



serious

Wireless Router Serious User Guide



Thank you for choosing our wireless broadband router. Before using the router, please read this handbook carefully because it provides every basic setting. If your specification is mentioned in the handbook, the router mentioned refers to the SRX-WR150/300 series wireless router. Pictures of the interface in this manual provide references for users. If the product configuration interface does not provide a reference, you should set up the router according to your needs.

Product Features

- ◆ Integrates router, wireless access point, four-port switch and firewall in one device
- ◆ Complies with IEEE802.11n, IEEE802.11b and IEEE802.11g standards
- ◆ MIMO technology utilizes reflected signal to increase eight times transmission distance of original 802.11g standard and reduces the "dead spots" in the wireless coverage area
- ◆ Provides 150/300Mbps transmission rates
- ◆ Supports WMM to make your voice and video more smooth
- ◆ Supports 64/128-bit WEP, WPA, WPA2 encryption methods and 802.1x security authentication standards
- ◆ WPS (PBC and PIN) encryption method to free you from remembering long passwords
- ◆ Supports remote/local Web management
- ◆ Supports wireless Roaming technology and ensures high-efficient wireless connections
- ◆ Supports wireless SSID stealth mode and MAC address access control
- ◆ Supports Auto MDI/MDIX
- ◆ Provides system log to record the status of the router
- ◆ Supports MAC address filtering, NAT, NAPT
- ◆ Supports UPnP and DDNS
- ◆ Supports the access control over 30 MAC addresses
- ◆ Supports DHCP server/client
- ◆ Supports SNTP
- ◆ Supports auto wireless channel selection
- ◆ Supports WDS function (wireless distribution system)

Package Contents

Wireless-N 150/300M broadband router.

Power adapter: DC5V/2A ⇄ DC12V/1A

User manual.

Ethernet network cable.

Quick Installation Guide.

Warranty cards/certification.

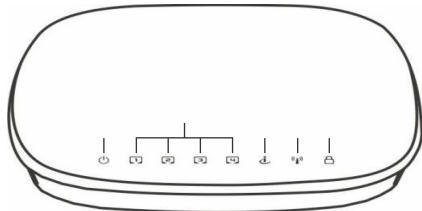
Important: When opening the package, please ensure that the package contents are as stated above. If not, please contact the distributor.

Product Specifications

Standards and Protocols		IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u, CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE.
Port	WAN	One 10/100 M self-adapting RJ-45 WAN port. (When working in gateway mode, it's a WAN port but when working in any other mode, it's a LAN port)
	LAN	Four 10/100M self-adapting RJ-45 LAN ports
	Frequency Range	2.4-2.4835GHz
	Wireless Signal Rates	11n: Up to 150/300Mbps 11g: Up to 54Mbps 11b: Up to 11Mbps
	Working Channel	1 to 14 channels (according to the country or region you choose)
	Spread Spectrum	DSSS (Direct Sequence Spread Spectrum)
Wireless parameters	Modulation Technology	DBPSK, DQPSK, CCK and OFDM (BPSK/QPSK/16-QAM/64-QAM)
	Receiver Sensitivity @PER	270M: -68dBm@10% PER 130M: -68dBm@10% PER 108M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER 6M: -88dBm@10% PER 1M: -90dBm@8% PER

	transmission range	Indoor: 300M, Outdoor: 500M (depending on environment)
Network Media		10Base-T: 3e UTP or above; 100Base-TX: 5e UTP
	WLAN	Status indicator for W LAN (on/off)
	WAN	Status indicator for WAN
LED	LAN	Status indicator for LAN
	WPS	WPS indicator
	POWER	Power indicator
Operating environment		Operation temperature: 0°C~4 5°C Operating Humidity: 10%~90% (non-condensing) Storage temperature: -4 0°C~7 0°C Storage Humidity: 5%~90%(non-condensing)
External power		Power adapter output: DC5V/2A or DC12V/1A

LED Indicators



Power indicator: LED will light when unit is powered on.

Status indicator for LAN: LED will light when link is established. LED will blink when packet is being transmitted or received.

Status indicator for WAN: LED will light when link is established . LED will blink when packet is being transmitted or received.

Status indicator for WLAN: LED will light when a function is enabled. LED will turn off when the wireless function is disabled. LED will blink when a packet is being transmitted or received.

WPS indicator: Indicates router setting WPS Mode . (PBC or PIN under WPS mode is optional)

Installation Warnings for Router

For a first-time wireless network installation, please follow the rules below in order to avoid damage or to decrease performance affected by an improper operation or location):

- 1.A router should be kept away from any cordless phone, microwave oven, refrigerator, or other source of interference.
- 2.When there are other 2.4G access points around, it is required that the interval be more than 12M and that any adjacent channel be avoided.
- 3.In order to receive the best wireless signal, the router should be placed properly in position.
- 4.Keep the router away from reinforced concrete walls or metal railings because these objects can block or absorb signals.
- 5.A router should be placed indoors, out of the way of sunshine, rain or lightning.
- 6.Keep the router away from fire and heat and keep it ventilated.

Notes

- 1.The maximum wireless signal rate based on IEEE standard 802.11n specifications, the actual data throughput will vary.
- 2.Network conditions and environmental factors, including network traffic, building materials and structures, and network expenses can reduce the actual data throughput.
- 3.This manual has been as far as possible try to provide you with accurate information, but only use as guidance.
- 4.Due to product upgrades or other reasons, the manual will be updated from time to time without notice!

Hardware Install Process

Establish WAN Connection

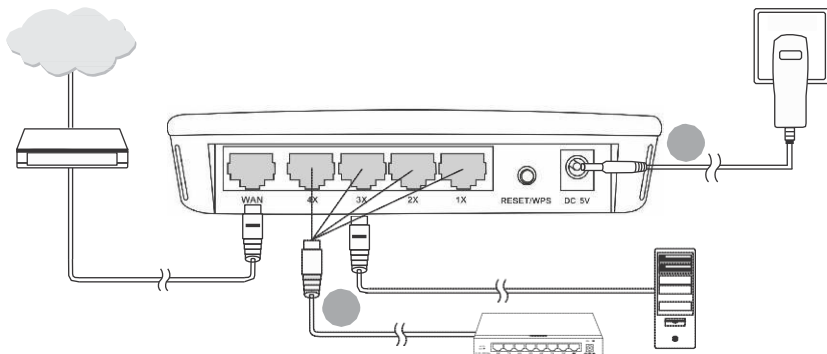
Connect the WAN port of router to xDSL Modem by a line.

Establish LAN Connection

Connect the port of router to HUB or switch by a line. You also can connect the computer LAN card directly.

Power Link

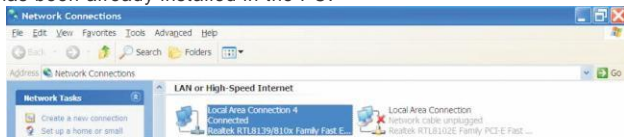
Link the power and the router will start automatically.



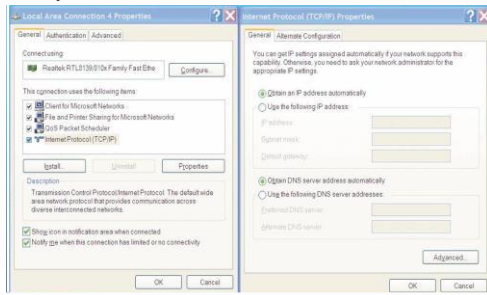
Management and Login

You should log into your web page before using the router. Here is an example, using the "Windows XP Home Edition Service Pack 3" operating system as an example to illustrate the configuration of the computer process:

1. Check "Network Connections", making sure that the PC has an installed wireless card. If there is an icon, like "Local Area Connection 4 Connected" shown in the figure below, the wireless card has been already installed in the PC.



2. Set your IP address through the properties of "Internet Protocol (TCP/IP)". Generally, the DHCP server of the router is on, so please select "Obtain an IP address automatically" and "Obtain DNS server address automatically", under the General tab.

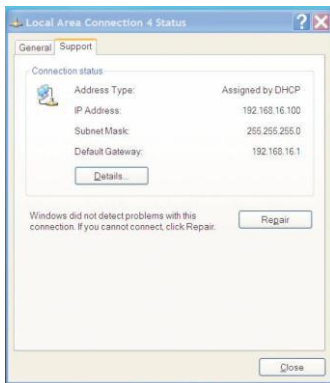


Tips:

Only when the DHCP server of the router is enabled should you select "Obtain an IP address automatically".

You can set the IP address by yourself instead. However, the IP address of the computer and router should be set within the same subnet and may not share an IP address. The default IP address is 192.168.16.1 and the subnet mask is 255.255.255.0, so the IP address should not be 192.168.16.1.

3. You can find the assigned address under the Support tab, as follows:



4. Click on Start | Programs | Accessories | Command Prompt, type ping 192.168.16.1, and press Enter (as shown below). If the screen displays the following figure, your PC has connected to the router successfully.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>ping 192.168.16.1

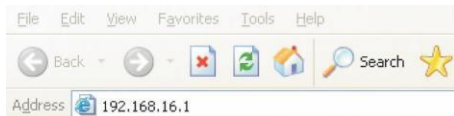
Pinging 192.168.16.1 with 32 bytes of data:

Reply from 192.168.16.1: bytes=32 time<ms TTL=64
Reply from 192.168.16.1: bytes=32 time<ms TTL=64
Reply from 192.168.16.1: bytes=32 time<ms TTL=64
Reply from 192.168.16.1: bytes=32 time<ms TTL=64

