using PIN or PBC methods

| Wi-Fi Protected Se | etup |
|----------------------------|--|
| | ting for WPS (Wi-Fi Protected Setup). Using this feature could let nize its setting and connect to the Access Point in a minute without |
| Disable WPS | |
| Self-PIN Number: | 03141748 |
| PIN Configuration: | Start PIN |
| Push Button Configuration: | Start PBC |
| Apply Changes Reset | |

Wireless 11n 1T1R Router

| Items | Information | |
|---------------------------|--|--|
| Disable WPS | Mark to disable the WPS, and clear to enable. | |
| Self-PIN Number | If you use this device as a client, you can use this code when trying to connect this device to other AP by using the PIN method. | |
| PIN Configuration | After the AP or router you share has fill in your self-pin number and click the Start PN button in this GUI page at this moment you can click the Start PN button in 2 minutes to establish the connection. | |
| Push Button Configuration | You can simply click the Start PBC button (or the WPS button) together with the AP or router you want share in 2 minutes for connection. | |

3.5 TCP/IP Settings

3.5.1 LAN Interface Setup

To set up the configuration of LAN interface, private IP of your router LAN port and subnet mask for your LAN segment.

| | e the parameters for local area network which connects to the LAN port o may change the setting for IP addresss, subnet mask, DHCP, etc., |
|--------------------|--|
| IP Address: | 192.168.100.1 |
| Subnet Mask: | 255.255.255.0 |
| Default Gateway: | 0.0.0.0 |
| DHCP Client Range: | 192.168.100.100 - 192.168.100.200 Show Client |

| Items | Information |
|-----------------|--|
| IP Address | The IP of your Router LAN port (default 192.168.100.1). |
| Subnet Mask | Subnet Mask of you LAN (default 255.255.255.0). All devices on the network must have the same subnet mask to communicate on the network. |
| Default Gateway | Enter the "IP Address" of the router in your network. |

| DHCP Client Range | DHCP stands for Dynamic Host Configuration Protocol. It is a protocol for assigning dynamic IP addresses "automatically". This field asks you to specify the DHCP Client IP address range (default 100~200). You can also click the "Show Client" button to list those connected DHCP clients. |
|-------------------|--|
| | Note : in Router/Client mode, DHCP Server default setting is enabled, however in AP mode, DHCP Server default setting is disabled. |

* Please click on the Apply Changes button or the Reset button at the bottom to save/reset the configurations.

Active DHCP Client List

This is the window that pops up after clicking the Show Client button. It shows the information of IP address, MAC address and expire time of the DHCP clients that have connected with this device.



3.5.2 WAN Interface Setup (Router mode and Client mode)

This page allows users to configure those parameters for connecting to Internet. You may select the Internet connection type from the drop list besides "WAN Access Type" and configure the parameters for each mode. There are three modes for your selection: Static, DHCP and PPPoE.

Wireless 11n 1T1R Router

WAN Interface Setup

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to static IP, DHCP, PPPoE by click the item value of WAN Access type.

| WAN Access Type: | DHCP Client | |
|----------------------|--|--|
| MTU Size: | 1492 (1400-1492 bytes) | |
| • Attain DNS Automat | ically | |
| • Set DNS Manually | | |
| DNS 1: | 202.96.128.86 | |
| DNS 2: | | |
| Clone MAC Address: | Manual Add 485b3969ace2 Select MAC | |
| | Mac Clone MAC from your Computer] | |
| Apply Changes Res | et j | |
| History MAC Table: | | |
| | iistory MAC entry is three.when the table is full, you can't save lelete some mac entries from the MAC table. | |
| | MAC Address Select | |
| | 485b3969ace2 | |

| Delete Selected |
|-----------------|
|-----------------|

Delete All Reset

| Items | Information |
|--------------------------|---|
| WAN Access Type | Select the mode to access the WAN as Static, DHCP Client or PPPoE. |
| MTU Size | To Enable the Maximum Transmission Unit of router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter the MTU number in the blank to set the limitation. |
| Attain DNS Automatically | If your DNS provided by ISP is dynamic, choose "Attain DNS automatically. |
| Set DNS Manually | To specify the Domain Name System (DNS). The DNS server translates domain names into IP addresses. Enter the DNS provided by your ISP in DNS 1 and DNS 2. |
| Clone MAC Address | There are two ways to clone MAC address. One way is directory input MAC address in text box. Maybe you need to save the MAC Address, you can click 'Manual Add' button and add it to "History MAC Table" for easily backup; another is click 'MAC Clone' button, then it will copy the MAC address from |

| | your network card in the computer. Note : The 'History MAC Table' can save maximum three MAC Addresses. |
|-------------------|--|
| History MAC Table | To Delete the MAC Address you add before, mark the check box in the select item on the right hand and click the "Delete Selected". If you want to delete all the MAC Addresses, click "Delete All" to remove all of them. |

