Repeater
User Manual
PTI-7018N

Copyright

The contents of this publication may not be reproduced in any part or as a whole, stored, transcribed in an information retrieval system, translated into any language, or transmitted in any form or by any means, mechanical, magnetic, electronic, optical, photocopying, manual, or otherwise, without the prior written permission.

Trademarks

All product, company, brand names are trademarks or registered trademarks of their respective companies. They are used for identification purpose only. Specifications are subject to be changed without prior notice.

CE Energy-Related Products Directive 2009/125/EC Information

Please ask the local distributor, supplier or importer below information:

The related information of Recycle or disposal.

The related information of spare parts issue.

Maintenance service

Please switch the power button to “AP OFF” when you do not use the function of AP router, in order to save electricity power.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

FCC Radiation Norm

This equipment has been tested and found to comply with limits for a Class B digital device pursuant to 47 CFR, Part 2 and Part 15 of the Federal Communication Commission (FCC) rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received including interferences that may cause undesired operations.

CE Radiation Norm

This equipment has been tested and found to comply with the limits of the European Council Directive 99/5/EC on the approximation of the law of the member states relating to EN 300 328 V1.7.1 (2006-10), EN 301 489-1 V1.8.1 (2008-04) and EN 301 489-17 V1.3.2 (2008-04) and EN 60950.

FCC & CE Compliance Statement

These limits are designed to provide reasonable protection against radio interference in a residential environment. This equipment can generates, uses and 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 is found by turning the equipment ON and OFF, the user is encouraged to try to reduce the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connect to
- Consult a dealer or an experienced technician for assistance

CAUTION!

The Federal Communication Commission warns the user that changes or modifications to the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Contents

Copyright ..... **i**

Chapter 1 Introduction **4**

1.1 Features 5
1.2 System Requirement 6
1.3 Package Contents 7

Chapter 2 Knowing The Repeater **8**

2.1 LED Indicator 8
2.2 Ports 9
2.3 Power ON/OFF 9

Chapter 3 Configuration **10**

3.1 Setup Wireless Connection 11
3.2 Login 12
3.3 Setup Repeater 14
3.3.1 Setup wireless connection through WPS button 14
3.3.2 Setup wireless connection through Web GUI 14
3.4 LAN Setting 16
3.4.1 Internet Settings – LAN 17
3.4.2 Internet Settings – DHCP clients 19
3.5 Wireless Settings 20
3.5.1 Wireless Settings – Basic 21
3.5.2 Wireless Settings – Advanced 23
3.5.3 Wireless Settings – Security 25
3.5.4 Wireless Settings – WPS 26
3.5.5 Wireless Settings – repeater mode 28
3.5.6 Wireless Settings – Station List 30
3.5.7 Wireless Settings – Statistics 30
3.6 Administration 31
3.6.1 Administration – System Management 32
3.6.2 Administration – Upload Firmware 33
3.6.3 Administration – Settings Management 34
3.6.4 Administration – Status 35
3.6.5 Administration – Statistics 36

Chapter 1 Introduction

Thank you for choosing the outstanding repeater. The repeater works with your wireless router to extend the wireless coverage.

To protect the data privacy, the repeater can encrypt wireless transmissions. Security features include Wi-Fi Protected Access 2 (WPA2) security, which encrypts data on your wireless networks. The Repeater support WPS feature..

1.1 Features

- **Functions**
  - Support Repeater.

- **Wireless**
  - IEEE 802.11b/g/n standards compliant.
  - Support data rates up to 150Mbps (Auto-Rate Capable).
  - Support WEP/WPA/WPA2 Encryption.
  - Support WPS.

- **Ethernet Interface**
  - 1 Port Ethernet Interface compliant with IEEE 802.3x standards.
  - Automatic MDI/MDIX crossover for 10/100 Base-T port.
  - Auto-negotiation and speed-auto-sensing support.

- **Network Management**
  - Web-based Management
  - Firmware upgrade via HTTP/TFTP
  - System Log

1.2 System Requirement

Check and confirm that your system is with the following minimum requirements:

- Personal computer (PC/Notebook).
- Pentium III compatible processor and above.
- Wireless LAN card or IEEE 802.11b/g/n Wireless adaptor installed with TCP/IP protocol.
- 64 MB RAM or more.
- 50 MB of free disk space (Minimum).
- Internet Browser.
- CD-ROM Drive.

1.3 Package Contents

The Repeater package contains the following items:

- One Repeater
- One Quick Setup Guide

If any of the above items are damaged or missing, please contact your dealer immediately.

Chapter 2 Knowing The Repeater

2.1 LED Indicator

The Repeater's LED indicators display information about the device's status.

Green	Static: Repeater connect to root AP successfully
	Flashing : initial WPS
Orange	Flashing when repeater cannot link to root AP
Red	Repeater is booting

2.2 Ports

The ports of the Repeater contain LAN Ethernet port, Reset Button and WPS button.

To **"Reset"** the repeater to factory defaults:

- Ensure that the device is powered on.
- Press the Reset button for more than 5 seconds and release. Wait for 60 seconds after release the Reset button. Do not power off the device during the reset process.
- The default settings are now restored after 60 seconds.

To setup **WPS** via WPS button:

- Press the WPS button and release.

2.3 Power ON/OFF

The Power ON/OFF Button of Repeater.

Chapter 3 Configuration

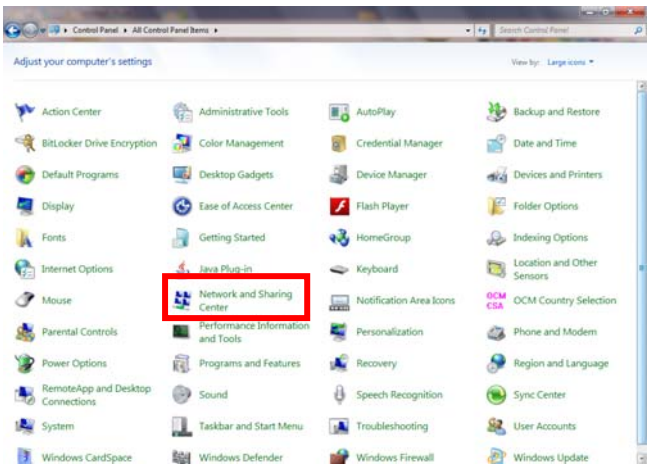
For your convenience, the web GUI allows you to configure Repeater using web browser.

This chapter will explain all the functions in this Web GUI.

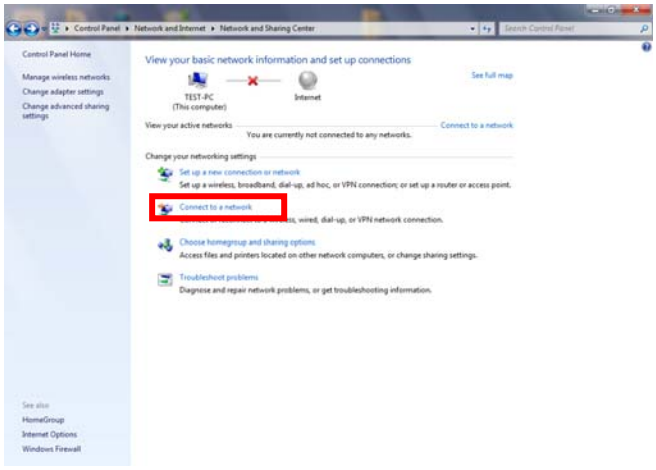
Please turn ON the wireless adapter of PC first.

3.1 Setup Wireless Connection

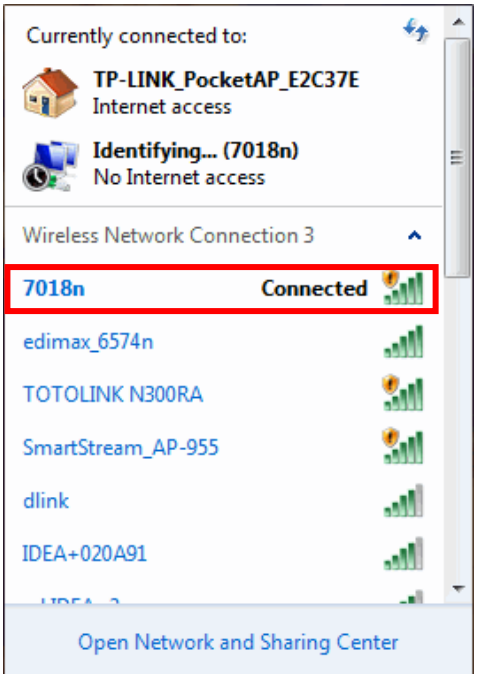
Step 1: Open Control Panel -> Network and Sharing Center.



Step 2: Click on the **Connect to a network**..

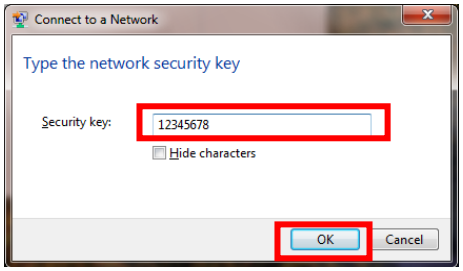


Step 3: **Choose 7018n to connect**.