Ping statistics for 192.168.16.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>
```

5. Access the interface of the router by opening a web browser. Input <http://192.168.16.1> (the router's default IP address) and press Enter.



6.The browser will open a login window as shown below. Enter **admin** for the administrator's User name and **admin** for the Password. Click on the OK button.



7.Click on the OK button. If the User name and Password are correct, you will enter the WEB settings screen.

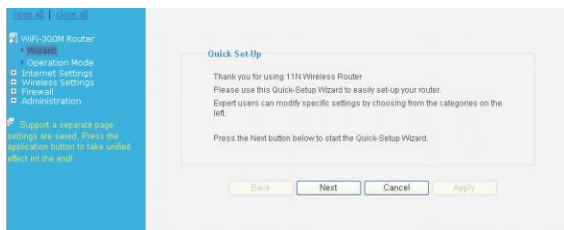


8.You have now logged into the settings page successfully.

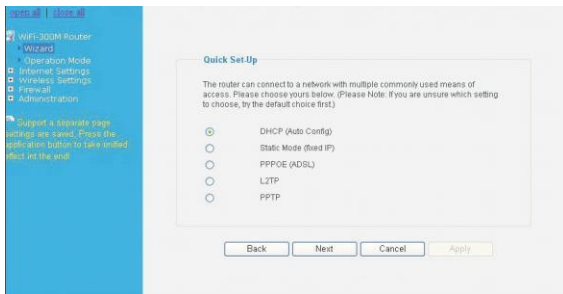
Wizard

The router supports various functions and provides a setup wizard. The wizard can guide you to finish the basic settings, even though you may be unfamiliar with the router.

1.Click on “Wizard” in the left margin and click on “Next” in the right margin under “Quick settings”. This will start the procedure for setting the router.



2.This product supports any of five frequently-used modes to access a network. Choose a mode to suit your need. The default mode is pre-selected. The other four modes listed below the default mode would require parameter settings for the network connection. If you do not know the parameters, please ask your ISP. After choosing a mode, click on the “Next” button.



3. You can set a network name and corresponding encryption security for your wireless network settings, as shown below. Click on the “Apply” button to submit the setting information. The system will then reboot the router to complete the router’s basic settings.

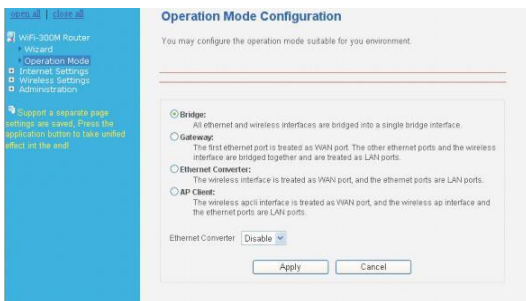


Operation Mode

The SRX-WR150/300 series wireless router is a powerful router because it can support four modes: Bridge mode, Gateway mode, Ethernet converter mode and AP client mode (The default mode is Gateway)

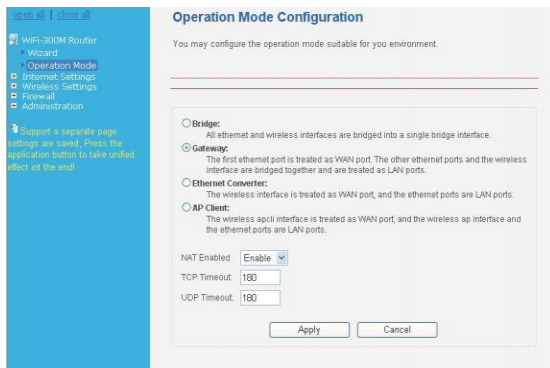
Operation mode set to Bridge mode:

All Ethernet and wireless interfaces are bridged into a single bridge interface. Until now, the router has been acting only as a switch, so the router has been unable to access the WAN and the firewall has been disabled)



Operation mode set to Gateway mode:

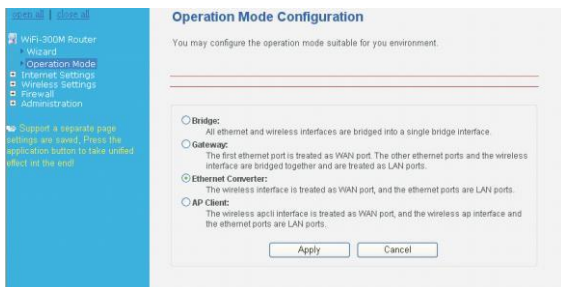
Gateway is the default mode. The yellow Ethernet port is treated as WAN port. The other ethernet ports and the wireless interface are bridged together and are treated as LAN ports (which is used to enable the NAT function to enable the router to transmit information easily with the Internet).



The screenshot shows the 'Operation Mode Configuration' page. On the left, a navigation menu includes 'WIFI-300M Router', 'Wizard', 'Operation Mode', 'Internet Settings', 'Wireless Settings', 'Firewall', and 'Administration'. A note states: 'Support a separate page settings are saved. Press the application button to take unified effect in the end.' The main content area is titled 'Operation Mode Configuration' and contains the text: 'You may configure the operation mode suitable for you environment.' Below this, four radio button options are listed: 'Bridge', 'Gateway', 'Ethernet Converter', and 'AP Client'. The 'Gateway' option is selected. Underneath, there are three input fields: 'NAT Enabled' (set to 'Enable'), 'TCP Timeout' (set to '180'), and 'UDP Timeout' (set to '180'). At the bottom, there are 'Apply' and 'Cancel' buttons.

Operation mode set to Ethernet converter mode:

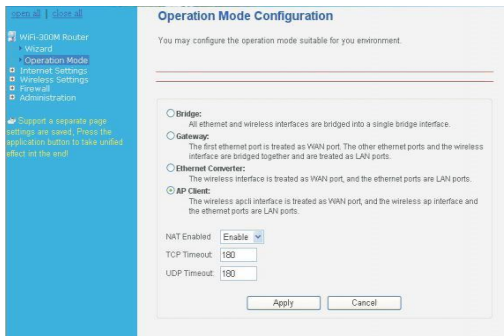
The wireless interface is treated as WAN port, and the ethernet ports are LAN ports.



The screenshot shows the 'Operation Mode Configuration' page. The navigation menu and note are identical to the previous screenshot. In the main content area, the 'Ethernet Converter' radio button is selected. The 'NAT Enabled' dropdown is set to 'Enable', and the 'TCP Timeout' and 'UDP Timeout' fields are both set to '180'. The 'Apply' and 'Cancel' buttons are at the bottom.

Operation mode set to AP Client mode:

The wireless interface is treated as WAN port, the wireless interface and the ethernet ports are LAN ports.



The screenshot shows the 'Operation Mode Configuration' page. The navigation menu and note are identical to the previous screenshots. In the main content area, the 'AP Client' radio button is selected. The 'NAT Enabled' dropdown is set to 'Enable', and the 'TCP Timeout' and 'UDP Timeout' fields are both set to '180'. The 'Apply' and 'Cancel' buttons are at the bottom.

Internet Setting

WAN

This router supports several common types of WAN connections . Select the connection method that your network operator uses and select the correct parameter information (likely provided by your ISP). Then, you can share the Internet normally. If you use a dynamic connection, dial-up connection, PPPoE dial-up connection, etc., there are two ways to verify whether the connection will work. One way is to browse the web site directly, and the other way is to distinguish it according to the Internet configuration state.

Internet Configurations	
Connected Type	PPPOE
WAN IP Address	58.60.132.45
Subnet Mask	255.255.255.255
Default Gateway	58.60.132.1
Primary Domain Name Server	202.96.134.33
Secondary Domain Name Server	202.96.128.86
MAC Address	00:0C:43:30:52:5A

Successful connection

An ISP may require a binding MAC address, which the ISP will usually offer to you. It may be entered on the MAC address bar. Otherwise, you may click the Fill my MAC button, in which case the MAC address of the current connecting host will be automatically filled in the text box for you.

MAC Clone	
Select	Enable
MAC Address	00:0C:29:C5:D0:4C <input type="button" value="Fill my MAC"/>
<input type="button" value="Save"/> <input type="button" value="Apply"/> <input type="button" value="Cancel/Refresh"/>	

1.Connection Mode DHCP (Auto config)

This connection mode is more convenient because it can obtain information parameters such as IP and gateway addresses automatically and they can change while the ISP's operator network status changes.

Wide Area Network (WAN) Settings	
Choose your connection type and their parameters here.	
WAN Connection Type: DHCP (Auto config)	
DHCP Mode	
Hostname(Optional):	
MAC Clone	
Select	Disable
<input type="button" value="Save"/> <input type="button" value="Apply"/> <input type="button" value="Cancel/Refresh"/>	

2.Connection Mode Static (Fixed IP)

If your ISP uses the Static IP mode, please choose Static (fixed IP) to set the network parameters. If you are unsure about the mode, please contact your ISP.

The screenshot shows the 'Wide Area Network (WAN) Settings' page. On the left is a navigation menu with options like 'WiFi-300M Router', 'Wizard', 'Operation Mode', 'Internet Settings', 'WAN', 'LAN', 'DHCP clients', 'Advanced Routing', 'QoS', 'Wireless Settings', 'Firewall', and 'Administration'. The main content area is titled 'Wide Area Network (WAN) Settings' and includes the instruction 'Choose your connection type and their parameters here'. The 'WAN Connection Type' is set to 'STATIC (fixed IP)'. Below this, the 'Static Mode' section contains the following fields: IP Address (192.168.1.1), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.254), Primary DNS Server (8.8.8.8), and Secondary DNS Server (4.4.4.4). The 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

IP Address: Enter the static IP address provided by your ISP.

Subnet Mask: Enter the subnet mask .

Gateway: Enter the WAN gateway address.

Primary DNS Server: Enter the primary DNS server address provided by your ISP.

Secondary DNS Server: Enter the secondary DNS server address.

3.Connection Mode PPPoE (xDSL)

PPPoE is commonly used for home and small office networks.

The screenshot shows the 'Wide Area Network (WAN) Settings' page. On the left is a navigation menu with options like 'WiFi-300M Router', 'Wizard', 'Operation Mode', 'Internet Settings', 'WAN', 'LAN', 'DHCP clients', 'Advanced Routing', 'QoS', 'Wireless Settings', 'Firewall', and 'Administration'. The main content area is titled 'Wide Area Network (WAN) Settings' and includes the instruction 'Choose your connection type and their parameters here'. The 'WAN Connection Type' is set to 'PPPoE (xDSL)'. Below this, the 'PPPoE Mode' section contains the following fields: User Name (pppoe_user), Password (masked with asterisks), and Verify Password (masked with asterisks). There is a 'Keep Alive' dropdown menu. The 'Operation Mode' section includes 'Keep Alive Mode: Redial Period 60 seconds' and 'On demand Mode: Idle Time 5 minutes'. There are 'Connect' and 'Disconnect' buttons. The 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

User Name: Fill in the Internet account provided by the ISP. (If unsure, please ask your ISP.)

Password: Fill in the password provided by the ISP. (If unsure, please ask your ISP.)

Operation Mode: Choose from three operation modes (Keep Alive, Dynamic demand, or Manual demand):

1.Keep Alive: The Keep Alive mode allows the router to connect automatically when turned on. If the network is disconnected from the router due to external factors, the system will try to reconnect to the network at regular intervals (default of 60s) until a connection is established.

2.Dynamic demand: The router connects automatically to the LAN when an access request is sent to it. If no access request is sent (free time), the router disconnects automatically from the network . (This connection mode is chosen by users who collect fees on time so they can save on the cost of Internet service.)

3.Manual demand: The user must dial manually when the router is turned on. Click on Connection to connect to the network . Click on Disconnect to disconnect from the network.

4.Connection Mode L2TP

Wide Area Network (WAN) Settings
Choose your connection type and their parameters here.

WAN Connection Type: L2TP

L2TP Mode

Server IP	<input type="text" value="l2tp_server"/>
User Name	<input type="text" value="l2tp_user"/>
Password	<input type="password" value="*****"/>
Address Mode	Static
IP Address	<input type="text" value="192.168.1.1"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.1.254"/>
Operation Mode	Keep Alive
	Keep Alive Mode: Reconnect Period: 60 seconds

MAC Clone

Select	Disable
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Save Apply Cancel/Refresh

Server IP: Enter the required (not optional) Server IP address, provided by your ISP.

User Name: Enter the required (not optional) L2TP User Name, provided by your ISP.

Password: Enter the required (not optional) L2TP password, provided by your ISP.

Address Mode: Obtain an IP address:

Dynamic: Choose this mode if the router can obtain an IP address automatically.

Static: Choose this mode if your ISP has provided you with a static IP address.

IP Address: Choose "Static" and enter the L2TP IP address provided by your ISP.

Subnet Mask: Enter the Subnet Mask address supplied by your ISP.

Default Gateway: Enter the Default Gateway address supplied by your ISP.

Operation Mode (2 modes):

Keep Alive: The router connects automatically to the LAN when an access request is sent to it. If the network is disconnected from the router due to external factors, the system will try to connect to the network at regular intervals until a connection is established.

Manual demand: If the network disconnects from the router, choose this mode to dial manually to the network.

5.Connection Mode PPTP

If the connection is the PPP Tunneling Protocol, your ISP can provide you with the User Name and Password. For related parameter settings, please refer to the L2TP mode.

Wide Area Network (WAN) Settings
Choose your connection type and their parameters here.

WAN Connection Type: PPTP

PPTP Mode

Server IP	<input type="text" value="pptp_server"/>
User Name	<input type="text" value="pptp_user"/>
Password	<input type="password" value="*****"/>
Address Mode	Static
IP Address	<input type="text" value="192.168.1.1"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.1.254"/>
Operation Mode	Keep Alive
	Keep Alive Mode: Reconnect Period: 60 seconds

MAC Clone

Select	Disable
--------	---------

Save Apply Cancel/Refresh

LAN

Select "Internet Settings | LAN" to set the parameters of the LAN ports (IP address, subnet mask , DHCP, etc.).

Parameter	Value
IP Address	192.168.16.1
Subnet Mask	255.255.255.0
LAN2	<input type="checkbox"/> Enable <input checked="" type="checkbox"/> Disable
LAN2 IP Address	
LAN2 Subnet Mask	
LAN2 DHCP Server	<input type="checkbox"/> Server <input checked="" type="checkbox"/> Disable
Start IP	
End IP	
Subnet Mask	
Primary DNS Server	
Secondary DNS Server	
Default Gateway	
Release Time	
Static Specifier	
MAC Address	
IP Address	
802.11d Spanning Tree	<input type="checkbox"/> Enable <input checked="" type="checkbox"/> Disable
UPNP	<input type="checkbox"/> Enable <input checked="" type="checkbox"/> Disable
Router Advertising	<input type="checkbox"/> Enable <input checked="" type="checkbox"/> Disable
PPPoE Forward	<input type="checkbox"/> Enable <input checked="" type="checkbox"/> Disable

Hostname: Name of the network to which the router connects.

IP Address: LAN IP address of the router. (The default is 192.168.16.1.)

Subnet Mask: Subnet mask of the router, according to the network state. (The default is 255.255.255.0.)

LAN2: Enable or disable the second LAN port address, according to the request. To enable it, set the IP address and subnet mask of the second LAN port.

LAN 2 IP Address: Second IP address.

LAN 2 Subnet Mask: Second Subnet mask.

MAC Address: MAC address of the LAN port of the router.

DHCP Type: Distribute the PC's IP address to the LAN network automatically by using the built-in DHCP Server. To enable it, select DHCP as the server. Otherwise, select Disable. (The default is Server.)

Start IP Address: Set the initial IP address, which the DHCP Server distributes automatically according to the router's LAN IP address.

End IP Address: Set the end IP address, which the DHCP Server distributes automatically according to the router's LAN IP address.

Subnet Mask: Set a matching subnet mask according to the initial/end IP address.

Primary DNS Server: Fill in the Primary DNS server address (optional) provided by your ISP.

Secondary DNS Server: Fill in the Secondary DNS server address (optional) provided by your ISP.

Default Gateway: Set the gateway of the DHCP server according to the router's LAN IP address. The router's default gateway is 192.168.16.1.

Release time: The effective time (in seconds) of the dynamic IP address that the DHCP server allocates to the client host. (The default is 86400. 86,400 seconds = 1 day.) During this time, the server will not assign IP addresses to other hosts. (You can set the time according to your preference, which can improve the void IP address recovery efficiency of the DHCP server.)

Static specifier: You can set a scheme for DHCP to comply. Every time that the DHCP server assigns IP addresses automatically, it assigns a fixed IP address to the user's device. If necessary, fill in the designated MAC address and IP address.

MAC address: The MAC address of the PC that reserves a static IP address. (Example: 00:0C:43:80:88.)

IP address: The reserved IP address for a host in a network. (Example: 192.168.16.254.)

802.11d Spanning Tree: The Spanning Tree protocol, defined in 802.1d, is a bridge-to-bridge protocol in the link management. It provides a redundancy of pathways to prevent a cycle path. (There is no default value.)

LLTD: Options include Enabled, Disabled, and Open. If there is an LLTP client, information about the router will display automatically.

Enable the IGMP agent: It inhibits the occurrence of a multicast flood by effectively obtaining and controlling the user's information. This helps to reduce a network side agreement and the network load. (There is no default.)

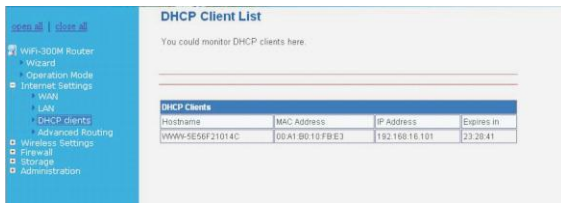
UPNP: The router provides UPNP to P2P intranet software. (There is no default.)

Router advertising: The router will send out or reply to broadcast information between each node at a fixed cycle to indicate its existence. (There is no default.)

PPPoE Forward: This function makes a local computer dial PPPoE separately and directly in the gateway mode. (There is no default.)

DHCP Clients

Select "Internet Settings | DHCP clients" to check the related computer information of the DHCP that automatically assigns IP addresses in the LAN (such as network name, MAC address, IP address and expiration time).

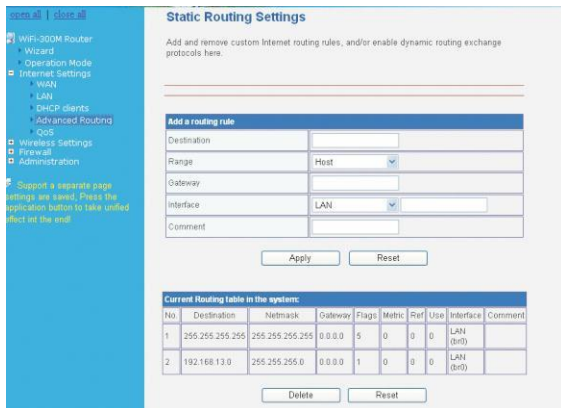


The screenshot shows the DHCP Client List page. On the left is a navigation menu with 'DHCP clients' selected. The main content area is titled 'DHCP Client List' and contains a table of active clients.

Hostname	MAC Address	IP Address	Expires in
WWW-8E5621014C	00A1B013FBE3	192.168.16.101	23:28:41

Advanced Routing

This function is an option to add specific routing to a specific host if necessary. The appropriate use of static routers in a network can reduce routing selection problems and data overload of routing streams, so its use can increase the transmitting speed of data packets. By setting the addresses of the IP, subnet mask, and gateway, a routing table can be set up. The destination IP address and subnet mask are used to determine a target network/host so that the router can send data packets to designated target network/hosts through the gateway.



