

**AC600 Wireless LAN
Dual Band Selectable
Travel Router**
(2.4GHz: 150Mbps, 5GHz: 433Mbps)

User's Manual

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Federal Communication Commission

Interference Statement

FCC Part 15

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 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:

1. Reorient or relocate the receiving antenna.
 2. Increase the separation between the equipment and receiver.
 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 4. Consult the dealer or an experienced radio technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
 - Operations in the 5.15-5.25 GHz band are restricted to indoor usage only

FCC Caution

The equipment version marketed in US is restricted to usage of the channels 1-11 only.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of March 9, 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

EU Countries Intended for Use

The ETSI version of this device is intended for home and office use in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The ETSI version of this device is also authorized for use in EFTA member states: Iceland, Liechtenstein, Norway, and Switzerland.

EU Countries Not intended for use

None.

Federal Communication Commission (FCC) Radiation Exposure Statement

This EUT is compliance with SAR for general population/uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C. This equipment should be installed and operated with minimum distance 0.5cm between the radiator & your body.

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Chapter I: Product Information

1-1 Introduction and safety information

Thank you for purchasing this AC600 Wireless LAN dual band travel router! This cost-effective router is the best choice for ***Traveler / Hotel Room*** users, all computers and network devices can share a single xDSL / cable modem internet connection at high speed.

With built-in both 2.4GHz and 5GHz radios, this router supports both of the IEEE 802.11b/g/n and 802.11a/n/ac wireless network capabilities selectable, all computers and wireless-enabled network devices (including PDA, Smart phone, Game console, Tablet and more!) can connect to this wireless router without additional cabling, you can transfer file for up to 150Mbps/433Mbps (transfer data rate)!

Other features of this router including:

- Supports 2.4GHz and 5GHz wireless devices selectable.
- High wireless access throughput, up to 150Mbps/433Mbps (transfer data rate)!
- Allow multiple users to share a single Internet line.
- Share a single Cable or xDSL internet connection.
- Access private LAN servers from the internet.
- One WAN/LAN Fast Ethernet port (10/100M).
- Provides IEEE 802.11a/b/g/n/ac wireless LAN capability.
- Support DHCP (Server/Client) for easy IP-address setup.
- Support multiple wireless modes like: Travel Router, Wireless ISP.
- Easy to use Web-based GUI for network configuration and management purposes.
- Auto MDI / MDI-X function for wired Ethernet port.

1-2 Safety Information

In order to keep the safety of users and your properties, please follow the following safety instructions:

1. This router is designed for indoor use only; DO NOT place this router outdoor.
2. DO NOT put this router at or near hot or humid places, like kitchen or bathroom. Also, do not left this router in the car in summer.
3. DO NOT pull any connected cable with force; disconnect it from the router first.
4. If you want to place this router at high places or hang on the wall, please make sure the router is firmly secured. Falling from high places would damage the router and its accessories, and warranty will be void.
5. Accessories of this router, like antenna and power supply, are danger to small children under 3 years old. They may put the small parts in their nose or month and it could cause serious damage to them. KEEP THIS ROUTER OUT THE REACH OF CHILDREN!
6. The router will become hot when being used for long time (***This is normal and is not a malfunction***). DO NOT put this router on paper, cloth, or other flammable materials.
7. There's no user-serviceable part inside the router. If you found that the router is not working properly, please contact your dealer of purchase and ask for help. DO NOT disassemble the router, warranty will be void.
8. If the router falls into water when it's powered, DO NOT use your hand to pick it up. Switch the electrical power off before you do anything, or contact an experienced technician for help.
9. If you smell something strange, or even see some smoke coming out from the router or power supply, remove the power supply or switch the electrical power off immediately, and call dealer of purchase for help.

1-3 System Requirements

- Internet connection, provided by xDSL or cable modem with a RJ-45 Ethernet port.
- Computer or network devices with wired or wireless network interface card.
- Web browser (*Microsoft Internet Explorer, Google Chrome, Firefox or Safari web browser*).
- An available USB Port or USB power adapter (Output: DC5V/0.6A)

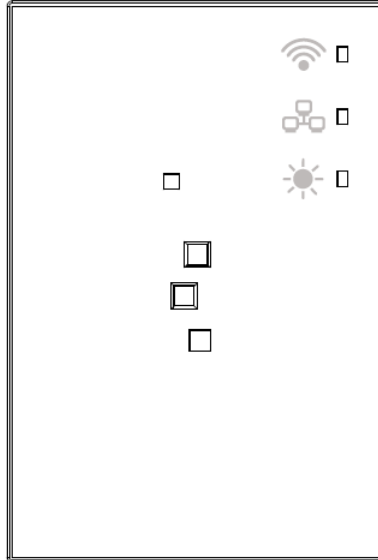
1-4 Package Contents




Before starting to use this router, please check if there's anything missing in the package, and contact your dealer of purchase to claim for missing items:

- Broadband Wireless Travel Router (1 pcs)
- Quick Installation Guide (1 pcs)
- User Manual CD-ROM (1 pcs)

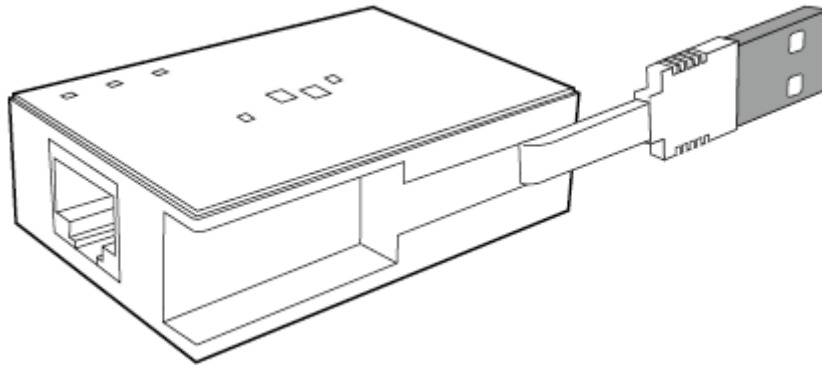
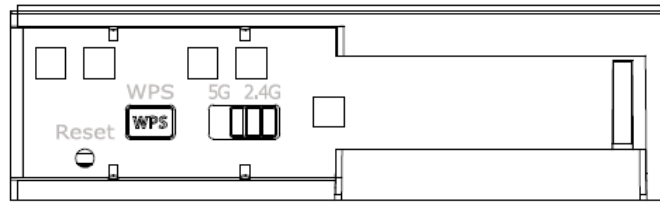
1-5 Familiar with your new wireless broadband router

LED indication



LED Indication	Definition
WLAN 	<p>Travel Router mode: On Solid: Wireless WPS function is enabled. Blinking: Wireless LAN activity (transferring or receiving data).</p> <p>Wireless ISP mode: On Solid: Wireless WPS function is enabled. Blinking: Wireless LAN activity (transferring or receiving data).</p>
Ethernet 	<p>On Solid: Ethernet port is connected. Blinking: Ethernet port activity (transferring or receiving data).</p> <p>Travel Router mode: WAN Port Wireless ISP mode: LAN Port</p>
System 	<p>On Solid: - Router detect reset button is pressed and hold for 2~5 seconds (do system reboot).</p> <p>Blinking: - Router detect reset button is pressed and hold for more 5 seconds (do restore all settings to factory defaults).</p>

