Server Router

11n Wireless Server Router 3R161N



User Manual Ver.1.0

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E-TOP

Warranty

One-Year Warranty is provided for consumer products. This warranty is subject to the conditions and limitations set forth herein. ("We") warrants and tests the Product to be free from defects in material and workmanship and to conform to published specifications. During the warranty period, should the Product fail under normal use in the recommended environment due to improper workmanship or materials, we will repair the Product or replace it with a comparable one. This warranty is for a specific period of time from the date of purchase. Proof of date of purchase is required. We will inspect the Product and make the decision regarding repair or replacement. We reserve the right to provide a functionally equivalent refurbished replacement Product.

This warranty does not apply to Product failure due to:

- 1. accident, abuse, and mishandling
- 2. any software against product manual
- 3. improper installation
- 4. any unfitted replacement
- 5. over allowable environment
- 6. alteration
- 7. improper usage
- 8. wires or parts oxidized
- 9. for testing usage

FCC Caution

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.

Note: This product will contain two RJ-45 LAN cables with clamp-on type ferrite cores to prevent EMI.

NCC DGT Caution

Article 12

Without permission granted by the DGT, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices.

Article 14

The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved.

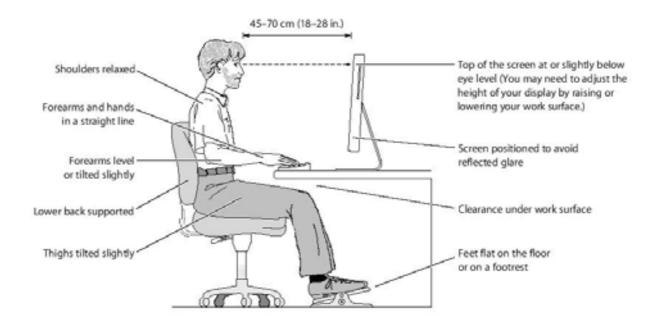
The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Safty sitting posture

You should choose an adjustable chair, comfortable is the key. You should follow the manufacturer's instructions for adjusting the backrest to fit your body properly. Following is the explanation of the picture.

- λ Shoulders relaxed, and forearms and hands in a straight line.
- λ Lower back support and thighs tilted slightly.
- λ Top of the screen at or slightly below eye level.
- λ Screen positioned to avoid reflected glare.
- λ Clearance under work surface.
- λ Feel flat on the floor.
- λ The distance between you and the monitor should be 45~70 cm (18~28 inch).



CE Statement of Conformity

Our product has been tested in typical configuration by Ecam Sertech Corp and was found to comply with the essential requirement of "Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility" (89/336/EEC; 92/31/EEC; 93/68/EEC)

Chapter 1 Introduction

1.1 Overview

The main feature of Server Router is to combine Router \ AP \ WiFi AP three functions in one unit. Users can switch between 3 operation modes by using a switch for different purpose. While several computers are sharing Internet connection, they can use firewall and WEP/WPA/WPS security system to protect network. Server Router is designed for both home and enterprise use, provided with high security, reliability, and easy to operate solutions for network.

1.1.1 Features

 Cautious management: Server Router has cautious settings for Wireless security and firewall. Secure the customer data safety on network also provides a tight management system.

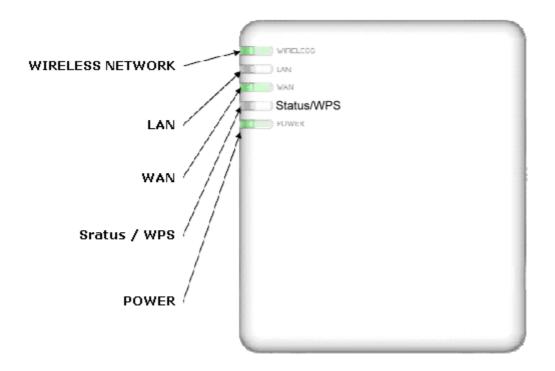
- **Easy to operate**: Server Router has a friendly user interface; it can lead users to finish settings easily and quickly step by step. Users without knowledge of complex network theory can still use higher management functions like Multiple APs.
- Multi-language PC Utility setting interface: Installed on computer. Users
 can easily connect to the network by following the instruction of setup wizard
 step by step. Multi-language interface supports:

Arabic · English · French · German · Italian · Japanese · Korean · Portuguese · Russian · Spanish · Simplified Chinese · Traditional Chinese.

- **USB Device Supports**: Server Router can share files to other users in local area network through Samba service. With a webcam it can become a real-time surveillance tool. Server Router can also become a FTP server by connecting with USB drives.
- One Touch for wireless encryption connection: Server Router has a WPS button; the encryption for wireless network is just need "One Touch".
- Multiple wireless network modes: Server Router provides 3 wireless modes: Router / AP / WiFi AP. It is not just a Server Router; it can also be a bridge or a wireless network card. To base on different conditions, users can switch between 3 operating modes. Multiple mode choices make operation more flexible.

1.2 The LED label

The Front of the Server Router:

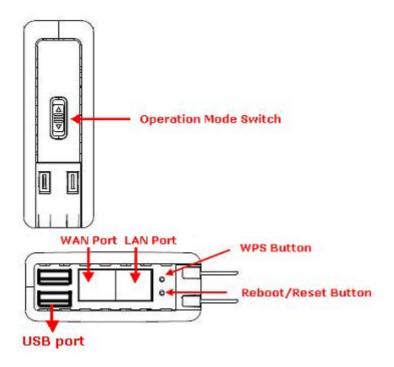


You can use the status lights on the front of the wireless router to verify various conditions:

LED	Function	Color	Status	Description
	WLAN port activity	Green	On	WLAN active
WLAN x 1			Blinking	WLAN data transmit/receive
			30ms	
	LAN port activity	Green	On	Connected at 100Mbps
			Blinking	100Mbps TX/RX Activity
LAN x 1			30ms	
		Green	On	Connected at 10Mbps
			Blinking 120ms	10Mbps TX/RX Activity
	WAN port activity		On	Connected at 100Mbps
WAN x 1			Blinking 30ms	100Mbps TX/RX Activity
WAIVAI		Green	On	Connected at 10Mbps
			Blinking 120ms	10Mbps TX/RX Activity
Status &		Green	Blinking	Green: Reset / Firmware updates
WPS x 1		& Orange	120ms	in progress
				Orange: WPS function start
Power x 1	Power indication	Green	On	Power is being applied to this product

1.3 The Back of the Server Router

The back of the Server Router has the following port connections:



(1.) Operation Mode Switch

Users can switch between Router, AP, and WiFi AP mode.

(2.) LAN port

LAN port is for connecting your PC, printer server, or switch, etc.

(3.) WAN port

WAN port is for connecting to an xDSL or CABLE modem.

(4.) Reset button

This button is for resetting Server Router back to factory default settings. When a user hold the reset button over 5 seconds, everything is back to factory default settings; if user just hold for 1 seconds, this machine will only reboot, not reset to factory default settings.

(5.) USB port

Users can connect with USB thumb drive or webcam.

1.4 Hardware Specifications

The following table provides technical specifications for the Server Router:

Item	Specification			
C	Communication Interfaces			
WAN Port	1 x 10/100 Mbps RJ45, with auto MDI/MDIX			
LAN Port	$1 \times 10/100$ Mbps RJ45, with auto MDI/MDIX			
Wireless	IEEE 802.11n (Chipset onboard)			
Others				
Operation Requirement	Operating Temp. 0° to 40°C (32° to 10°F) Storage Temp20° to 70°C (-4° to 158°F) Operating Humidity 10% to 85% Non-Condensing Storage Humidity 5% to 90% Non-Condensing			
Session	5000			
Antenna	Internal X1			
Peak Gain of the Antenna	2dBi @ 2.45GHz			
Transmitted Power	21.8+-0.5dBm			
Receive Sensitivity	Nominal Temp Range: 11Mbps: 10-5 BER @ -83 dBm, TYP.			
Dimensions	150mm(L) x 150mm(W) x 33mm(H)			
Button	Reboot button / Reset button – hold for 1second to reboot, hold for 5 seconds is to reset. WPS button – When push the WPS button, the system is entering the WPS connection mode.			
Power supply	Adapt AC 100 V ~ 240 V in / DC5V 1.5A output			
Device Weight	TBD			

Note: This product will contain two RJ-45 LAN cables with clamp-on type ferrite cores to prevent EMI.

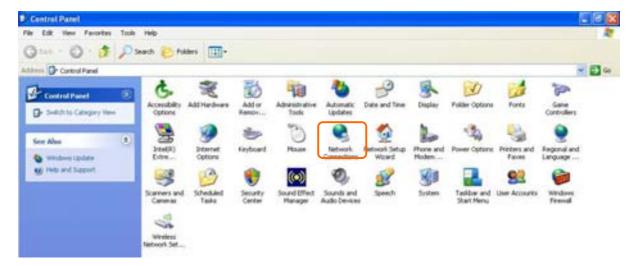
1.5 How to obtain IP address automatically under Windows XP

Please follow the instructions to operate:

(1.) From the **Start** menu, select **Settings**, and then **Control Panel**.



(2.) Double-click **Network Connections**.



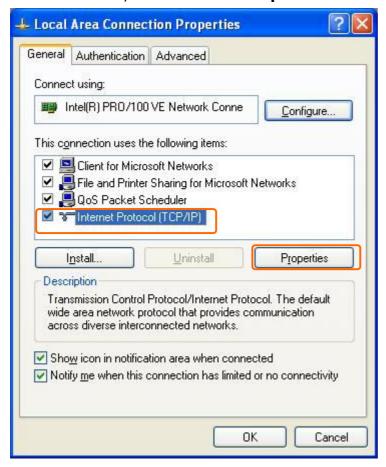
(3.) Double-click Local Area Connection.



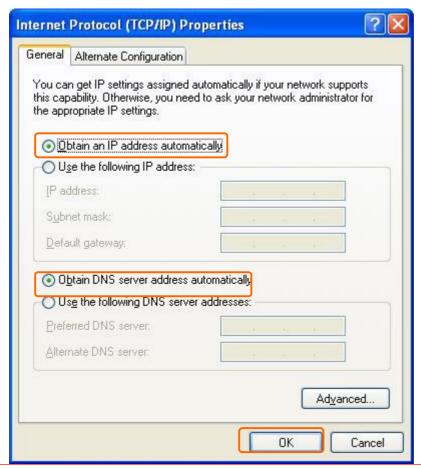
(4.) Please click Properties



(5.) From the **General** tab, click **Internet Protocol (TCP/IP)**, make sure it is checked, and then click **Properties**.