The screenshot shows the Static Routing Settings page. On the left is a navigation menu with 'Advanced Routing' selected. The main content area is titled 'Static Routing Settings' and includes a form to add a routing rule and a table of current routing rules.

Add a routing rule

Destination	<input type="text"/>
Range	Host <input type="button" value="v"/>
Gateway	<input type="text"/>
Interface	LAN <input type="button" value="v"/>
Comment	<input type="text"/>

Current Routing table in the system:

No.	Destination	Netmask	Gateway	Flags	Metric	Ref	Use	Interface	Comment
1	255.255.255.255	255.255.255.255	0.0.0.0	S	0	0	0	LAN (br0)	
2	192.168.13.0	255.255.255.0	0.0.0.0	I	0	0	0	LAN (br0)	

QoS

QoS is Quality of service, its primary function is to limit the bandwidth usage of a certain server and IP, to meet the bandwidth that's needed by specific application and priority of service, and share bandwidth with the rest of users, so there can be more stable and reliable data transfer service



The screenshot shows the Quality of Service Settings page. On the left is a navigation menu with 'Advanced Routing' selected. The main content area is titled 'Quality of Service Settings' and includes a form for QoS Setup.

QoS Setup

Quality of Service	Disable <input type="button" value="v"/>
Upload Bandwidth	User defined <input type="text"/> Bits/sec
Download Bandwidth	User defined <input type="text"/> Bits/sec
QoS Model	DRR <input type="button" value="v"/>
Reserved bandwidth	0% <input type="text"/> (10% is recommended)

Prompt:

The formula of unit conversion between bandwidth and Kbyte is 1Mbit= 128K byte (kilobyte)

Generally the ADSL ratio of upload and download bandwidth is one to three, upload bandwidth of 1M ADSL is 42Kbyte and the download is 128Kbyte.

Wireless Settings

Basic:

Wireless Network

Radio On/Off: RADIO OFF

Network Mode: 11b/g/n mixed mode

Network Name(SSID): WAO2 Hidden Isolated

Multiple SSID1: Hidden Isolated

Multiple SSID2: Hidden Isolated

Multiple SSID3: Hidden Isolated

Multiple SSID4: Hidden Isolated

Multiple SSID5: Hidden Isolated

Multiple SSID6: Hidden Isolated

Broadcast Network Name (SSID): Enable Disable

AP Isolation: Enable Disable

WBSID AP Isolation: Enable Disable

BSSID: 80:9C:43:39:52:33

Frequency (Channel): 2437MHz (Channel 6)

HT Physical Mode

Operating Mode: Mixed Mode Green Field

Channel Bandwidth: 20 2040

Guard Interval: Long Auto

MCS: Auto

Reverse Direction Grant(RDG): Disable Enable

Extension Channel: 2457MHz (Channel 10)

Space Time Block Coding(STBC): Disable Enable

Aggregation MSDU(A-MSDU): Disable Enable

Auto Block ACK: Disable Enable

Decline BA Request: Disable Enable

HT Disallow TKIP: Disable Enable

Save Apply Cancel

Radio On/Off: Turn the radio on or off.

Network Mode: Choose one of router working modes: 802.11b, 802.11g, 802.11b/g, and 802.11b/g/n.

Network Name (SSID): Network name (32 characters max.) of wireless signals set to distinguish a separate network.

Broadcast Network Name (SSID): Enable or disable SSID broadcast machine. Select Disable, the SSID is hidden so that a wireless client will be unable to scan the SSID equipment. The client must know the equipment SSID before it can communicate with the equipment. (The default is Enabled).

BSSID (Basic Service Set ID): It applies to the MAC address site. In wireless access points, a group of wireless workstations and wireless LAN workstations called access points (AP) form a basic service device (BSD). The BSS device of each computer must configure the same BSSID, namely the wireless- access-point wireless logo.

Frequency (Channel): Select the wireless-network work channel. The two choices are Automatic Selection and Manual of Choice. Different countries or regions use different channel numbers. For national or regional settings, please see the section on advanced settings.

Operation Mode: Mixed Mode or Green Field:

Mixed Mode: The former wireless card can identify the Pre-N AP and connect to it but the transmission will be affected somewhat. (The default is Mixed Mode.)

Green Field: You can achieve a higher transmission rate but it will affect backwards compatibility and the security of the system.

Channel Bandwidth: Choose 20 or 20/40. (The default is 20/40.)

Guard interval: Choose Long or Auto. (The default is Auto.)

MCS: Modulation Code Lists: The 802.11n standard of the wireless LAN (W LAN) communications rate. (The default is Auto.)

Reverse Direction Access (RDG): Enable or disable this permission.

Extensions channel: Choose from the defined band expanded channels.

Space Time Block Coding(STBC): Choose Enable or Disable. (The default is Enabled)

Polymerization MAC Business Data Unit (A-MSDU): The multiple Ethernet message is clumped into a larger load in a certain way. (The default is Disabled)

Auto Block ACK: Choose Enable or Disable. (The default is Enabled)

Decline BA Request: Choose Enable or Disable. (The default is Disabled)

HT Disallow TKIP: Choose Enable or Disable. (The default is Enabled)

Advanced

Select "Wireless Settings | Advanced" to access the advanced wireless settings interface. It includes advanced parameters like Beacon Interval and transmitting power to set an optimal allocation for your network. Please do not modify the contents unless you are an advanced user.

Advanced Wireless	
BG Protection Mode	Auto
Beacon Interval	100 ms (range 20 - 999, default 100)
Data Beacon Rate (DTIM)	1 ms (range 1 - 255, default 1)
Fragment Threshold	2346 (range 256 - 2346, default 2346)
RTS Threshold	2347 (range 1 - 2347, default 2347)
TX Power	100 (range 1 - 100, default 100)
Short Preamble	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Short Slot	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Tx Burst	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
PKT Aggregate	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
IEEE 802.11H Support	<input type="radio"/> Enable <input checked="" type="radio"/> Disable (only in A band)
Country Code	None

Wi-Fi Multimedia	
WMM Capable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
APSD Capable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
DLS Capable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
WMM Parameters	WMM Configuration

Multicast-to-Unicast Converter	
Multicast-to-Unicast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

Save Apply Cancel

BG Protection Mode: You can select On or Off. (The default is Auto.)

Beacon Interval: It can be set to obtain the access interval time of a nearby wireless network. (The default is 100ms.)

Data Beacon Rate (DTIM): It is the time (in ms) used to transfer information, which is shown in the next client window that receives broadcast and multicast messages. The range is 1 to 255. (The default is 1.)

Fragment Threshold: It sets the data's packet size before the data is transmitted. When a wireless network is busy or is working in a high-interference environment, you should enable this function. A packet should be divided to reduce the number of retransmissions, which improves the wireless network's performance. If the fragment threshold is above the data packet value, the data will not be divided when it is transmitted. Otherwise, it will be divided one packet (not all packets) at a time. Its range is 256-2346. (The default is 2346.) We recommend using the default value or a value that is slightly lower than the default value.

RTS Threshold: An appropriate setting can avoid a hidden node problem that occurs when both radios share the same access point but vary in range. The RTS packet size that radios send depends on the RTS Threshold. The range of the RTS Threshold is 1-2347. (The default is 2347.) When the packet size exceeds the RTS limits, this device will send an RTS notice before sending the packets. When you set a transfer request limit, consider the pros and cons. A low value enables RTS notifications but a higher frequency will occupy more bandwidth. However, the more often that an RTS packet transmits, the sooner the system will recover from a data collision. So, we recommend using the default value or a value that is slightly lower than the default value.

TX Power: It defines the transmitting power size for the SSID of the current machine. 50 is half power. (The default is 100, which is full power.)

Short Preamble: It is used to provide a leading frame for the default setting. You can enable or disable it. (The default is Disabled, which is recommended.)
Shot slot: You can enable or disable it. (The default is Enabled, which is recommended)

TX Burst: This property belongs to the MAC address layers, which can improve the balance of the wireless network TCP transmission. You can enable or disable it. (The default is Enabled, which is recommended)

PKT Aggregate: Aggregation technologies put multiple packets together, which enhances each LAN packet to be sent to its destination correctly. This improves the transmitting efficiency. You can enable or disable it. (The default is Enabled, which is recommended.)

IEEE 802.11H Support: It is intended to resolve interference issues introduced by the use of 802.11a in some locations, particularly with military radar systems and medical devices. The rules for 802.11h were recommended by the International Telecommunication Union, which is an addition to the 802.11a standards. The 802.11h standard is compliant with European standards on 5GHz wireless LANs. (The default is disabled.)

Country Code: Select the appropriate country code to meet local requirements according to the country or region where you are. Different countries or regions have different wireless controls, such as the channel number. (The default is None, which means it has no set value.)

WMM Capable: It is used to set the Wi-Fi service (QoS) ability for multimedia quality. When this function is enabled, the router will prioritize wireless data according to the type of data. (The default is enabled.)

Note: In order to apply the WMM function, both client and router must support it.

AP SD Capable: It shows expandability. You can enable or disable this function. (The default is Disabled)

Wi-Fi WMM settings: Click on the Wi-Fi WMM settings button. A settings page will then pop up:

WMM Parameters of Access Point						
	Aifsn	CWMin	CWMax	Txop	ACM	AckPolicy
AC_BE	3	15	63	0	<input type="checkbox"/>	<input type="checkbox"/>
AC_BK	7	15	1023	0	<input type="checkbox"/>	<input type="checkbox"/>
AC_VI	1	7	15	94	<input type="checkbox"/>	<input type="checkbox"/>
AC_VO	1	3	7	47	<input type="checkbox"/>	<input type="checkbox"/>

WMM Parameters of Station						
	Aifsn	CWMin	CWMax	Txop	ACM	
AC_BE	3	15	1023	0	<input type="checkbox"/>	
AC_BK	7	15	1023	0	<input type="checkbox"/>	
AC_VI	2	7	15	94	<input type="checkbox"/>	
AC_VO	2	3	7	47	<input type="checkbox"/>	

Save Apply Cancel Close

Security

Select "Wireless Settings | Security". This interface is used to set up wireless network security encryption. You can choose the SSID that you need to encrypt. Select a safe mode, and then set the encryption keys to prevent unauthorized access to a wireless client connection. You can also allow or prohibit an illegal connection by setting up a strategy based on MAC.

OPEN WEP

WEP encryption is the earliest wireless encryption, which is accomplished by using a 64/128/152 key for encryption of data transmission. The router works at a slower rate under this encryption method. New 802.11n agreements do not support this encryption method, so this encryption method is not recommended unless your wireless client is incompatible with another encryption method.

Wireless Router

- WiFi 802M Router
- System
- Operation Mode
- System Settings
- Wireless Settings
 - Basic
 - Advanced
 - Security
 - WDS
 - Tools
 - Station List
- Firewall
- Administration

Support a frequently asked question via email. Press the application button to take useful steps all the way.

Wireless Security/Encryption Settings

Setup wireless security and encryption to prevent unauthorized access.

Select SSID

SSID choice: WPA2

WEP0*

Security Mode: OPENWEP

Wire Equivalence Protection (WEP)

Default Key: Key 1

WEP Keys	WEP Key 1	WEP Key 2	WEP Key 3	WEP Key 4	Hex
					Hex
					Hex
					Hex
					Hex

Access Policy

Policy: Disable

Add a station Mac:

Save Apply Cancel

Default key: Select the current default key number.

WEP Keys (1 to 4): Set up different keys according to the encryption length and type. There are two kinds of encryption lengths which are available: 64-bit and 128-bit. There are two kinds of key types available: Hex (Hexadecimal) and ASCII. If you use Hex, the key characters can be 0 to 9 and/or A to F. If you use ASCII, then any ASCII characters on the keyboard can be used. If you choose the Hex key type, the key would be 10 or 26-bit hex characters. If you choose the ASCII key type, the key would be with 5 or 13-bit ASCII characters.

WPA-PSK

This is a pre-sharing key called Wi-Fi Protect Access. It is a standard new encryption technology that provides two more powerful encryption methods than WEP does: TKIP (Temporary Key Integration Agreements) and AES (Advanced Encryption Standard). The setting of this key can change the password dynamically, improve the WEP security effectively, and resist hacking more effectively. It is one of the most common encryption methods used.

The screenshot shows the 'Wireless Security/Encryption Settings' page. The left sidebar contains a navigation menu with options like 'WIFI-320M Router', 'Wizard', 'Operation Mode', 'Internet Settings', 'Wireless Settings', 'Basic', 'Advanced', 'Security', 'WDS', 'WPS', 'Station List', 'Firewall', and 'Administration'. A blue callout box on the left contains the text: 'Support a separate page settings are saved. Press the application button to take effect immediately at the end.' The main content area is titled 'Wireless Security/Encryption Settings' and includes the subtitle 'Setup wireless security and encryption to prevent unauthorized access.' The settings are organized into sections: 'Select SSID' with 'SSID choice' set to 'WAO2'; 'WPA2*' with 'Security Mode' set to 'WPA-PSK'; 'WPA' with 'WPA Algorithms' set to 'TKIP', 'AES', and 'TKIPAES', 'Pass Phrase' set to '12345678', and 'Key Renewal Interval' set to '3600' seconds; and 'Access Policy' with 'Policy' set to 'Disable' and an empty 'Add a station Mac' field. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

WPA algorithm: Select an encryption method such as AES or TKIP. The TKIP algorithm would jumble the code by using a hash algorithm and by adding a complete-checking character, ensuring against tampering with the password.

Pass Phrase: Enter the key which should have 8-63 ASCII characters or a 64-bit hexadecimal (0 to 9 and/or A to F) character.

Key Renewal Interval: Enter the key-renewal length of time (seconds). (The default is 3600.)

WPA2-PSK

This is a pre-sharing key called Wi-Fi Protect Access Version 2, which can be compared with WPA-PSK. The encryption that WPA2-PSK offers is better than the encryption that WPA-PSK offers but it does not adapt to all LAN cards. Please refer to the WPA-PSK section for the settings procedure.

This screenshot is identical to the one above, showing the 'Wireless Security/Encryption Settings' page. The 'Security Mode' under the 'WPA2*' section is set to 'WPA2-PSK' instead of 'WPA-PSK'. All other settings, including the SSID, algorithms, pass phrase, key renewal interval, and access policy, remain the same.

WPA-PSK/WPA2-PSK

It supports the WPA-PSK /WPA2-PSK encryption so that clients can access the Internet using WPA-PSK or WPA2-PSK encryption. Please refer to the WPA-PSK section or the WPA2-PSK section for the setting procedure.

The screenshot shows the 'Wireless Security/Encryption Settings' page. The left sidebar contains a navigation menu with options like 'Wireless Router', 'Wired', 'Operation Mode', 'Internet Settings', 'Wireless Settings', 'Basic', 'Advanced', 'Security', 'WPS', 'Station List', 'Forward', and 'Administration'. The main content area is titled 'Wireless Security/Encryption Settings' and includes a description: 'Setup wireless security and encryption to prevent unauthorized access.' The settings are organized into sections: 'Select SSID' (SSID-choice: WPA2), 'WPA2*' (Security Mode: WPA2/WPA/WPA3), 'WPA' (WPA Algorithms: TKIP, AES, TKIP/AES; Pairwise: 128/256; Pairwise Interval: 300 seconds), 'Access Policy' (Policy: Disable), and 'Add a station Mac:'. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

WPA

This authentication protocol is based on RADIUS server. This security mode is used when a RADIUS server is connected to the Router.

The screenshot shows the 'Wireless Security/Encryption Settings' page for WPA. The left sidebar is identical to the previous screenshot. The main content area is titled 'Wireless Security/Encryption Settings' and includes a description: 'Setup wireless security and encryption to prevent unauthorized access.' The settings are organized into sections: 'Select SSID' (SSID-choice: WPA), 'WPA*' (Security Mode: WPA), 'WPA' (WPA Algorithms: TKIP, AES, TKIP/AES; Pairwise Interval: 300 seconds), 'Radius Server' (IP Address, Port: 1812, Shared Secret, Session Timeout, Idle Timeout), 'Access Policy' (Policy: Reject), and 'Add a station Mac:'. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

Radius IP Address: Please input IP address of the radius server here.

Radius Port: Please input the port number of the radius server here.