Step 4: **Fill in Security Key "12345678"**, then press **"OK"**

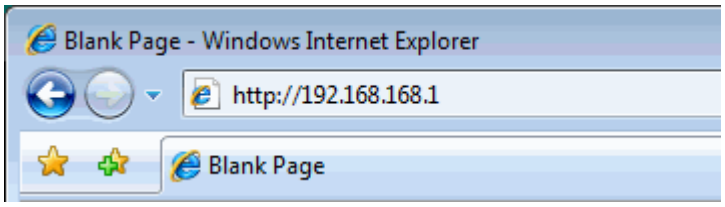
.



3.2 Login

To access the Repeater configuration screens, follow the following steps will enable you to log into the Repeater.

1. Launch your web browser, and enter the Repeater's IP Address: **"10.10.10.254"** in the address field then press the **"Enter"** key to login.



2. Enter the default **User name**: **"admin"** and **Password**: **"admin"**. Then press **"OK"** to login.

3. Here is the Homepage.

3.3 Setup Repeater

3.3.1 Setup wireless connection through WPS button

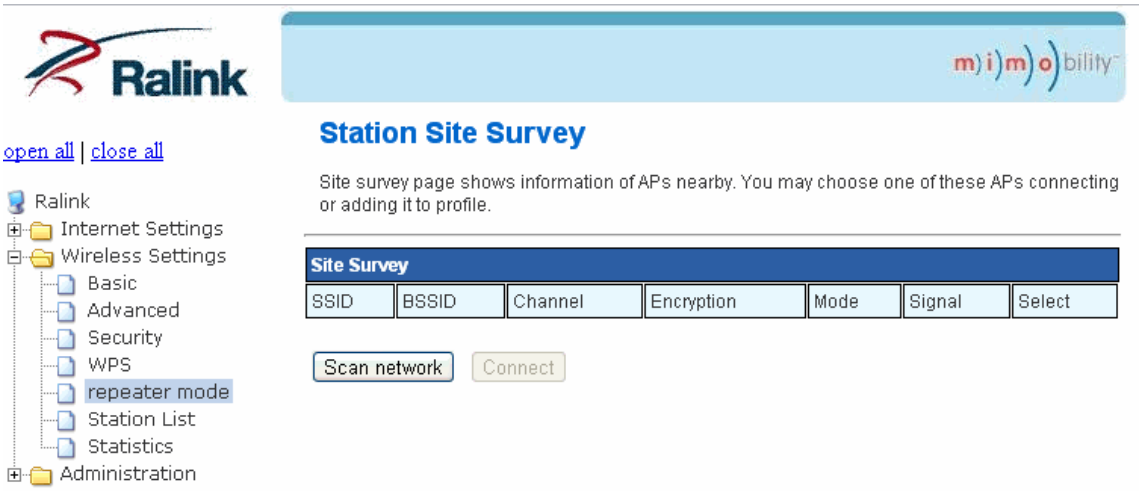
If your root wireless router supports the WPS function through Push Button Configuration (PBC), you can setup a wireless connection between the repeater and the root wireless router by pressing the WPS button.

1. Press the WPS button of your root wireless router.
2. Press the WPS button of Repeater. The LED will start to blink. When the LED is static Green, it indicates that the Repeater connects to the root wireless router successfully.
3. Connect your Laptop or Mobile to the SSID of repeater and they will get the IP address from root wireless router.

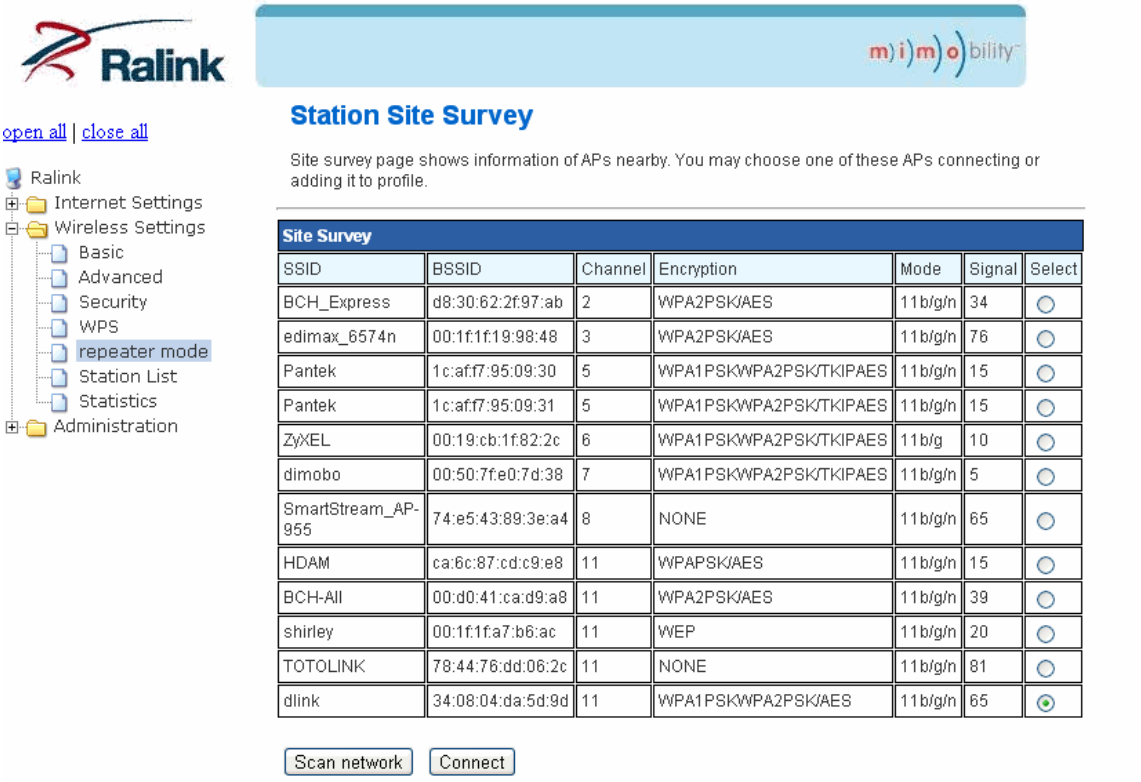
3.3.2 Setup wireless connection through Web GUI

You could setup repeater mode and connect to root AP to extend wireless coverage.

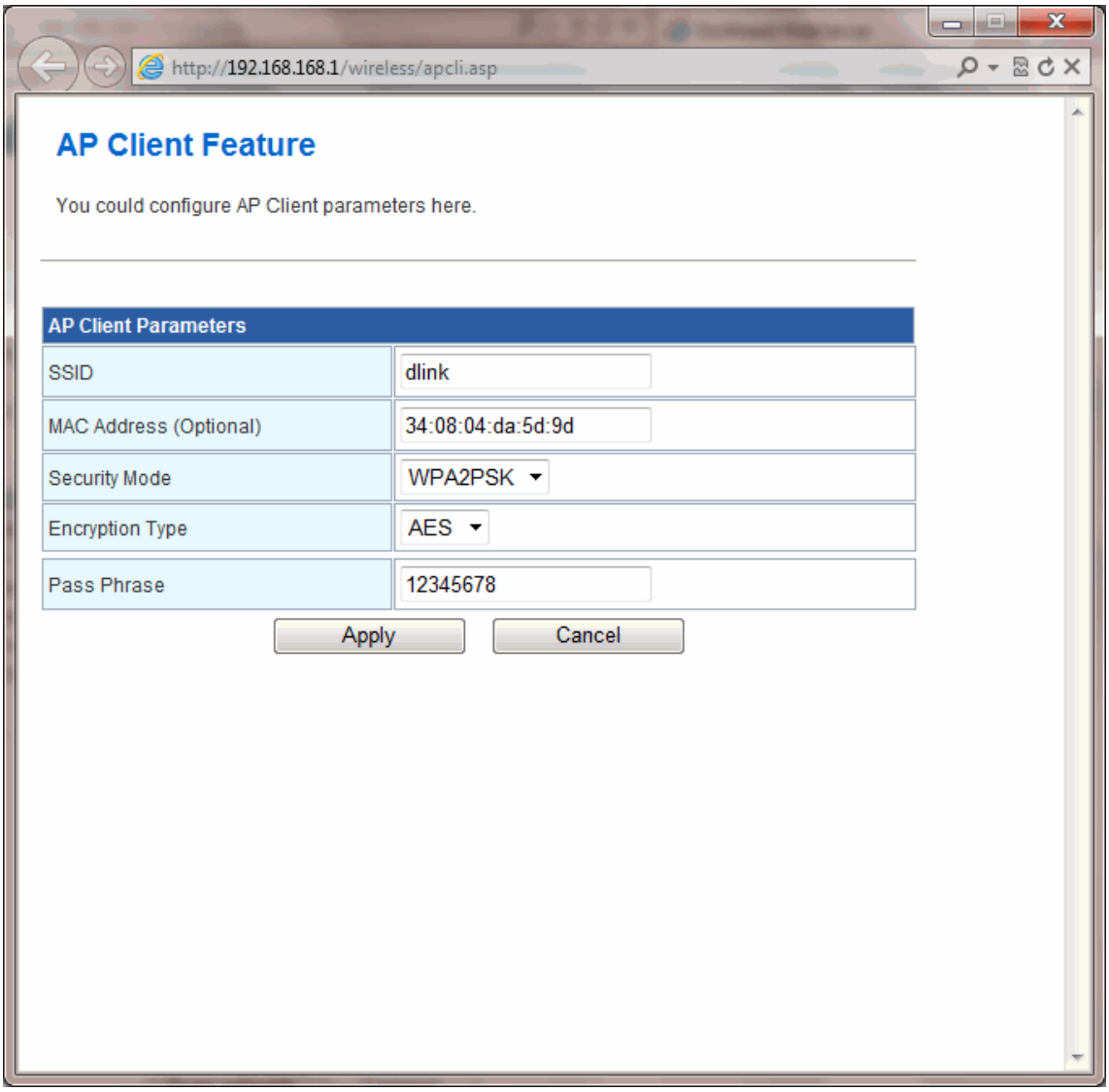
1. Click Wireless Settings-> repeater mode. Click Scan network button first.