(6.) Please select **Obtain an IP address automatically** and **Obtain a DNS** server address automatically and then click **OK**.



Caution: You must make sure that the IP address your computer obtained is from the Server Router's DHCP server.

Chapter 2 Hardware Setup

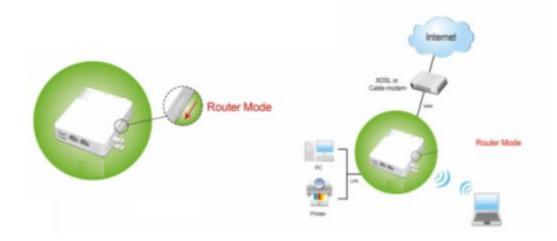
2.1 Figures for Connecting Hardwares to Server Router

The Server Router is an easy to carry and wireless device for business men. It can be used in conference room, holtel, even at hotspots. Server Router is small and light, with various functions; use switch to change mode between router, AP, and Wi-Fi AP mode. Server Router also supports USB devices like webcam, USB thumb drive, printer, and adapter.

Note: Please turn off the power and wait 5 seconds to switch and turn back on.

2.1.1 Hardwares Connection for Router Mode

In router mode, administrator can manage the settings for WAN, LAN, Wireless network, NTP, password, USB drives, user accounts, firewall, QoS, FTP server, webcam, printer server, and SAMBA, etc.



2.1.2 Hardwares Connection for AP Mode

In AP mode, Server Router becomes a bridge to support 1 local area network. Users can use wired way to connect to Server Router. administrator can manage the settings for LAN, Wireless network, NTP, password, USB drives, user accounts, FTP server, webcam, printer server, and SAMBA, etc.



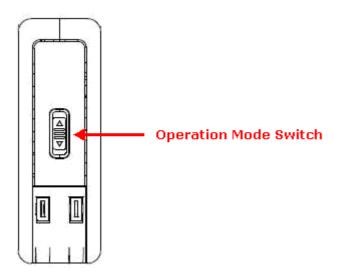
2.1.3 Hardwares Connection for Wi-Fi AP Mode

In Wi-Fi AP mode, Server Router becomes a bridge to support 1 local area network. Users can use wireless way to connect to Server Router. administrator can manage the settings for LAN, Wireless network, NTP, password, USB drives, user accounts, FTP server, webcam, printer server, and SAMBA, etc.

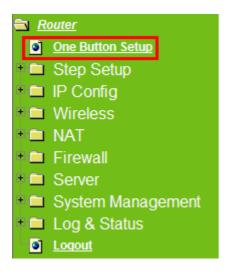


Chapter 3 One Button Setup Configuration

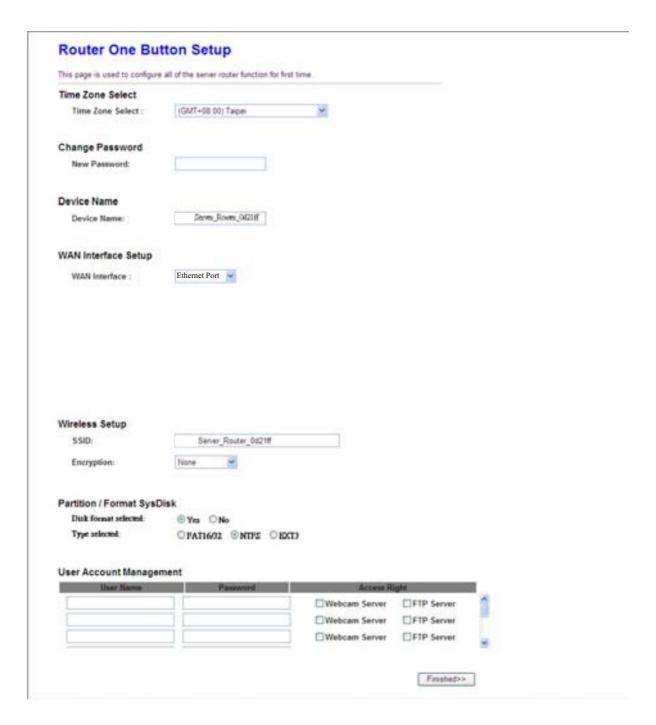
Server Router provide **One Button Setup** function, users can finish settings in a single page. After users switch modes and reboot the machine, they will enter this page to finish configurations.



3.1 One Button Setup configuration for Router Mode



Please select **One Button Setup** in Router Mode.



1. Time Zone Select

Please select the time zone which you are at.

2. Change Password

Please enter the new password.

3. Device Name

Please enter the device name you want to assign to Server Router.

4. WAN Interface Setup

Please choose the interface type.

5. WAN Type Setup

Please choose the access type.

6. Wireless Setup

You can assign the SSID and Encryption type.

7. Partition / Format SysDisk

Users can format or partition their USB drives.

8. User Account Management

Users can create user accounts and their privilege.

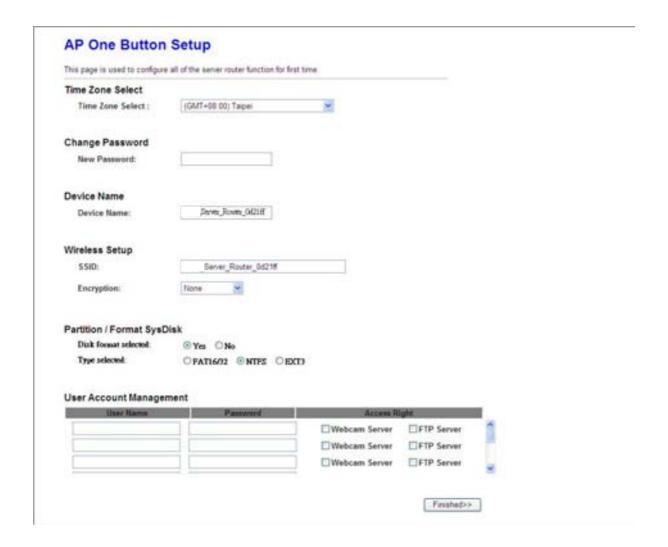
9. Finished

Please click **finished** button to complete the setting.

3.2 One Button Setup configuration for AP Mode



Please select **One Button Setup** in AP Mode.



1. Time Zone Select

Please select the time zone which you are at.

2. Change Password

Please enter the new password.

3. Device Name

Please enter the device name you want to assign to Server Router.

4. Wireless Setup

You can assign the SSID and Encryption type.

5. Partition / Format SysDisk

Users can format or partition their USB drives.

6. User Account Management

Users can create user accounts and their privilege.

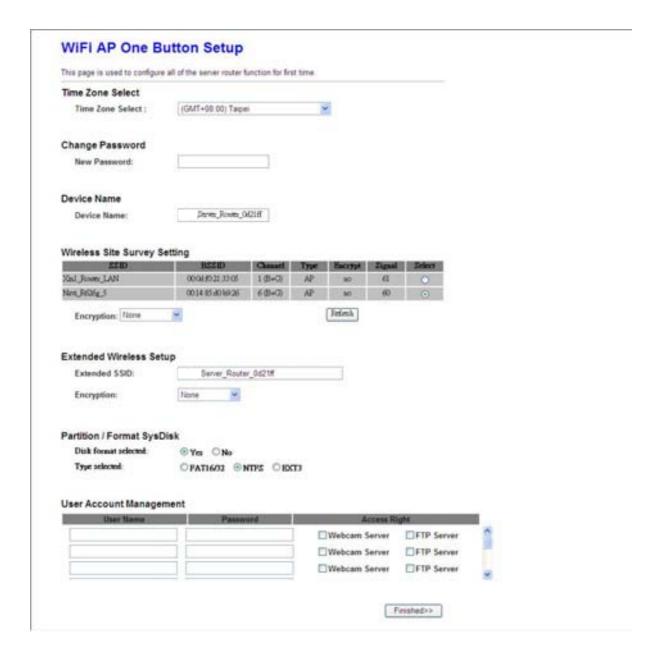
7. Finished

Please click **finished** button to complete the setting.

3.3 One Button Setup configuration for WiFi AP Mode



Please select **One Button Setup** in WiFi AP Mode.



1. Time Zone Select

Please select the time zone which you are at.

2. Change Password

Please enter the new password.

3. Device Name

Please enter the device name you want to assign to Server Router.

4. Wireless Site Survey Setting

Please select wireless network you want to connect and the encryption type.

5. Extended Wireless Setup

You can assign the SSID and Encryption type.

6. Partition / Format SysDisk

Users can format or partition their USB drives.

7. User Account Management

Users can create user accounts and their privilege.

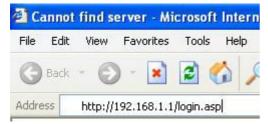
8. Finished

Please click **finished** button to complete the setting.

Chapter 4 Quick Setup for the Server Router

There are two ways to enter Server Router administration page:

1) Please open IE browser and then enter http://192.168.1.1.



Homepage



Please click on "Administrator".

The login page will show up.



Enter username and password, both default are **admin**, then click **login** to enter product main page.

2) The default UPnP of Server Router is ON. When users connect Server Router to their PC, and icon will show up in the right-down corner.



Click the **Internet Gateway Device** to open the login page.



4.1 Router Mode Configuration

Caution: Quick Setup is not completed unless users finish all settings and click **Finished** button.

Server Router combines Router and AP to one, supports wire or wireless connecting type with ISP. It also has NAT and DHCP functions to let multiple computers using network at the same time. Wireless WAN supports Site Survey. BR360 has WPS function for easy and secure establishment of wireless network.

4.1.1 Switch To Router Mode

Server Router has an operation switch. It can let users switch between router, AP, and WiFi AP mode. Users must unplug the Server Router from the power outlet and make sure that the power is off. Switch to Router mode, and plug it back in power outlet.

Caution: Switch mode under power supply will make Server Router crush, and cause internal damage and information lose.

4.2 Quick Setup for Router Mode

Click on Step Setup in the left screen of the main menu. Then you'll see the **Basic** and **Application** selecting screen appears and do the setting for each items.