Shared key: The encryption key that the router is authenticated through RADIUS server.

Session Timeout: The recertification time interval between the router and the server. The default value is 3600s.

WPA2

This authentication protocol is based on RADIUS server. This security mode is used when a RADIUS server is connected to the Router.

The screenshot shows the 'Wireless Security/Encryption Settings' page for WPA2. The left sidebar is identical to the previous screenshots. The main content area is titled 'Wireless Security/Encryption Settings' and includes a description: 'Setup wireless security and encryption to prevent unauthorized access.' The settings are organized into sections: 'Select SSID' (SSID-choice: WPA2), 'WPA2*' (Security Mode: WPA2), 'WPA' (WPA Algorithms: TKIP, AES, TKIP/AES; Pairwise Interval: 300 seconds; PMK Cache Period: 90 seconds; Pre-Authentication: Disable/Enable), 'Radius Server' (IP Address, Port: 1812, Shared Secret, Session Timeout, Idle Timeout), 'Access Policy' (Policy: Reject), and 'Add a station Mac:'. At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

Radius IP Address: Please input IP address of the radius server here.

Radius Port: Please input the port number of the radius server here.

Shared key: The encryption key that the router is authenticated through RADIUS server

Session Timeout: The recertification time interval between the router and the server. The default value is 3600s.

802.1X

This security mode is used when a RADIUS server is connected to the Router. 802.1x, a kind of Port-based authentication protocol, is an authentication type and strategy for users. The port can be either a physic port or logic port (such as VLAN). For wireless LAN users, a port is just a channel.

The final purpose of 802.11x authentication is to check if the port can be used. If the port is authenticated successfully, you can open this port which allows all the messages to pass. If the port isn't authenticated successfully, you can keep this port "disable" which just allows 802.1x authentication protocol message to pass.

Wireless Security/Encryption Settings
Setup wireless security and encryption to prevent unauthorized access.

Select SSID
SSID choice: VIA02

WPA02
Security Mode: 802.1X

802.1X WEP
WEP: Disable Enable

Radius Server
IP Address: 0
Port: 1812
Shared Secret: radius
Session Timeout: 0
Idle Timeout:

Access Policy
Policy: Reject
Add a station Mac:

Save Apply Cancel

WEP: Select "enable/disable" WEP encryption which indicates the authentication process between wireless adapter and wireless router.

Radius IP Address: Please input IP address of the radius server here.

Radius Port: Please input the port number of the radius server here.

Shared key: The encryption key that the router is authenticated through RADIUS server

⚠ **Note:** In order to improve your security level, please do not use a password which is simple or easy to remember.

Access Policy

You may provide wireless-access setting strategies based on MAC to allow or refuse the access of selected MAC addresses. Within the same SSID, only the Enable or Disable functions may be set:

Access Policy
Policy: Allow

Del 00:0C:43:30:52:88 Del 00:0C:43:30:52:88

Add a station Mac:

Save Apply Cancel

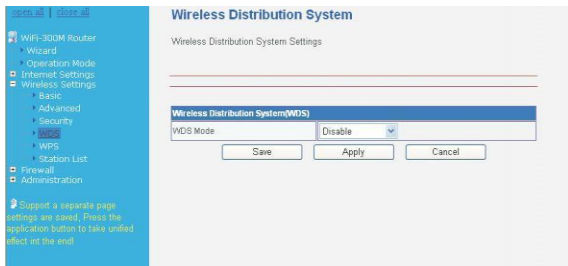
Disable: When the Disable function (in the pull-down menu under the security mode) is selected, the access strategy function is disabled. It stops access control of the wireless devices listed on the MAC list. When the Disable function in the pull-down menu of Policy is selected, you can delete a relevant MAC by clicking on the Del button in the MAC list and then by clicking on the Apply button to submit the order and to restart the router.

Enable: When the Enable function is selected, the MAC address is added to the list to connect the router to it.

WDS

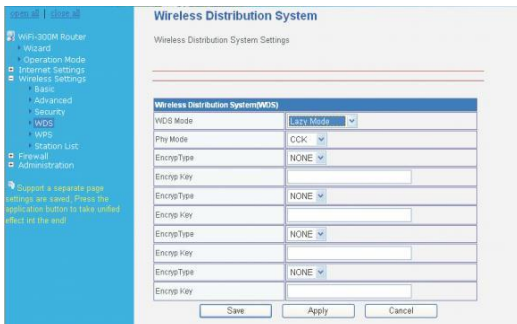
Click on "Wireless Settings | WDS", enter your wireless distribution system interface to enable the WDS, or select the WDS (Wireless Distribution System) mode. WDS opens the WDS function on the radio equipment, establishes WDS trust and communication, extends the expansion wireless signal, and enables wide wireless network coverage.

Note: In order to use this function, the users must all be equipped with the WDS function and must all be WDS members. Also, the channel of each transmission point must not set the automatic channel choice. The same channel and same working mode are required to be set at each transmission point. WDS member machines are located at different IP addresses of an identical network segment. If the DHCP function is needed, enable just one of the machines and disable the other DHCPs. Use the identical product brand (model and series) to obtain better compatibility and to enable the connection for as long as possible. All SRX-WR products can support three modes: Lazy Mode, Bridge Mode, and Repeater Mode:



1.Lazy Mode:

There is no need to fill in the BSSID of the opposite party in this mode. The WDS connection is now a passive connection, so the other party should fill in the BSSID address of the router. This means that the WDS mode of the other party's machine can only be in a non-Lazy mode (Bridge or Repeater mode). Also, the WDS connections of the machines must be in the same physical mode, they must be on the same wireless channel (not on Auto), and they must have the same wireless encryption type (not supporting the Mix encryption type like WPA2/WPA2PSK). The machines must each have unique IP addresses on the same network. Open only the DHCP function; close all other DHCP functions.



Phy Mode: Select the supporting Physical mode (CCK, OFDM, or HTMIX) . The same physical mode must exist for all of the connecting equipment.

Encrypt Type: Select NONE (no encryption type). There are 3 types: WEP, TKIP (Temporal Key Integrity Protocol) and AES (Advanced Encryption Standard) . You can set a maximum of four different types and can use these types to connect to four different clients.

Note: The same encryption type must exist for all of the equipment to the connection to be established.

Encrypt Key: Input a new key here after choosing the Encrypt Type.

2. Bridge Mode

The Bridge mode requires the BSS ID of the other client to be filled in. The AP SSID of this router will be shielded so that the wireless client will not be able to determine this router. The wired client can use a WAN port to access the Internet.

The screenshot shows the 'Wireless Distribution System (WDS)' configuration page. On the left is a navigation menu with options like 'WDS Mode', 'Phy Mode', 'Encrypt Type', and 'AP MAC Address'. The main area is titled 'Wireless Distribution System (WDS)' and contains the following settings:

WDS Mode	Bridge Mode
Phy Mode	CCK
Encrypt Type	NONE
Encrypt Key	
Encrypt Type	NONE
Encrypt Key	
Encrypt Type	NONE
Encrypt Key	
Encrypt Type	NONE
Encrypt Key	
AP MAC Address	
AP MAC Address	
AP MAC Address	
AP MAC Address	

At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

Phy Mode: Select the supporting physical mode (CCK, OFDM, or HTMIX) . The same physical mode is required for all connecting equipment .

Encrypt Type: Select NONE (no encryption type) . There are 3 types: WEP, TKIP (Temporal Key Integrity Protocol) , and AES (Advanced Encryption Standard). You can set a maximum of four different types and can use these types to connect to four different clients.

Note: The same Encrypt Type must exist for all connecting equipment in order to establish a connection .

AP MAC address: Fill in the BSS ID of the WDS connecting equipment. You can fill in four different BSS IDs in order to enable one-to-many connections.

3.Repeater Mode

You have to input the BSSID of the connected equipment. Either a wireless client or a wired client (not a bridge) can connect to the network in the WDS mode.

The screenshot shows the 'Wireless Distribution System (WDS)' configuration page. On the left is a navigation menu with options like 'WDS Mode', 'Phy Mode', 'Encrypt Type', and 'AP MAC Address'. The main area is titled 'Wireless Distribution System (WDS)' and contains the following settings:

WDS Mode	Repeater Mode
Phy Mode	CCK
Encrypt Type	NONE
Encrypt Key	
Encrypt Type	NONE
Encrypt Key	
Encrypt Type	NONE
Encrypt Key	
Encrypt Type	NONE
Encrypt Key	
AP MAC Address	
AP MAC Address	
AP MAC Address	
AP MAC Address	

At the bottom are 'Save', 'Apply', and 'Cancel' buttons.

WPS (Wi-Fi Protected Setup)

WPS is a standard used to establish an easy and secure wireless client and router. It is created by the Wi-Fi Alliance, so you don't need to choose the encryption type or to set the key. You can set the WPS by inputting the right PIN code or by pressing the WPS/RESET button on the panel.

WPS Config: Select the Enable or Disable WPS function. You need to enable the WPS before you can use the WPS button on the panel to set the PBC encryption. (The default is Disabled)

WPS Summary: This displays the parameters of the current WPS settings, including: WPS current status, SSID, authentication mode, encryption type, AP PIN, etc.

Reset OOB: Click this button to restore all WPS configurations to the default value.

WPS Progress: It supports 2 ways to configure WPS settings: PBC (Push-Button Configuration) and PIN (Personal Identification Number).

PBC: Select PBC or press the WPS button on the panel of the Router to 1 second. The WPS indicator will blink, allowing you to enable the client to implement the WPS/PBC.

PIN: You have to know the PIN code of the client to use this option. Fill in the code and save it; then use the same code for the client.

WPS Status: It displays the WPS current status. There are three states:

- WPS Idle:** It shows that the WPS current status is free.
- WPS Start WPS Process:** It shows that the WPS current status is sending a message.
- WPS Success:** It shows that access of the client to the AP is successful and that a WPS connection has been established.

AP client

AP client settings option, only when the router works in "AP client" mode, the option can be set. Including the wireless base station to be connected (wireless access point) of the SSID, BSSID and other parameters.

AP Client Feature

You could configure AP Client parameters here.

AP Client Parameter

SSID	WIFI
MAC Address (Optional)	00:0C:43:3D:52:60
Security Mode	WPA2PSK
Encryption Type	TKIP
Pass Phrase	blank123

Buttons: Save, Apply, Cancel

SSID: enter the name of wireless base station.

MAC Address (optional): enter the BSSID name which is connected to wireless base station.

Security Mode: Select the security mechanism.

Encryption Type: Select the wireless encryption type.

Pass Phrase: Enter the password for the encrypti on key.

Station List

You may monitor stations associated with the AP here.

Profile

When the router works in Ethernet converter mode, click "Add button" on the "Profile" option, in the popup page, connect to the wireless base station to set the relevant parameters (such as the Service Set Identifier, encryption, etc.) , and confirm the submission, it can be set on the wireless base station (wireless access point) to implement binding settings.

You also can set the file list in the profile list, select the appropriate file, and then to operate by clicking the "delete", "Edit", "activate" button.

Note: Only after the wireless base station to activate its binding come into effect.

Link Status

When the router works in Ethernet converter mode, it acts as a wireless client that associated with the wireless base station its connection status information shown in the online status, such as l in e speed, the signal strength.

192.168.1.1 | 192.168.1.1

- WiFi-300M Router
 - Wizard
 - Operation Mode
 - Internet Settings
 - Wireless Settings
 - Profile
 - Link Status
 - Site Survey
 - Advance
 - 11n Configurations
 - WPS
 - Firewall
 - Administration

Support a separate page settings are saved. Press the application button to take unified effect on the web!

Station Link Status

The Status page shows the settings and current operation status of the Station.

Link Status	
Status	ChinaNet-MgQ ↔ 00-1E-10-FA-7D-35
Extra Info	Link is Up
Channel	2 ↔ 2417000 KHz; Central Channel: 2
Link Speed	Tx(Mbps) 48.0 Rx(Mbps) 54.0
Throughput	Tx(Kbps) 0.0 Rx(Kbps) 23.7
Link Quality	Good 94%
Signal Strength 1	Good 97%
Signal Strength 2	Weak 0%
Signal Strength 3	Weak 0%
Noise Level	Strength 100%

dBm format

MFI	
BIV	n/a
CI	n/a
STBC	n/a
MCS	n/a
SNR0	0
SNR1	n/a
SNR2	n/a

Site Survey

When the router works in Ethernet converter mode, scan the base station, the wireless router based near the station can be searched out, there will be a list shows service set identifier base station (SSID), the basic service set identifier (BSSID), received signal strength, channel, encryption type and other information.

192.168.1.1 | 192.168.1.1

- WiFi-300M Router
 - Wizard
 - Operation Mode
 - Internet Settings
 - Wireless Settings
 - Profile
 - Link Status
 - Site Survey
 - Advance
 - 11n Configurations
 - WPS
 - Firewall
 - Administration

Support a separate page settings are saved. Press the application button to take unified effect on the web!

Station Site Survey

This page shows information about APs nearby. You may choose one of these APs by connecting or adding it to the profile.

Site Survey							
	SSID	BSSID	RSSI	Channel	Encryption	Authentication	Network Type
<input type="radio"/>	WIFI1	00-0C-43-30-53-58	88%	6	AES	WPA2-PSK	Infrastructure
<input type="radio"/>	WIFIAN_300A	00-ED-4C-1A-02-A8	10%	1	Not Use	OPEN	Infrastructure
<input type="radio"/>	ChinaNet-MedIn	00-25-5E-1E-37-D3	39%	1	Tx/PS	WPA-PSK	Infrastructure
<input type="radio"/>	WiFiP2	00-0C-43-30-53-90	50%	3	Not Use	OPEN	Infrastructure
<input checked="" type="radio"/>	ChinaNet-MgQ	00-1E-10-FA-7D-35	91%	2	Tx/PS	WPA-PSK	Infrastructure
<input type="radio"/>	BL-HighPower-N1	00-0C-43-30-53-90	100%	6	AES	WPA-PSK, WPA2-PSK	Infrastructure
<input type="radio"/>	WiFiVOS	00-A5-80-18-18-29	10%	8	WEP	Unknown	Infrastructure
<input type="radio"/>	ChinaNet-Vigu	00-22-93-2F-5C-F8	44%	16	Tx/PS	WPA-PSK	Infrastructure
<input type="radio"/>	ChinaNet-HQD	00-22-93-22-43-E1	10%	16	Tx/PS	WPA-PSK	Infrastructure
<input type="radio"/>	TP-LINK_DFF610	E0-05-C5-DF-F8-19	24%	11	AES	WPA-PSK, WPA2-PSK	Infrastructure
<input type="radio"/>	TP-LINK_E01474	E0-05-C5-E0-14-74	5%	13	Not Use	OPEN	Infrastructure

Channel: 2 ↔ EL-19A2C.A

Select the appropriate base station, then click on "Connect" button, in the popup page you can set the password which associated with online authentication access.

SSID:

Security Policy

Security Mode:

WPA

WPA Algorithms: TKIP AES

Pass Phrase:

When connection is successful, the service set identifier (SSID) can be shown as a green symbol, a shaking hands on the top.

Open All | Close All

- WIFI-3000M Router
 - Wizard
 - Operation Mode
 - Internet Settings
 - Wireless Settings
 - Profile
 - Link Status
 - Site Survey
 - Advance
 - 11n Configurations
 - WPS
 - Firewall
 - Administration
- Support a separate page settings are used. Press the application button to take under effect of the end.

Station Site Survey

This page shows information about APs nearby. You may choose one of these APs by connecting or adding it to the profile.

Site Survey						
SSID	BSSID	RSSI	Channel	Encryption	Authentication	Network Type
■ ChinaNet-MfgQ	00-1E-10-7A-7D-35	86%	2	TKIP	WPA-PSK	Infrastructure
○ ChinaNet-MhDm	00-25-5E-1E-37-03	15%	1	TKIP	WPA-PSK	Infrastructure
○ WFP02	00-9C-43-38-52-00	44%	3	Not Use	OPEN	Infrastructure
○ WHD01	00-9C-43-38-52-59	65%	6	AES	WPA2-PSK	Infrastructure
○ BL-HighPower-N1	00-9C-43-38-52-90	100%	6	AES	WPA-PSK, WPA2-PSK	Infrastructure
○ BL-WHD2-A	00-A1-80-F7-95-87	60%	6	Not Use	OPEN	Infrastructure
○ CMCC	00-21-2F-0F-81-38	34%	6	Not Use	OPEN	Infrastructure
○ WWD08	00-A1-80-18-18-29	9%	8	WEP	Unknown	Infrastructure
○ ChinaNet-Vigao	00-22-93-42-41-61	20%	18	TKIP	WPA-PSK	Infrastructure
○ ChinaNet-Hyde	00-22-93-42-41-61	9%	18	TKIP	WPA-PSK	Infrastructure
○ TP-LINK_E01474	50-05-05-E9-14-74	1%	13	Not Use	OPEN	Infrastructure

Connected 4 -> ChinaNet-MfgQ
Connect
Rescan
Add Profile

In addition, you also can click on the "Add Profile", in the popup pages you can operate some associated settings, click "Apply" button, and then see the information by clicking the "Profile".

System Configuration

Profile Name	PROF001
SSID	ChinaNet-vMfgQ
Network Type	Infrastructure ▼
Power Saving Mode	<input checked="" type="radio"/> CAM (Constantly Awake Mode) <input type="radio"/> Power Saving Mode
RTS Threshold	<input type="checkbox"/> Used <input style="width: 80px;" type="text" value="2347"/>
Fragment Threshold	<input type="checkbox"/> Used <input style="width: 80px;" type="text" value="2346"/>

Security Policy

Security Mode	WPA-Personal ▼
---------------	----------------

WPA

WPA Algorithms	<input checked="" type="radio"/> TKIP <input type="radio"/> AES
Pass Phrase	<input style="width: 100%; background-color: #eee;" type="text" value="*****"/>

Apply
Cancel

Advanced

When the router works in Ethernet converter mode, through the advanced settings option, you can set the parameters of wireless client mode, the number of wireless channel, B/G/N protection mechanisms and so on.