2. Select a root AP and click connect.

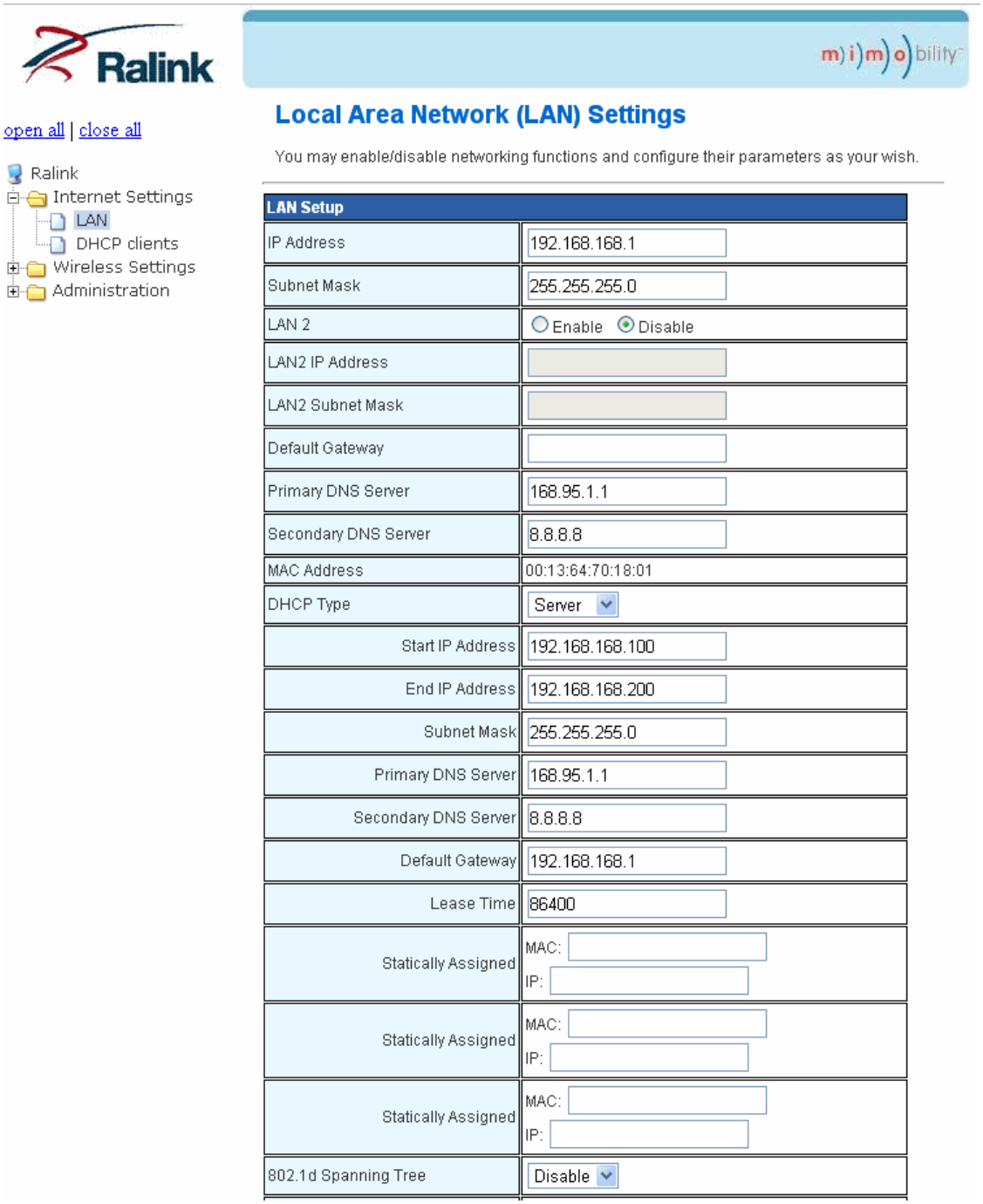


3. Fill in the wireless password of root AP in Pass Phrase and click Apply.



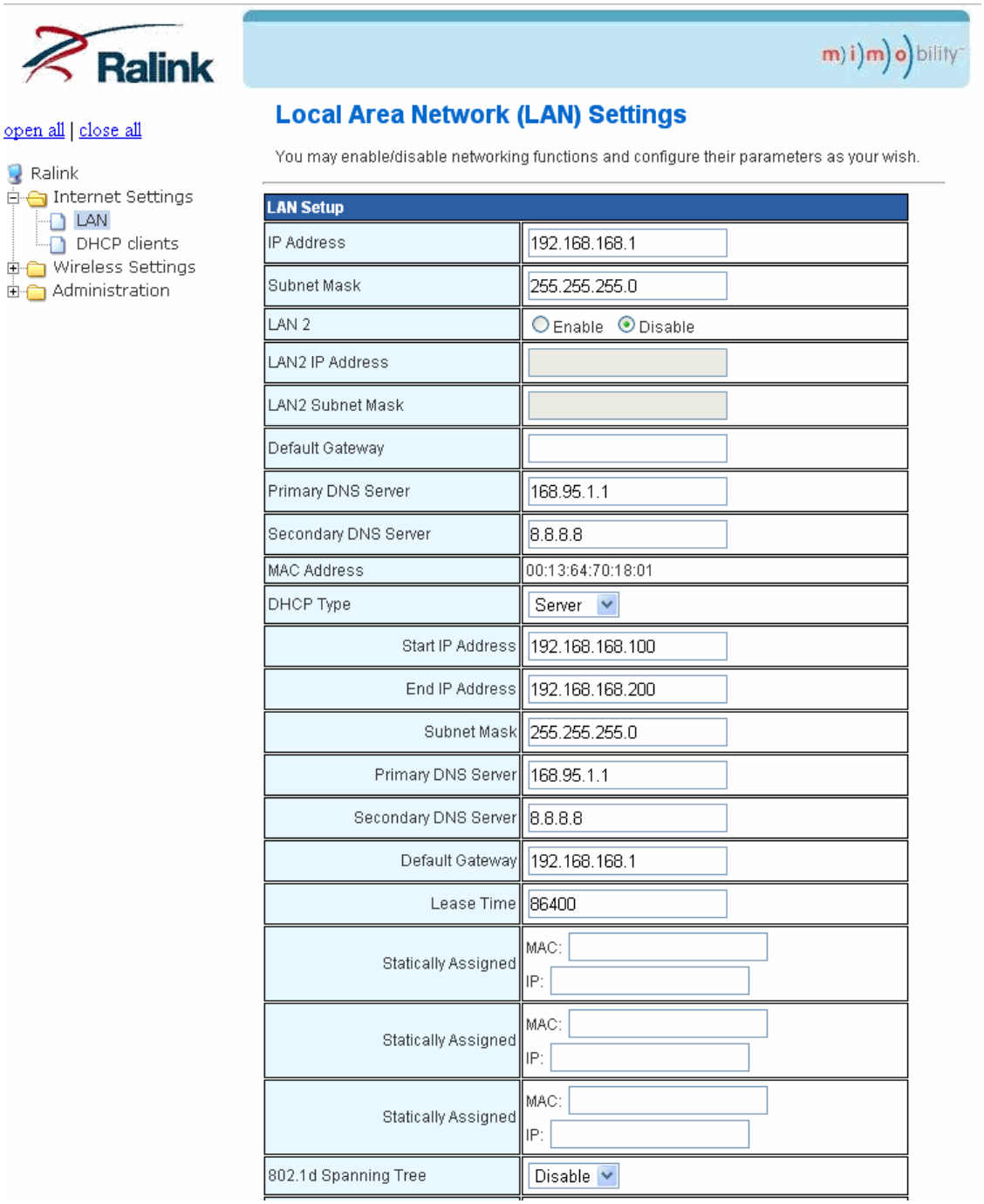
3.4 LAN Setting

The Internet Settings configures the device the LAN IP address and DHCP server.



3.4.1 Internet Settings – LAN

This page is used to configure the parameters for local area network which connects to the Repeater. Here you may change the setting for IP address, subnet mask, DHCP, etc..



Fields in this page:

Field	Description
IP Address	The device's IP Address.
Subnet Mask	The device's Subnet Mask.
LAN2	Enabled/Disabled 2nd LAN networks.
LAN2 IP Address	LAN2 IP Address.
LAN2 Subnet Mask	LAN2 Subnet Mask.

Default Gateway	The Default Gateway Address assigned to DHCP clients.
Primary DNS Server	The primary DNS Server Address assigned to DHCP clients.
Secondary DNS Server	The secondary DNS Server Address assigned to DHCP clients.
MAC Address	MAC Address of device.
DHCP Type	Server or Disable. If you already have a DHCP server on your network, then select Disable.
Start IP Address	The Start IP Address specifies the starting IP address of the range of address assigned by your device when it functions as a DHCP Server.
End IP Address	The End IP Address specifies the ending IP address of the range of address assigned by your device when it functions as a DHCP Server.
Subnet Mask	The Subnet Mask assigned to DHCP clients.
Lease Time	The Lease Time is the amount of time a network user will be allowed connection to the device with their current dynamic IP address.
Statically Assigned	Assign a Static IP address to a specified MAC address.
802.1d Spanning Tree	Enabled/Disabled 802.1d Spanning Tree.
LLTD	Enabled/Disabled Link Layer Topology Discovery(LLTD).
IGMP Proxy	Enabled/Disabled IGMP Proxy.
Device Advertisement	Enabled/Disabled Device Advertisement.
PPPoE Relay	Enabled/Disabled PPPoE Relay.