4.2.1 Time Zone Setup

You can select **Enable NTP client update** to maintain the system time.



4.2.2 LAN Interface Setup

It can let multiple local network computers connect to the Internet at the same time. The default IP address is 192.168.1.1. Please click **Next** after finished entering.



4.2.3 WAN Setup

Server Router supports two interfaces and four access types, users can select the options in this page.



Please click **Next** after finished selecting.

4.2.3.1 WAN Interface- Ethernet Port

If Server Router is connecting to the Internet through Ethernet cable, please select **Ethernet port**.



4.2.3.2 WAN Interface – Wireless

If Server Router is connecting to the Internet through wireless, please select **Wireless**.

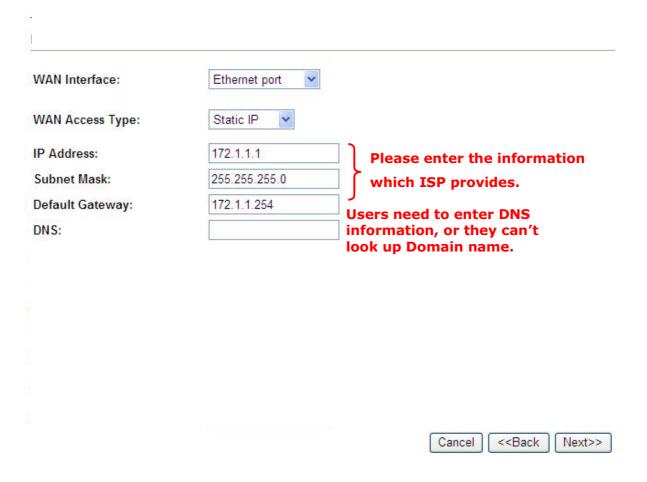


The Wireless network which searched by Server Router will display on this page. Users can select the desired wireless network and Encryption type to connect.

4.2.3.3 WAN Access Type – Static IP

If your ISP provides static IP, and you do not need to enter username and password, please select **Static IP**. Enter the information which ISP provides then click **Next**.

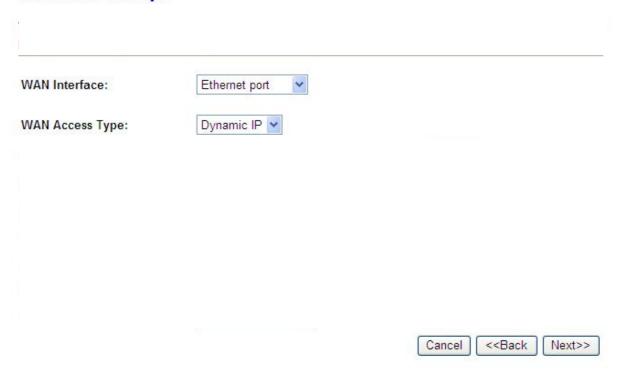
3. WAN Setup



4.2.3.4 WAN Access Type - Dynamic IP

Please select **Dynamic IP** to obtain IP address automatically from your ISP.

3. WAN Setup



Please click **Next** to enter the next page.

4.2.3.5 WAN Access Type - PPPoE

If your Internet service type is PPPoE, please select **PPPoE**. You must input username and password which ISP provides.

3. WAN Setup



Please click **Next** to enter the next page.

4.2.3.6 WAN Access Type - PPTP

If your Internet service type is PPTP, please select **PPTP**. You need to enter username, password, IP address, Subnet Mask, and Server IP address.

3. WAN Setup

WAN Interface:	Ethernet port	
WAN Access Type:	PPTP 💌	
IP Address:	172.1.1.2	
Subnet Mask:	255.255.255.0	
Server IP Address:	All input fields are required.	
User Name:		
Password:		
	Cancel < <back ne<="" td=""><td>xt>></td></back>	xt>>

Please click **Next** to enter the next page.

4.2.4 Wireless Setup

The first step to setup wireless interface is to assign SSID, the default name is **Server_Router**. Please follow the instructions to setup.



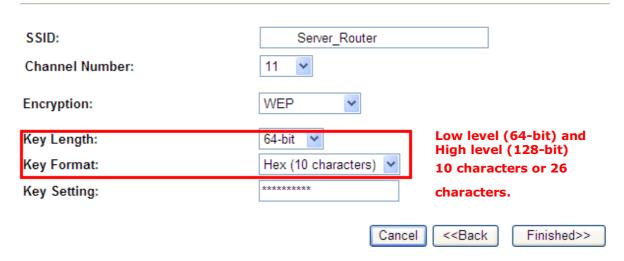
4.2.5 Wireless Security Setup

The Encryption is a free choice option, it has two main types: **WEP** and **WPA**. If you want to protect your transmitting data, you can select it base on the needs. Please follow the instructions to complete wireless security setup.

a. Wireless Security Setup — WEP

5. Wireless Setup

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.



The options in **Key Length** column: 26 Hex characters (0~9, a~f, and A~F). It is decided by the choice of **WEP-64bits** or **WEP-128bits**. E.g.: WEP-64bits key= 10 Hex characters (0~9, a~f, and A~F); WEP-128bits key= 26 Hex characters (0~9, a~f, and A~F); the Key Setting is the password needs to be input after the selections.

- a. Encryption—WEP
- (1.) Key Length: Activate WEP encryption to protect your information from stealing by others. The Server Router supports 64bits and 128bits.
- (2.) Key Format: For 64bits WEP key format, it can include 5 ASCII characters or 10 Hex characters. For 128bits WEP key format, it can include 13 ASCII characters or 26 Hex characters.

*Note: 128 bits – WEP encryption is very safe, but there are other encryptions safer. Please to understand that all wireless devices must have the same WEP key length and format.

b. Wireless Security Setup — WPA (WPA \cdot WPA2 & WPA2 Mixed) WPA (Wi-Fi Protected Access) is a system to protect wireless network security. To prevent hackers, WPA uses TKIP or AES to change key frequently.

Passphrase:

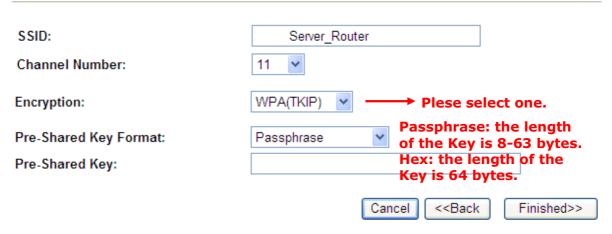
The Pre-Shared Key format is ASCII Code, and the length is 8-63 bytes(at least 8 bytes) $^{\circ}$

Hex:

Users can input 64 Hex bytes($0\sim9$, $a\sim f$, or $A\sim F$) \circ

5. Wireless Setup

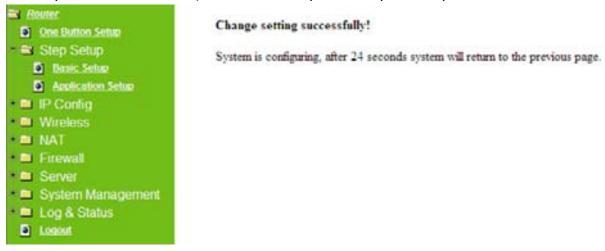
This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.



Please click "Finished" to finish the setup.

4.2.6 Quick Setup Complete

When you see this screen, it means the quick setup is completed.



The system will reboot automatically after users complete the quick setup, then back to setup main page.

Application Setup Selection

 Click "Application" botton to begin setup including Folder Management Setup, User Account Management Setup, FTP Server Setup, Printer Server Setup, Web Camera Setup and Samba Server Setup.

4.2.7 Folder Management

Easy to check all the USB storage devices connected to your Server Router, view

the entire data folder inside each storage devices, and you can do the disk formatting via click on the button in this page.

Folder Management



Please click on "Next" to continue.

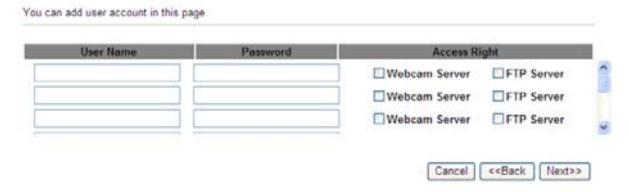
4.2.8 Partition / Format SysDisk

Select the USB Disk and click on "**OK**" button for refresh all disks before you do disk partition, and the "**Unplug**" button will appear. To partition/format the disk, please select the disk and click on "**Format**" button. Moreover, if you want to view the data inside the disk, please go to "4.2.11 FTP Sever Setup" to enable FTP server and then click on "**Disk Explorer**" to view all disks folder inside the device.

4.2.9 User Account Management

Personal users can use each individual application such as My Status, My Webcam and My Document. This section is to set the user's right. Also, all the users right will be showed in User Account List and can do the edit or delete by clicking the meaning text.

User Account Management



Please click on "Next" to continue.

4.2.10 FTP Server

Server Router can be the FTP Server provides users to transmit files, also for the guest can download the files from assign website. Moreover, by connecting USB HDD, USB Flash to the router, user can easily set up a FTP Server to share or download files for local or remote users.

FTP Server

You can enabled or disabled FTP server function in this page.		
Enable FTP Server:	● Enabled	O Disabled
Enable Anonymous to Login:	Enabled	ODisabled
Enable FTP Access from WAN:	Enabled	O Disabled
		Cancel < <back next="">></back>

Please click on "Next" to continue.

4.2.11 Printer Server

Server Router supports printers. Printer Server will be shown as Enable, therefore users can use Printer features from LAN. This function is disabled if there is no printer connecting to Server Router.

Print Server

You can enabled or disabled print server function in this page.

Enable Printer Server:

Enable Access from WAN:

Enabled Disabled

Printer Model:

Printer Name:

Cancel <-Back Next>>

Please click on "Next" to continue.

4.2.12 Webcam Server

If you plan to use the Server Router as a Web Camera site, connect a supported USB Web Camera to the USB port of the Server Router. To enable the webcam server and access from WAN as demand, and the Image format is set to 320X240.

WebCam Server

You can enabled or disabled WebCAM server function in this page.

Enable Webcam:

O Enabled
O Disabled
Access from WAN:
O Enabled
O Disabled
Image format:

320x240

Cancel

Cancel

Cancel

Please click on "Next" to continue.

4.2.13 Samba Server

Support NetBIOS protocol, the consumer sharing file and printer which provides as the My Network Places.

