

# EnGenius®

Wireless-N Pocket AP/Router

**ETR9350**

*Ultra Portable Pocket AP (Travel Router)  
V1.0*



1.	Package Contents .....	5
2.	System Requirements .....	5
3.	Introduction.....	6
4.	Features .....	7
5.	Hardware Overview .....	8
6.	Before you Begin .....	10
6.1	Considerations for Wireless Installation.....	10
6.2	AP Router / AP / Client Bridge Modes .....	11
6.3	Check Network Settings (Windows XP/Vista).....	12
7.	Hardware Installation .....	15
8.	Configuring Travel Router .....	17
8.1	Setup Wizard .....	18
8.1.1	AP Router Mode.....	22
8.1.2	AP Mode .....	33
8.1.3	Client Bridge Mode.....	35
8.2	Web-Based Configuration .....	36
8.2.1	System.....	36
8.2.2	Internet .....	52
8.2.3	Wireless.....	64
8.2.4	Firewall .....	83
8.2.5	Advanced.....	90

8.2.6 Tools ..... 101

8.3 AP and Client Bridge Modes ..... 109

8.4 Client Bridge Mode ..... 114

8.4.1 Wireless..... 114

Appendix A – FCC Interference Statement ..... 117

Appendix B – IC Interference Statement ..... 119

## Revision History

Version	Date	Notes
1.0	October 21, 2009	Initial Release version



## 1. Package Contents

- EnGenius TRAVEL ROUTER Ultra Portable Pocket AP
- AC Power Cord
- RJ45 Ethernet LAN Cable
- CD-ROM with User Manual and Setup Utility
- QIG

## 2. System Requirements

- RJ45 Ethernet Based or 3G USB Internet Connection
- Computer with Wireless Network function
- Windows, MAC OS or Linux based operating systems
- Internet Explorer or Firefox or Safari Web-Browser Software

## 3. Environment & Physical

Temperature Range	0 to 40° C - Operating, -10 to 70 ° C - Storage
Humidity (non-condensing)	15% ~95% typical
Dimensions	90mm (L) x 63mm (W) x 31mm (H)

Note:

\*IT power system. (This product is also designed for IT power system with phase to phase voltage 230V.)

\*The socket-outlet shall be installed near the equipment and shall be easily installed.

## 4. Introduction

TRAVEL ROUTER is the world's smallest 1In Wireless Router and Access Point with 3G connectivity that brings superior convenience for users who need to create a wireless network to share the Internet, documents or multimedia files quickly between computers at speeds of up to 300Mbps.

Also, you can leave the bulky power adapter behind as the power supply unit is embedded in the device, so it can be slipped into your pocket easily.

The TRAVEL ROUTER can be connected to the Internet through a DSL/Cable modem or 3G USB card at any available location. It can even share the connection in your hotel's room if a RJ45 network cable is used.

To ensure your data is secure, the TRAVEL ROUTER supports WiFi Protected Setup (WPS) for simple and easy setup of WPA2 encryption of the wireless signal.

## 5. Features

- **WORLD'S SMALLEST AP**

Superior design to bring you the world's smallest 11n AP Router for a true portable wireless solution.

- **INTERNAL POWER**

No need to bring bulky power adapters for improved space saving convenience.

- **3G MOBILE INTERNET SHARING**

Attach a 3G USB adapter to wirelessly share your 3G Internet connection to multiple computers.

- **3 OPERATION MODES**

AP Router, Access Point and Client Bridge modes for flexible usage in different scenarios.

- **802.11n COMPLIANT**

Fully 802.11n standard compliant to bring you 6x faster and 3x farther wireless connections at speeds up to 300Mbps.

- **WPS PUSH BUTTON**

WiFi Protected Setup (WPS) Push Button Configuration support for simple and secure setup of your wireless network.

- **BEST CHANNEL SELECTION**

In places where there are many wireless networks, the TRAVEL ROUTER will select the channel with the least interference for maximum reception and performance.