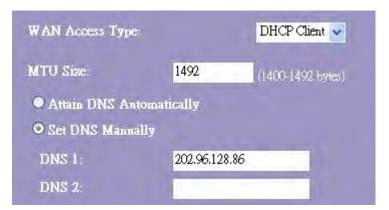
* Please click on the Apply Changes button or the Reset button at the bottom to save/reset the configurations.

1. Static Mode (fixed IP)

| WAN Access Type: | Static IP 💽 |
|------------------|------------------------|
| IP Address: | 192.168.1.33 |
| Subnet Mask: | 255.255.255.0 |
| Default Gateway: | 192.168.1.3 |
| MTU Size: | 1500 (1400-1500 bytes) |
| DNS 1: | 202.96.128.86 |
| DNS 2: | |

| Items | Information |
|--|--|
| IP Address, Subnet Mask and Default Gateway | Fill in the IP address, Subnet Mask and Default Gateway that provided by your Internet Service Provider (ISP). |
| MTU Size | To Enable the Maximum Transmission Unit of router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter the MTU number in the blank to set the limitation (default 1500 bytes). |
| DNS 1~2 | To specify the Domain Name System (DNS). The DNS server translates domain names into IP addresses. Enter the DNS provided by your ISP in DNS 1 and DNS 2. |

2. DHCP (Auto Config)



| Items | Information |
|-----------------------------|---|
| MTU Size | To Enable the Maximum Transmission Unit of Router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter your MTU number in the text-box to set the limitation |
| | (default 1492 bytes). |
| Attain DNS Automatically | If your DNS provide by ISP is dynamic, choose "Attain DNS automatically. |
| Set DNS Manually | To specify the Domain Name System (DNS). The DNS server translates domain names into IP addresses. Enter the DNS provided by your ISP in DNS 1 and DNS 2. |

3. PPPoE (ADSL)

| WAN Access Type: | | PPPoE | ~ |
|------------------|------------|------------|--------|
| User Name: | | | |
| Password: | | | |
| MTU Size: | 1452 | (1360-1492 | bytes) |
| • Attain DNS Aut | omatically | | |
| • Set DNS Manual | lly | | |
| DNS 1: | 202.96.128 | .86 | |
| DNS 2: | | | |

| Items | Information |
|--------------------------|--|
| User Name&Password | Fill in the User Name and password that provided by your ISP. |
| MTU Size | To Enable the Maximum Transmission Unit of router setup. Any packet over this number will be chopped up into suitable size before sending. Larger number will enhance the transmission performance. Enter your MTU number in the text-box to set the limitation (default 1452 bytes). |
| Attain DNS Automatically | If your DNS provided by ISP is dynamic, choose "Attain DNS automatically. |
| Set DNS Manually | To specify the Domain Name System (DNS). The DNS server translates domain names into IP addresses. Enter the DNS provided by your ISP in DNS 1 and DNS 2. |

3.6 Firewall Settings (Router mode and Client mode)

MAC Filtering

The Wireless Router could filter the outgoing packets for security or management consideration.

| MAC Filte | ring | | | |
|---------------------|------------|-------|---|--------|
| | | | ata packets from your loc in securing or restricting | |
| Enable MAC | | | | |
| MAC Address: | | Comme | it | |
| Apply Changes | Reset | | | |
| Current Filter Tabl | e: | | | |
| MA | C Address | | Comment | Select |
| Delete Selected | Delete All | Reset | | |

| Items | Information |
|----------------------|---|
| Enable MAC Filtering | Mark to enable the configuration, and clear to disable. |
| MAC Address | Fill in the MAC address of wireless stations you want to forbid to access the Internet through the Gateway. |
| Comment | Input any text to describe this mapping. |
| Current Filter Table | Lists the MAC Filter Settings you have added before. To delete the settings on the list, click the check box in the select item and click the "Delete Selected". If you want to delete all the MAC addresses, click "Delete All" to remove all of them. |

Please click on the Apply Changes button or the Reset button at the bottom to save/reset the configurations.