Function Panel



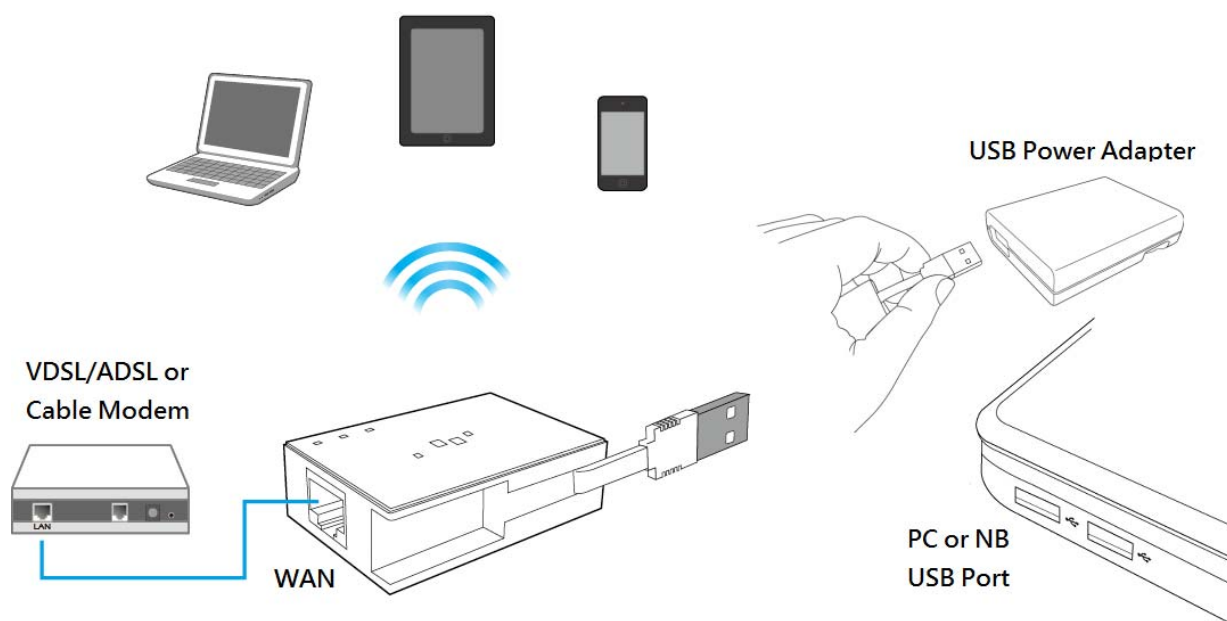
Function Panel	Definition
Reset	Press and hold 2~5 seconds to do system reboot, Press and hold > 5 seconds till SYS LED is blinking to do restore all settings to factory defaults
WPS	Press and hold WPS button for 3 seconds till WLAN LED is On Solid to start WPS H/W PBC.
5G band	Switch to 5G, WiFi of Travel Router will run on 5G band, 11a/n/ac mode.
2.4G band	Switch to 2.4G, WiFi of Travel Router will run on 2.4G band, 11b/g/n mode.
USB Cable and Connector	For Travel router power supply only.
Ethernet Port	Travel Router mode: WAN Port Wireless ISP mode: LAN Port

Chapter II: System and Network Setup

2-1 Build network connection

Please follow the following instruction to build the network connection between your new Travel router and your computers, network devices:

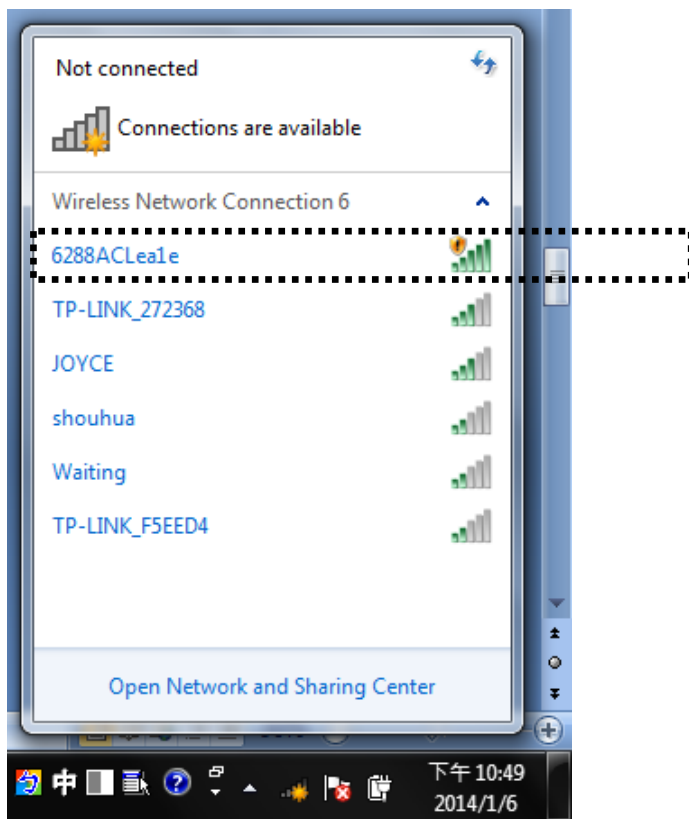
1. Connect your xDSL / cable modem or hotel LAN cable to the WAN port of Travel Router by Ethernet cable.
2. Connect the USB cable to the PC / NB USB Port to getting the power supply, You can also use mobile phone power adapter to the wall outlet, and then connect Travel Router USB cable to the “USB Power Jack” of the power adapter.



2-2 Network setup

Please use the web browser to configure the wireless router. A computer with wireless LAN connection to the wireless router is required for this first-time configuration.

1. Site survey by Windows Zero Configure, you can find Travel Router call the “6288ACLxxx”, please select and connect.



2. Start the web browser and input the IP address of wireless router in address bar, and the following message should be shown.

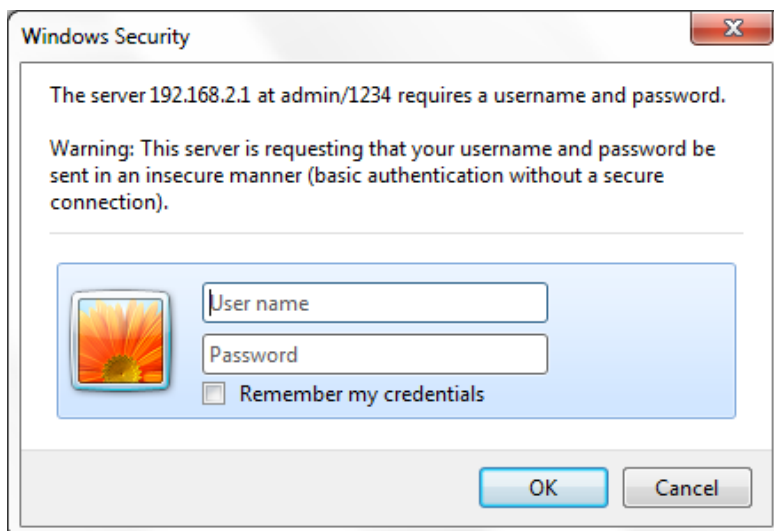
Default IP: 192.168.2.1



3. Please input user name and password, then click 'OK' to access web management interface of wireless router.

Default User name: admin

Default Password: 1234



4. The wireless router have two operation modes (Traver Route / Wireless ISP), factory default mode is "Travel router ". First-time configure the

wireless router, please click “Setup Wizard”.

11AC Travel Router
Dualband Selectable

| Home | WPS Setup | Advanced Setup | Status |

Setup Wizard

Setup Wizard
The setup wizard will guide you to configure Travel Router for first time. Please follow the setup wizard step by step.

Advanced Setup

Advanced Setup
This page allows you setting LAN IP, Password and Firmware upgrade to new version. Please note, do not power off the device during the upload because it may crash the system.

WPS Setup

WPS Setup
This page allows you to change the setting for WPS (Wi-Fi Protected Setup). WPS can help your wireless client automatically connect to the Travel Router.

Status

Status
The Travel Router's status information provides the following information about your Travel Router: Hardware/Firmware version, MAC address, and its current operating status.