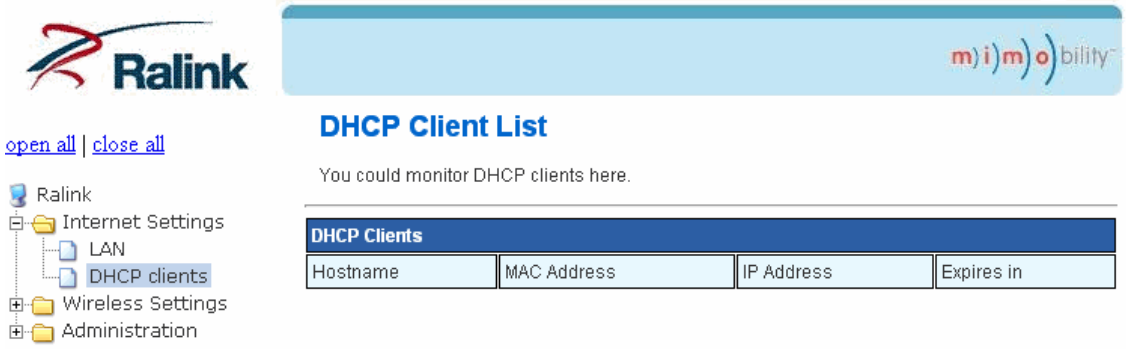
Function buttons in this page:

Apply

Click to save the setting to the configuration.

3.4.2 Internet Settings – DHCP clients

You may monitor DHCP clients here.



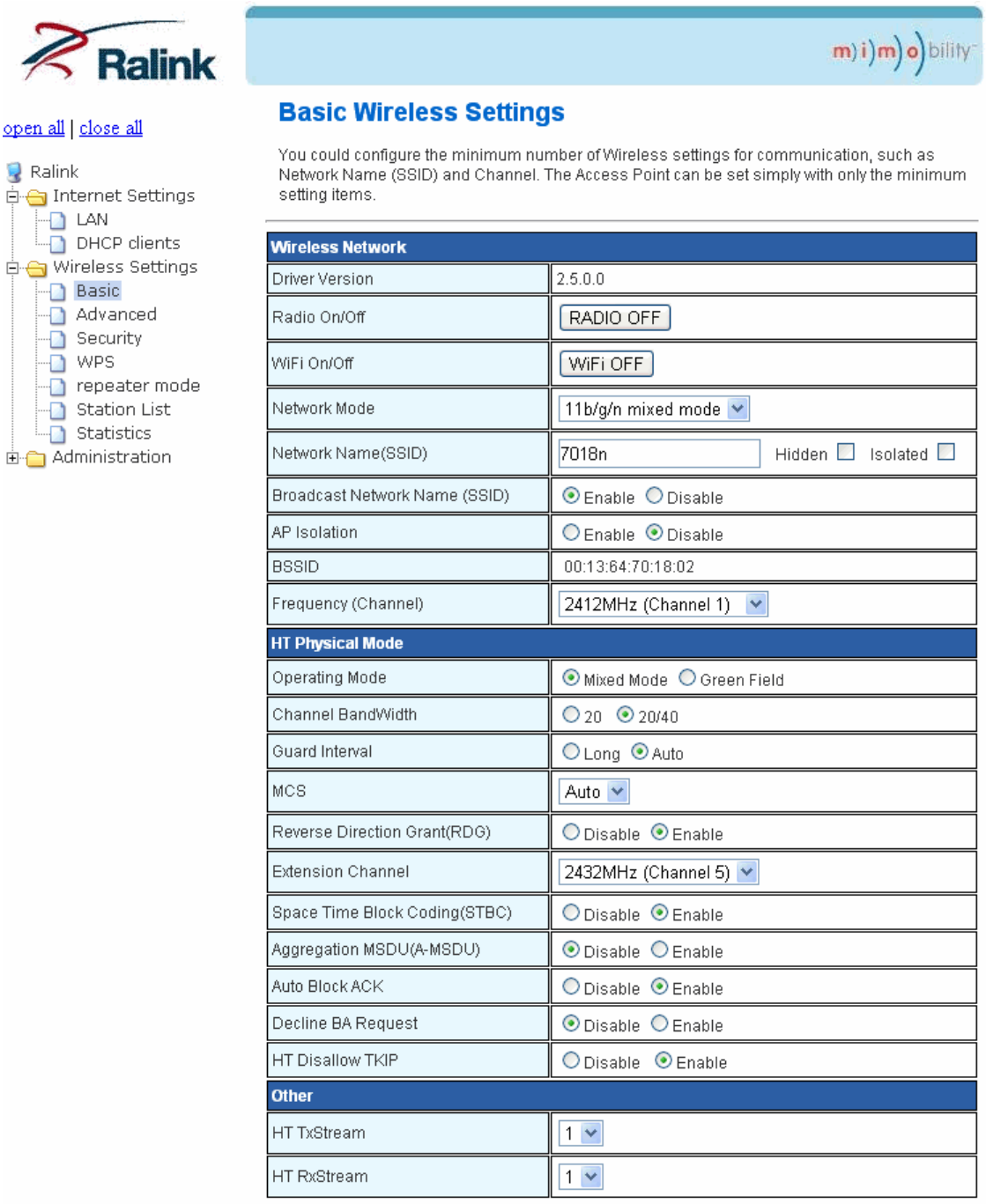
3.5 Wireless Settings

You can view Wireless Settings link in the left navigation bar. Following are the options available under Wireless Settings:

- Basic
- Advanced
- Security
- WPS
- Repeater mode
- Station List
- Statistics

3.5.1 Wireless Settings – Basic

To configure the wireless basic settings, click on the **Basic** link (Wireless Settings > Basic) in the left navigation bar. A screen is displayed as shown in following figure.



Fields in this page:

Field	Description
Wireless Network	
Radio On/Off	Click RADIO ON button to enable Radio. Click RADIO OFF button to disable Radio.
WiFi On/Off	Click WiFi ON button to enable WiFi. Click WiFi OFF button to disable WiFi.
Network Mode	From this drop-down menu, you can select the wireless standards running on your network.

	● 11b/g mixed mode ● 11b only ● 11g only ● 11b/g/n mixed mode ● 11n only(2.4G)
Network Name(SSID)	The SSID(Service Set Identifier) is the network name shared by all devices in a wireless network. It is case-sensitive and must not exceed 32 keyboard characters.
Broadcast Network Name(SSID)	Enabled/Disabled SSID broadcast. When wireless clients survey the local area for wireless networks to associate with, they will detect the SSID broadcast by the device. To broadcast the device's SSID, keep **Enabled**. If you do not want to broadcast the device's SSID, then select **Disabled**.
AP isolation	Wireless Client isolation. Prevent one wireless client communicating with another wireless client.
MBSSID AP isolation	MBSSID wireless client isolation. Wireless client in SSID1 cannot communicate with wireless client in SSID2~7.
BSSID	Display device's BSSID.
Frequency (Channel)	Select the appropriate channel for your wireless network.