3.7 Management

3.7.1 Status

This information page shows the current status and basic settings of this device. You could check if the parameters match your configuration.

| System | |
|------------------------|-----------------------------|
| Uptime | Oday:1h:7m:48s |
| Firmware Version | VER:B.13 |
| Build Time | Thu Sep 2 15:57:38 CST 2010 |
| Operation Mode | Router[Gateway] |
| Wireless Configuration | |
| Band | 2.4 GHz (B+G+N) |
| SSID | 11n-Travel-Router |
| Channel Number | 6 |
| Encryption | WPA2 Mixed |
| BSSID | 00:e0:4c:81:96:cc |
| Associated Clients | 0 |
| TCP/IP Configuration | |
| IP Address | 192.168.100.1 |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 192.168.100.1 |
| DHCP Server | Enabled |
| MAC Address | 00:10:4c:88:90:b1 |
| WAN Configuration | |
| Attain IP Protocol | Fixed IP Disconnected |
| IP Address | 192.168.3.2 |
| Subnet Mask | 255.255.0.0 |
| Default Gateway | 192.168.3.1 |
| MAC Address | 00:10:4c:89:99:b9 |

3.7.2 Statistics

This page shows users the information of data transfer, and monitors the status of this router

including receiving and sending packets. To see the latest report, click Refresh button.

| his page shows the pa etworks. | cket counters for transmissic | n and reception rega | arding to wireless and Ethe |
|-----------------------------------|-------------------------------|----------------------|-----------------------------|
| | Sent Packets | 11 | _ |
| Wireless LAN | Received Packets | 1 | _ |
| | Sent Packets | 707 | |
| Ethernet LAN | Received Packets | 753 | |
| | Sept Packets | 57 | _ |
| Ethernet WAN | Received Packets | 0 | |

3.7.3 Log

This System Log page shows the information of the current activities on the router. To enable system log function:

- 1. Mark the "Enable Log" checkbox.
- To see all information of the system, select the "system all" checkbox.
 To see wireless information only, select the "wireless" checkbox.

| 3. | Click the | Apply Changes | button to activate. | You could also c | click the Refresh button to |
|----|-----------|---------------|---------------------|------------------|-----------------------------|
|----|-----------|---------------|---------------------|------------------|-----------------------------|

refresh the log information or click the button to clean the log table.

| System Log | |
|--|-----------------------------|
| This page can be used to set remote log serv | er and show the system log. |
| Enable Log system all | wireless |
| Apply Changes | |
| | <u>^</u> |
| | |
| | |
| | |
| | |
| | × |

3.7.4 Upgrade Firmware

Sometimes a new firmware may be issued to upgrade the system of this device. You could upgrade the firmware you got in this page. To upgrade the firmware, please click the Browse...

button, locate the firmware in your computer and then click the Uplcad button to execute.

| Upgrade Firmware | : | |
|---|----------|------------------------------|
| This page allows you upgrade the Acc the device during the upload because it | | lease note, do not power off |
| Firmware Version: | VER:B.13 | |
| Select File: | | Browse |
| Upload Reset | | |

3.7.5 Save/Reload Setting

The Save/Reload Setting page allows users to save and upload the configuration settings of the device or restore the factory default configuration.

| Save/Reload Se | ttings |
|-----------------------------------|--|
| | t settings to a file or reload the settings from the file which was saved set the current configuration to factory default. |
| previously, pesides, you could re | Set the current configuration to factory obtaint. |
| Save Settings to File: | Save |
| Load Settings from File: | Browse Upload |
| Reset Settings to Default: | Reset |

| Items | Information |
|---------------------------|--|
| Save Settings to File | Click the Save button to save the currently configure settings. |
| Load Settings from File | Click Browse to select the file that you save, and then click Upload to start to update the system configuration settings. Please wait until it is complete. |
| Reset Settings to Default | Click Reset to start to load default settings. |

3.7.6 Password

To set up the Administrator Account information, enter the Username, New password, and reenter

| the | nassword | on the | text hox | Don't forget | to click the |
|-----|----------|--------|----------|--------------|--------------|
| uie | passworu | | | Duntiorget | |

Apply Changes

to save the configuration.

| This page is used to set the account to password will disable the protection. | cess the webserver of Acc | cess Point. Empty user name and |
|--|---------------------------|---------------------------------|
| | | |
| User Name: | | |
| New Password: | | |
| Confirmed Password: | | |

3.7.7 Logout

Click Apply Change then you will save the settings and log off the management interface.