NOTE: If you can't see the web management interface, and you're being prompted to input user name and password again, it means you didn't input username and password correctly. Please retype user name and password again. If you're certain about the user name and password you type are correct, please go to '4-2 Troubleshooting' to perform a factory reset, to set the password back to default value.

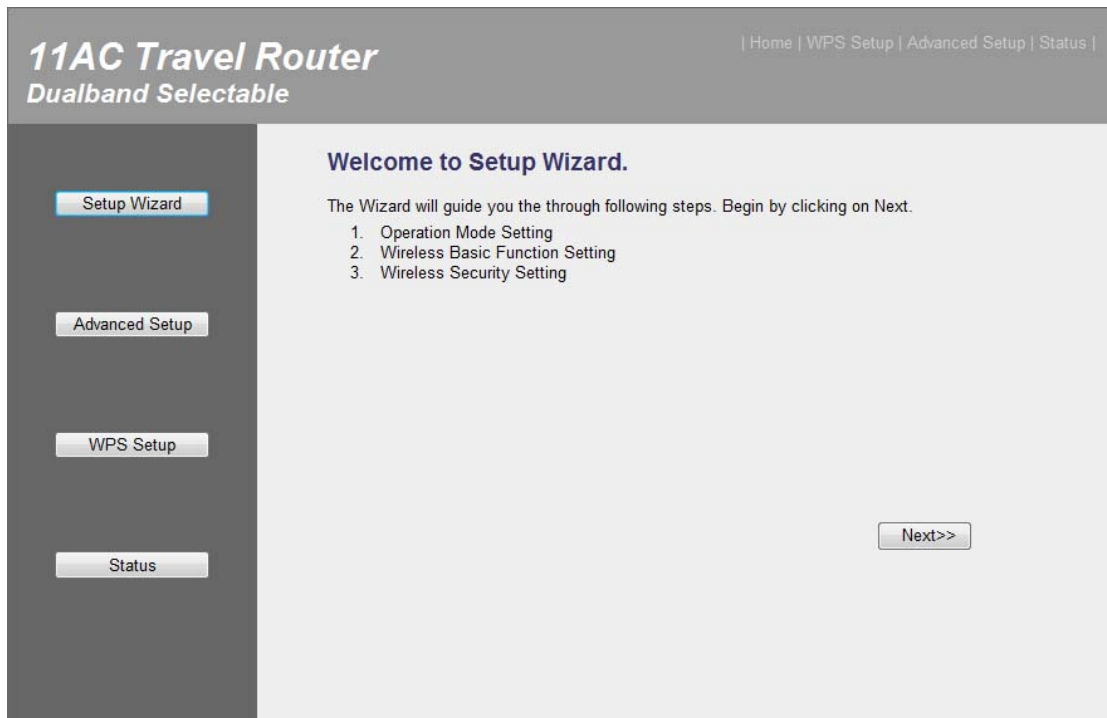
TIP: This page shows the four major setting categories: Setup Wizard, Advanced Setup, WPS Setup and Status. You can find the shortcut which leads to these setting categories at the upper-right corner of every page, and you can jump to another category directly by clicking the link, and don't have to go back to the first page.

Chapter III WEB GUI configuration

3-1 Setup Wizard

The setup wizard will guide you to configure Travel Router for first time. Please follow the setup wizard step by step.

Welcome to Setup Wizard, please click “Next”.

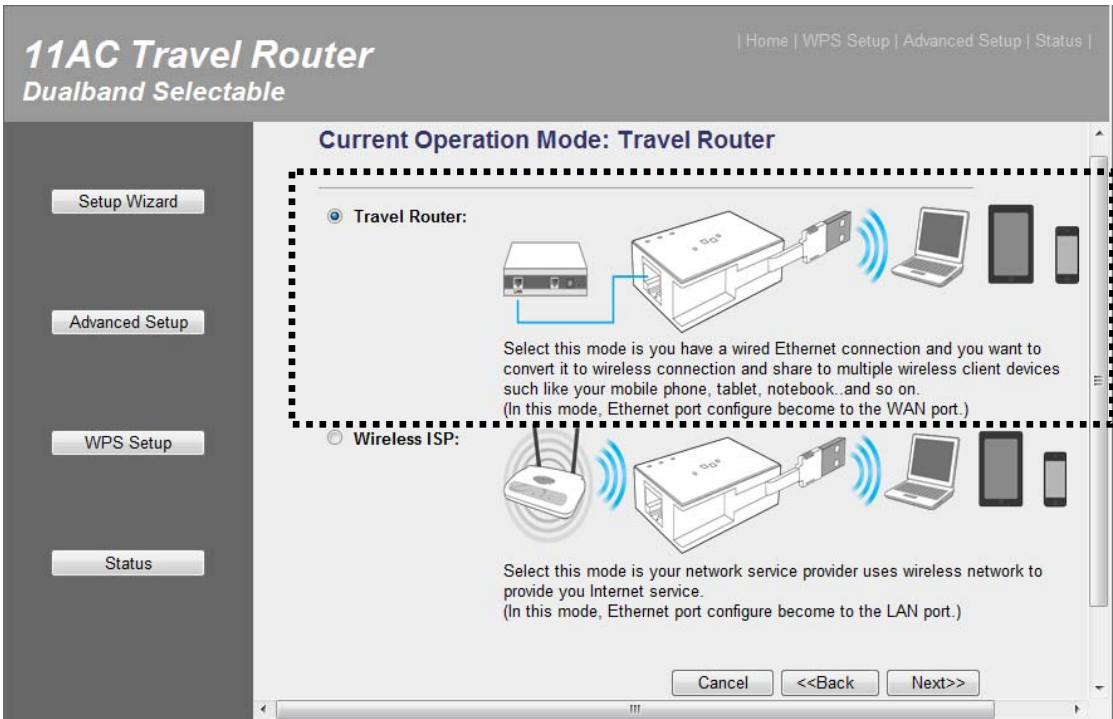


3-1-1 Travel Router mode

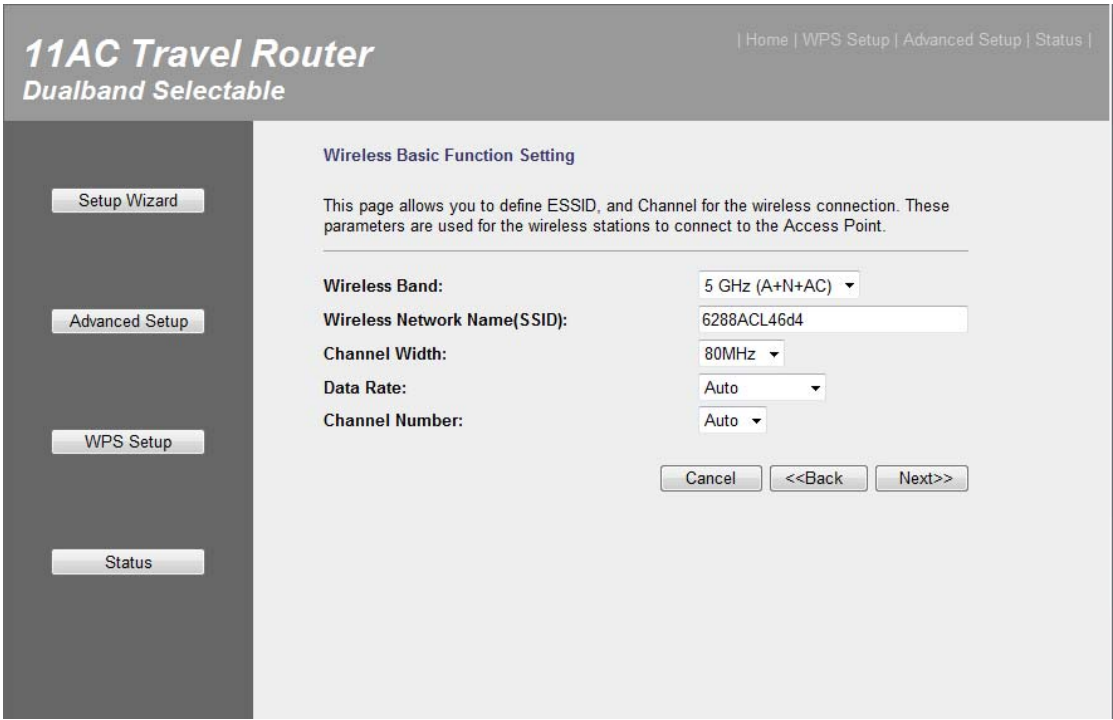
Select this mode is you have a wired Ethernet connection and you want to convert it to wireless connection and share to multiple wireless client devices such like your mobile phone, tablet, notebook..and so on.