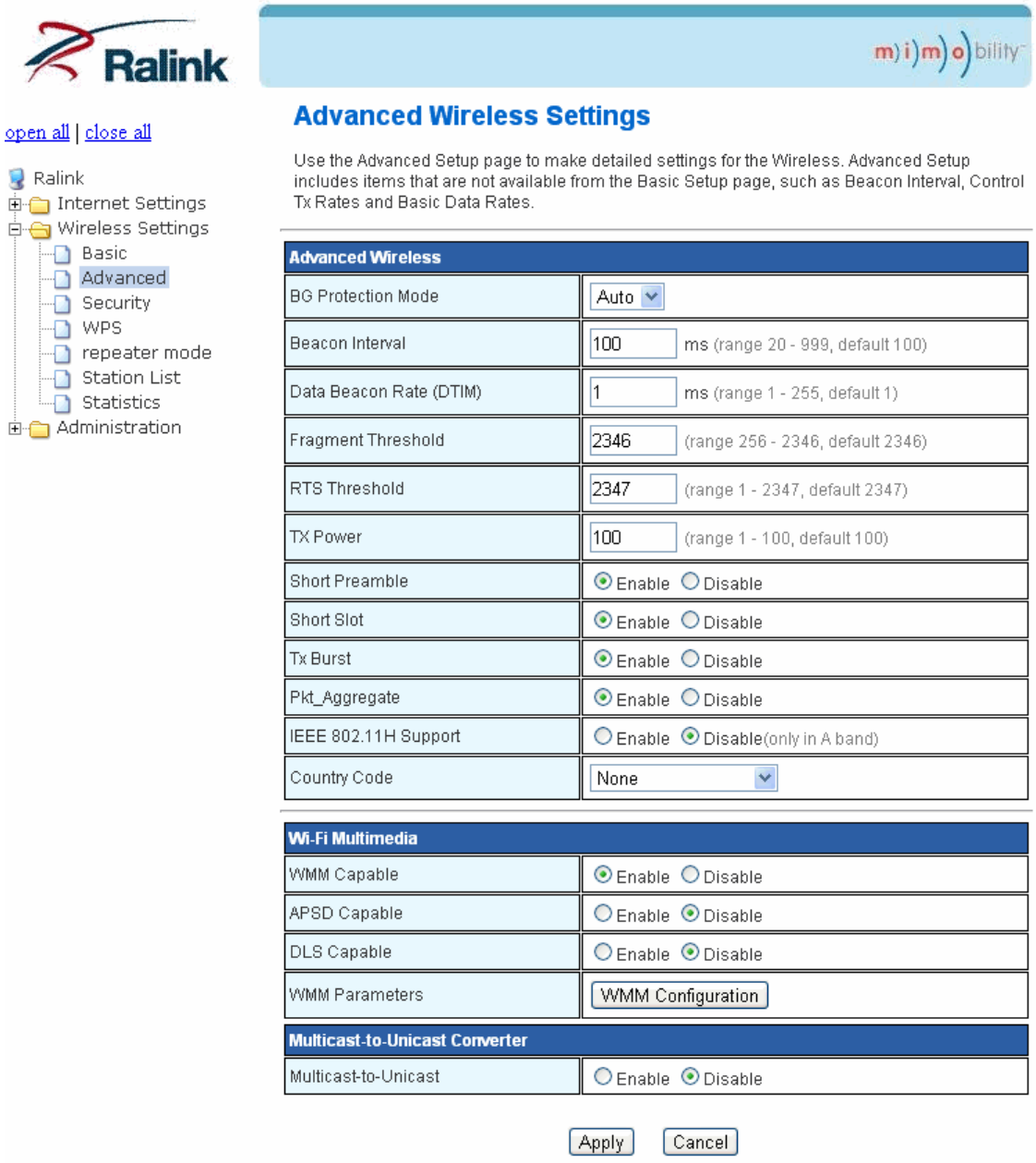
Function buttons in this page:

Apply

Click to save the setting to the configuration.

3.5.2 Wireless Settings – Advanced

This page allows advanced users who have sufficient knowledge of wireless LAN. These setting shall not be changed unless you know exactly what will happen for the changes you made on your device.



Fields in this page:

Field	Description
Advanced Wireless	
BG Protection Mode	Auto/On/Off
Beacon Interval	The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1024. A beacon is a packet broadcast by the device to synchronize the wireless network. The default is 100.
Data Beacon rate(DTIM)	A Delivery Traffic Indication Message(DTIM) is a kind of Traffic Indication Message(TIM) which informs the clients about the presence of buffered multicast/broadcast data on the access point The default is 1ms.

Fragment Threshold	This value should remain at its default setting of 2346. It specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increases the “Fragment Threshold” value within the value range of 256 to 2346. Setting this value too low may result in poor network performance. Only minor modifications of this value are recommended.
RTS Threshold	This value should remain at its default setting of 2347. Should you encounter inconsistent data flow, only minor modifications are recommended. If a network packet is smaller than the preset “RTS threshold” size, the RTS/CTS mechanism will not be enabled. The AP sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission.
TX Power	The TX power of Device. The default is 100.
Short Preamble	The Preamble Type defines the length of the CRC block for communication between the AP and mobile wireless stations. Note that high network traffic areas should use the *short preamble* type.
Short Slot	Enable to reduce the guard interval time.
Tx Burst	Enable Tx Burst.
Pkt_Aggregate	Enable: Packet will be aggregated before be sent.
IEEE 802.11H Support	Enable IEEE 802.11H.
Country Code	Select your country for wireless region.
Wi-Fi Multimedia	
WMM Capable	Wi-Fi Multimedia (WMM) is a wireless Quality of Service feature that improves quality of audio, video, and voice applications by prioritizing wireless traffic. To use this feature, the wireless client devices in your network must support Wireless WMM.
APSD Capable	Enable/Disable APSD(Automatic Power Save Delivery) Capable.
DLS Capable	Enable/Disable DLS Capable.
WMM Parameters	Configure WMM parameters.
Multicast-to-Unicast Converter	
Multicast-to-Unicast	Enable to allow multicast traffic to pass through the Device from the Internet.

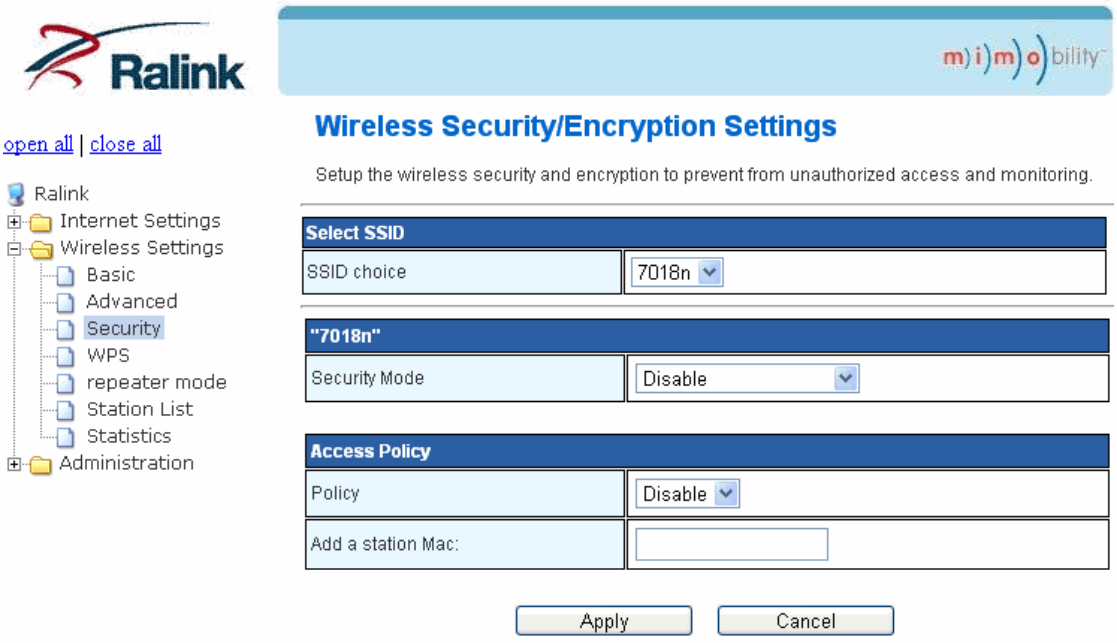
Function buttons in this page:

Apply

Click to save the setting to the configuration.

3.5.3 Wireless Settings – Security

This screen allows you to setup the wireless security. Turn on WEP or WPA by using encryption keys could prevent any unauthorized access to your WLAN.



Fields in this page:

Field	Description
SSID choice	Select SSID which you will configure security.
Security Mode	Disable,OPEN,SHARED,WEPAUTO,WPA,WPA-PSK,WPA2,WPA2-PSK, WPAPSKWPA2PSK, WPA1WPA2, 802.1X.
WEP	WEP is a basic encryption method, which is not as secure as WPA.
	Input 5 or 13 characters of WEP key. Select a default key.
WPA-PSK	WPA Algorithms: TKIP or AES.
WPA2-PSK	Enter a Passphrase 8 to 63 characters.
WPA WPA2 WPA1WPA2	If the 802.1X, WPA, WPA2 is selected at Security Mode, the port (default is 1812), IP address and shared secret of external RADIUS server are specified here.
Access Policy	
Policy	Disable/Allow/Reject
Add a station MAC	Fill in MAC address of a Station which you want to allow or reject.