- **MULTI-SSID**

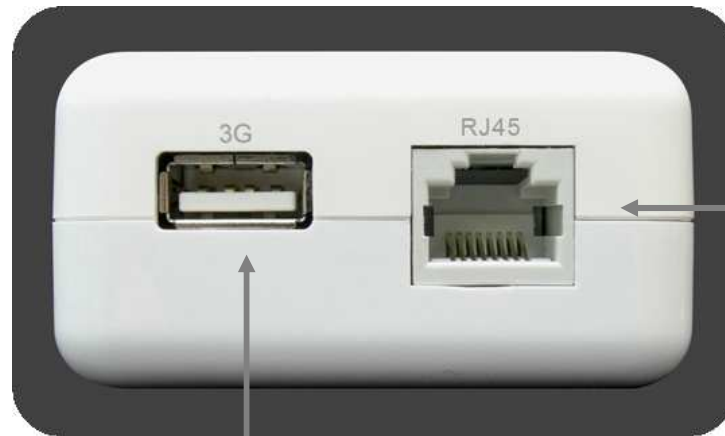
Up to 4 different wireless networks can be created with different security encryption methods. They can even be isolated so each wireless network has their own access policies.

- **ADVANCED FIREWALL AND ACCESS CONTROL**

Dual Firewall is featured to prevent unwanted access from the Internet. URL, MAC and IP Filters allows control over who can connect to your LAN, and what Internet sites they can connect to.



## 6. Hardware Overview



### **3G USB**

Attach a 3G USB adapter to share your 3G Internet connection.







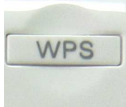
When 3G USB adapter is connected, RJ45 automatically is set to LAN mode.

### **RJ45**

This RJ45 port can be configured as WAN or LAN modes.

WAN: Connect to the Internet using DSL/Cable modem.

LAN: Connect to a computer, switch or hub.

LED Lights	icon	Description
<b>Mobile 3G</b>		Color – Blue Lights when 3G USB adapter is connected. Blinks when 3G data transfer.
<b>Wireless LAN</b>		Color – Blue Lights when Wireless signal is activated. Blinks when Wireless data transfer.
<b>WPS</b>		Color – Blue Blinks when WPS handshake is initialized.
<b>LAN</b>		Color – Blue Lights when wired network device is connected to RJ45 port. Blinks when data transfer occurs on RJ45 port.
<b>Power</b>		Color – Blue Lights when device is powered ON. Blinks device is Reset.
<b>Mode</b>		Indicates which mode the TRAVEL ROUTER is set to. Orange – AP Router Blue – Access Point Green – Client Bridge
Buttons	icon	Description
<b>WPS</b>		Press this button to initialize WPS process. Hold this button for 10 seconds to Reset to Factory Defaults.

## 7. Before you Begin

This section will guide you through the installation process. Placement of the TRAVEL ROUTER is very important to avoid poor signal reception and performance. Avoid placing the device in enclosed spaces such as a closet, cabinet or wardrobe.

### 6.1 Considerations for Wireless Installation

The operating distance of all wireless devices cannot be pre-determined due to a number of unknown obstacles in the environment that the device is deployed. These could be the number, thickness and location of walls, ceilings or other objects that the wireless signals must pass through. Here are some key guidelines to ensure that you have the optimal wireless range.

1. Keep the number of walls and ceilings between the EnGenius access point and other network devices to a minimum. Each wall or ceiling can reduce the signal strength, the degradation depends on the building's material.
2. Building materials makes a difference. A solid metal door or aluminum studs may have a significant negative effect on range. Locate your wireless devices carefully so the signal can pass through a drywall or open doorways. Materials such as glass, steel, metal, concrete, water (fish tanks), mirrors, file cabinets and brick will also degrade your wireless signal.
3. Interferences can also come from your other electrical devices or appliances that generate RF noise. The most usual types are microwaves, or cordless phones.



## 6.2 AP Router / AP / Client Bridge Modes

There are three main modes to select from which will influence the installation of the TRAVEL ROUTER. This section will help you determine which mode works with your setup.

### AP Router Mode

AP Router Mode allows you to share an Internet connection to multiple computers.

### AP Mode

AP mode allows you to have a wired or wireless router.

### Client Bridge Mode

Client Bridge Mode allows a wired network device to connect to your wireless network, or create a point-to-point bridge.