The screenshot shows the 'Station Advanced Configurations' page. On the left is a navigation menu with options like 'WPS-300M Router', 'Wizard', 'Operation Mode', 'Internet Settings', 'Wireless Settings', '11n Configurations', 'Firewall', 'MAC/IP/Port Filtering', 'Port Forwarding', 'DMZ', 'System Security', 'Content Filtering', and 'Administration'. A note below the menu says: 'Support a separate page settings are saved. Press the application button to take effect about as the end.' The main content area is titled 'Station Advanced Configurations' and includes the text: 'The Status page shows the settings and current operation status of the Station.' Below this are two sections: 'Advance Configuration' and '11n Physical Mode'. The 'Advance Configuration' section has fields for 'Wireless Mode(BNA)' (set to '802.11 B/G/N mixed mode'), 'Country/Region Code' (set to '11 B10 5 CH1-14'), and 'B/G Protection' (set to 'Auto'). There is a checkbox for 'Tx Burst' which is checked. The '11n Physical Mode' section has radio buttons for 'HT' (MIMO or OFDM), 'BW' (20 or Auto), 'OI' (Long or Auto), and 'MCS' (Auto). At the bottom are 'Radio Off' and 'Apply' buttons.

11n Configurations

When the router works in Ethernet converter mode, it acts as a wireless client working in 11n mode, you set some parameters through the "11n Configurations" option.

The screenshot shows the 'Station 11n Configurations' page. It has the same navigation menu as the previous page. The main content area is titled 'Station 11n Configurations' and includes the text: 'The Status page shows the settings and current operation status of the Station.' Below this is a section titled '11n Configuration' with three checkboxes: 'MPOU Aggregation' (unchecked), 'MPOU density' (set to '1'), and 'Aggregation MSDU(MSDU)' (checked). An 'Apply' button is at the bottom.

WPS

When the router works in Ethernet converter mode, you can set the WPS client function through the "WPS" settings option.

The screenshot shows the 'Wi-Fi Protected Setup (WPA)' page. The navigation menu is the same. The main content area is titled 'Wi-Fi Protected Setup (WPA)' and includes the text: 'Configure Wi-Fi Protected Setup here.' Below this is a table titled 'WPS AP info survey' with columns: No., BSSID, BSSID, Prio, Ch, Auth, Encrypt, Ver, Status. The table contains several entries for different APs. At the bottom, there are fields for 'PIN: 31627715', 'PIN Start', 'PBC Start', and 'Cancel', along with a 'Refresh' button and a 'Renew PIN' button. Below the table is a section titled 'WPS Status' with a 'Stop' button.

Firewall

MAC/IP/PORT Filtering

This function is used to manage the clients connected to the router, so that you can limit the client's Internet access. Before using this function, you need to choose Accept or Drop so that a data package that does not match the rule will be categorized as Accept or Drop accordingly. Then, fill in the corresponding rules. The rules depend on your needs, not all of the information needs to be filled in.

Example: If you want to prohibit a client whose IP address is 192.168.16.146 from accessing the Internet,

just choose Accept and fill in 192.168.16.146 for the source IP address. This function can improve LAN user security and manageability.

MAC/IP/Port Filtering Settings

You may setup firewall rules to protect your network from viruses, worms and malicious activity on the Internet.

Basic Settings

MAC/IP/Port Filtering	Disable
Default Policy – The packet that don't match with any rules would be	Dropped

Apply Reset

MAC/IP/Port Filter Settings

MAC address	
Dest IP Address	
Source IP Address	
Protocol	None
Dest Port Range	
Source Port Range	
Action	Accept
Comment	

Apply Reset

Current MAC/IP/Port filtering rules in system:

No.	MAC address	Dest IP Address	Source IP Address	Protocol	Dest Port Range	Source Port Range	Action	Comment	Pkt Cnt
Others would be dropped.									
									-

MAC/IP/Port Filtering: If you want to enable this function, select Enable (The default is Disabled).

Default Policy: You can state that packets that don't match any rules are to be dropped or accepted.

MAC address: Enter the MAC address for which you want to define a rule.

Dest IP Address: Enter the destination IP address you want to filter.

Source IP Address: Enter the source IP address you want to filter.

Protocol: Select a protocol to control data packages.

Dest Port Range: Enter the destination IP address you want to control. The start port number must not be greater than the end port number.

Source Port Range: Enter the source IP address you want to control. The start port number must not be greater than the end port number.

Action: Drop or accept the defined rule.

Comment: Describe the rule.

Port Forwarding

Port forwarding (port mapping) is the process of setting a virtual server to establish mapping relations between: WAN IP address, external port LAN server IP address, and internal port and LAN server IP addresses. This function allows the WAN user to access services (web, email, FTP, etc.) via the LAN server. By default, the wireless router will block initiating connection requests from the Internet to guarantee the security of the LAN. If you want to allow Internet users to access a server within the LAN, set up a virtual server.

Virtual Server Settings

Virtual Server Settings:

IP Address:

Port Range:

Protocol:

Comment:

Current Virtual Servers in system:

No.	IP Address	Port Range	Protocol	Comment
<input type="button" value="Delete Selected"/> <input type="button" value="Reset"/>				

Single virtual Server Settings

Single virtual Server Settings:

IP Address:

Public port:

Private port:

Protocol:

Comment:

Current Single Virtual Servers:

No.	IP Address	Public port	Private port	Protocol	Comment
<input type="button" value="Delete Selected"/> <input type="button" value="Reset"/>					

Virtual Server Settings: Enable or Disable the virtual server. (The default is Disabled)

IP address: Enter the IP address of the internal network which you want to set up as a virtual server (like 192.168.16.254).

Port Range: Server port range of the host in the internal network (like 80).

Protocol: Select the program protocol (TCP/UDP/TCP&UDP). (The default is TCP&UDP.)

Comment: Enter a comment. Example for the configuration above: "Visit 80 port. It will turn to the host whose IP address is 192.168.16.254"). Current Virtual Servers in system: Displays a list of virtual servers.

Single Virtual Server Settings: Enable or disable a single virtual server. (The default is Disable.)

IP address: Enter the IP address of the internal network which you want to set up a single virtual server.

Common Port: It is the port used to access the virtual server by a client.

Private Port: It is the real port opened by the virtual server.

Protocol: Select a program protocol (TCP/UDP/TCP&UDP).

Comment: Enter a comment. Current Single Virtual Server in system: It shows a list of virtual servers.

DMZ

The DMZ host is the default virtual server. Its priority is lower than that of a virtual server. When a wireless router receives a connection request from an external network, the router scans the server list according to the number of the server port. If there is a matching port, it sends this request to the corresponding virtual server. If there is not, it checks for a matching DMZ host and sends a request to it; if it can't find the host, it abandons the request. As for a detailed setting, you only need to fill in the host IP address, choose Enable, and click on Apply to save it.

Note: If you enable the DMZ function, this host will be exposed in the WAN, which would compromise its security. When you set the DMZ function, ensure that the number of port that is accessed is the same as the number of the port which the DMZ host enables.

DMZ Settings

You may setup a Demilitarized Zone(DMZ) to separate internal network and Internet

DMZ Settings

DMZ Settings:

DMZ IP Address:

DMZ Settings: Enables or disables DMZ host.

DMZ IP Address: Enables the IP address of the computer you want to display.

System Security

Select "Firewall | System Security" to enable or disable the remote management. You can allow or forbid a PC in the WAN network management router by using the WAN IP address of the router to access a web page. You can enable or disable ping packages and ping requests in the WAN filter, port scan block, SYN flood and in the SPI firewall function. **Caution:** If you enable the SPI firewall function, some firewall functions (like IP/MAC/PORT filtering) may stop working.

You may configure the system firewall to protect your Travel Router.

Remote management	Remote management (via WAN)	Deny
Ping from WAN Filter	Ping from WAN Filter	Disable
Block Port Scan	Block port scan	Disable
Block SYN Flood	Block SYN Flood	Disable
Statful Packet Inspection (SPI)	SPI Firewall	Disable

Apply Reset

Content Filtering

In this interface, you can set Proxy, Java, and ActiveX content filtering in a web page when you browse the Web. You can also set URL filtering rules according to your demand (by domain name, host name, and keywords) to prohibit a LAN PC from accessing a website.

Content Filter Settings

Setup a Content Filter to restrict access to specific types of content here.

Web Content Filter	Filters:	<input type="checkbox"/> Proxy <input type="checkbox"/> Java <input type="checkbox"/> ActiveX
--------------------	----------	---

Apply Reset

Webs URL Filter Settings

Current Webs URL Filters:

No	URL
----	-----

Delete Reset

Add a URL Filter:

URL	
-----	--

Add Reset

Webs Host Filter Settings

Current Webs Host Filters:

No	host@keyword
----	--------------

Delete Reset

Add a Host/keyword Filter:

Keyword	
---------	--

Add Reset

Webs Content Filtering: Select appropriate filter rules according to your demand.

There are 3 types of filters:

Proxy: Filter out web pages offered by agencies.

Java: Filter out Java in web pages.

Active-X: Filter out Active-X controls in web pages. Current Web URL Filtrates (filters): It is the set rule of URL filters. If you wish, you can delete the rule: select it and click on the Delete button.

Add a URL filter: Enter the URL address you want to filter. Click on the Add button to prohibit a website from being accessed. The new URL filter will appear at the top of the list.

Current Web Host Filters: It shows the defined rule of host filtrates. If you want to remove it, please select it and click on the Delete button.

Add a Host filter: Enter the keywords of the hostname you want to filter and click on the Add button to prohibit the access of a website. The new keywords will appear at the top of the list.

Administration Management

In the left pane, click on “Administration | Management” to set configurations such as: language, administration account, password, current time, NTP (Network Time Protocol), and DNS server.

The screenshot shows the 'System Management' configuration page. On the left is a navigation tree with 'Administration | Management' selected. The main content area has a title 'System Management' and a subtitle 'You may configure administrator account and password, NTP settings, and Dynamic DNS settings here.' Below this are four sections: 'Language Settings' with a 'Select Language' dropdown set to 'English' and 'Apply'/'Cancel' buttons; 'Administrator Settings' with 'Account' (admin) and 'Password' (masked) fields and 'Apply'/'Cancel' buttons; 'NTP Settings' with 'Current Time' (Sat Jan 1 00:42:35 UTC 2000), 'Time Zone' (GMT+11:00), 'NTP Server' (empty), and 'NTP synchronization(hours)' (empty) fields, plus 'Apply'/'Cancel' buttons; and 'DNS Settings' with 'Dynamic DNS Provider' (none), 'Account', 'Password', and 'DNS' fields, plus 'Apply'/'Cancel' buttons.

Select Language: Choose one of three languages and click on the Apply button to complete the language setting.

Account: Enter a new user name for the device. (The default is **admin**)

Password: Enter a new password. (The default is **admin**). Click on the Apply button. The system will reboot and then ask you to enter the changed account name or password. If you forget the account name or password, then press and hold the reset button on the rear panel for 5 seconds to allow the system to reboot and restore all configurations to the factory-default settings.

Current time: The current time displays. Click on Sync with host to set time on the router to the time of the host.

Time zone: Choose your time zone (such as GMT+02:00 Romania).

NTP server: Input the URL address of the NTP server.

NTP synchronization (hours): This is the synchronization interval time with the NTP server.

DNS ISP: Select the DDNS (Dynamic DNS) service provider you wish to use.

DDNS Account: Input the account you registered with the DDNS service provider.

DDNS Password: Input the password you registered on the DDNS service provider.

DNS: Input the domain name you registered.

Upload Firmware

Click on “Administration | Upload Firmware” in the left pane to upgrade the firmware and update the system startup loader program.

The screenshot shows the 'Upgrade Firmware' configuration page. On the left is a navigation tree with 'Administration | Upload Firmware' selected. The main content area has a title 'Upgrade Firmware' and a subtitle 'Upgrade the firmware to obtain new functionality. It takes about 1 minute to upload. Caution: Do not turn off the unit during the upgrade.' Below this are two sections: 'Update Firmware' with a 'Location' field and a 'Browse...' button, and 'Update Bootloader' with a 'Location' field and a 'Browse...' button. Both sections have 'Apply' buttons.

Update Firmware: Click on Browse to choose the latest firmware file for the router. Click on the Apply button to upgrade it. The firmware will upgrade and then the system will reboot.

Update Boot-loader: Click on Browse to choose the latest system-loader program file for the router and then click on the Apply button to update it.

Important note: Do not turn off the power or disconnect the network from the router while the router is upgrading, otherwise the process may hang up or the equipment may get damaged.

Note: Before upgrading the router, ensure that the file is the latest one and that the corresponding product is the product of the same series.

Settings Management

In the left pane, click on “Administration | Settings Management”. You can save the system settings by exporting them to a configuration file. Restore the settings by importing the file and resetting them to the factory defaults.

Settings Management

Save system settings by exporting them to a configuration file, restore them by importing the file, or reset them back to factory defaults.

Export Settings

Export Button

Import Settings

Settings file location

Restart Router

Restart Router Button

Load Factory Defaults

Load Default Button

Export Settings: Click on Export to export the current system settings to a certain point. The filename is the default value and cannot be changed.

Import Settings: Click on Browse to see the directory to which you exported the system setting files, then choose the file, then click on the Import button, and then reboot the system.

Restart Router Button: Click this button, the device will restart the router.

Load Defaults: Click on this button to reset all of the configurations to the default values, which means that you will lose all of the settings that you previously set for the router. The system will then reboot.

Note: Please save the current configurations before importing another configuration file or restoring the factory settings.

Status

In the left pane, click on “Administration | Status” to see on this page: SDK version, system uptime, system platform, operation mode, Internet configurations, and local network.

Access Point Status

Let's take a look at the status of Platform.

System Info

SDK Version	v04.341.4.2 (Mar 30 2011)
System Up Time	1 min, 21 secs
System Platform	RT3052 embedded switch
Operation Mode	Gateway Mode

Internet Configurations

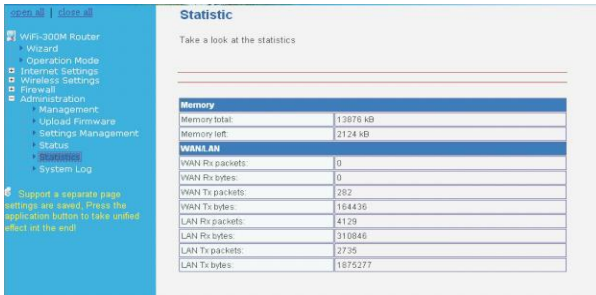
Connected Type	DHCP
WAN IP Address	192.168.10.101
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
Primary Domain Name Server	192.168.10.1
Secondary Domain Name Server	6.6.6.6
MAC Address	00:0C:43:30:52:35

Local Network

Local IP Address	192.168.16.1
Local Netmask	255.255.255.0
MAC Address	00:0C:43:30:52:33

Statistics

Click on "Administration | Statistics" in the left pane to see the current system memory usage and the number of packets sent and received on the WLAN, LAN and WAN networks.



The screenshot shows the "Statistic" page of a router's web interface. The left sidebar contains a navigation menu with "Statistics" selected. The main content area displays memory usage and network statistics.

Statistic

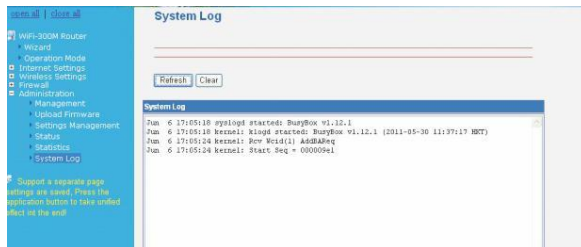
Take a look at the statistics

Memory	
Memory total:	13876 kB
Memory left:	2124 kB

WAN/LAN	
WAN Rx packets:	0
WAN Tx bytes:	0
WAN Rx packets:	282
WAN Tx bytes:	184436
LAN Rx packets:	4129
LAN Rx bytes:	310846
LAN Tx packets:	2735
LAN Tx bytes:	1876277

System Log

In the left pane, click on "System Log" to display the system login of the router. Query and easily troubleshoot the local system or remote monitoring to know which system has logged into the router. Click on the Clear button to delete the current login record.



The screenshot shows the "System Log" page of a router's web interface. The left sidebar contains a navigation menu with "System Log" selected. The main content area displays a list of system log entries and buttons for "Refresh" and "Clear".

System Log