Samba Server

You can enabled or disabled samba server function in this page.		
Enable Samba Server:		
Workgroup Name:		
		Cancel < <back finished="">></back>
Please click on "Finis	shed " to complete settings.	

4.3 AP Mode Configurations

Connect to AP or wired Internet, and then provides wired and wireless internet bridge service for bottom level users. The AP mode doesn't support NAT. The Server Router is simply using Ethernet port to connect to the upper level device and receive the IP address from it. The Server Router will use the default IP address or is defined by users if the upper level device does not give one.

4.3.1 Switch To AP Mode

Server Router has an operation switch. It can let users switch between router, AP, and WiFi AP mode. Users must unplug the Server Router from the power outlet and make sure that the power is off. Switch to AP mode, and plug it back in power outlet.

Caution: Switch mode under power supply will make Server Router crush, and cause internal damage and information lose.

4.4 Quick Setup for AP Mode

Please Click **Next** to enter the next page.



4.4.1 Time Zone Setup

You can select **Enable NTP client update** to maintain the system time.



4.4.2 Wireless Setup

The first step to setup wireless interface is to assign SSID, the default name is **Server_Router**. Please follow the instructions to setup.



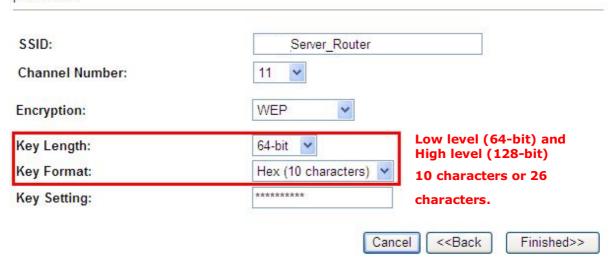
4.4.3 Wireless Security Setup

The Encryption is a free choice option, it has two main types: **WEP** and **WPA**. If you want to protect your transmitting data, you can select it base on the needs. Please follow the instructions to complete wireless security setup.

a. Wireless Security Setup — WEP

2. Wireless Setup

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.



The options in **Key Length** column: 26 Hex characters (0 \sim 9, a \sim f, and A \sim F). It is decided by the choice of **WEP-64bits** or **WEP-128bits**. E.g.: WEP-64bits key= 10 Hex characters (0 \sim 9, a \sim f, and A \sim F); WEP-128bits key= 26 Hex characters (0 \sim 9, a \sim f, and A \sim F); the Key Setting is the password needs to be input after the selections.

- a. Encryption WEP
- (1.) Key Length: Activate WEP encryption to protect your information from stealing by others. The Server Router supports 64bits and 128bits.
- (2.) Key Format: For 64bits WEP key format, it can include 5 ASCII characters or 10 Hex characters. For 128bits WEP key format, it can include 13 ASCII characters or 26 Hex characters.

*Note: 128 bits – WEP encryption is very safe, but there are other encryptions safer. Please to understand that all wireless devices must have the same WEP key

length and format.

b. Wireless Security Setup — WPA (WPA · WPA2 & WPA2 Mixed)

WPA (Wi-Fi Protected Access) is a system to protect wireless network security. To prevent hackers, WPA uses TKIP or AES to change key frequently.

Passphrase:

The Pre-Shared Key format is ASCII Code, and the length is 8-63 bytes(at least 8 bytes) •

Hex:

Users can input 64 Hex bytes(0~9, a~f, or A~F) ∘

2. Wireless Setup

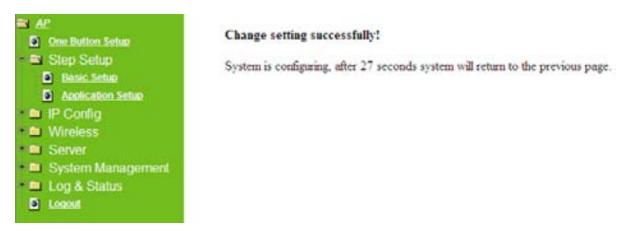
This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.

SSID:	Server_Router
Channel Number:	11
Encryption:	WPA(TKIP)
Pre-Shared Key Format:	Passphrase: the length of
Pre-Shared Key:	the Key is 8-63 bytes. Hex: the length of the Key
	is 64 bytes.
	Cancel < <back finished="">></back>

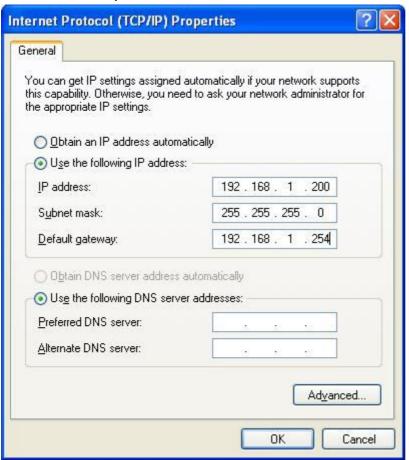
Please click **Finished** to finish the setup.

4.4.4 Quick Setup Complete

When you see this screen, it means the quick setup is completed.



The DHCP is disabled in AP mode. Please setup the static IP address in LAN section after the countdown is finished. The IP address must in the same class with the default Gateway.

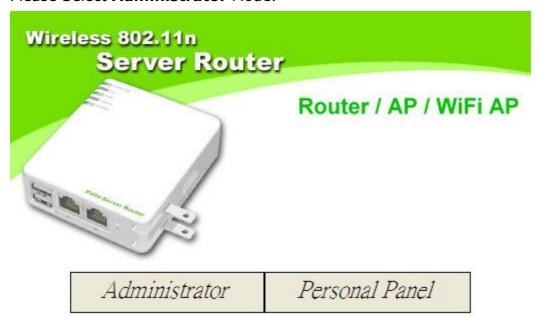


1) Please open IE browser and then enter http://192.168.1.254. (It is the default LAN IP address in AP mode.)

User can go to My Network place and click device icon to enter main page.



Please Select Administrator Mode.



Enter username and password, both default are **admin**, then click **login** to enter product main page.



2) The default UPnP of Server Router is ON. When users connect Server Router to their PC, and icon will show up in the right-down corner.



Click the **Internet Gateway Device** to open the login page.



Enter username and password, both default are **admin**, then click **login** to enter product main page.

Application Setup Selection

 Click "Application" botton to begin setup including Folder Management Setup, User Account Management Setup, FTP Server Setup, Printer Server Setup, Web Camera Setup and Samba Server Setup.

4.4.5 Folder management

Folder Management

Easy to check all the USB storage devices connected to your Server Router, view the entire data folder inside each storage devices, and you can do the disk formatting via click on the button in this page.

You can specify which USB storage to be System Disk. USB Device Name SysDisk Disk TYPE Capacity Free Space Function ● USB A Unknown 63MB 39MB Unplug Disk Explorer Partition / Format SysDisk All existing data and partitions on the HDD will be DESTORYED! Make sure you really need to do this! Disk format selected: ● Yes ○ No TYPE: ○ FAT16/32 ● NTFS ○ EXT3

Please click on "Next" to continue.

4.4.6 Partition / Format SysDisk

Select the USB Disk and click on "**OK**" button for refresh all disks before you do disk partition, and the "**Unplug**" button will appear. To partition/format the disk, please select the disk and click on "**Format**" button. Moreover, if you want to view the data inside the disk, please go to "4.2.11 FTP Sever Setup" to enable FTP server and then click on "**Disk Explorer**" to view all disks folder inside the device.

Cancel

<<Back

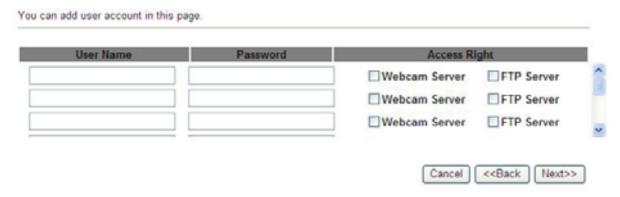
Next>>

4.4.7 User Account Management

Personal users can use each individual application such as My Status, My Webcam and My Document. This section is to set the user's right. Also, all the users right will

be showed in User Account List and can do the edit or delete by clicking the meaning text.

User Account Management



Please click on "Next" to continue.

4.4.8 FTP Server

Server Router can be the FTP Server provides users to transmit files, also for the guest can download the files from assign website. Moreover, by connecting USB HDD, USB Flash to the router, user can easily set up a FTP Server to share or download files for local or remote users.

FTP Server

You can enabled or disabled FTP server function in this page.		
Enable FTP Server:	• Enabled	O Disabled
Enable Anonymous to Login:	⊙ Enabled	O Disabled
		Cancel < <back next="">></back>

Please click on "Next" to continue.

4.4.9 Printer Server

Server Router supports printers. Printer Server will be shown as Enable, therefore users can use Printer features from LAN. This function is disabled if there is no printer connecting to Server Router.

Print Server

You can enabled or disabled print server function in this page.

Enable Printer Server:

Printer Model:

Printer Name:

Cancel <<Back Next>>

Please click on "Next" to continue.

4.4.10 Web Camera

If you plan to use the Server Router as a Web Camera site, connect a supported USB Web Camera to the USB port of the Server Router. To enable the webcam server and access from WAN as demand, and the Image format is set to 320X240.

WebCam Server You can enabled or disabled WebCAM server function in this page. Enable Webcam: Image format: O Disabled Server function in this page. Cancel Cancel

Please click on "Next" to continue.

4.4.11 Samba Server

Support NetBIOS protocol, the consumer sharing file and printer which provides as the My Network Places.

Samba Server You can enabled or disabled samba server function in this page. Enable Samba Server: Workgroup Name: Cancel << Back Finished>>

Please click on "**Finished**" to complete settings.

4.5 WiFi AP Mode Configuration

Connect to AP or wired Internet by using wireless function, and then provides wired and wireless internet bridge service for bottom level users. The AP mode doesn't support NAT. The Server Router is simply using Ethernet port to connect to the upper level device and receive the IP address from it. The Server Router will use the default IP address or is defined by users if the upper level device does not give one.