(In this mode, Ethernet port configure become to the WAN port.)

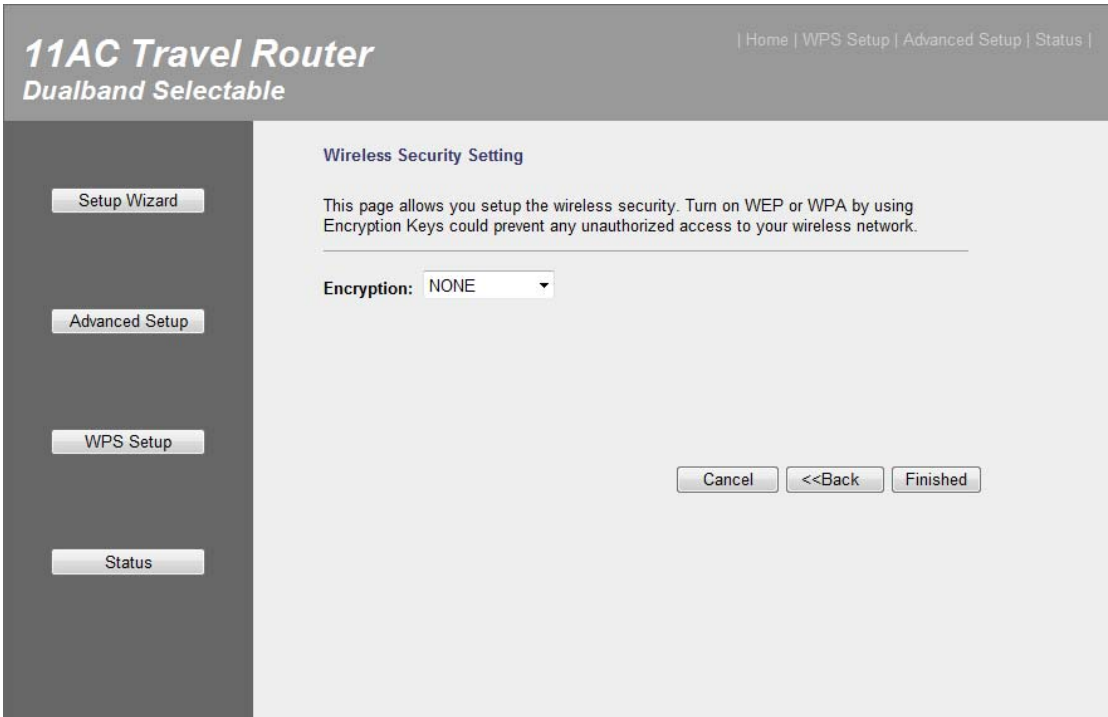
Select operation mode: Please select “Travel Router” mode, then click “Next”.



Wireless Basic Function Setting: You can setting wireless band, wireless network name (SSID), channel width, data rate and channel number, then click “Next” when you finish.



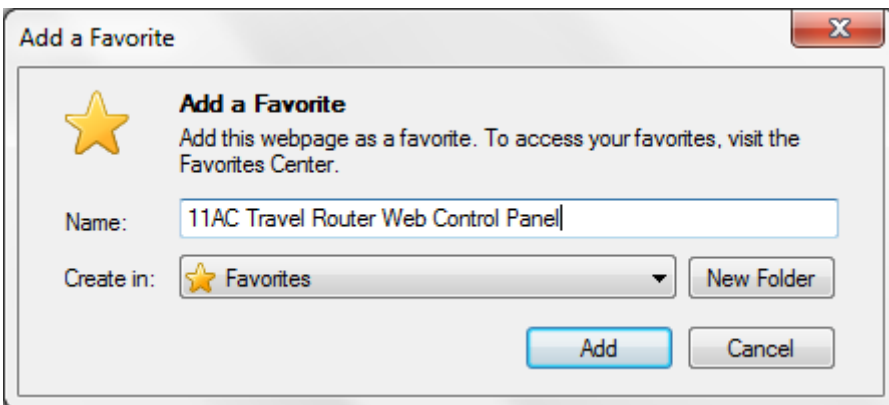
Wireless Security Setting: You can setting encryption for your wireless security, then click “Finished” when you finish.



Change Setting Successfully: Please press “Reboot Now” to restart the wireless router to make the changes take effect.

Add the URL to your bookmark (my favorite list) **Default: "Save"**
(we recommend you to save it for quick access to the Web setting page next time)

(Supports IE and Firefox only. Please add the access key to the bookmark manually if you use other browsers)



Setup Wizard

Advanced Setup

WPS Setup

Status

Change setting successfully!

Your changes have been saved. The router must be rebooted for the changes to take effect.

You can reboot now, or you can continue to make other changes and reboot later.

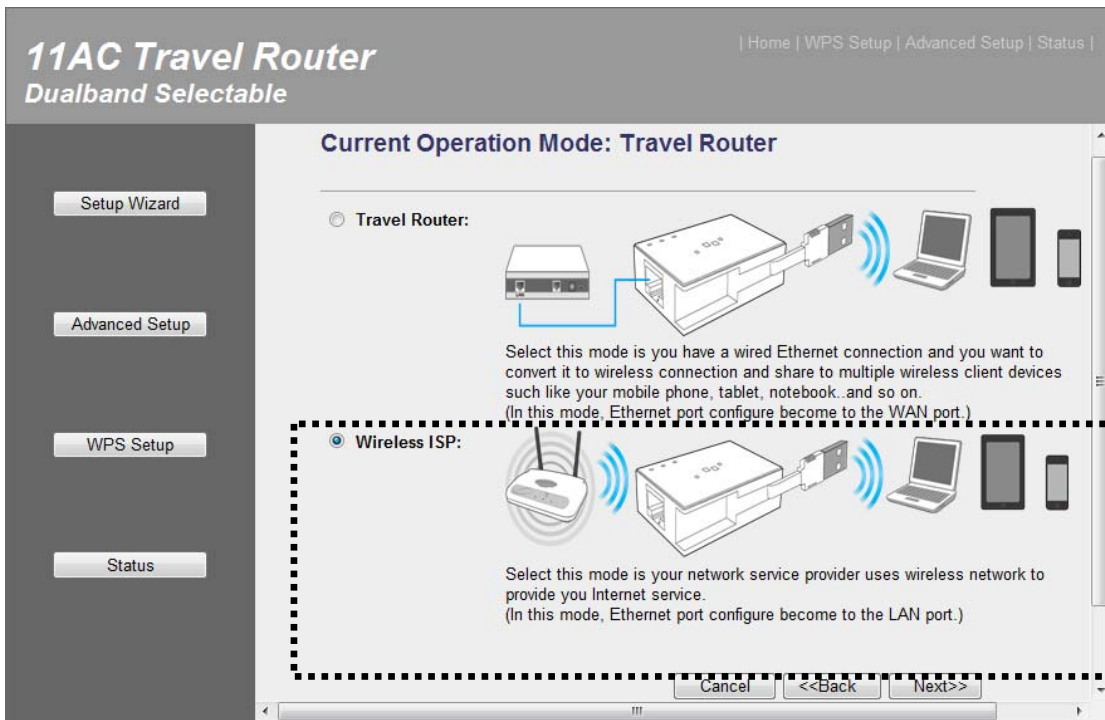
Add the URL to your bookmark(my favorite list)
(we recommend you to save it for quick access to the Web setting page next time)
(Supports IE and Firefox only. Please add the access key to the bookmark manually if you use other browsers)