```
Jun 6 17:05:18 syslogd started: BusyBox v1.12.1
Jun 6 17:05:18 kernel: klogd started: BusyBox v1.12.1 (2011-05-30 11:37:17 MST)
Jun 6 17:05:24 kernel: Nov Vcid(1) Ad0Ba1eq
Jun 6 17:05:24 kernel: Start seq = 000009e1
```


Appendix A: Common Troubleshooting Methods

Appendix A provides some methods to resolve problems you may meet when you install the router and some steps to take to analyze the problems using diagnostic tools.

If you cannot resolve a problem, please contact the Technical Support department.

1.Problem: Power indicator does not light.

Solution: Check that the power supply is working and that you are using the proper power adapter.

2.Problem: WAN indicator does not light when a network cable is plugged in.

Solution: Check that the network cable has been inserted correctly into the WAN port.

3.Problem: LAN indicator does not light when a network cable is plugged in.

Solution: Check that the power connector and Internet cables are ok.

Check the connection from the cable to the port.

Check whether the Ethernet card is installed correctly in the PC.

4.Problem: Failed to visit the WEB setting page.

Solution: Ensure that your browser (IE6+ or Firefox 1.5+) is the latest version and that you have Java installed on your computer.

5.Problem: Cannot save the setting that I altered on the web page.

Solution: Ensure that after you complete your configuration changes on the interface that you click on the Apply button and that you then reload the system.

6.Problem: What should a user do if he knows nothing about the router's firewall when he enables the firewall function?

Solution: A router's firewall has strict rules, so a common user should disable the firewall. Only a user who is familiar with setting a router should consider setting a firewall. Before setting the rules, please plan all of the Internet activities that the LAN users need.

Appendix B: Technical Terms

1.DHCP (Dynamic Host Configuration Protocol)

It dynamically allocates IP address, subnet mask, and gateway for a host in a network.

2.DHCP Server (Dynamic Host Configuration Protocol Server)

It runs DHCP to allocate an IP address for a DHCP client.

3.DNS (Domain Name Server)

It resolves a domain name (like www.yahoo.com) into a corresponding IP address (like 216.115.108.243). A DNS message is distributed in the DNS server for the entire Internet, so the DNS server will check the domain name that we send a request to and search for the corresponding IP address when we visit a website. If this DNS server can't find the IP address, it will send the request to a superior DNS server to continue searching for an IP address.

4.FTP (File Transfer Protocol)

A protocol that describes how to transfer files between each computer in the network.

5.HTTP (Hypertext Transfer Protocol)

It is a standard protocol for transmission of a web page.

6.ICMP (Internet Control Message Protocol)

It is used to send an error message and some important network information (like ping command).

7.IEEE (Institute of Electrical and Electronics Engineers)

It is a technical institution that specially defines international standards.

8.ISP (Internet Service Provider)

It is the Internet accessing service.

9.LAN (Local Area Network)

It is a home network or an intranet (internal private network of a small or medium-sized business).

10.MAC (Media Access Control)

The MAC address is the hardware (permanent physical) address of a device that is specified by the manufacturer, connected to a shared network medium. It is composed of 6 pairs of hexadecimal characters (like 00-0F-E2-80-65-25). Each network component has a globally unique MAC address.

11.NAT (Network Address Translation)

It allows for more than one computer to be in a LAN, sharing an IP address of the public network. It shields LAN users who access the Internet and it plays an important role in ensuring network security. It is usually used by broadband routers.

12.NIC (Network Interface Card)

Located in a PC, it provides a physical port to a cable connected to it. If it is an Ethernet NIC, it usually uses an RJ-45 port.

13.Ping

The ping command sends a message from one computer to another one to check whether it is reachable and active. It is a tool used to test whether the local computer can interchange information with another computer on the network. The local computer sends a message to a specified computer and if that computer receives the message, it responds to the local computer.

14.PPP (Point-to-Point Protocol)

It is the link layer communication protocol.

15.RJ-45

It is a standard plug used to connect to an Ethernet switch, a concentrator, and a router. A direct connecting cable and a crossover cable usually make use of this plug, along with a route function.

16.TCP/IP (Transmission Control Protocol/Internet Protocol)

It defines a group of protocols.

17.Telnet

It is an interactive program based on characters to enable a client (user on a computer) to log on to a distant host (another computer) via the Internet. Telnet allows a user a remote login and setting device.

18.WAN (Wide Area Network)

It is a data communication network covering a large geographic range (like the Internet).

19.Web page

It is a website file on the WWW (World Wide Web). A website may contain hyperlinks (text or images) to open other web pages. A homepage is the top-level web page of a website.

20.Broadcast

It sends data to all computers in a network.

21.Domain name

It is the unique key component of a URL that identifies a file by its name on the Web. The domain name is much easier to remember than the corresponding IP address (a series of numbers).

22.Ethernet

It is a network technology used for LANs. A twisted-pair cable is usually used for transmission. Ethernet data transfer rates (radio frequency signals) between computers are either 10 Mbps or 100 Mbps.

23.Firewall

It can protect a computer or LAN from an unwelcome visit or a malicious attack.

24.Package

It is made up of data and other information, including the source and destination addresses, on a network.

25.Port

It is physical interface on a computer or router in which a connector is plugged to allow data in or out.

26.Protocol

It is a group of rules used to manage data transmission. Interconnected equipment must follow the rules to transfer data successfully.

27.Long distance

It is a long way between two points (like a staff member on a business trip logging in to a company network far away).

28.Route

It is the path taken for data to travel between computer networks. A router forwards the data between them.



serious

Router Wireless Serious

Ghid de utilizare



Vă mulțumim pentru alegerea acestui router wireless broadband. Înainte de utilizarea routerului, vă rugăm să citiți cu atenție prezentul ghid de utilizare, acesta conținând informații despre toate setările de bază. Specificațiile menționate în ghidul de utilizare fac referire la routerele wireless broadband seria SRX-WR150 și seria SRX-WR300. Imaginile din prezentul manual referitoare la interfață furnizează informații pentru utilizatori. În cazul în care interfața de configurare a produsului nu furnizează informații cu privire la o anumită setare, veți configura routerul în funcție de necesitățile dumneavoastră.

Caracteristicile produsului

- ◆ Reunește într-un singur dispozitiv un router, un punct de acces wireless, un switch cu patru porturi și un firewall.
- ◆ Se conformează standardelor IEEE802.11n, IEEE802.11b și IEEE802.11g.
- ◆ Tehnologia MIMO utilizează semnalul reflectat pentru a mări de opt ori distanța de transmisie față de standardul inițial 802.11g și restrânge zonele fără semnal din aria de acoperire wireless.
- ◆ Asigură rate de transmisie de până la 150/300Mbps.
- ◆ Suportă WMM pentru o mai bună transmisie a semnalelor audio și video.
- ◆ Suportă metode de criptare 64/128-biți WEP, WPA, WPA2 și autentificare 802.1x.
- ◆ Metodă de criptare WPS (PBC și PIN) pentru a elimina necesitatea memorării parolelor lungi.
- ◆ Suportă management web de la distanță sau local.
- ◆ Suportă tehnologia Roaming wireless și asigură conexiuni wireless cu eficiență ridicată.
- ◆ Suportă modul stealth SSID wireless și controlul accesului pe bază de adresă MAC.
- ◆ Suportă Auto MDI/MDIX.
- ◆ Asigură un jurnal de sistem pentru înregistrarea stării routerului.
- ◆ Suportă filtrare adresă MAC, NAT, NAPT.
- ◆ Suportă UPnP și DDNS.
- ◆ Suportă controlul accesului asupra 30 de adrese MAC.
- ◆ Suportă server și client DHCP.
- ◆ Suportă SNTP.
- ◆ Suportă selectare automată a canalelor wireless.
- ◆ Suportă funcția WDS (wireless distribution system - sistem de distribuție wireless).

Conținutul pachetului

Router broadband wireless-N 150/300Mbps.

Adaptor de alimentare : DC5V/2A sau DC12V/1A (în funcție de modelul achiziționat) .

Manual de utilizare / ghid

Cablu de rețea Ethernet .

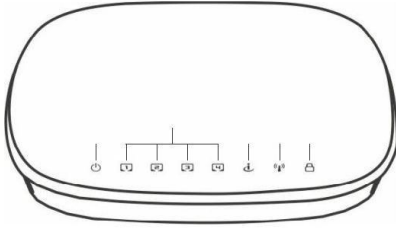
Ghid de instalare rapidă .

Important: La deschiderea pachetului, asigurați-vă că acesta conține elementele de mai sus.
În caz contrar, vă rugăm să contactați distribuitorul.

Specificațiile produsului

Standarde și protocoale		IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u, CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE
Porturi	WAN	Port WAN RJ -45 10/100Mbps. (În cazul funcționării în modul gateway, este un port WAN, în celelalte moduri fiind port LAN).
	LAN	Patru porturi LAN RJ-45 10/100Mbps
	Domeniu de frecvențe	2.4 - 2.4835 GHz
	Rate de semnal wireless	11n: Până la 150 / 300Mbps 11g: Până la 54Mbps 11b: Până la 11Mbps
	Canale de frecvențe	De la 1 la 14 canale (în funcție de țara sau regiunea pe care o alegeți)
	Spectru frecvențe	DSSS (Direct Sequence Spread Spectrum)
Parametrii wireless	Tehnologie de modulație	DBPSK, DQPSK, CCK și OFDM (BPSK/QPSK/16-QAM/64-QAM)
	Sensibilitate receptor	270M: -68dBm@10% PER 130M: -68dBm@10% PER 108M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER 6M: -88dBm@10% PER 1M: -90dBm@8% PER
	Distanță de transmisie	În interior: 300M. În aer liber: 500M (în funcție de mediu)
Medii Ethernet		10Base-T: 3e UTP sau superioare; 100Base-TX: 5e UTP
	WLAN	Indicator de stare pentru WLAN (pornit/oprit)
Indicații	WAN	Indicator de stare pentru WAN
LED	LAN	Indicator de stare pentru LAN
	WPS	Indicator WPS
	POWER	Indicator de alimentare cu energie electrică
Condiții de funcționare		Domeniu de temperatură de funcționare: 0°C~45 °C Domeniu de umiditate de funcționare: 10%~90% (fără condens) Domeniu de temperatură pentru depozitare: -40°C~70 °C Domeniu de umiditate pentru depozitare: 5%~90% (fără condens)
Alimentare externă		Adaptor alimentare DC5V/2A sau DC12V/1A.

Indicatoare LED



Indicator de alimentare cu energie: ledul se aprinde când dispozitivul este alimentat cu energie.

Indicator de stare pentru LAN: ledul se aprinde când conexiunea este stabilă. Ledul clipește când sunt transmise sau recepționate pachete de date.

Indicator de stare pentru WAN: ledul se aprinde când conexiunea este stabilă. Ledul clipește când sunt transmise sau recepționate pachete de date.

Indicator de stare pentru WLAN: ledul se aprinde la activarea unei funcții. Ledul se stinge când funcția wireless este dezactivată. Ledul clipește când sunt transmise sau recepționate pachete de date.

Indicator WPS: Indică activarea modului WPS (PBC sau PIN sunt opționale în modul WPS).

Atenționări privind instalarea routerului

În cazul unei prime instalări a rețelei wireless, vă rugăm să respectați regulile de mai jos pentru a evita deteriorarea dispozitivului sau diminuarea performanțelor din cauza unei utilizări sau a unei amplasări necorespunzătoare:

1. Routerul nu trebuie amplasat în apropierea telefoanelor fără fir, a cuptoarelor cu microunde, a frigiderelor sau a altor surse de interferență.
2. În cazul în care există alte puncte de acces 2.4G în apropiere, se recomandă ca distanța dintre dispozitive să fie de cel puțin 12 m și evitarea oricăror canale adiacente.
3. Pentru recepționarea în cele mai bune condiții a semnalului wireless, routerul trebuie poziționat corespunzător.
4. Nu amplasați routerul în apropierea pereților din beton armat sau a grilajelor metalice, aceste obiecte putând bloca sau absorbi semnalele.
5. Routerul trebuie amplasat în interior, ferit de lumina soarelui, ploaie sau descărcări electrice.
6. Feriți routerul de foc și căldură și păstrați-l într-un loc care să permită aerisirea acestuia.

Observații

1. Rata maximă a semnalului wireless reiese din specificațiile standardului IEEE 802.11n, volumul efectiv al transferului de date putând varia.
2. Condițiile rețelei și factorii din mediul ambiant, inclusiv traficul de rețea, materialele de construcție, structura construcției, precum și cheltuielile alocate pentru rețea pot reduce volumul efectiv al transferului de date.
3. La realizarea prezentului manual, au fost luate toate măsurile necesare pentru a vă furniza informații corecte, dar acesta trebuie utilizat numai ca ghid.
4. Date fiind îmbunătățirea produsului și alte motive, manualul poate fi actualizat periodic fără nicio notificare!

Procedura de instalare hardware

Stabilirea conexiunii WAN

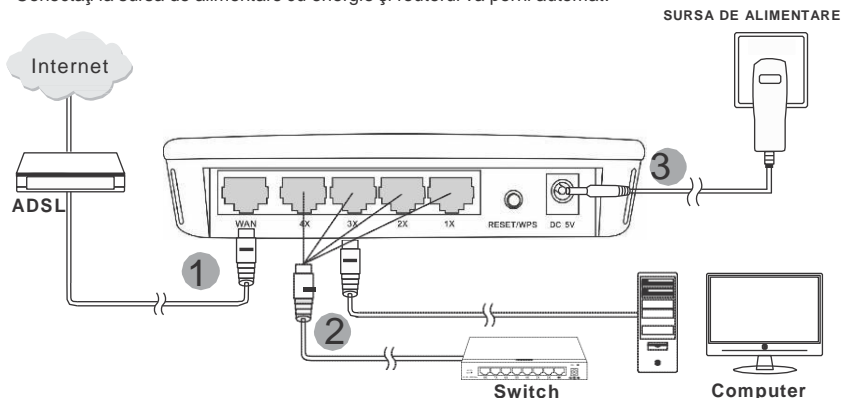
Conectați portul WAN al routerului la modemul xDSL cu ajutorul unui cablu.

Stabilirea conexiunii LAN

Conectați portul routerului la switch cu ajutorul unui cablu. De asemenea, puteți conecta direct placa de rețea a computerului.

Conectare la sursa de curent

Conectați la sursa de alimentare cu energie și routerul va porni automat.



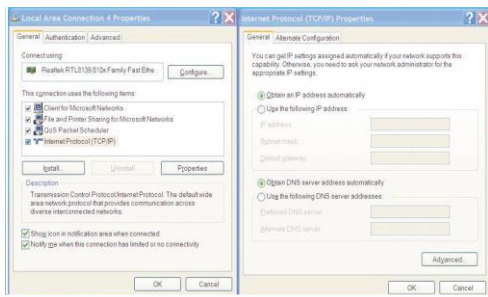
Management

Înainte de a utiliza routerul, trebuie să vă autentificați în pagina web. În continuare, este exemplificată procedura de autentificare utilizând sistemul de operare „Windows HP Home Edition Service Pack 3”:

1. Accesați „Network Connections”, asigurându-vă că în computer este instalată o placă wireless. Dacă este afișată o pictogramă precum cea din imaginea de mai jos, adică „Local Area Connection 4 Connected”, placa wireless a fost deja instalată în computer.



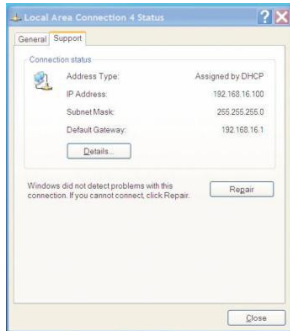
2. Setați adresa IP prin intermediul proprietăților „Internet Protocol (TCP/IP)”. În general, serverul DHCP al routerului este activ, deci vă rugăm să selectați „Obtain an IP address automatically” și „Obtain DNS server address automatically” din fila General.



Sfaturi:

Selectați "Obtain an IP address automatically" numai atunci când serverul DHCP al routerului este activ. De asemenea, puteți seta dumneavoastră adresa IP. Cu toate acestea, adresa IP a computerului și cea a routerului trebuie setate în aceeași subrețea și nu poate fi alocată aceeași adresă IP. Adresa IP implicită este 192.168.16.1, iar masca de subrețea este 255.255.255.0, deci adresa IP nu trebuie să fie 192.168.16.1.

3. Puteți găsi adresa atribuită în fila Support, după cum este prezentat mai jos:



4. Faceți click pe Start | Programs | Accessories | Command Prompt, tasteți ping 192.168.16.1, apoi apăsați Enter (după cum este arătat mai jos). Dacă pe ecran este afișată imaginea de mai jos, computerul dumneavoastră s-a conectat cu succes la router.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 5.1.2600]
(C) Copyright 1985-2004 Microsoft Corp.

C:\Documents and Settings\Administrator>ping 192.168.16.1

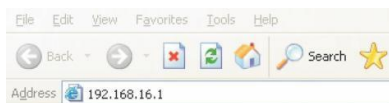
Pinging 192.168.16.1 with 32 bytes of data:

Reply from 192.168.16.1: bytes=32 time=1ms TTL=64
Reply from 192.168.16.1: bytes=32 time=1ms TTL=64
Reply from 192.168.16.1: bytes=32 time=1ms TTL=64
Reply from 192.168.16.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.16.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>
```