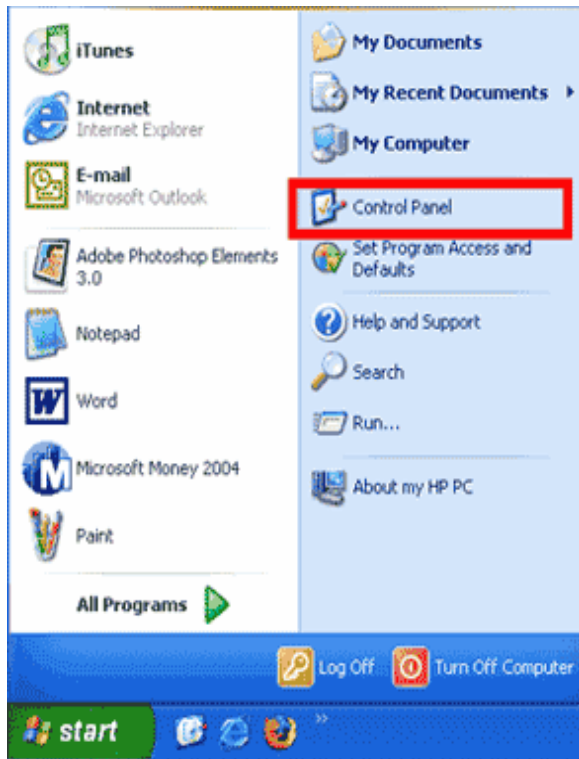
Change mode from the top right of the User Interface.



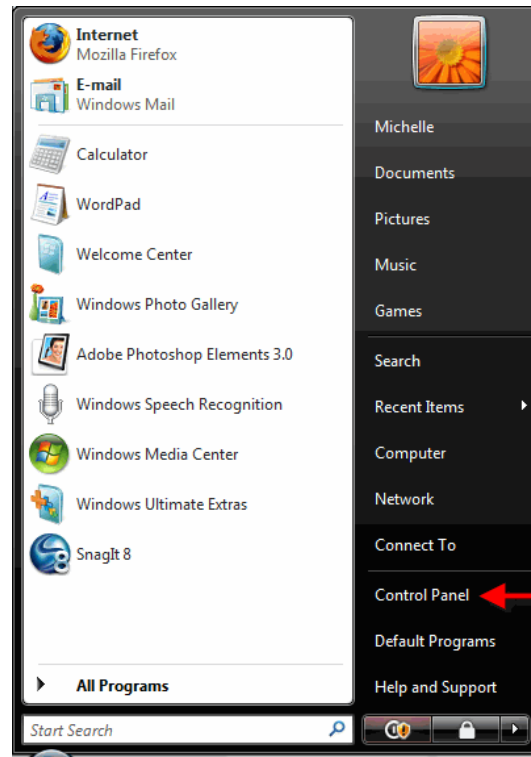
Please see *Configuring the TRAVEL ROUTER* for instructions to access the Web-Based User Interface.

## 6.3 Check Network Settings (Windows XP/Vista)

1. Click Start button and open Control Panel.



Windows XP



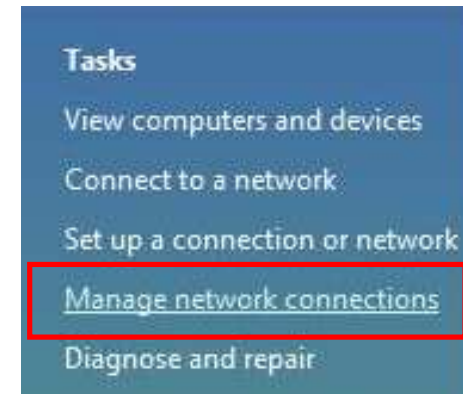
Windows Vista

13

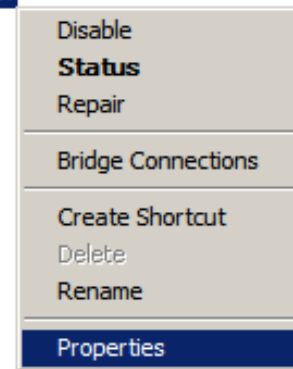
2. Windows XP, click [**Network Connection**]



Windows Vista, click [**View Network Status and Tasks**] then [**Manage Network Connections**]