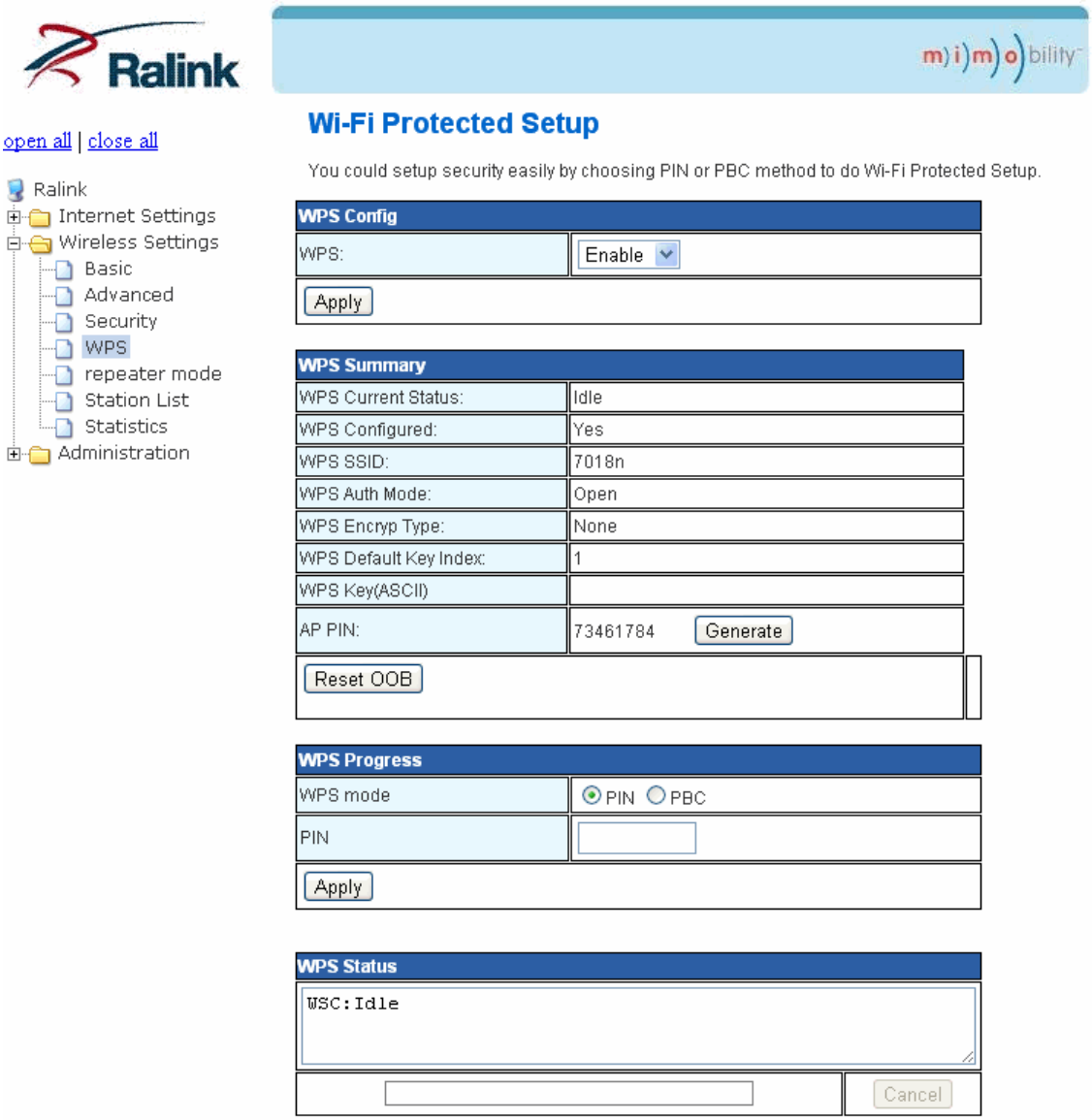
Function buttons in this page:

Apply

Click to save the setting to the configuration.

3.5.4 Wireless Settings – WPS

This page allows you to change the setting for WPS(Wi-Fi Protected Setup). Using this feature could let your wireless client automatically synchronize its setting and connect to the Device in a minute without any hassle.



There are three methods available. Use the method that applies to the client device you are configuring.

Note: WPS configures one client device at a time. Repeat the instructions for each client device that supports WPS.

- **WPS button** Use this method if your client device has a WPS button.
  a. Click or press the **WPS** button on the client device.
  b. Click the **WPS** button on the Device's WPS button.
  The WPS LED flashes for two minutes during the WPS process and lights up when the WPS process is successful.

- **Enter Client Device PIN on Device** Use this method if your client device has a WPS PIN (Personal Identification Number).

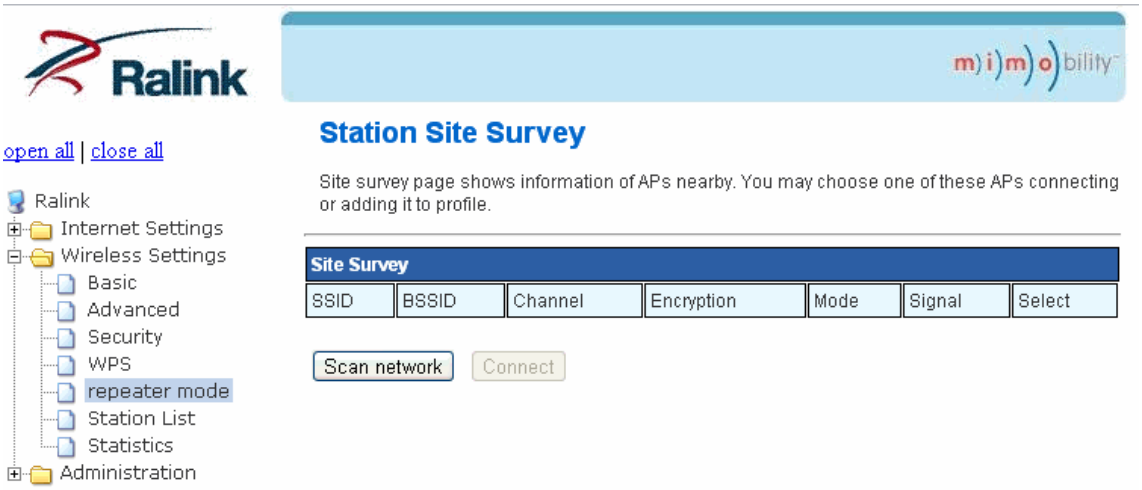
    a. Enter the PIN from the client device in the field on the Device's WPS setup screen.
    b. Click the **Apply** button on the Device's WPS setup screen.

- **Enter Device PIN on Client Device** Use this method if your client device asks for the Device's PIN.
    a. On the client device, enter the PIN listed on the Device's WPS setup screen.
    b. Refer to your client device or its documentation for further instructions.

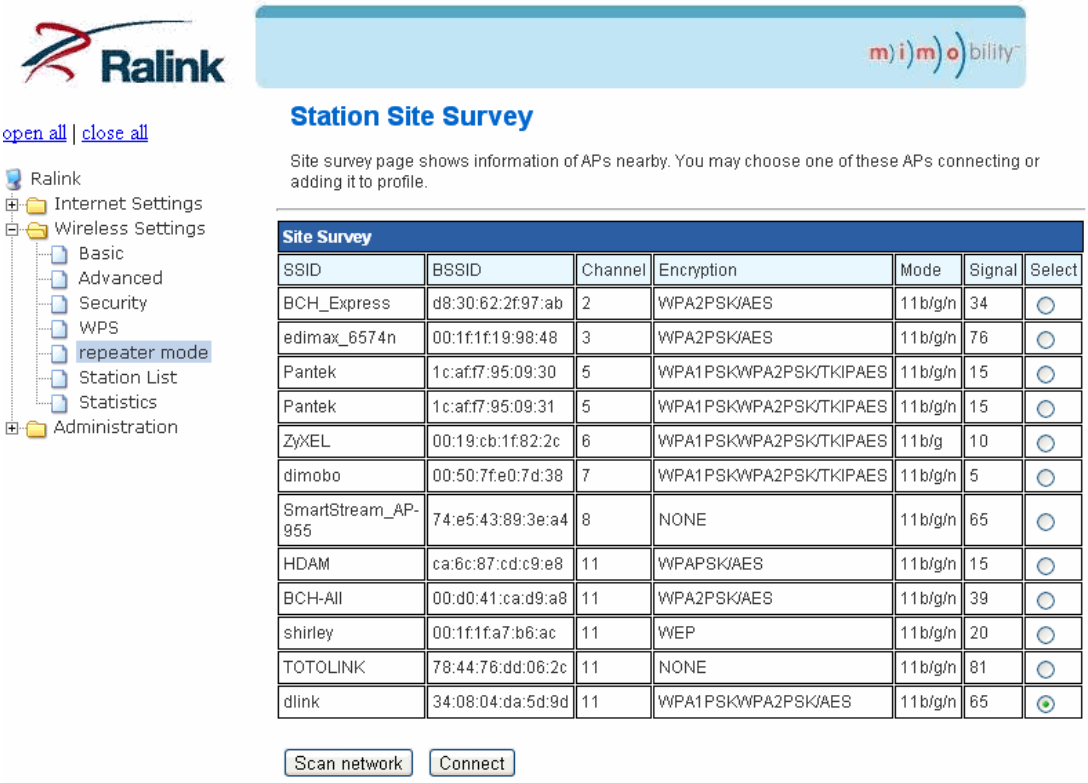
3.5.5 Wireless Settings – repeater mode

You could setup repeater mode and connect to root AP to extend wireless coverage.