3-1-2 Wireless ISP mode

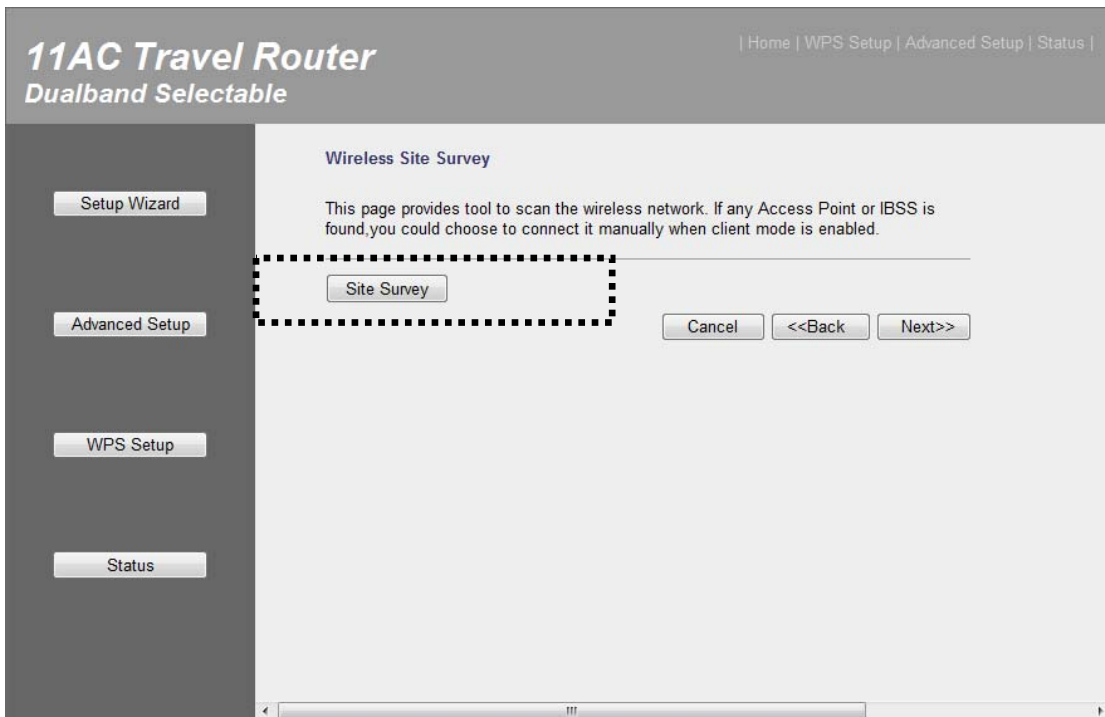
Select this mode is your network service provider uses wireless network to provide you Internet service.

(In this mode, Ethernet port configure become to the LAN port.)

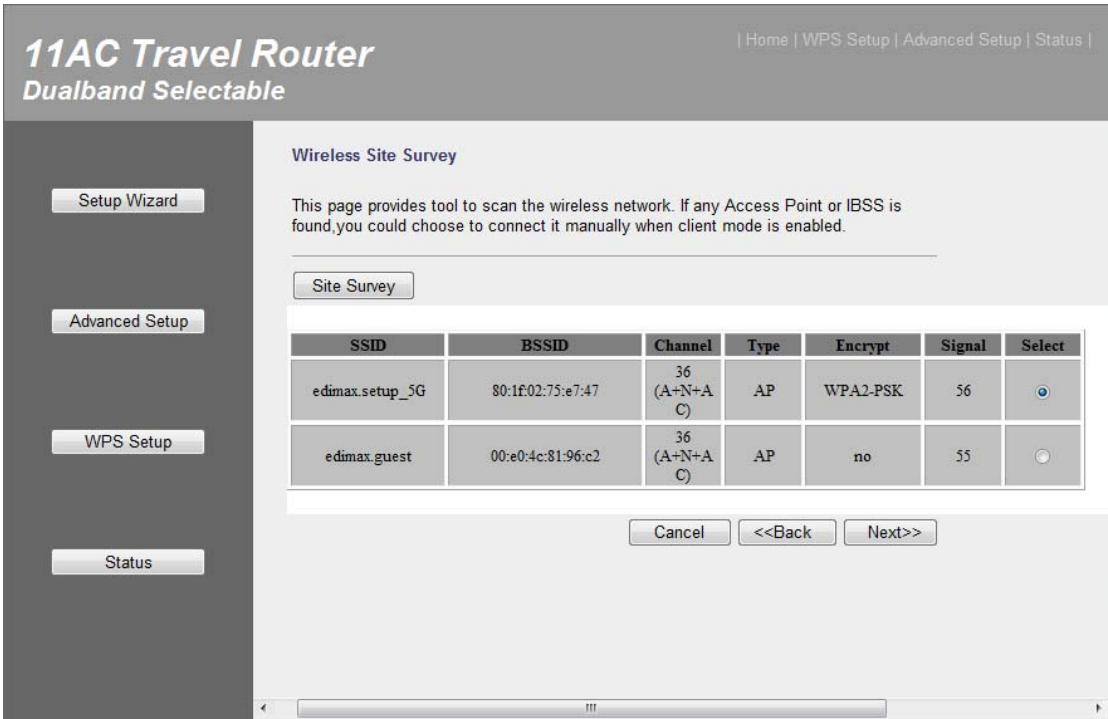
Select operation mode: Please select “Wireless ISP” mode, then click “Next”.



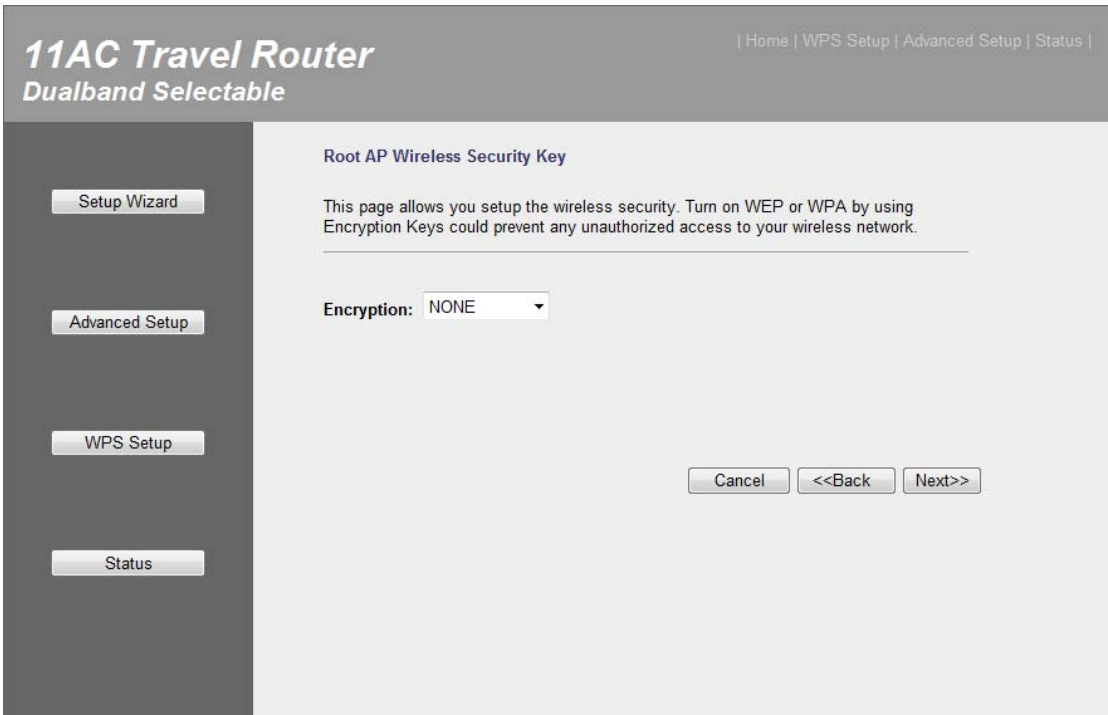
Wireless Site Survey: Please click “Site Survey” button to find WiFi AP in your area.