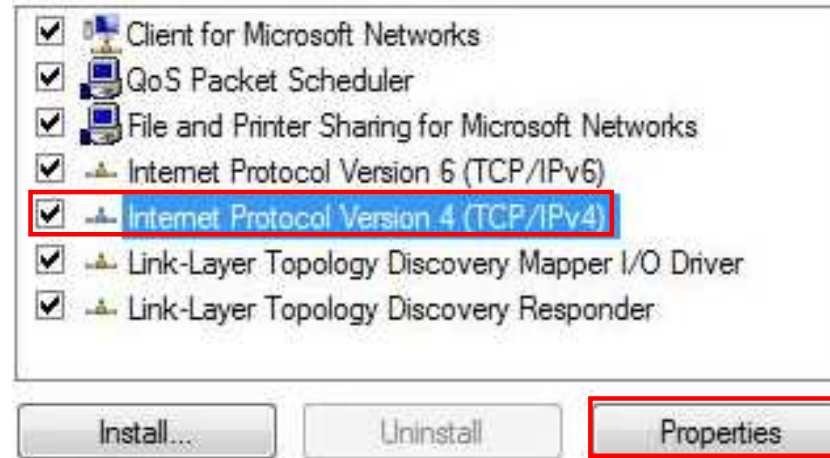


3. Right click on [**Local Area Connection**] and select [**Properties**].

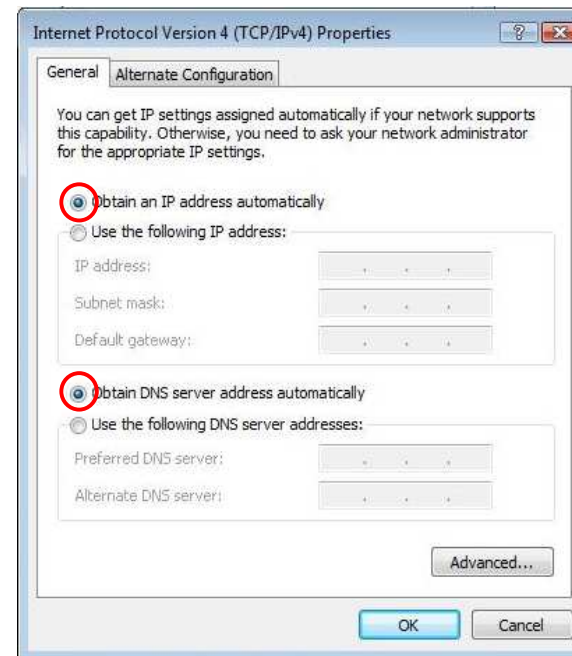


4. Check “**Client for Microsoft Networks**”, “**File and Printer Sharing**”, and “**Internet Protocol (TCP/IP)**” is ticked. If not, please install them.

5. Select “**Internet Protocol (TCP/IP)**” and click [**Properties**]



6. Select “**Obtain an IP Address automatically**” and “**Obtain DNS server address automatically**” and click [**OK**].

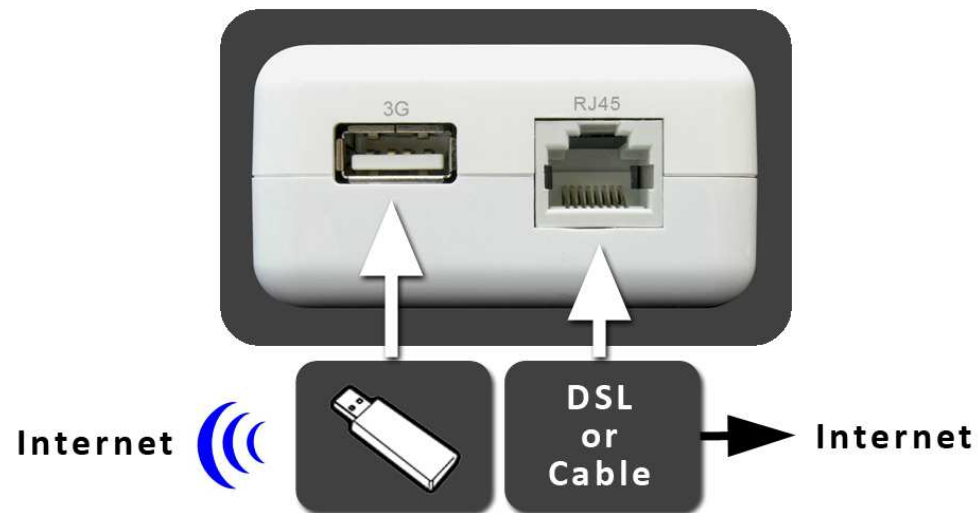


## 8. Hardware Installation

### AP Router Mode:

One type of Internet connection is required. Please either connect the network cable from your DSL/Cable modem to the RJ45 port on the TRAVEL ROUTER or connect a 3G adapter to the USB port.