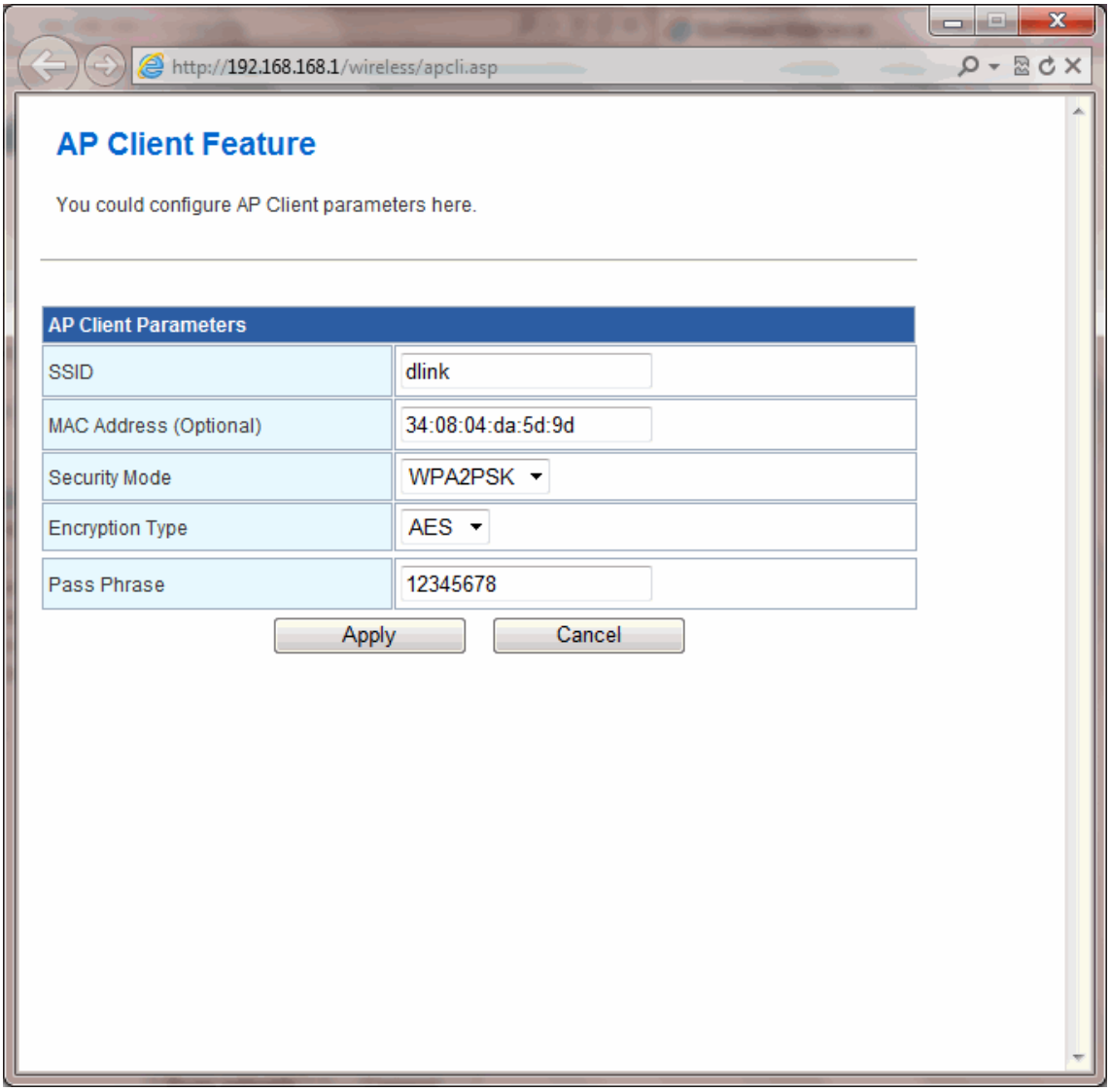
1. Click Scan network button first.



2. Select a root AP and click connect.

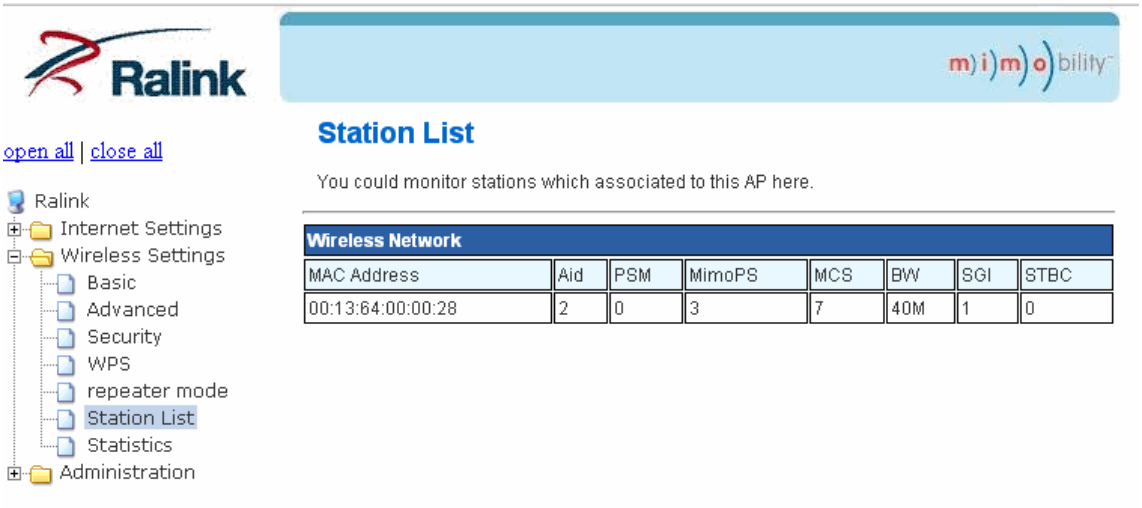


3. Fill in the wireless password of root AP in Pass Phrase and click Apply.



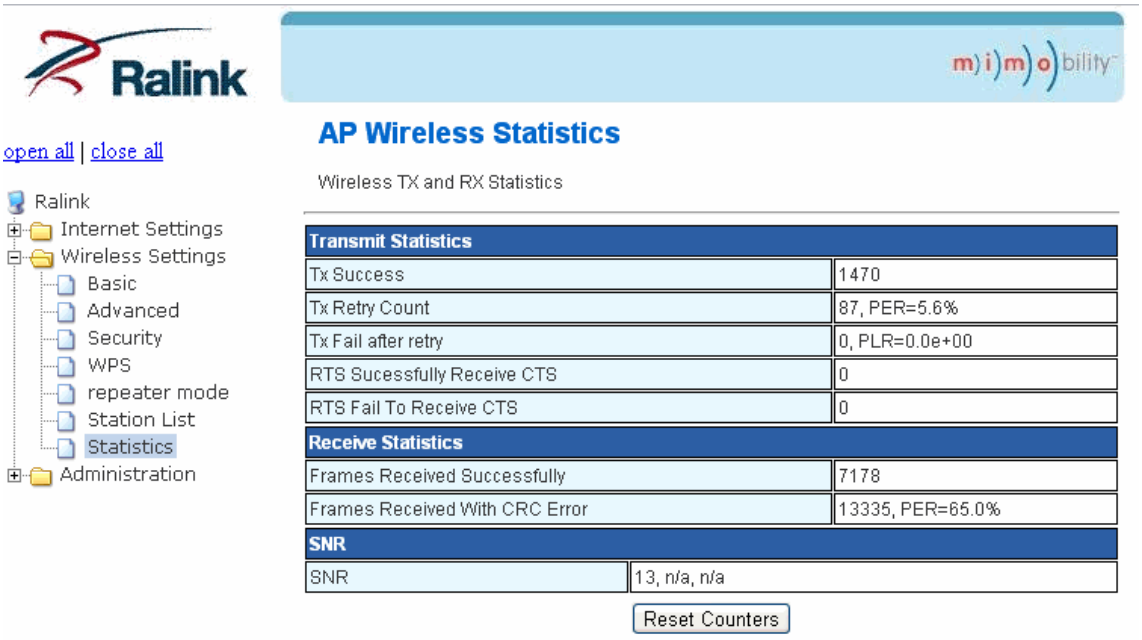
3.5.6 Wireless Settings – Station List

You could monitor stations which associated to the Device here.



3.5.7 Wireless Settings – Statistics

You could monitor wireless TX and RX statistics here.



3.6 Administration

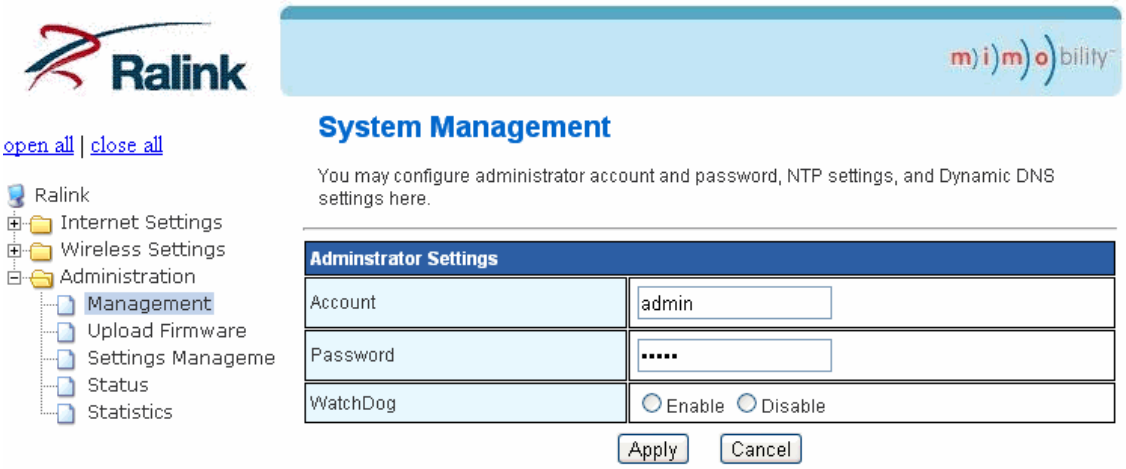
The **Administration** page allows you to manage your device.

You can view Administration link in the left navigation bar. Following are the options available under Management:

- Management
- Upload Firmware
- Settings Management
- Status
- Statistics
- System Command
- System Log

3.6.1 Administration – System Management

You may configure administrator account and password.