Appendix A: Product Specifications

| Standard | IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u |
|----------------------|---|
| | LAN: One 10/100Mbps RJ-45 port |
| | WAN: One 10/100Mbps RJ-45 port |
| Interface | One WPS/RESET button |
| | One slide switch to control AP/Router/Client mode |
| | One USB DC JACK |
| | Antenna type: Dipole |
| Antenna(W142D) | Antenna connector type: Fixed |
| WAN Connection | Ethernet 10/100 Mbps |
| Cable Connections | RJ-45 (10BASE-T): Category 3,4,5 UTP |
| Cable Connections | RJ-45 (100BASE-TX): Category 5 UTP |
| Transmission Mode | Auto-Negotiation (Full-duplex, Half-duplex) |
| Security | 64/128-bit WEP, WPA, WPA2, WPA2-Mixed |
| | 802.11b: 1,2,5.5, and 11Mbps |
| Network Data Rate | 802.11g: 6,9,12,18,24,36,48 and 54Mbps |
| | 802.11n: up to 150Mbps |
| | 802.11n Typical -68 dBm |
| Receiver Sensitivity | 802.11g Typical -73 dBm |
| | 802.11b Typical -84 dBm |
| | 16dBm typically @ 802.11b |
| Transmit Power | 14dBm typically @ 802.11g |
| | 13dBm typically @ 802.11n |
| LED indications | 1*WAN, 1*LAN, 1*WLAN, 1*WPS, 1*PWR |
| Channel | 1~13 |
| Bango Covorago | Indoor 35~100 meters |
| Range Coverage | Outdoor 100~300 meters |
| Tomporoturo | Operating: 0°C ~ 40°C (32°~104°F) |
| Temperature | Storage: -20°C ~ 70°C (-4°~158°F) |
| به:ام: موريا | Operating: 10% ~ 90% RH, non-condensing |
| Humidity | Storage: 5%~90% RH, non-condensing |
| Certification | FCC, CE Class B |
| | |

Appendix B: Glossary

- 802.11b The 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. 802.11b networks are also referred to as Wi-Fi networks.
- 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 802.11b devices, and WEP encryption for security.
- 802.11n 802.11n builds upon previous 802.11 standards by adding MIMO(multiple-input multiple-output). MIMO uses multiple transmitter and receiver antennas to allow for increased data throughput via spatial multiplexing and increased range by exploiting the spatial diversity, perhaps through coding schemes like Alamouti coding. The Enhanced Wireless Consortium (EWC) was formed to help accelerate the IEEE 802.11n development process and promote a technology specification for interoperability of next-generation wireless local area networking (WLAN) products.
- DHCP (Dynamic Host Configuration Protocol) A protocol that automatically configure the TCP/IP parameters for the all the PC(s) that are connected to a DHCP server
- DNS (Domain Name System) An Internet Service that translates the names of websites into IP addresses.
- **Domain Name -** A descriptive name for an address or group of addresses on the Internet.
- DSL (Digital Subscriber Line) A technology that allows data to be sent or received over existing traditional phone lines.
- ISP (Internet Service Provider) A company that provides access to the Internet.
- MTU (Maximum Transmission Unit) The size in bytes of the largest packet that can be transmitted.
- NAT (Network Address Translation) NAT technology translates IP addresses of a local area network to a different IP address for the Internet.
- **PPPoE** (Point to Point Protocol over Ethernet) PPPoE is a protocol for connecting remote hosts to the Internet over an always-on connection by simulating a dial-up connection.
- 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 152-bit shared key algorithm, as described in the IEEE 802.11 standard.
- Wi-Fi A trade name for the 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 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.