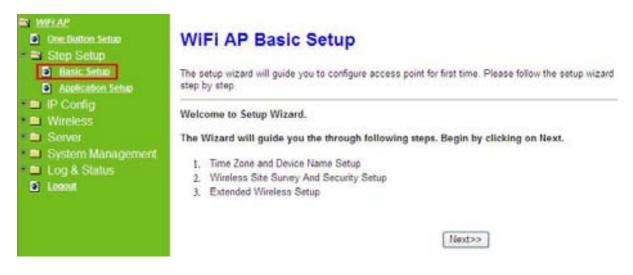
4.5.1 Switch To WiFi AP Mode

Server Router has an operation switch. It can let users switch between router, AP, and WiFi AP mode. Users must unplug the Server Router from the power outlet and make sure that the power is off. Switch to WiFi AP mode, and plug it back in power outlet.

Caution: Switch mode under power supply will make Server Router crush, and cause internal damage and information lose.

4.6 Quick Setup for WiFi AP Mode

Please Click **Next** to enter the next page.



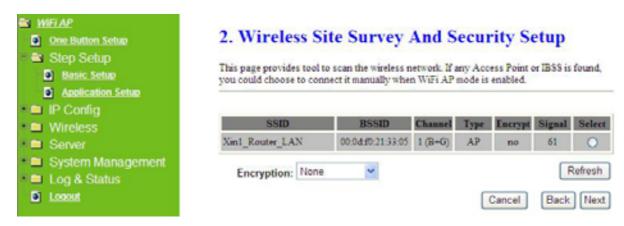
4.6.1 Time Zone Setup

You can select **Enable NTP client update** to maintain the system time.



4.6.2 Wireless Site Survey And Security Setup

This function provides users to search the existing wireless network, AP, or Wireless AP from ISP. You can select the service manually. After selecting the designed AP, the device name will appear on **Wireless Basic Setup** page. Please follow the instructions.



You can select the desired AP to connect and data encryption type. Click the **Refresh** button will refresh the list.

4.6.3 Wireless Security Setup

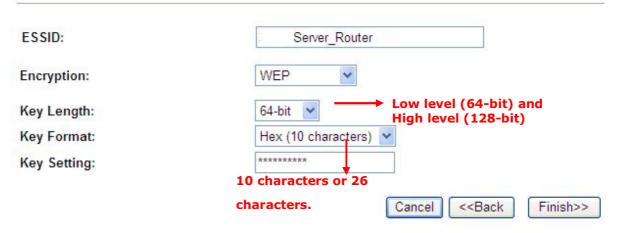
The Encryption is a free choice option, it has two main types: **WEP** and **WPA**. If you want to protect your transmitting data, you can select it base on the needs. Please follow the instructions to complete wireless security setup.



a. Wireless Security Setup — WEP

3. Extended Wireless Setup

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.



The options in **Key Length** column: 26 Hex characters (0~9, a~f, and A~F). It is decided by the choice of **WEP-64bits** or **WEP-128bits**. E.g.: WEP-64bits key= 10 Hex characters (0~9, a~f, and A~F); WEP-128bits key= 26 Hex characters (0~9, a~f, and A~F); the Key Setting is the password needs to be input after the selections.

- a. Encryption WEP
- (1.) Key Length: Activate WEP encryption to protect your information from stealing by others. The Server Router supports 64bits and 128bits.
- (2.) Key Format: For 64bits WEP key format, it can include 5 ASCII characters or 10 Hex characters. For 128bits WEP key format, it can include 13 ASCII characters or 26 Hex characters.
- *Note: 128 bits WEP encryption is very safe, but there are other encryptions safer. Please to understand that all wireless devices must have the same WEP key length and format.
- b. Wireless Security Setup WPA (WPA \cdot WPA2 & WPA2 Mixed) WPA (Wi-Fi Protected Access) is a system to protect wireless network security. To prevent hackers, WPA uses TKIP or AES to change key frequently.

Passphrase:

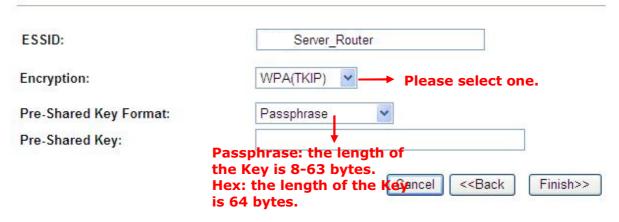
The Pre-Shared Key format is ASCII Code, and the length is 8-63 bytes(at least 8 bytes) $^{\circ}$

Hex:

Users can input 64 Hex bytes(0~9, a~f, or A~F) ∘

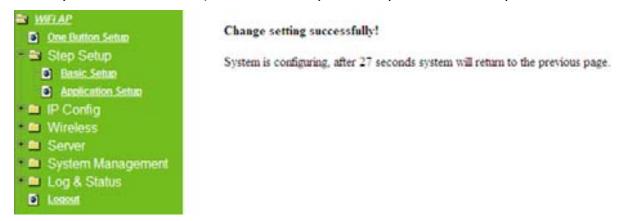
3. Extended Wireless Setup

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.



4.6.4 Quick Setup Complete

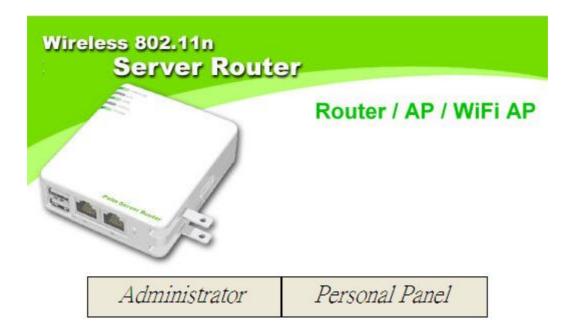
When you see this screen, it means the quick setup is almost completed.



User can go to My Network place and click device icon to enter main page.



Please select "Administrator" to enter.



The login page will show up, please enter the username and password. The default values for both are **admin**. Click **Login** to enter the main page.



2) The default UPnP of Server Router is ON. When users connect Server Router to their PC, and icon will show up in the right-down corner.





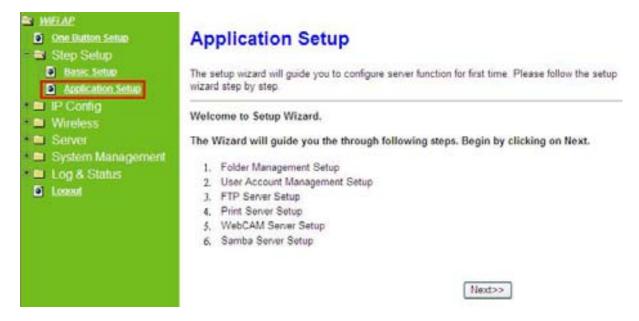
Click the **Internet Gateway Device** to open the login page.



Enter username and password, both default are **admin**, then click **login** to enter product main page.

Application Setup Selection

 Click "Application" botton to begin setup including Folder Management Setup, User Account Management Setup, FTP Server Setup, Printer Server Setup, Web Camera Setup and Samba Server Setup.



4.6.5 Folder Managemet

Easy to check all the USB storage devices connected to your Server Router, view the entire data folder inside each storage devices, and you can do the disk formatting via click on the button in this page.

Folder Management



4.6.6 Partition / Format SysDisk

Select the USB Disk and click on "**OK**" button for refresh all disks before you do disk partition, and the "**Unplug**" button will appear. To partition/format the disk, please select the disk and click on "**Format**" button. Moreover, if you want to view the

data inside the disk, please go to "4.2.11 FTP Sever Setup" to enable FTP server and then click on "**Disk Explorer**" to view all disks folder inside the device.

4.6.7 User Account Management

Personal users can use each individual application such as My Status, My Webcam and My Document. This section is to set the user's right. Also, all the users right will be showed in User Account List and can do the edit or delete by clicking the meaning text.

User Account Management You can add user account in this page.

er Name	Password	Access R	Access Right	
		■ Webcam Server	FTP Server	
		■ Webcam Server	FTP Server	
		■ Webcam Server	FTP Server	

4.6.8 FTP Server

Server Router can be the FTP Server provides users to transmit files, also for the guest can download the files from assign website. Moreover, by connecting USB HDD, USB Flash to the router, user can easily set up a FTP Server to share or download files for local or remote users.

FTP Server

You can enabled or disabled FTP server function in this page.		
Enable FTP Server:	• Enabled	O Disabled
Enable Anonymous to Login:	© Enabled	O Disabled
		Cancel < <back next="">></back>

4.6.9 Printer Server

Server Router supports printers. Printer Server will be shown as Enable, therefore users can use Printer features from LAN. This function is disabled if there is no printer connecting to Server Router.

Print Server You can enabled or disabled print server function in this page. Enable Printer Server: ● Enabled ○ Disabled Printer Model: hp deskjet 1180c Printer Name: <<Back Next>> Cancel 4.6.10 Web Camera If you plan to use the Server Router as a Web Camera site, connect a supported USB Web Camera to the USB port of the Server Router. To enable the webcam server and access from WAN as demand, and the Image format is set to 320X240. WebCam Server You can enabled or disabled WebCAM server function in this page. Enable Webcam: ● Enabled ○ Disabled 320x240 Image format: <<Back Cancel Next>>

4.6.11 Samba Server

Support NetBIOS protocol, the consumer sharing file and printer which provides as the My Network Places.

Samba Server

You can enabled or disabled samba server function in this page. Enable Samba Server: Enabled Disabled Workgroup Name: Cancel <<Back Finished>>

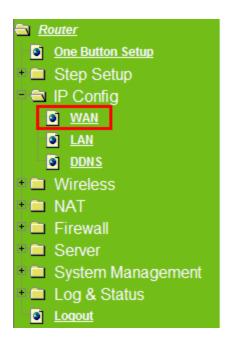
Chapter 5 Advanced Configuration for Router

Mode

5.1 IP Config

This section can let users add route rules of Server Router; it includes configuration of WAN, LAN, and DDNS.

5.1.1 WAN Interface Setup



Please select WAN Interface to configure, it includes 2 interface selections (Ethernet and Wireless) and 4 access types (Static IP, Dynamic IP, PPPoE, and PPTP); please follow the instructions to configure.