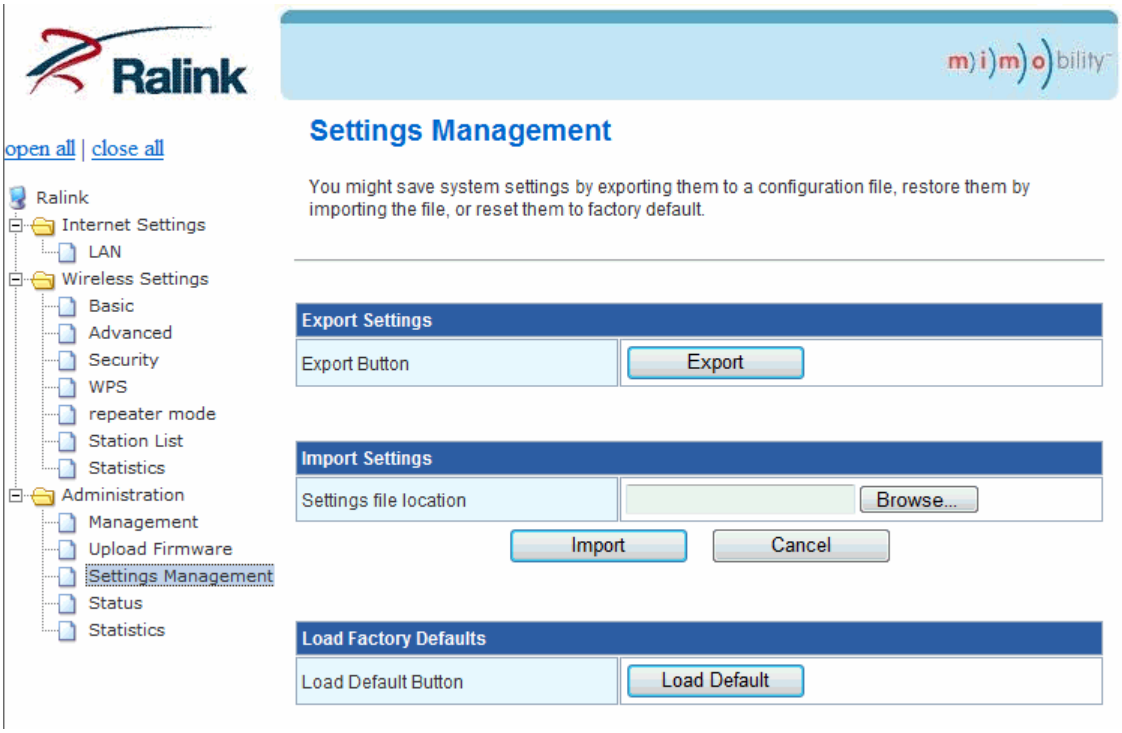


3.6.2 Administration – Upload Firmware

The Upgrade Firmware screen allows you to upgrade the Device's firmware. Do not upgrade the firmware unless you are experiencing problems with the Device or the new firmware has a feature you want to use.

3.6.3 Administration – Settings Management

You might save system settings by exporting them to a configuration file, restore them by importing the file, or reset them to factory default.

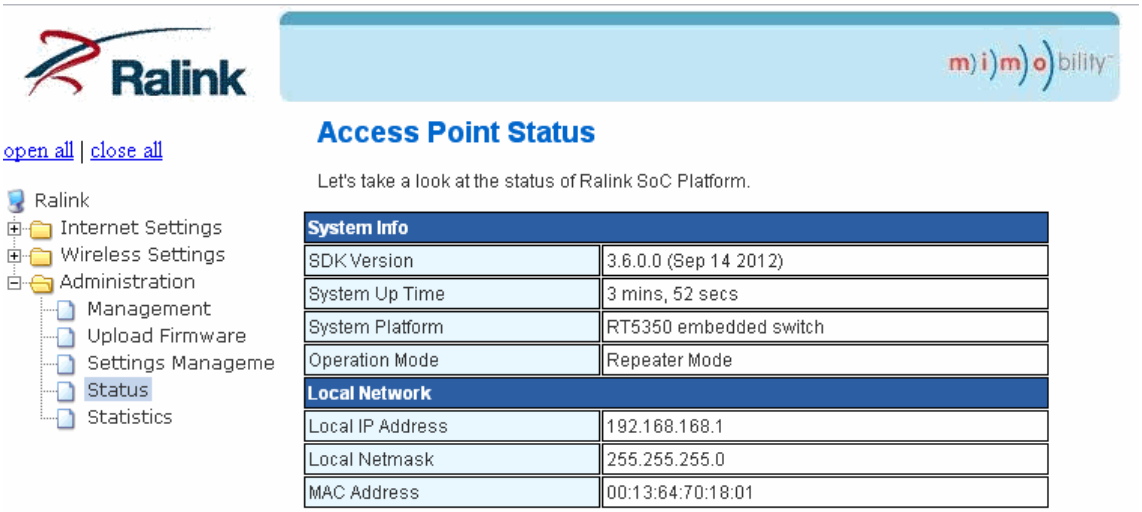


Fields in this page:

Field	Description
Export Settings	
Export Button	Press Export button to export a configuration.
Import Settings	
Settings file location	Click **Browse** button to select a configuration file then click **Import** button to import a configuration file.
Load Factory Defaults	
Load Default Button	Click **Load Default** button to reset to factory default.

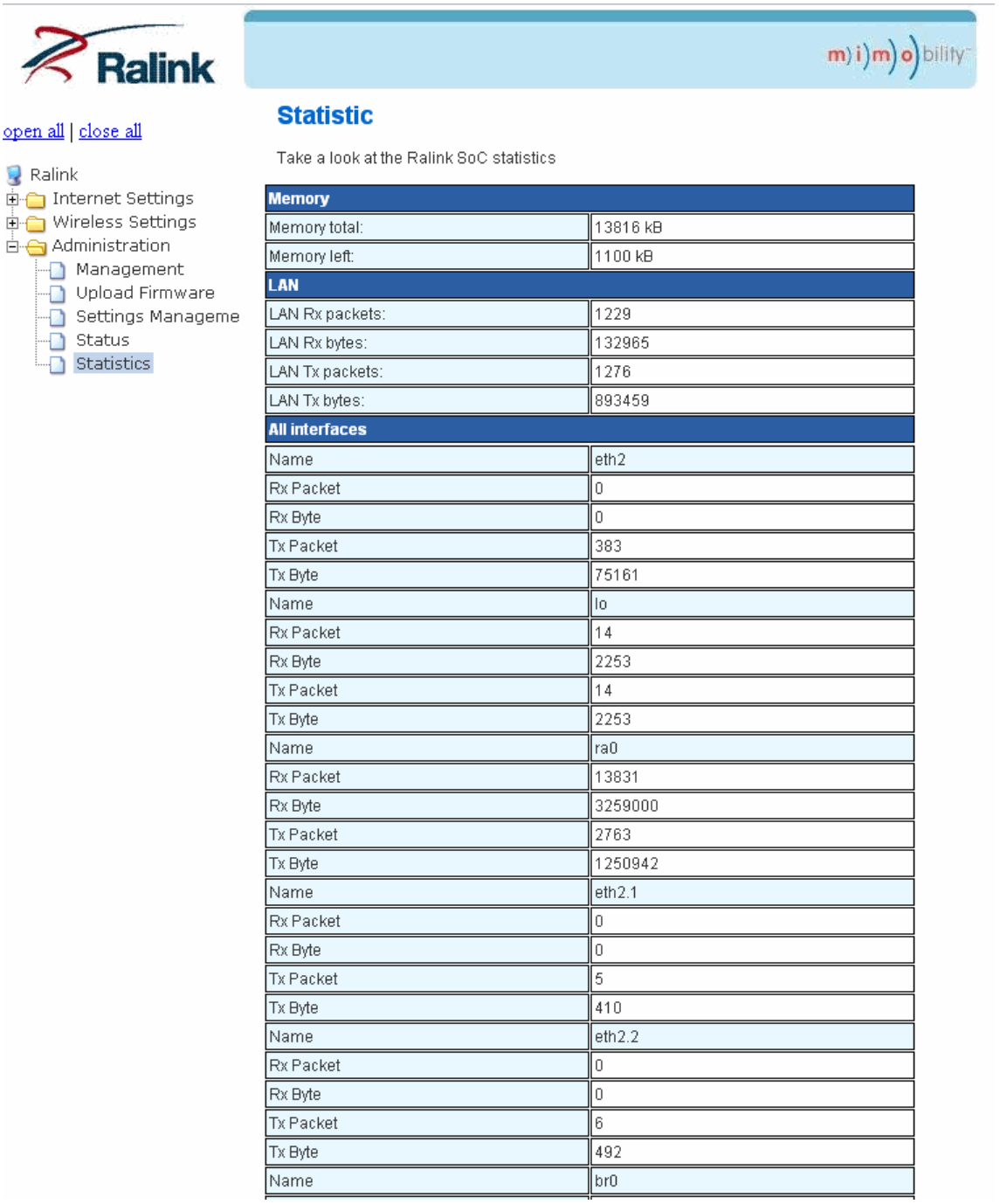
3.6.4 Administration – Status

The Status screen displays information about the Device and its current settings.



3.6.5 Administration – Statistics

Check all statistics for Memory, LAN and All interfaces.



Memory	
Memory total:	13816 kB
Memory left:	1100 kB
LAN	
LAN Rx packets:	1229
LAN Rx bytes:	132965
LAN Tx packets:	1276
LAN Tx bytes:	893459
All interfaces	
Name	eth2
Rx Packet	0
Rx Byte	0
Tx Packet	383
Tx Byte	75161
Name	lo
Rx Packet	14
Rx Byte	2253
Tx Packet	14
Tx Byte	2253
Name	ra0
Rx Packet	13831
Rx Byte	3259000
Tx Packet	2763
Tx Byte	1250942
Name	eth2.1
Rx Packet	0
Rx Byte	0
Tx Packet	5
Tx Byte	410
Name	eth2.2
Rx Packet	0
Rx Byte	0
Tx Packet	6
Tx Byte	492
Name	br0