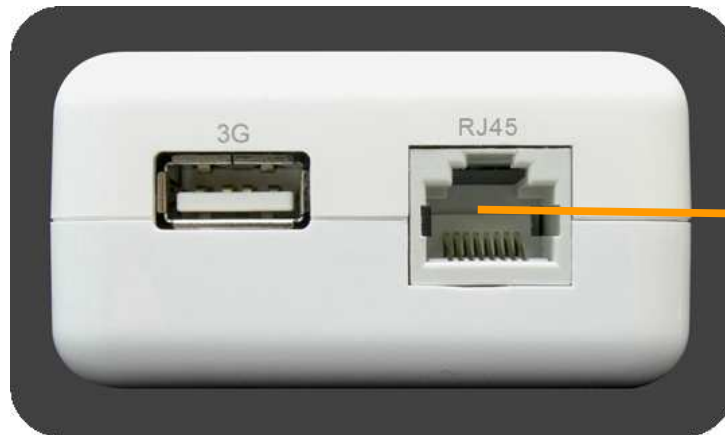
**Note:** When 3G USB adapter is connected, RJ45 automatically is set to LAN mode.



### AP Mode:



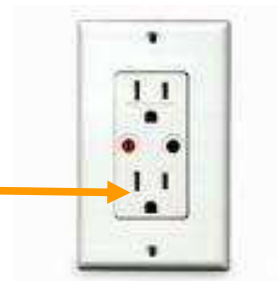
Connect the network cable to the RJ45 port.



**Wired Network**

Power On :

Use the AC Power cord to connect TRAVEL ROUTER and outlet or any other power supplies to provide the electricity to the device.



EnGenius®

EnGenius®

## 9. Configuring Travel Router

This section will show you how to configure the device using the web-based configuration interface.

Please use your wireless network adapter to connect the TRAVEL ROUTER.

### Default Settings

IP Address	192.168.0.1
Username / Password	admin / admin
Wireless Mode	Enable
Wireless SSID	EnGeniusxxxxxx
Wireless Security	None

**Note:** xxxxxx mentioned in the wireless SSID above is the last 6 characters of your device MAC Address. This can be found on the device body label and is unique for each device.

## 8.1 Setup Wizard

1. Open a web browser (Internet Explorer/Firefox/Safari) and enter the IP Address <http://192.168.0.1>

**Note:** If you have changed the default IP Address assigned to the TRAVEL ROUTER, ensure you enter the correct IP Address.



2. The default username and password is **admin**. Once you have entered the correct username and password, click the **OK** button to open the web-base configuration page.



3. You will see the following screen if the log on process is successful.

The screenshot displays the web interface for a Wireless-N Pocket AP/Router. The title bar shows "Wireless-N Pocket AP/Router" and "AP Router Mode". A navigation menu includes "Status", "LAN", "DHCP", "Schedule", "Log", "Monitor", and "Language". The "Status" page is active, providing information about the router's connection status, firmware, hardware, and DHCP clients.

You can use the Status page to monitor the connection status for the WAN/LAN interfaces, firmware and hardware version numbers, any illegal attempts to access your network and information on all DHCP client PCs currently connected to your network.