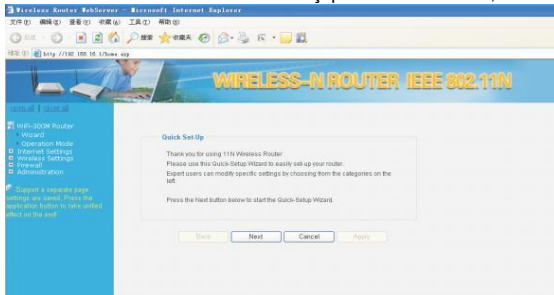
5. Accesați interfața routerului prin deschiderea unui browser web. Introduceți http://192.168.16.1 (adresa IP implicită a routerului) și apăsați Enter.



6. Browserul va deschide o pagină de autentificare după cum este arătat mai jos. Introduceți **admin** în câmpul User name (numele de utilizator al administratorului) și **admin** în câmpul Password (Parolă). Faceți click pe butonul OK.



7. Faceți click pe butonul OK. Dacă numele de utilizator și parola sunt corecte, va fi afișat un ecran de configurare WEB.



8. V-ați conectat cu succes la pagina de setări.

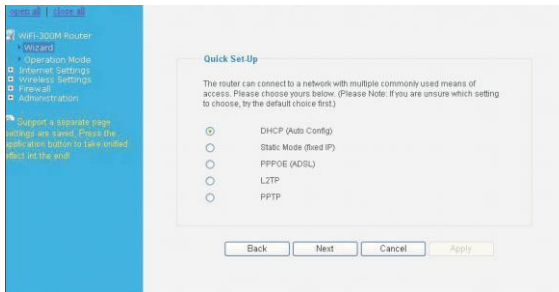
Asistentul de configurare

Routerul dispune de diverse funcții și include un asistent de configurare. Asistentul de configurare vă îndrumă în vederea finalizării setărilor de bază, chiar dacă nu sunteți familiarizați cu routerul.

1. Faceți click pe „Wizard” în partea stângă a ecranului și click pe “Next” în partea dreaptă, sub „Quick Set-Up”. Va fi demarată procedura de configurare a routerului.



2. Acest produs suportă oricare dintre cele cinci cel mai frecvent utilizate moduri de accesare a unei rețele. Selectați un mod în funcție de preferințele dumneavoastră. Modul implicit este preselectat. Celelalte patru moduri afișate sub modul implicit necesită configurarea parametrilor pentru conexiunea în rețea. Dacă nu cunoașteți parametrii, contactați furnizorul de servicii Internet. După selectarea modului, faceți click pe butonul “Next”.



3. Puteți seta un nume de rețea și tipul de criptare corespunzător pentru setările rețelei wireless, după cum este prezentat mai jos. Faceți click pe butonul “Apply” pentru a valida informațiile de configurare. Sistemul va reporni computerul pentru a finaliza configurarea de bază a routerului.

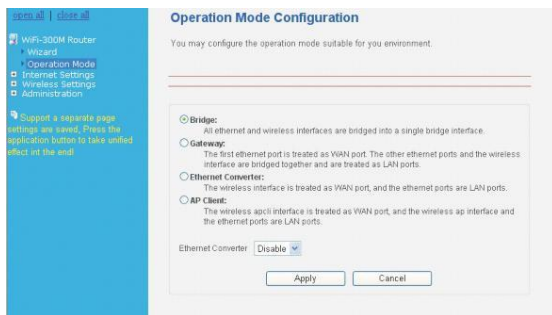


Moduri de funcționare

Routerele wireless din seria SRX-WR150 sau SRX-WR300 sunt routere puternice, deoarece pot suporta patru moduri de funcționare: mod Bridge, mod Gateway, mod Ethernet Converter și mod AP Client (modul implicit este Gateway)

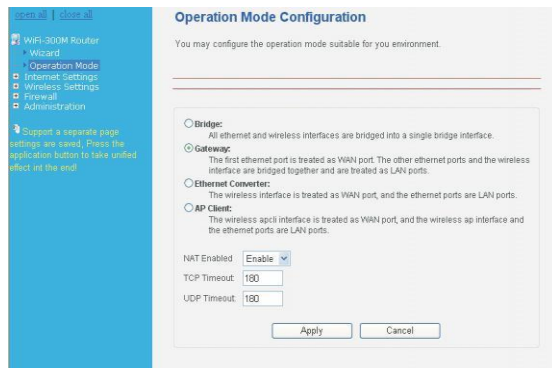
Modul Bridge:

Toate interfețele Ethernet și wireless sunt interconectate într-o singură interfață. Până în acest punct, routerul a funcționat numai ca switch, nefiind capabil să acceseze WAN, iar firewall-ul a fost dezactivat)



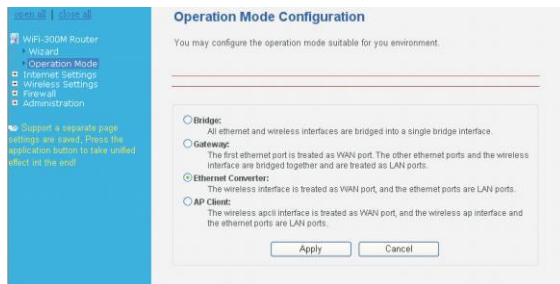
Modul Gateway:

Modul Gateway este modul implicit. Portul galben Ethernet este tratat ca port WAN. Celelalte porturi Ethernet și interfața wireless sunt interconectate și tratate ca porturi LAN (situație care face ca funcția NAT să permită routerului schimburi de informații cu Internetul).



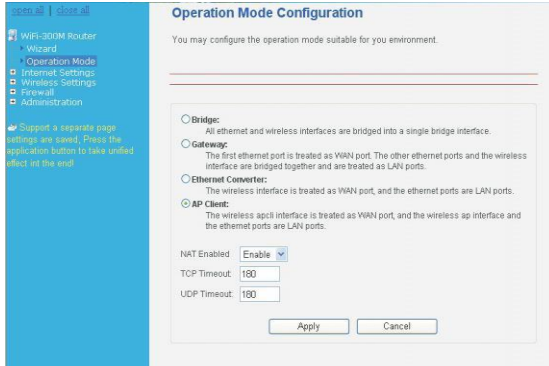
Modul Ethernet Converter:

Interfața wireless este tratată ca port WAN, iar porturile Ethernet sunt porturi LAN.



Modul AP Client:

Interfața wireless este tratată ca port WAN, iar interfața wireless AP și porturile Ethernet sunt porturi LAN.



Configurare WAN

Acest router suportă mai multe tipuri obișnuite de conexiuni WAN. Selectați metoda de conectare utilizată de operatorul de rețea și selectați informațiile corecte privind parametrii (comunicate de către furnizorul de servicii Internet). După această etapă, puteți partaja Internetul în mod normal. Dacă utilizați o conexiune dinamică, o conexiune dial-up, o conexiune dial-up PPPoE etc., există două metode prin care puteți verifica funcționalitatea conexiunii. Una dintre metode este accesarea directă a site-ului web, iar cealaltă este verificarea conexiunii în funcție de starea configurației Internet.

Internet Configurations	
Connected Type	PPPOE
WAN IP Address	58.60.132.45
Subnet Mask	255.255.255.255
Default Gateway	58.60.132.1
Primary Domain Name Server	202.96.134.33
Secondary Domain Name Server	202.96.128.86
MAC Address	00:0C:43:30:52:5A

Conexiune reușită

Furnizorul de servicii Internet poate solicita o adresă MAC obligatorie oferită de acesta. Aceasta poate fi introdusă în bara pentru adresa MAC. Altfel, puteți face click pe butonul Fill my MAC, caz în care adresa MAC a gazdei curente a conexiunii va fi completată automat în caseta de text.



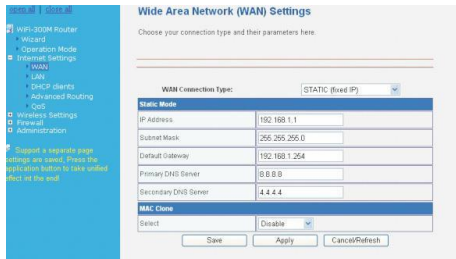
1. Conexiune DHCP (Auto Config)

Acest tip de conexiune este mai convenabil deoarece poate obține în mod automat informații cu privire la parametri cum ar fi adresele IP și gateway, aceștia putându-se modifica odată cu modificările realizate de operatorul de rețea al furnizorului de servicii Internet.



2. Conexiune Static IP (IP fix)

Dacă furnizorul de servicii Internet utilizează tipul de conexiune Static IP, vă rugăm să selectați Static (fixed IP) pentru configurarea parametrilor rețelei. Dacă aveți nelămuriri cu privire la tipul de conexiune, vă rugăm să contactați furnizorul de servicii Internet.



IP Address: Introduceți adresa IP comunicată de furnizorul de servicii Internet.

Subnet Mask: Introduceți masca de subrețea.

Gateway: Introduceți adresa gateway WAN.

Primary DNS Server: Introduceți adresa serverului DNS primar comunicată de furnizorul de servicii Internet. Fiecare domeniu are propriul DNS.

Secondary DNS Server: Introduceți adresa serverului DNS secundar. Fiecare domeniu are propriul DNS.

3. Conexiune PPPoE (xDSL)

Conexiunea PPPoE este utilizată în special pentru rețele locale și rețele pentru birouri mici.



User Name: Completați contul de internet obținut de la furnizorul de servicii Internet. (Dacă aveți neclarități, contactați furnizorul de servicii internet.)

Password: Completați parola comunicată de furnizorul de servicii Internet. (Dacă aveți neclarități, contactați furnizorul de servicii internet.)

Operation Mode: Selectați unul dintre cele trei moduri de funcționare (Keep Alive, Dynamic demand sau Manual demand):

1.Keep Alive: Modul Keep Alive permite routerului să se conecteze automat atunci când este pornit. Dacă rețeaua este deconectată de la router din cauza unor factori externi, sistemul va încerca să se reconecteze la rețea la intervale regulate (interval implicit 60 s), până la stabilirea unei conexiuni.

2.Dynamic demand: Routerul se conectează automat la LAN atunci când este trimisă o solicitare de acces. Dacă nu este trimisă nicio solicitare de acces (perioadă liberă), routerul se deconectează de la rețea în mod automat. (Conexiunea de acest tip este aleasă de utilizatorii taxați în funcție de durata conexiunii pentru a diminua costurile generate de serviciile Internet.)

3.Manual demand: Utilizatorul trebuie să formeze manual atunci când routerul este pornit. Faceți click pe Connection pentru conectare la rețea. Faceți click pe Disconnection pentru deconectare de la rețea.

4. Conexiune L2TP

The screenshot shows the 'Wide Area Network (WAN) Settings' page. On the left is a navigation menu with options like 'Wizard', 'Operation Mode', 'Internet Settings', 'WAN', 'LAN', 'DHCP clients', 'Advanced Routing', 'QoS', 'Wireless Settings', 'Firewall', and 'Administration'. The main content area is titled 'Wide Area Network (WAN) Settings' and includes a sub-header 'Choose your connection type and their parameters here.' Below this, there's a dropdown for 'WAN Connection Type' set to 'L2TP'. The 'L2TP Mode' section contains fields for 'Server IP' (l2tp_server), 'User Name' (l2tp_user), 'Password' (masked), 'Address Mode' (Static), 'IP Address' (192.168.1.1), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (192.168.1.254), and 'Operation Mode' (Keep Alive). A 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

Server IP: Introduceți adresa IP a serverului (obligatoriu) comunicată de către furnizorul de servicii Internet.

User Name: Introduceți numele de utilizator L2TP (obligatoriu) comunicat de către furnizorul de servicii Internet.

Password: Introduceți parola L2TP (obligatoriu) comunicată de către furnizorul de servicii Internet.

Address Mode: Obțineți o adresă IP:

Dynamic: Selectați acest mod dacă routerul poate obține o adresă IP în mod automat.

Static: Selectați acest mod dacă furnizorul de servicii Internet v-a comunicat o adresă IP statică.

IP Address: Selectați „Static” și introduceți adresa IP L2TP comunicată de furnizorul de servicii Internet.

Subnet Mask: Introduceți adresa Subnet Mask comunicată de furnizorul de servicii Internet.

Default Gateway: Introduceți adresa Default Gateway comunicată de furnizorul de servicii Internet.

Operation mode (2 moduri):

Keep Alive: Routerul se conectează automat la LAN atunci când este trimisă o solicitare de acces. Dacă nu este trimisă nicio solicitare de acces (perioadă liberă), routerul se deconectează de la rețea în mod automat. Dacă rețeaua este deconectată de la router din cauza unor factori externi, sistemul va încerca să se reconecteze la rețea la intervale regulate, până la stabilirea unei conexiuni.