5.1.1.1 WAN Interface – Ethernet Port

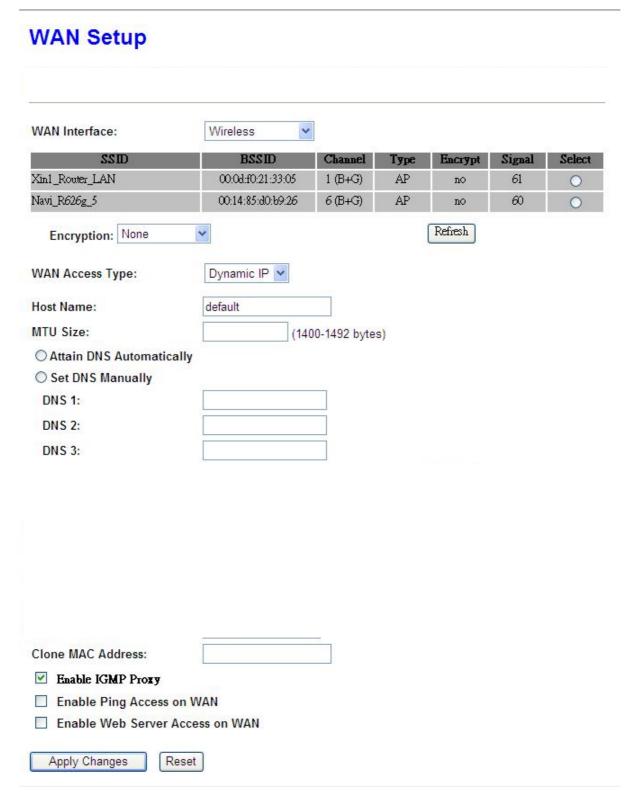
If your Server Router is connecting to the Internet through the Ethernet cable, please select **Ethernet port** interface.

WAN Interface: Ethernet port WAN Access Type: Dynamic IP V **Host Name:** default MTU Size: (1400-1492 bytes) O Attain DNS Automatically O Set DNS Manually DNS 1: DNS 2: DNS 3: Clone MAC Address: ☑ Enable IGMP Proxy ■ Enable Ping Access on WAN ■ Enable Web Server Access on WAN Apply Changes Reset

5.1.1.2 WAN Interface – Wireless

WAN Setup

If your Server Router is connecting to the Internet through wireless, please select **Wireless** interface.



The Wireless network which searched by Server Router will display on this page. Users can select the desired wireless network and Encryption type to connect.

5.1.1.3 Static IP

If your WAN access type is Static IP, please complete the settings as following instructions.

WAN Setup		
WAN Interface:	Ethernet port	
WAN Access Type:	Static IP 💌	
IP Address:		
Subnet Mask:		
Default Gateway:		
MTU Size:	(1400-1500 bytes)	
OAttain DNS Automatica		
O Set DNS Manually		
DNS 1:		
DNS 2:		
DNS 3:		
Clone MAC Address:		
Enable IGMP Proxy		
Enable Ping Access of	n WAN	
Enable Web Server A	ccess on WAN	
Apply Changes Re	set	

1. IP Address

Please enter your IP address. If you don't know the address, please contact your ISP.

2. Subnet Mask

Please enter the Subnet Mask address; it should be 255.255.255.0 for the most time.

3. Default Gateway

Please enter the Default Gateway address. If you don't know the address, please contact your ISP.

4. MTU Size

The term **Maximum transmission unit** refers to the size (in bytes) of the largest PDU that a given layer of a communications protocol can pass onwards. Users can improve network efficiency by adjusting the value of MTU. Most of OS will give users a default value which is fit for most of users. Users can modify this value also. Please enter value, max number is 1500 bytes.

5. DNS

If ISP provides DNS information, please select **Attain DNS automatically**. Or you should select **Set DNS Manually**, and then input the DNS address.

6. Clone MAC Address

If your ISP asks you to enter a specific MAC Address, please input the correct info at the column.

7. Enable IGMP Proxy

The **Internet Group Management Protocol** (**IGMP**) is a communication protocol used to manage the membership of Internet Protocol multicast groups. IGMP is used by IP hosts and adjacent multicast routers to establish multicast group memberships. You can choose to enable **IGMP Proxy** to provide service.

8. Enable Ping Access on WAN

When users enable **Enable Ping Access on WAN**, it will make WAN IP address response to any ping request from Internet users. It is a common way for hacker to ping public WAN IP address, to see is there any WAN IP address available.

9. Enable Web Server Access on WAN

This option is to enable Web Server Access function on WAN.

10. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.1.1.4 Dynamic IP

If your WAN access type is Dynamic IP, please complete the settings as following

WAN Setup

VAN Interface:	Ethernet port
VAN Access Type:	Dynamic IP 💌
lost Name:	default
ITU Size:	(1400-1492 bytes)
Attain DNS Automatic	ally
Set DNS Manually	
DNS 1:	
DNS 2:	
DNS 3:	
Clone MAC Address:	
	on WAN

1. Host Name

Host name is optional for users. If your ISP requests users to input a specific host name, please input it in this section.

2. MTU Size

The term **Maximum transmission unit** refers to the size (in bytes) of the largest PDU that a given layer of a communications protocol can pass onwards. Users can improve network efficiency by adjusting the value of MTU. Most of OS will give users a default value which is fit for most of users. Users can modify

this value also. Please enter value, max number is 1492 bytes.

3. DNS

If ISP provides DNS information, please select **Attain DNS automatically**. Or you should select **Set DNS Manually**, and then input the DNS address.

4. Clone MAC Address

If your ISP asks you to enter a specific MAC Address, please input the correct info at the column.

5. Enable IGMP Proxy

The **Internet Group Management Protocol** (**IGMP**) is a communications protocol used to manage the membership of Internet Protocol multicast groups. IGMP is used by IP hosts and adjacent multicast routers to establish multicast group memberships. You can choose to enable **IGMP Proxy** to provide service.

6. Enable Ping Access on WAN

When users enable **Enable Ping Access on WAN**, it will make WAN IP address response to any ping request from Internet users. It is a common way for hacker to ping public WAN IP address, to see is there any WAN IP address available.

7. Enable Web Server Access on WAN

This option is to enable Web Server Access function on WAN.

8. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.1.1.5 **PPPoE**

If your WAN access type is PPPoE, please complete the settings as following instructions.

WAN Setup

17	
WAN Interface:	Ethernet port
WAN Access Type:	PPPoE 💌
User Name:	
Password:	
Service Name:	
Connection Type:	Continuous Connect Disconnect
Idle Time:	(1-1000 minutes)
MTU Size:	(1360-1492 bytes)
O Attain DNS Automatic	cally
O Set DNS Manually	
DNS 1:	
DNS 2:	
DNS 3:	
Clone MAC Address:	
☑ Enable IGMP Proxy	
Enable Ping Access	on WAN
Enable Web Server	Access on WAN
Apply Changes	Reset

1. User Name

Please enter the username provided by your ISP. If you don't have it, please contact your ISP.

2. Password

Please enter the password provided by your ISP. If you don't have it, please

contact your ISP.

3. Service Name

Please enter the service name provided by your ISP. If you don't have it, please contact your ISP.

4. Connection Type

It has three types: Continuous, Connect on Demand, and Manual.

5. Idle Time

Users can input the max unused time here.

6. MTU Size

The term **Maximum transmission unit** refers to the size (in bytes) of the largest PDU that a given layer of a communications protocol can pass onwards. Users can improve network efficiency by adjusting the value of MTU. Most of OS will give users a default value which is fit for most of users. Users can modify this value also. Please enter value, max number is 1492 bytes.

7. DNS

If ISP provides DNS information, please select **Attain DNS automatically**. Or you should select **Set DNS Manually**, and then input the DNS address.

8. Clone MAC Address

If your ISP asks you to enter a specific MAC Address, please input the correct info at the column.

9. Enable IGMP Proxy

The **Internet Group Management Protocol** (**IGMP**) is a communications protocol used to manage the membership of Internet Protocol multicast groups. IGMP is used by IP hosts and adjacent multicast routers to establish multicast group memberships. You can choose to enable **IGMP Proxy** to provide service.

10. Enable Ping Access on WAN

When users enable **Enable Ping Access on WAN**, it will make WAN IP address response to any ping request from Internet users. It is a common way for hacker to ping public WAN IP address, to see is there any WAN IP address available.

11. Enable Web Server Access on WAN

This option is to enable Web Server Access function on WAN.

12. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.1.1.6 PPTP

If your WAN access type is PPTP, please complete the settings as following instructions.

WAN Interface:	Ethernet port
WAN Access Type:	PPTP
IP Address:	
Subnet Mask:	
Server IP Address:	
User Name:	
Password:	
MTU Size:	(1400-1460 bytes)
Request MPPE Encry	ption
OAttain DNS Automatica	ally
O Set DNS Manually	
DNS 1:	
DNS 2:	
DNS 3:	
Clone MAC Address:	
 ✓ Enable IGMP Proxy ☐ Enable Ping Access 	

1. IP Address

Please enter your IP address. If you don't know the address, please contact your ISP.

2. Subnet Mask

Please enter the Subnet Mask address; it should be 255.255.255.0 for the most time.

3. Server IP Address

Please enter the server IP address. If you don't know the address, please contact your ISP.

4. User Name

Please enter the username provided by your ISP. If you don't have it, please contact your ISP.

5. Password

Please enter the password provided by your ISP. If you don't have it, please contact your ISP.

6. MTU Size

The term **Maximum transmission unit** refers to the size (in bytes) of the largest PDU that a given layer of a communications protocol can pass onwards. Users can improve network efficiency by adjusting the value of MTU. Most of OS will give users a default value which is fit for most of users. Users can modify this value also. Please enter value, max number is 1492 bytes.

7. Request MPPE Encryption

MPPE uses the RSA RC4 algorithm to provide data confidentiality. The length of the session key to be used for initializing encryption tables can be negotiated. MPPE currently supports 40-bit, 56-bit, and 128-bit session keys. It can be changed frequently to protect network security. This function is optional.

8. DNS

If ISP provides DNS information, please select **Attain DNS automatically**. Or you should select **Set DNS Manually**, and then input the DNS address.

9. Clone MAC Address

If your ISP asks you to enter a specific MAC Address, please input the correct info at the column.

10. Enable IGMP Proxy

The **Internet Group Management Protocol** (**IGMP**) is a communications protocol used to manage the membership of Internet Protocol multicast groups. IGMP is used by IP hosts and adjacent multicast routers to establish multicast group memberships. You can choose to enable **IGMP Proxy** to

provide service.