**System**

Model	3G Wireless Travel Router
Mode	AP Router
Uptime	10 min 57 sec
Current Date/Time	2009/01/01 00:14:00
Hardware version	1.0.0
Serial Number	09B260553
Kernel version	1.0.2
Application version	1.0.2

**WAN Settings**

Attain IP Protocol	Dynamic IP Address
IP address	---
Subnet Mask	---

4. Click **Wizard** to enter the Setup Wizard.  
Then click **Next** to begin the wizard.

The screenshot displays the web interface for an EnGenius ETR9350 Wireless-N Pocket AP/Router. The top navigation bar includes the title "Wireless-N Pocket AP/Router" and a dropdown menu currently set to "AP Router Mode". On the left, a dark blue sidebar contains a menu with the following items: "System", "Wizard" (highlighted with a red box), "Internet", "Wireless", "Firewall", "Advanced", and "Tools". The main content area is titled "Setup Wizard" and contains the following text: "Welcome to the router's web interface. From here you will continue the setup process using your browser. To continue, click 'Next'." A "Next" button, also highlighted with a red box, is located at the bottom right of the main content area.

5. Select the Operation Mode.

Please ensure you have the proper cables connected as described in the Hardware Installation section.

WAN Configuration

Please choose your service type or select Others to setup WAN configurations manually.

**No Services found in WAN port.** Please click rescan or manual configuration to setup WAN connection manually or skip this step.

Setup Wizard

Please choose the Operation Mode.

AP Router Mode: AP Router is the most common Wireless LAN device with which you will work as a Wireless LAN administrator and Internet Access Point. AP Router provides clients with a point of access into the Internet.

AP Mode: AP Mode allows wireless communication devices to connect to a wireless network using Wi-Fi.

Client Bridge Mode: The Wireless Client Bridge can operate as a point-to-point bridge to link networks in different buildings.

### 8.1.1 AP Router Mode

- a) The device will now automatically search for the correct Internet settings.

WAN Configuration

Automatically detecting the Services on WAN port. Please wait  seconds

- b) The most appropriate WAN type will be determined and selected automatically. If it is incorrect, please select **Others** to set up the WAN settings manually.

WAN Configuration

Please choose your service type or select Others to setup WAN configurations manually.

	No.	Service	Description
<input checked="" type="radio"/>	1.	DHCP	DHCP is used when your Modem is controlling your internet connection the Username & Password is stored on the Modem.
<input type="radio"/>	2.	PPPoE	PPPoE is used when your modem is set in Bridge Mode and your Router is used to control the internet connection. IE: router houses ISP's Username & Password.
<input type="radio"/>	3.	Others	

- c) There are many WAN service types available. Please obtain the correct settings from your Internet Service Provider (ISP).

Setup Wizard

Please, enter the data which is supplied by your ISP.

Login Method: -- Select one --

- Select one --
- Static IP Address
- Dynamic IP Address
- PPP over Ethernet
- PPTP
- Mobile 3G
- L2TP

Next

#### Static IP Address

If your ISP Provider has assigned you a fixed IP address, enter the assigned IP address, Subnet mask, Default Gateway IP address, and Primary DNS and Secondary DNS (if available) of your ISP provider.

Login Method: Static IP Address

IP address :

Subnet Mask :

Default Gateway :

Primary DNS :

Secondary DNS (Optional) :



### Dynamic IP Address

The IP Address is allocated automatically. However some ISP's will also recognize the MAC address and will reject connections if the MAC address does not match.

If your ISP has recorded the MAC address of your computer's Ethernet LAN card, please connect only the computer with the authorized MAC address, and click the **Clone MAC Address** button.

This will replace the AP Router MAC address to the computer MAC address. The correct MAC address is used to initiate the connection to the ISP.

Login Method:

Hostname :

Mac :

Dynamic IP Address	
Hostname:	This is optional. Only required if specified by ISP
MAC:	The MAC Address that is used to connect to the ISP.

**PPP over Ethernet**

ISP requires an account username and password.

Login Method:

**Username :**

**Password :**

**Service :**

**MTU :**  (512<=MTU Value<=1492)

PPP over Ethernet	
<b>Username:</b>	Username assigned to you by the ISP
<b>Password:</b>	Password for this username.
<b>Service:</b>	You can assign a name for this service. (Optional)
<b>MTU:</b>	The maximum size of packets. Do not change unless mentioned by the ISP.