This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually. Please select a Root wireless AP and click “Next”.



Root AP Wireless Security Key: Please setting encryption for the Root AP just you selected, then click “Next” when you finish.



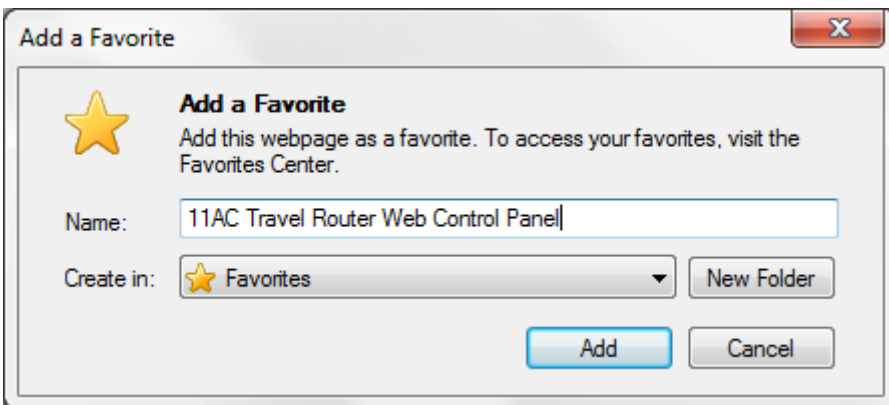
Wireless Network Name and Encryption Setting: You can setting SSID and Encryption of wireless router for your wireless device, then click “Connect” when you finish.

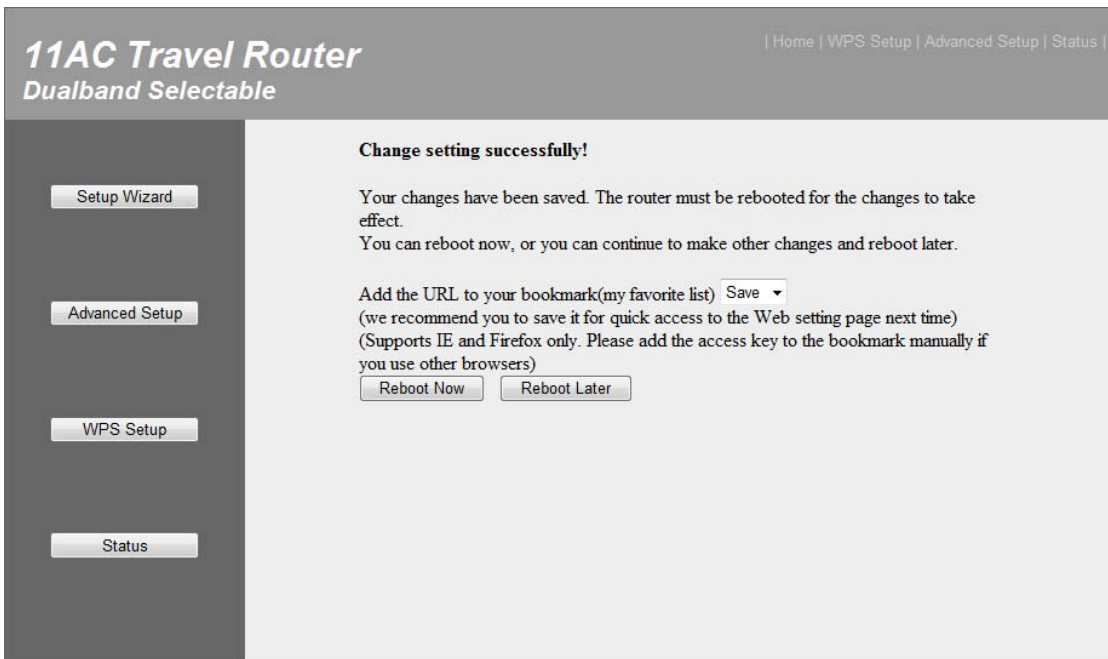


Connect Successfully: Please press “Reboot Now” to restart the wireless router to make the changes take effect.

Add the URL to your bookmark (my favorite list) **Default: "Save"**
(we recommend you to save it for quick access to the Web setting page next time)

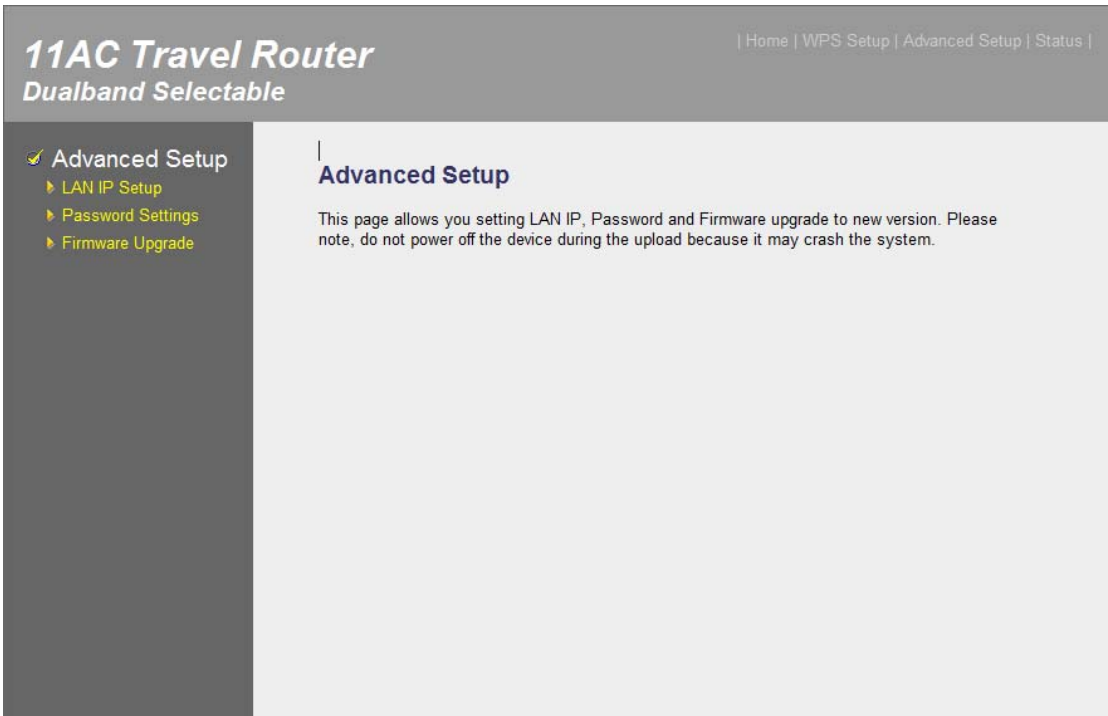
(Supports IE and Firefox only. Please add the access key to the bookmark manually if you use other browsers)





3-2 Advanced Setup

This page allows you setting LAN IP, Password and Firmware upgrade to new version. Please note: do not power off the device during the Firmware upgrade because it may crash the system.