11. Enable Ping Access on WAN

When users enable **Enable Ping Access on WAN**, it will make WAN IP address response to any ping request from Internet users. It is a common way for hacker to ping public WAN IP address, to see is there any WAN IP address available.

12. Enable Web Server Access on WAN

This option is to enable Web Server Access function on WAN.

13. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.1.2 LAN Interface Setup

This page is used to configure for local area network which connects to the LAN port of your Access Point. Here users may change the setting for IP address, Subnet Mask, DHCP, etc.

LAN Interface Setup

This page is used to configure the parameters for local area network which connects to the LAN port of your Access Point. Here you may change the setting for IP addresss, subnet mask, DHCP, etc..

Device Name:	Server_Router_
IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
Default Gateway:	0.0.0.0
DHCP:	Server 💌
OHCP Client Range:	192.168.1.100 - 192.168.1.200 Show Client
802.1d Spanning Tree:	Disabled 💌
Clone MAC Address:	00000000000

1. IP Address

The default IP address is **192.168.1.1** (recommend).

2. Subnet Mask

Please enter the Subnet Mask address; it should be **255.255.255.0** for the most time.

3. Default Gateway

Please enter the Default Gateway address. If you don't know the address, please contact your ISP.

4. DHCP

Users can choose to enable DHCP service or not. The DHCP server will give an unused IP address to a computer which is requesting for one. That computer must be a DHCP client, and then it can obtain an IP address automatically.

5. DHCP Client Range

The default value is 192.168.1.100 - 192.168.1.200. The DHCP server will assign an IP to a computer from this range. The **Show Client** will display every assigned IP address, MAC address, and expired time.

6. 802.1d Spanning Tree

IEEE 802.1d **Spanning Tree Protocol** (**STP**) is a link layer network protocol that ensures a loop-free topology for any bridged LAN, This function is optional.

7. Clone MAC Address

If your ISP asks you to enter a specific MAC Address, please input the correct info at the column.

8. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.1.3 Dynamic DNS Setting

Dynamic DNS provides users with DNS service that automates the discovery and registration of client's public IP addresses. The DDNS Providers in Server Router are DynDNS (http://www.dyndns.com), TZO (http://www.dyndns.org), ChangeIP, Eurodns, OVH, NO-IP, ODS, Regfish.

Dynamic DNS Setting

Dynamic DNS is a service, that provides you with a valid, unchanging, internet domain name (an URL) to go with that (possibly everchanging) IP-address.

☐ Enable DDNS → Please Service Provider:	choose to enable it or not.
Domain Name : host.dyndns.org	Please select Service Provider
User Name/Email:	for DDNS
Password/Key:	
Note: For TZO, you can have a 30 days free t For DynDNS, you can create your DynD	trial <u>here or manage your TZO account in control panel</u> NS account <u>here</u>
Apply Changes Reset	

Please enter **Domain Name**, **User Name/Email**, and **Password/Key**. After entering, click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.2 Wireless Setup

The category includes **Basic Settings**, **Advanced Settings**, **Security**, **Access Control**, **WDS settings**, and **WPS**. Please read below for the setting instruction.



5.2.1 Wireless Basic Settings

The basic settings related to the wireless are specified as following.

Wireless Basic Settings

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters.

☐ Disable Wireless	LAN Interface
Band:	
Mode:	AP Multiple AP
Network Type:	Infrastructure 🕶
SSID:	Server_Router
Channel Width:	40MHz 🕶
Control Sideband:	Upper 🗸
Channel Number:	
Broadcast SSID:	Disabled 💌
WMM:	Enabled V
Data Rate:	Auto 🗸
Associated Clients:	Show Active Clients
☐ Enable Mac Clor	ne (Single Ethernet Client)
☐ Enable Universa	l Repeater Mode (Acting as AP and client simultaneouly)
SSID of Extended Inte	rface:
Apply Changes	Reset

1. Disable Wireless LAN Interface

Turn off the wireless function.

2. Band

Please select the frequency. It has 6 options:

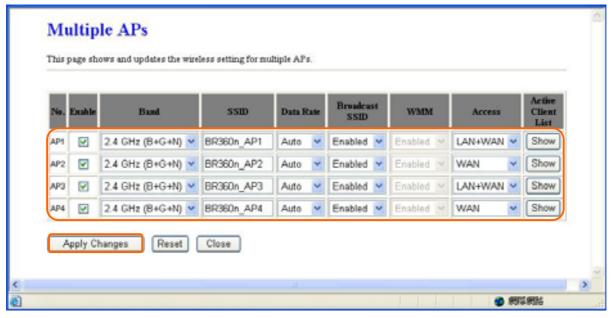
2.4 GHz (B/G/N/B+G/G+N/B+G+N).

3. Mode

Please select the mode. It has 3 modes to select:

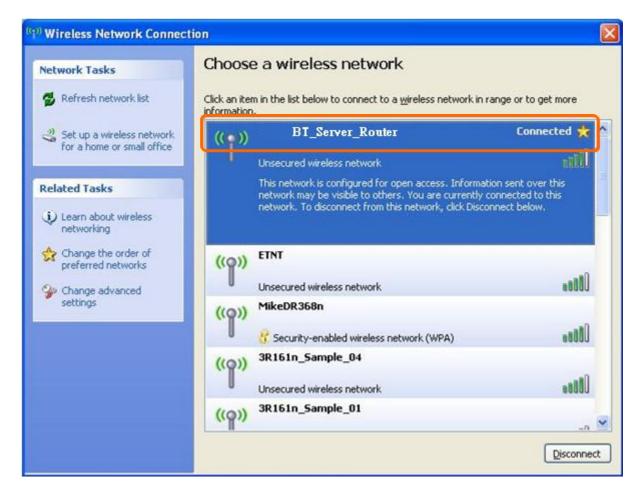
(AP, WDS, AP+WDS).

Multiple APs can provide users another 4 different SSID for connection. Users can add or limit the properties for each connection.



- (1.) Enable: please choose to enable it or not.
- (2.) Band: please select the frequency.
- (3.) SSID: please enter the SSID.
- (4.) Data Rate: please select the data transmission rate.
- (5.) Access: enable this function can let clients use 2 access types: a. LAN+WAN: the client can access to the Internet and connect to Server Router's GUI to setup. b. WAN: the client can only access to the Internet.
- (6.) Active Client List: display the properties of the client which is connecting successfully.
 - (7.) Apply Changes: Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

Take the client side of wireless network card as an example: The Client can search for Server Router_AP1 (LAN+WAN) and connect to it. If the client connects to it successfully, it will display message to notify users.



4. Network Type

Please select the network type, it has 2 options: **Infrastructure** or **Ad hoc**. If the wireless mode is set to AP mode, this section is disabled.

5. SSID

Service Set identifier, the default SSID is **_Server_Router**, users can define to any.

6. Channel Width

Please select the channel width, it has 2 options: 20MHZ, and 40MHZ.

7. Control Sideband

Enable this function will control your router use lower or upper channel.

8. Channel Number

Please select the channel; it has Auto, 1, 2~11 options.

9. Broadcast SSID

User may choose to enable **Broadcast SSID** or not.

10. Data Rate

Please select the data transmission rate.

11. Associated Clients

Check the AP connectors and the Wireless connecting status.

12. Enable Mac Clone (Single Ethernet Client)

Clone the MAC address for ISP to identify.

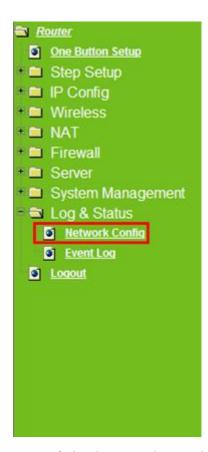
13. Enable Universal Repeater Mode (Acting as AP and Client simultaneously)

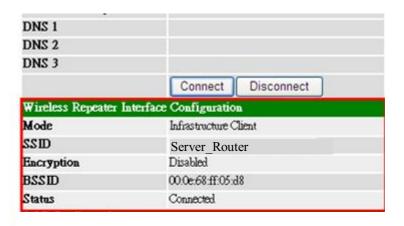
Allow to equip with the wireless way conjunction upper level, provide the bottom layer user link in wireless and wired way in the meantime. (The IP that bottom layer obtains is from upper level.)

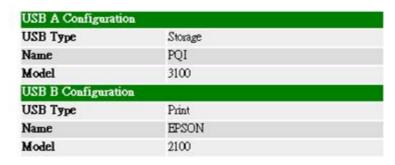
Ex: When users enable the Universal Repeater to connect to the upper level device, please input the channel and SSID of the upper level device on router's GUI. Click on **Apply Changes** to save the settings. (The DHCP in IP config needs to be disabled.)

Channel Number:	•
Broadcast SSID:	Disabled 🕶
WMM:	Enabled 😽
Data Rate:	Auto
Associated Clients:	Show Active Clients
☐ Enable Mac Clo	one (Single Ethernet Client)
Enable Universa	al Repeater Mode (Acting as AP and client simultaneouly)
SSID of Extended In	terface: ESSID_Server_Router_0d21ff
Apply Changes	Reset

Users can go to the network Config section and check the information of upper level in Wireless Repeater Interface Configuration.







If the bottom layer device is trying to make a connection, users must input the SSID of this router as a relay station. The IP that the bottom layer device gets is from the upper level device.

14. SSID of Extended Interface

While linking the upper level device in wireless way, you can set SSID to give the bottom layer user search.

15. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.2.2 Wireless Advanced Settings

Please complete the wireless advanced settings as following instructions.

Wireless Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.

Fragment Threshold:	2346
Tragment Threshold.	(256-2346)
RTS Threshold:	(0-2347)
Beacon Interval:	(20-1024 ms)
Preamble Type:	O Long Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble O Short Preamble
IAPP:	Enabled Disabled
Protection:	○ Enabled
Aggregation:	
Short GI:	
RF Output Power:	
Apply Changes Re	set

1. Fragment Threshold

To identify the maxima length of packet, the over length packet will be fragmentized. The allowed range is 256-2346, and default length is 2346

2. RTS Threshold

This value should remain at its default setting of 2347. The range is $0\sim2347$. Should you encounter inconsistent data flow, only minor modifications are recommended. If a network packet is smaller than the present RTS threshold size, the RTS/CTS mechanism will not be enabled. The router 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. Fill the range from 0 to 2347 into this blank.