**Point-to-Point Tunneling Protocol (PPTP)**

Login Method:	<input type="text" value="PPTP"/>
<b>WAN Interface Settings :</b>	
<b>WAN Interface Type :</b>	<input type="text" value="Dynamic IP Address"/>
<b>Hostname :</b>	<input type="text"/>
<b>MAC Address :</b>	<input type="text" value="000000000000"/> <input type="button" value="Clone Mac"/>
<b>PPTP Settings :</b>	
<b>Login :</b>	<input type="text"/>
<b>Password :</b>	<input type="text"/>
<b>Service IP address :</b>	<input type="text"/>
<b>Connection ID :</b>	<input type="text" value="0"/> (Optional)
<b>MTU :</b>	<input type="text" value="1400"/> (512<=MTU Value<=1492)

<b>PPTP WAN Interface Settings</b>	
<b>WAN Interface Type:</b>	Select whether the ISP is set to Static IP or Dynamic IP addresses.
<b>Hostname:</b>	This is optional. Only required if specified by ISP
<b>MAC:</b>	The MAC Address that is used to connect to the ISP.
<b>PPTP Settings</b>	
<b>Login:</b>	Username assigned to you by the ISP
<b>Password:</b>	Password for this username.
<b>Service IP Address:</b>	The IP Address of the PPTP server.
<b>Connection ID:</b>	This is optional. Only required if specified by ISP
<b>MTU:</b>	The maximum size of packets. Do not change unless mentioned by the ISP.

**Mobile 3G**

Please ensure your 3G USB card is connected to the TRAVEL ROUTER and has an active USIM card inserted.

Login Method:	Mobile 3G ▼
Pin Code :	<input type="text"/>
APN Code:	<input type="text"/>
Dial Number:	<input type="text"/>
User Name:	<input type="text"/>
Password:	<input type="text"/>

Mobile 3G	
<b>Pin Code:</b>	Enter the Pin code for your USIM card if required.
<b>APN Code:</b>	Enter the APN code for the network provider
<b>Dial Number:</b>	Only required if specified by ISP
<b>User Name:</b>	Account Username. Only required if specified by ISP
<b>Password:</b>	Account Password. Only required if specified by ISP

### Layer-2 Tunneling Protocol (L2TP)

Login Method:

**WAN Interface Settings :**

**WAN Interface Type :**

**Hostname :**

**MAC Address :**

**L2TP Settings :**

**Login :**

**Password :**

**Service IP address :**

**MTU :**  (512<=MTU Value<=1492)


<b>L2TP WAN Interface Settings</b>	
<b>WAN Interface Type:</b>	Select whether the ISP is set to Static IP or Dynamic IP addresses.
<b>Hostname:</b>	This is optional. Only required if specified by ISP
<b>MAC:</b>	The MAC Address that is used to connect to the ISP.
<b>L2TP Settings</b>	
<b>Login:</b>	Username assigned to you by the ISP
<b>Password:</b>	Password for this username.
<b>Service IP Address:</b>	The IP Address of the PPTP server.
<b>MTU:</b>	The maximum size of packets. Do not change unless mentioned by the ISP.

- d) Setup the level of wireless security to be used.  
EnGenius recommends the **Highest** level of security to be used.

**Note:** 802.11n wireless speeds may not be achievable if the security is setup to Lowest and Low level.

WLAN Configuration

Please choose the security level in the security bar

Lowest  Highest

Type of wireless security: WPA2  
Strength: Highest

WPA2 security offers the highest strength wireless security but lowest compatibility with older wireless network equipment.

Enter a security key that is between 8-63 characters long. Make sure the key is not a word or number that is easy to guess.

SSID :

Key :

Skip Next

**SSID:** Enter the name of your wireless network.

**Key:** Enter the security key for your wireless network.



- e) Check the settings are correct, and then click **Reboot** to apply the settings.

Setup Successfully

**System Configuration:**  
**Operation Mode :** AP Router

**WAN Configuration:**  
**Connection Type :** Dynamic IP Address

**WLAN Configuration :**  
**SSID :** EnGenius5FA6E8  
**Security :** WPA2 pre-shared key  
**WLAN Key :** 1234567890

WLAN Router setup successfully. Please click reboot button to reboot system.

### 8.1.2 AP Mode

- a) Select the level of wireless security to be used.  
EnGenius recommends the **Highest** level of security to be used.

**Note:** 802.11n wireless speeds may not be achievable if the security is setup to Lowest and Low level.

WLAN Configuration

**Please choose the security level in the security bar**

Lowest      Highest

Type of wireless security: WPA2  
Strength: Highest

WPA2 security offers the highest strength wireless security but lowest compatibility with older wireless network equipment.