LAN IP Setup: You can enable the Travel Router's DHCP server to dynamically allocate IP Addresses to your LAN client devices. The Travel

Router must have an IP Address in the Local Area Network.

The screenshot shows the 'LAN IP Setup' page of the 11AC Travel Router. The page title is '11AC Travel Router Dualband Selectable'. The navigation menu includes 'Advanced Setup', 'LAN IP Setup', 'Password Settings', and 'Firmware Upgrade'. The main content area is titled 'LAN IP Setup' and contains the following information:

You can enable the Travel Router's DHCP server to dynamically allocate IP Addresses to your LAN client devices. The Travel Router must have an IP Address in the Local Area Network.

- LAN IP**

Gateway IP Address :	192.168.3.1
Subnet Mask :	255.255.255.0
DHCP Server :	Enable
- DHCP Server**

Lease Time :	Forever
DHCP Client Start IP :	192.168.3.100
DHCP Client End IP :	192.168.3.200
Domain Name :	6288acl46d4

Buttons for 'APPLY' and 'CANCEL' are located at the bottom right of the form.

Password Settings: You can change the User Name and Password required while logging into the Travel Router's web-based management system. By default, the password is 1234. So please assign a password to the Administrator as soon as possible, and store it in a safe place. Passwords can contain 1 to 30 alphanumeric characters, and are case sensitive.

The screenshot shows the 'Password Setup' page of the 11AC Travel Router. The page title is '11AC Travel Router Dualband Selectable'. The navigation menu includes 'Advanced Setup', 'LAN IP Setup', 'Password Settings', and 'Firmware Upgrade'. The main content area is titled 'Password Setup' and contains the following information:

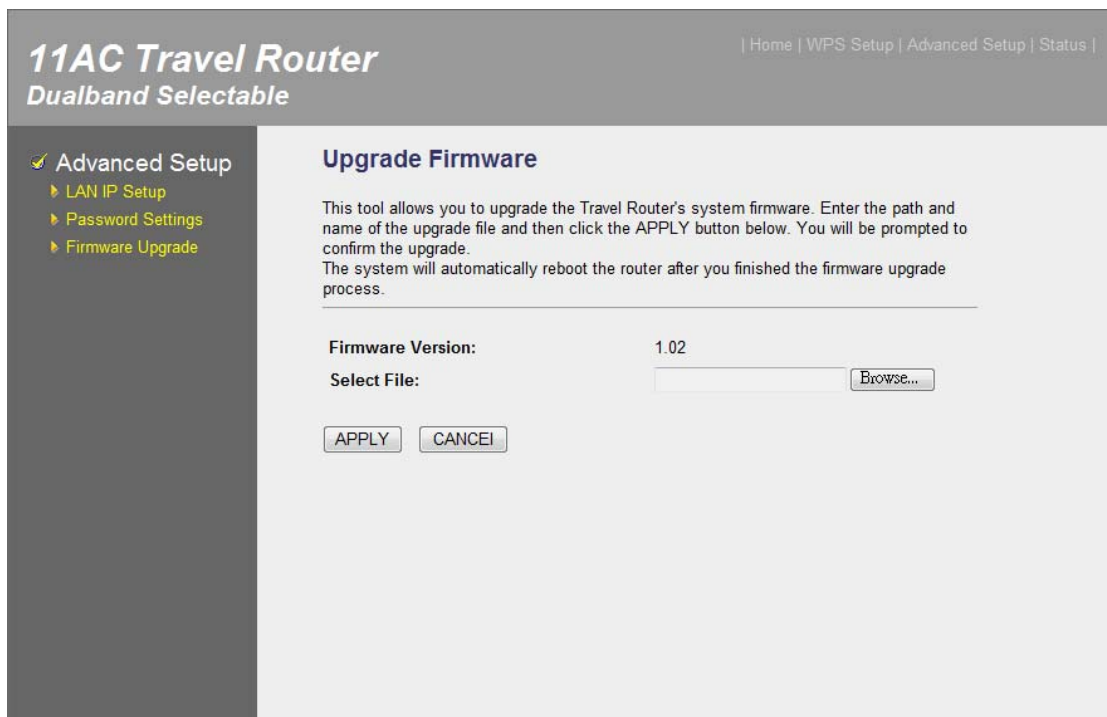
You can change the User Name and Password required while logging into the Travel Router's web-based management system. By default, the password is 1234. So please assign a password to the Administrator as soon as possible, and store it in a safe place. Passwords can contain 1 to 30 alphanumeric characters, and are case sensitive.

Fields for 'User Name:', 'New Password:', and 'Confirmed Password:' are provided. Buttons for 'APPLY' and 'CANCEL' are located at the bottom of the form.

Firmware Upgrade: This tool allows you to upgrade the Travel Router's system firmware. Enter the path and name of the upgrade file and then click the APPLY button below. You will be prompted to confirm the upgrade.

The system will automatically reboot the router after you finished the firmware upgrade process.

Please note: Do not power off the device during the Firmware upgrade because it may crash the system.



The screenshot shows the web interface for a 11AC Travel Router. The page title is "11AC Travel Router Dualband Selectable". The navigation menu includes "Advanced Setup", "LAN IP Setup", "Password Settings", and "Firmware Upgrade". The main content area is titled "Upgrade Firmware" and contains the following text: "This tool allows you to upgrade the Travel Router's system firmware. Enter the path and name of the upgrade file and then click the APPLY button below. You will be prompted to confirm the upgrade. The system will automatically reboot the router after you finished the firmware upgrade process." Below this text, there is a "Firmware Version:" field with the value "1.02". A "Select File:" field is present with a "Browse..." button. At the bottom, there are "APPLY" and "CANCEL" buttons.

NOTE: Never interrupt the upgrade procedure by closing the web browser or physically disconnect your computer from router. If the firmware you uploaded is corrupt, the firmware upgrade will fail, and you may have to return this router to the dealer of purchase to ask for help. (Warranty voids if you interrupted the upgrade procedure).

3-3 WPS Setup

This page allows you to change the setting for WPS (Wi-Fi Protected Setup). WPS can help your wireless client automatically connect to the

Travel Router.

The screenshot shows the WPS Setup page for a 11AC Travel Router. The page title is "11AC Travel Router Dualband Selectable". The navigation menu includes "Setup Wizard", "Advanced Setup", "WPS Setup" (highlighted), and "Status". The main content area is titled "WPS" and contains the following information:

This page allows you to change the setting for WPS (Wi-Fi Protected Setup). WPS can help your wireless client automatically connect to the Travel Router.

Enable WPS

- WPS Information**

WPS Status :	Configured
PinCode Self :	63538540
SSID :	6288ACL46d4-5G
Authentication Mode :	Disabled
Passphrase Key :	
- Device Configure**

Config Mode :	Registrar ▾
Configure by Push Button :	<input type="button" value="Start PBC"/>
Configure by Client PinCode :	<input type="text"/> <input type="button" value="Start PIN"/>

3-4 Status

The Travel Router's status information provides the following information about your Travel Router: Hardware/Firmware version, MAC address and its current operating status.

The screenshot shows the Status page for a 11AC Travel Router. The page title is "11AC Travel Router Dualband Selectable". The navigation menu includes "Status" (highlighted), "Internet Connection", and "Device Status". The main content area is titled "Status" and contains the following information:

The Travel Router's status information provides the following information about your Travel Router: Hardware/Firmware version, MAC address and its current operating status.