3. Beacon Interval

Beacons are packets sent by an access point to synchronize a wireless network. Specify a beacon interval value. The allowed setting range is 20-1024 ms.

4. Preamble Type

PLCP is Physical layer convergence protocol and PPDU is PLCP protocol data unit during transmission, the PSDU shall be appended to a PLCP preamble and

header to create the PPDU. It has 2 options: Long Preamble and Short Preamble.

5. IAPP

Inter-Access Point Protocol is a recommendation that describes an optional extension to IEEE 802.11 that provides wireless access-point communications among multivendor systems.

6. Protection

Please select to enable wireless protection or not.

7. Aggregation

Enable this function will combine several packets to one and transmit it. It can reduce the problem when mass packets are transmitting.

8. Short GI

Users can get better wireless transmission efficiency when they enable this function.

9. RF Output Power

Users can adjust RF output power to get the best wireless network environment. Users can choose from 100%, 70%, 50%, 35%, and 15%.

10. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.2.3 Wireless Security Setup

4 encryption types could be selected here, please follow below instructions for the setting.

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.



1. Encryption - WEP

1.1 Set WEP Key

This section provides 64bit and 128bit WEP encryptions for wireless network. Users can also choose ASCII and Hex shared Key format to protect data.

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:	Server_Router	
Encryption:	WEP	
802.1x Authentication:		
Authentication:	Open System O Shared Key O Auto	
Key Length:	64-bit	
Key Format:	Hex (10 characters)	
Encryption Key:	******	

1.2 802.1x Authentication

It is a safety system by using authentication to protect your wireless network. Please choose between WEP 64bits and WEP 128bits.

2. Encryption - WPA (WPA, WPA2, and WPA2 Mixed)

WPA Authentication Mode

2.1 Enterprise (RADIUS)

Please input the Port, IP Address, and Password of Authentication RADIUS Server.

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:	Server_Router 🕶
Encryption:	WPA 💌
Authentication Mode:	Enterprise (RADIUS) Personal (Pre-Shared Key)
WPA Cipher Suite:	□TKIP □AES
RADIUS Server IP Address	: 0.0.0.0
RADIUS Server Port:	1812
RADIUS Server Password:	
Apply Changes Reset	

2.2 Personal (Pre-Shared Key)

Pre-Shared Key type is ASCII Code; the length is between 8 to 63 characters. If the key type is Hex, the key length is 64 characters.

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:	Server_Router
Encryption:	WPA 💌
Authentication Mode:	Enterprise (RADIUS) Personal (Pre-Shared Key)
WPA Cipher Suite:	▼TKIP □ AES
Pre-Shared Key Format:	Passphrase
Pre-Shared Key:	

3. Apply Changes & Reset

Click on **Apply Changes** to save the setting data. Or you may click on **Reset** to clear all the input data.

5.2.4 Wireless Access Control

The function of access control is to allow or deny users to access Server Router by according MAC address, it is optional. If you select **Allowed Listed**, then only those clients whose MAC address is listed on access control can connect to your base station. If you select **Deny Listed**, those clients whose MAC address is listed on access control can't connect to your base station.

If you choose 'Allowed Listed', only those clients whose wireless MAC addresses are in the access

Wireless Access Control

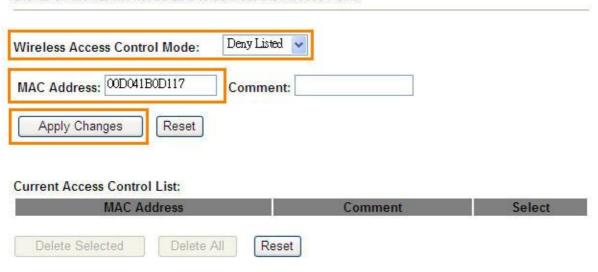
Wireless Access Control Mode:	Disable Comment:	
Apply Changes Reset	Comment	→→Users can enable or disable this function
Current Access Control List:		

Take the wireless card as the example.

(1.) We will use **Deny Listed** as an example. Please select **Deny Listed** in **Wireless Access Control Mode** first, and then input the MAC address of wireless card in MAC Address field. Click **Apply Changes** to save the setting data.

Wireless Access Control

If you choose 'Allowed Listed', only those clients whose wireless MAC addresses are in the access control list will be able to connect to your Access Point. When 'Deny Listed' is selected, these wireless clients on the list will not be able to connect the Access Point.



(2.) You will find out that the MAC address appears on **Current Access Control List**, it means the initiation is completed.

Wireless Access Control

If you choose 'Allowed Listed', only those clients whose wireless MAC addresses are in the access control list will be able to connect to your Access Point. When 'Deny Listed' is selected, these wireless clients on the list will not be able to connect the Access Point.



(3.) Please open wireless card UI and try to connect to this router. You will find out that the connection request will be denied.



5.2.5 WDS Settings

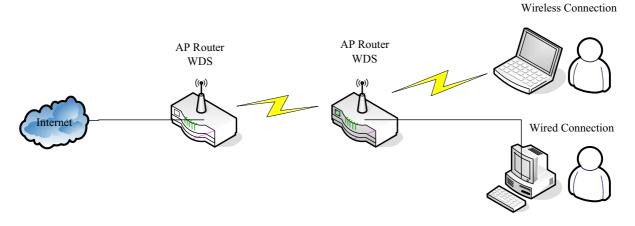
Wireless basic settings must enable WDS first. This function can communicate with other APs by adding MAC address into the same channel.

WDS Settings

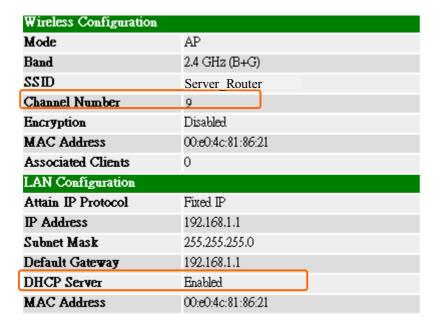
Wireless Distribution System uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.

☐ Enable WDS				
MAC Address:				
Data Rate:	Auto 🗸			
Comment:				
Apply Changes	Reset	Set Security	Show Statistics	
Current WDS AP				
MAC Addr	ess T	x Rate (Mbps)	Comment	Select
Delete Selected	Delete A	ll Reset		

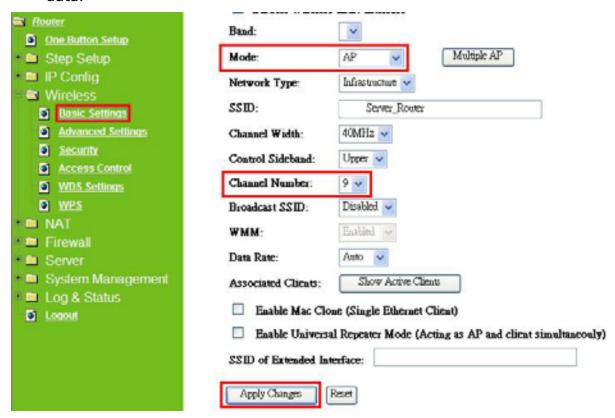
*The following figure is the explanation.



- *Please follow the instructions to setup the connection.
- (1.) Please check the MAC address and Channel number of the upper level device.



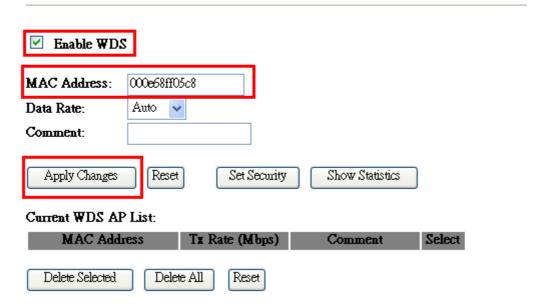
(2.) Enter the **Wireless Basic Settings** page, select **AP+WDS** mode, and then select the **Channel Number**. Click **Apply Changes** to save the setting data.



(3.) Enter the **WDS Settings** page, select **Enable WDS**, and then input the MAC address of the upper level device. Click **Apply Changes** to save the setting data.

WDS Settings

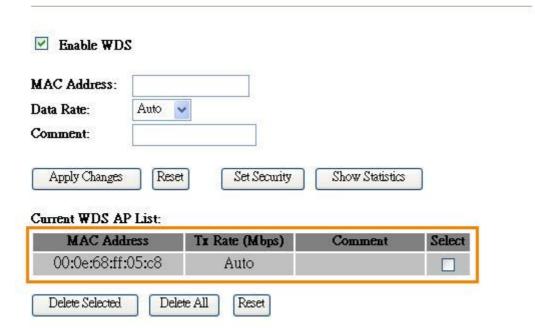
Wireless Distribution System uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.



(4.) When the time counts down to 0, you will see the MAC address of the upper level device displaying on **Current WDS AP List**.

WDS Settings

Wireless Distribution System uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.



(5.) Head back to **LAN Interface**, disable **DHCP** option, and then click **Apply Changes** to save the setting data.

LAN Interface Setup

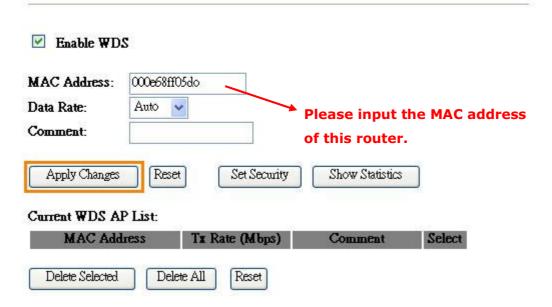
This page is used to configure the parameters for local area network which connects to the LAN port of your Access Point. Here you may change the setting for IP address, subnet mask, DHCP, etc..

Device Name:	Server_Router
IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
Default Gateway:	0.0.0.0
DHCP:	Disabled 💌
DHCP Client Range:	192.168.1.100 - 192.168.1.200 Show Client
Static DHCP:	Disabled V Set Static DHCP
802.1d Spanning Tree:	Disabled 💌
Clone MAC Address:	00000000000

(6.) The MAC address of the upper level device is going to setup like the MAC address of the router. Enter the upper level device's **WDS settings** page, and input router's MAC address. Click **Apply Changes** to save the setting data.

WDS Settings

Wireless Distribution System uses wireless media to communicate with other APs, like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.



(7.) After initiating the upper level device, please check Local Area Connections. Click Supports to check out the IP address which is assigned by upper level device.