Enter a security key that is between 8-63 characters long. Make sure the key is not a word or number that is easy to guess.

SSID :

Key :

Skip Next

**SSID:** Enter the name of your wireless network.

**Key:** Enter the security key for your wireless network.

- b) Check the settings are correct, and then click **Reboot** to apply the settings.

Setup Successfully

**System Configuration:**

**Operation Mode :** AP Router

**WLAN Configuration :**

**SSID :** EnGenius5FA6E8

**Security :** WPA2 pre-shared key

**WLAN Key :** 1234567890

WLAN Router setup successfully. Please click reboot button to reboot system.

**Reboot**

### 8.1.3 Client Bridge Mode

- a) In this mode, the TRAVEL ROUTER will connect to a wireless network as a client device. Please enter the SSID and security settings of that wireless network.

Setup Wizard

## AP Profile Settings

Network Name (SSID) :	<input type="text" value="EnGenius"/>
Encryption :	<input type="text" value="WPA pre-shared key"/>
WPA type :	<input type="radio"/> WPA(TKIP) <input checked="" type="radio"/> WPA2(AES)
Pre-shared Key type :	<input type="text" value="Passphrase"/>
Pre-shared Key :	<input type="text" value="0987654321"/>

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.

- b) Check the settings are correct, and then click **Reboot** to apply the settings.

#### System Configuration:

Operation Mode : Client Bridge

## 8.2 Web-Based Configuration

### 8.2.1 System

#### *Status*

This page allows you to monitor the status of the device.

#### System

Model	3G Wireless Router
Mode	AP Router
Uptime	33 min 35 sec
Current Date/Time	2009/01/01 00:53:01
Hardware version	1.0.0
Serial Number	000000111
Kernel version	1.0.2
Application version	1.0.2

<b>Status</b>	
<b>Model:</b>	Description of this device.
<b>Mode:</b>	The device is currently in which mode.
<b>Uptime:</b>	The duration about the device has been operating without powering down or reboot.
<b>Current Date/Time:</b>	The device's system time. If this is incorrect, please set the time in the Tools / Time page.
<b>Hardware version and Serial Number:</b>	Hardware information for this device.
<b>Kernel and Application version:</b>	Firmware information for this device.

**WAN Settings**

Attain IP Protocol	Dynamic IP Address
IP address	10.0.174.29
Subnet Mask	255.255.254.0
Default Gateway	10.0.175.254
MAC address	00:02:6F:5F:A9:1E
Primary DNS	10.0.200.101
Secondary DNS	10.0.200.102

WAN Settings	
<b>Attain IP Protocol:</b>	Method used to connect to the Internet
<b>IP address:</b>	The WAN IP Address of the device.
<b>Subnet Mask</b>	The WAN Subnet Mask of the device.
<b>MAC address</b>	The MAC address of the device's WAN Interface.
<b>Primary and Secondary DNS:</b>	Primary and Secondary DNS servers assigned to the WAN connection.

**LAN Settings**

IP address 192.168.0.1  
 Subnet Mask 255.255.255.0  
 DHCP Server Enabled

LAN Settings	
<b>IP address:</b>	The LAN IP Address of the device.
<b>Subnet Mask</b>	The LAN Subnet Mask of the device.
<b>DHCP Server</b>	Whether the DHCP server is Enabled or Disabled.

**WLAN Settings**

Channel 11

**SSID\_1**

ESSID EnGenius5FA6E8  
 Security Disable  
 BSSID 00:02:6F:5F:A6:E8  
 Associated Clients 1

**SSID\_2**

ESSID EnGenius5FA6E8\_2  
 Security Disable  
 BSSID 00:02:6F:5F:A6:E9  
 Associated Clients 0

**WLAN Settings**

<b>Channel:</b>	The wireless channel in use.
<b>ESSID:</b>	The SSID (Network Name) of the wireless network. (up to 4 SSID's are supported)
<b>Security:</b>	Wireless encryption is enabled for this SSID.
<b>BSSID:</b>	The MAC address of this SSID.
<b>Associated Clients:</b>	The number of wireless clients connected to this SSID.