System

Model :	Wireless ISP
Up Time :	0day:0h:14m:40s
Hardware Version :	Rev. A
Boot Code Version :	1.0
Runtime Code Version :	1.02

Internet Connection: View the current internet connection status and related information.

The screenshot shows the web interface for a 11AC Travel Router. The page title is "11AC Travel Router Dualband Selectable". In the top right corner, there are navigation links: "Home | WPS Setup | Advanced Setup | Status |". On the left side, there is a sidebar menu with "Status" selected, and sub-items "Internet Connection" and "Device Status". The main content area is titled "Internet Connection" and contains the text "View the current internet connection status and related information." Below this text is a table with the following data:

Attain IP Protocol :	DHCP
IP Address :	192.168.2.100
Subnet Mask :	255.255.255.0
Default Gateway :	192.168.2.1
MAC Address :	80:1f:02:d0:46:d4

Device Status: View the current setting status of this device.

The screenshot shows the web interface for a 11AC Travel Router. The page title is "11AC Travel Router Dualband Selectable". In the top right corner, there are navigation links: "Home | WPS Setup | Advanced Setup | Status |". On the left side, there is a sidebar menu with "Status" selected, and sub-items "Internet Connection" and "Device Status". The main content area is titled "Device Status" and contains the text "View the current setting status of this device." Below this text are two sections: "Wireless Configuration" and "LAN Configuration", each with a table of settings.

Wireless Configuration

Mode :	Wireless ISP
Band :	5 GHz (A+N+AC)
SSID :	6288ACL46d4-5G
Channel Number :	36
Encryption :	Disabled
MAC Address :	80:1f:02:d0:46:d4
Associated Clients :	1

LAN Configuration

IP Address :	192.168.3.1
Subnet Mask :	255.255.255.0
Default Gateway :	192.168.3.1
DHCP Server :	Enable
MAC Address :	80:1f:02:d0:46:d4

Chapter IV: Appendix

4-1 Hardware Specification

CPU: REALTEK RTL8881AM

RF: REALTEK RTL8881AM

Flash: 2MB

SDRAM RAM: 8MB (CPU inside)

WAN/LAN Port: 10/100M Port x 1

Antenna: Internal PIFA Antenna x 2 (2.4G x 1, 5G x 1)

Power: DC 5V/0.5A USB port power or 5V/0.6A Switching Power Adapter

Dimension: 54 (L) x 36.5 (W) x 16 (H) mm

Temperature: Operating: 0~40C

Storage: -20~60C

Humidity: Operating: 10~90% (Non-Condensing)

Storage: Max.95% (NonCondensing)

Certification: CE/FCC

4-2 Troubleshooting

If you found the router is working improperly or stop responding to you, don't panic! Before you contact your dealer of purchase for help, please read this troubleshooting first. Some problems can be solved by you within very short time!

Scenario	Solution
Router is not responding to me when I want to access it by web browser	<ul style="list-style-type: none">a. Please check the connection of power cord and network cable of this router. All cords and cables should be correctly and firmly inserted to the router.b. If all LEDs on this router are off, please check the status of A/C power adapter, and make sure it's correctly powered.c. You must use the same IP address section which router uses.d. Are you using MAC or IP address filter? Try to connect the router by another computer and see if it works; if not, please restore your router to factory default settings (pressing 'reset' button for over 10 seconds).e. Set your computer to obtain an IP address automatically (DHCP), and see if your computer can get an IP address.f. If you did a firmware upgrade and this happens, contact your dealer of purchase for help.g. If all above solutions don't work, contact the dealer of purchase for help.
Can't get connected to Internet	<ul style="list-style-type: none">a. Go to 'Status' -> 'Internet Connection' menu, and check Internet connection status.b. Please be patient, sometime Internet is just that slow.c. If you connect a computer to Internet directly before, try to do that again, and check if you can get connected to Internet

	<p>with your computer directly attached to the device provided by your Internet service provider.</p> <ul style="list-style-type: none"> d. Check PPPoE / L2TP / PPTP user ID and password again. e. Call your Internet service provide and check if there's something wrong with their service. f. If you just can't connect to one or more website, but you can still use other internet services, please check URL/Keyword filter. g. Try to reset the router and try again later. h. Reset the device provided by your Internet service provider too. i. Try to use IP address instead of hostname. If you can use IP address to communicate with a remote server, but can't use hostname, please check DNS setting.
<p>I can't locate my router by my wireless client</p>	<ul style="list-style-type: none"> a. 'Broadcast ESSID' set to off? b. All two antennas are properly secured. c. Are you too far from your router? Try to get closer. d. Please remember that you have to input ESSID on your wireless client manually, if ESSID broadcast is disabled.
<p>File download is very slow or breaks frequently</p>	<ul style="list-style-type: none"> a. Are you using QoS function? Try to disable it and try again. b. Internet is slow sometimes, being patient. c. Try to reset the router and see if it's better after that. d. Try to know what computers do on your local network. If someone's transferring big files, other people will think Internet is really slow. e. If this never happens before, call you Internet service provider to know if there is something wrong with their network.
<p>I can't log onto web management interface: password is wrong</p>	<ul style="list-style-type: none"> a. Make sure you're connecting to the correct IP address of the router! b. Password is case-sensitive. Make sure the

	<p>'Caps Lock' light is not illuminated.</p> <p>c. If you really forget the password, do a hard reset.</p>
Router become hot	<p>a. This is not a malfunction, if you can keep your hand on the router's case.</p> <p>b. If you smell something wrong or see the smoke coming out from router or A/C power adapter, please disconnect the router and A/C power adapter from utility power (make sure it's safe before you're doing this!), and call your dealer of purchase for help.</p>

4-3 Glossary

Default Gateway (Router): Every non-router IP device needs to configure a default gateway's IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it out towards the destination.

DHCP: Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

DNS Server IP Address: DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as `www.Broadbandrouter.com`) and one or more IP addresses (such as `192.34.45.8`). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "`Broadbandrouter.com`" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

DSL Modem: DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

Ethernet: A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

Idle Timeout: Idle Timeout is designed so that after there is no traffic to the Internet for a pre-configured amount of time, the connection will automatically be disconnected.

IP Address and Network (Subnet) Mask: IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, which identifies a single, unique Internet computer host in an IP network. Example: `192.168.2.1`. It consists of 2 portions: the IP network address, and the host identifier.

The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by ".": `aaa.aaa.aaa.aaa`, where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by ".":

`bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb`, where each "b" can either be 0 or 1.

A network mask is also a 32-bit binary pattern, and consists of consecutive leading

1's followed by consecutive trailing 0's, such as 11111111.11111111.11111111.00000000. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's.

When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form, 11011001.10110000.10010000.00000111, and if its network mask is, 11111111.11111111.11110000.00000000
It means the device's network address is 11011001.10110000.10010000.00000000, and its host ID is, 00000000.00000000.00000000.00000111. This is a convenient and efficient method for routers to route IP packets to their destination.

ISP Gateway Address: (see ISP for definition). The ISP Gateway Address is an IP address for the Internet router located at the ISP's office.

ISP: Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN: Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address: MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

NAT: Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using the broadband router's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Port: Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application Protocol	Port Number
----------------------	-------------

Telnet TCP		23
FTP TC	P	21
SMTP TCP		25
POP3 TCP		110
H.323 TCP		1720
SNMP UCP		161
SNMP Trap	UDP	162
HTTP TCP		80
PPTP TCP		1723
PC Anywhere	TCP	5631
PC Anywhere	UDP	5632

PPPoE: Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers

Protocol: A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

Router: A router is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

Subnet Mask: A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

TCP/IP, UDP: Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocol. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network

layer protocol.

WAN: Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

Web-based management Graphical User Interface (GUI): Many devices support a graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.