Manual demand: Dacă rețeaua se deconectează de la router, selectați acest mod pentru a forma conexiunea manual.

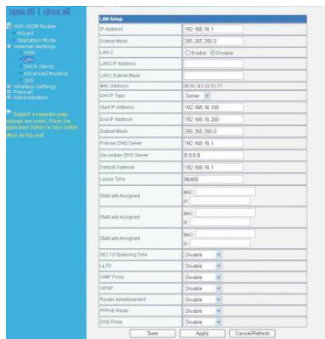
5. Conexiune PPTP

În cazul în care conexiunea este PPP Tunneling Protocol, furnizorul de servicii Internet vă poate comunica numele de utilizator și parola. Pentru configurarea parametrilor, consultați instrucțiunile aferente conexiunii tip L2TP.

The screenshot shows the 'Wide Area Network (WAN) Settings' page. On the left is a navigation menu with options like 'Wizard', 'Operation Mode', 'Internet Settings', 'WAN', 'LAN', 'DHCP clients', 'Advanced Routing', 'QoS', 'Wireless Settings', 'Firewall', and 'Administration'. The main content area is titled 'Wide Area Network (WAN) Settings' and includes a sub-header 'Choose your connection type and their parameters here.' Below this, there's a dropdown for 'WAN Connection Type' set to 'PPTP'. The 'PPTP Mode' section contains fields for 'Server IP' (pptp_server), 'User Name' (pptp_user), 'Password' (masked), 'Address Mode' (Static), 'IP Address' (192.168.1.1), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (192.168.1.254), and 'Operation Mode' (Keep Alive). A 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

Configurare LAN

Selecțai "Internet Settings | LAN" pentru a seta parametrii porturilor LAN (adresa IP, masca de subrețea, DHCP etc.).



Hostname: Denumirea rețelei la care se conectează routerul.

IP Address: Adresa IP LAN a routerului. (Adresa implicită este 192.168.16.1).

Subnet Mask: Masca de subrețea a routerului, în funcție de starea rețelei. (Adresa implicită este 255.255.255.0.)

LAN2: Activați sau dezactivați adresa celui de al doilea port LAN, conform solicitării. Pentru activare, setați adresa IP și masca de subrețea ale celui de al doilea port LAN.

LAN 2 IP Address: A doua adresă IP.

LAN 2 Subnet Mask: A doua mască de subrețea.

MAC Address: Adresa MAC a portului LAN al routerului.

DHCP Type: Distribuți în mod automat adresa IP a computerului către rețeaua LAN utilizând serverul DHCP încorporat. Pentru activare, selecțai DHCP ca server. În caz contrar, selecțai Disable. (Setarea implicită este Server).

Start IP Address: Setai adresa IP inițială pe care serverul DHCP o distribuie automat în funcție de adresa IP LAN a routerului.

End IP Address: Setai adresa IP finală pe care serverul DHCP o distribuie automat în funcție de adresa IP LAN a routerului.

Subnet Mask: Setai o mască de subrețea corespunzătoare, în funcție de adresa IP inițială/finală.

Primary DNS Server: Completați (opțional) adresa serverului DNS primar comunicată de către furnizorul de servicii Internet.

Secondary DNS Server: Completați (opțional) adresa serverului DNS secundar comunicată de către furnizorul de servicii Internet.

Default Gateway: Setai gateway-ul serverului DHCP în funcție de adresa IP LAN a routerului. Gateway-ul implicit al routerului este 192.168.16.1.

Release time: Durata efectivă (în secunde) a adresei IP dinamice pe care serverul DHCP o alocă clientului gazdă. (Durata implicită este 86400. 86.400 secunde = 1 zi.) În acest interval, serverul nu va alocă adrese IP altor gazde. (Puteți seta durata în funcție de preferințele dumneavoastră, putând mări eficiența serverului DHCP în ceea ce privește recuperarea adreselor IP neutilizate.)

Static specifics: De fiecare dată când serverul DHCP alocă adrese IP automat, acesta alocă dispozitivului utilizatorului o adresă IP fixă. Dacă este cazul, completați adresa MAC și adresa IP.

MAC Address: Adresa MAC a computerului care rezervă o adresă IP statică. (Exemplu: 00:0C:43:80:88)

IP Address: Adresa IP rezervată pentru o gazdă în cadrul unei rețele. (Exemplu: 192.168.16.254).

802.11d Spanning Tree: Protocolul Spanning Tree, definit în 802.1d, este un protocol bridge-to-bridge din managementul conexiunilor. Acesta asigură o redundanță de căi pentru prevenirea buclelor în rețea. (Nu există o setare implicită.)

LLTD: Opțiunile includ Enabled, Disabled și Open. Dacă există un client LLTP, informațiile cu privire la router vor fi afișate în mod automat.

Enable the IGMP agent: Împiedică apariția unui „multicast flood” prin obținerea și controlarea în mod eficace a informațiilor utilizatorului. Acesta ajută la reducerea unui acord suplimentar în rețea și a încărcării rețelei.

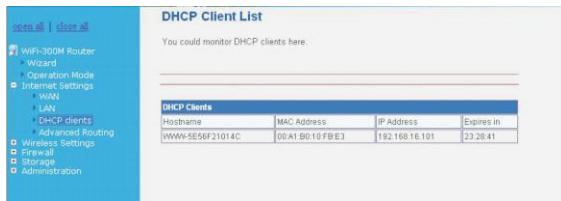
UPNP: Routerul asigură software intransit UPNP to P2P. (Nu există o setare implicită.)

Router advertising: Routerul va emite sau va răspunde la informații difuzate între fiecare nod la un ciclu fix, pentru indicarea existenței acestuia. (Nu există o setare implicită.)

PPPOE Forward: Această funcție permite unui computer local să formeze conexiunea PPPoE separat și direct în modul gateway. (Nu există o setare implicită.)

Clienți DHCP

Selecțai "Internet Settings | DHCP clients" pentru a verifica informațiile cu privire la computerul pentru care DHCP alocă în mod automat adrese IP în LAN (cum ar fi denumirea rețelei, adresa MAC, adresa IP și ora expirării).



Rutare avansată

Această funcție reprezintă o opțiune pentru adăugarea unei rutări specifice unei anumite gazde, dacă este cazul. Utilizarea corespunzătoare a routerelor statice în cadrul unei rețele poate reduce problemele de selectare a rutării și supraîncărcarea cu date a fluxurilor de rutare, aceasta putând mări viteza de transmitere a pachetelor de date. Prin setarea adreselor IP pentru masca de rețea și gateway poate fi organizat un tabel de rutare. Adresa IP și masca de subrețea de destinație sunt utilizate pentru a stabili o rețea/gazdă țintă, astfel încât routerul să poată transmite pachetele de date către rețea/gazde prin gateway.

Static Routing Settings

Add and remove custom Internet routing rules, and/or enable dynamic routing exchange protocols here.

Add a routing rule

Destination:

Range: Host

Gateway:

Interface: LAN

Comment:

Apply Reset

Current Routing table in the system:

No	Destination	Netmask	Gateway	Flags	Metric	Ref	Use	Interface	Comment
1	255.255.255.255	255.255.255.255	0.0.0.0	5	0	0	0	LAN (br0)	
2	192.168.13.0	255.255.255.0	0.0.0.0	1	0	0	0	LAN (br0)	

Delete Reset

QOS

QOS este prescurtarea de la Quality of service (calitatea serviciului), funcția sa principală fiind limitarea utilizării lățimii de bandă a unui anumit server și IP, în vederea asigurării necesarului de lățime de bandă pentru o anumită aplicație și prioritate de serviciu, precum și în vederea partajării lățimii de bandă cu restul utilizatorilor, astfel încât să se poată asigura un serviciu de transfer de date mai stabil și mai fiabil.

Quality of Service Settings

You may setup rules to provide Quality of Service guarantees for specific applications.

QoS Setup

Quality of Service: Disable

Upload Bandwidth: User defined Bit/sec

Download Bandwidth: User defined Bit/sec

QoS Model: DSCP

Reserved bandwidth: 0% (10% is recommended)

Submit

Notă:

Formula de transformare dintre lățimea de bandă și Kbyte este $1\text{Mbit}=128\text{Kbyte}$ (kilobyte). În general, raportul ADSL de lățime de bandă pentru încărcare și descărcare este de unu la trei, lățimea de bandă pentru încărcare a 1M ADSL este 42Kbyte și pentru descărcare este 128Kbyte.

Setări wireless



Radio On/Off: Radio pornit/oprit.

Network Mode: Selectați unul dintre cele patru moduri de funcționare a routerului: 802.11b, 802.11g, 802.11b/g și 802.11b/g/n.

Network Name (SSID): Denumirea de rețea (cel mult 32 caractere) a semnalelor wireless setată pentru distingerea unei rețele individuale.

Broadcast Network Name (SSID): Activați sau dezactivați funcția de difuzare SSID. Selectați disable. SSID este ascuns astfel încât un client wireless nu va putea scana echipamentul SSID. Clientul trebuie să cunoască SSID pentru comunicarea cu echipamentul. (Setarea implicită este Enable.)

BSSID (Basic Service Set ID): Se aplică pentru locul adresei MAC. În cazul punctelor de acces wireless, un grup de stații de lucru wireless și stații de lucru wireless LAN denumite puncte de acces (AP) formează un dispozitiv de servicii de bază (BSS). Dispozitivul BSS al fiecărui computer trebuie să configureze același BSSID, adică logoul wireless al punctului de acces wireless.

Frequency(Channel): Selectați canalul de lucru al rețelei wireless. Cele două opțiuni sunt Automatic Selection și Manual of Choice. Diferitele țări și regiuni utilizează numere de canale diferite. Pentru setări naționale sau regionale, vă rugăm să consultați secțiunea privind setările avansate.

Operation Mode: Mixed Mode sau Green Field:

Mixed Mode: Placa wireless anterioară poate identifica Pre-N AP și se poate conecta la acesta, dar transmisia va fi afectată într-o oarecare măsură. (Setarea implicită este Mixed Mode.)

Green field: Puteți obține o rată mai mare de transmisie, dar vor fi afectate negativ compatibilitatea și securitatea sistemului.

Channel Bandwidth: Selectați 20 sau 20/40. (Setarea implicită este 20/40.)

Guard Interval: Selectați Long sau Auto. (Setarea implicită este Auto.)

MCS: Liste de Coduri de Modulație: Standardul 802.11n al ratei comunicațiilor wireless LAN (WLAN). (Setarea implicită este Auto.)

Reverse Direction Access(RDG): Activați sau dezactivați această autorizare.

Extension channel: Selectați unul dintre canalele de extensie definite.

Space Time Block Coding (STBC): Selectați Enable sau Disable. (Setarea implicită este Enable.)

Polymerization MAC Business Data Unit (A-MSDU): Mesajul multiplu Ethernet este grupat într-un pachet mai mare printr-o anumită metodă. (Setarea implicită este Disable.)

Auto Block ACK: Selectați Enable sau Disable. (Setarea implicită este Enable.)

Decline BA Request: Selectați Enable sau Disable. (Setarea implicită este Disable.)

HT Disallow TKIP: Selectați Enable sau Disable. (Setarea implicită este Enable.)

Anexa A: Metode generale de soluționare a problemelor

Anexa A prezintă câteva metode de soluționare a problemelor pe care le puteți întâlni când instalați routerul broadband seria WA02-03 și seria WP02-03, precum și câteva măsuri necesare în vederea analizării problemelor prin intermediul instrumentelor de diagnosticare. În cazul în care nu puteți soluționa o problemă, vă rugăm să contactați serviciul de Asistență Tehnică.

1. Problemă: Indicatorul de alimentare cu energie nu se aprinde.

Soluție: Verificați funcționarea sursei de alimentare cu energie și utilizarea unui adaptor corespunzător.

2. Problemă: Indicatorul WAN nu se aprinde la conectarea unui cablu de rețea.

Soluție: Verificați introducerea corectă a cablului de rețea în portul WAN.

3. Problemă: Indicatorul LAN nu se aprinde la conectarea unui cablu de rețea.

Soluție: Verificați racordul de alimentare cu energie și cablurile Internet.

Verificați conexiunea dintre cablu și port.

Verificați dacă placa Ethernet este instalată corect în computer.

4. Problemă: Nu poate fi accesată pagina de configurare WEB.

Soluție: Asigurați-vă că browser-ul dumneavoastră (IE6+ sau Firefox 1.5+) este actualizat și verificați instalarea Java pe computerul dumneavoastră.

5. Problemă: Nu poate fi salvată setarea modificată pe pagina Web.

Soluție: Asigurați-vă că, după finalizarea modificării setărilor în interfață, ați făcut click pe butonul

Apply și că ați reinițializat sistemul.

6. Problemă: Cum ar trebui să procedeze un utilizator care nu cunoaște informații despre firewall-ul

routerului în momentul în care activează funcția firewall?

Soluție: Firewall-ul unui router are reguli stricte, deci utilizatorii obișnuiți ar trebui să dezactiveze această funcție. Numai utilizatorii familiarizați cu setarea unui router vor avea în vedere configurarea unui firewall. Înainte de a stabili regulile, vă rugăm să luați în calcul toate activitățile legate de Internet de care utilizatorii LAN au nevoie.

Produsul achiziționat este conform cu următoarele standarde europene:

1999/5/EC Directive

ETSI EN 300 328 V1.7.1 (2006-05)

EN 301 489-1 V1.8.1 (2008-04)

EN 301 489-17 V1.3.2 (2008-04)

EN 50385:2002

IEC 60950-1:2005

EN 60950-1:2006+A11:2009



Безжичен рутер Serioux



serioux



Благодарим Ви, че закупихте рутера Serioux. Прочетете ръководството преди употреба. Продукта се намира в три версии: с вградена антена N150, с външна антена N150 и с 2 антени N300 .

Характеристики

- ◆ Интегрира рутер, безжична точка за достъп, четири-портов суич и защитна стена (firewall) в едно устройство.
- ◆ Отговаря на стандартите: IEEE802.11n, IEEE802.11b и IEEE802.11g
- ◆ Технологията MIMO увеличава до 8 пъти разстоянието на предаване на сигнала спрямо стандартният 802.11g и намалява „мъртвите точки“ на безжичното покритие.
- ◆ Осигурява 150/300Mbps скорост на предаване.
- ◆ Поддържа WMM, което увеличава качеството на аудио-видеото.
- ◆ Поддържа методи за кодиране 64/128-bit WEP, WPA, WPA2 и 802.1x стандарти за аутентификация и сигурност.
- ◆ WPS (PBC и PIN) метод за криптиране, който ви освобождава от запомнянето на дългите пароли.
- ◆ Поддържа remote/local Web management
- ◆ Поддържа технологията wireless Roaming и осигурява високо ефективна безжична връзка.
- ◆ Поддържа wireless SSID стелт режим и MAC контрол до адреса за достъп
- ◆ Поддържа Auto MDI/MDIX.
- ◆ Осигурява системен регистър, за да записва статуса на рутера.
- ◆ Поддържа филтър на MAC адресите, NAT, NAPT.
- ◆ Поддържа UPnP и DDNS.

Съдържание на пакета

Рутър Wireless-N 150/300M.

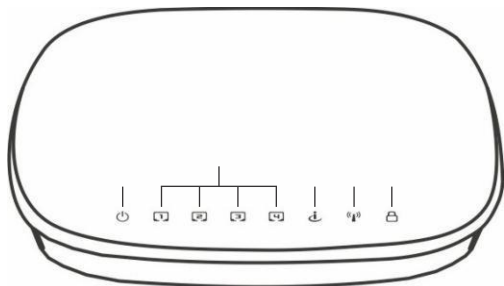
Рутър: DC5V/2A или DC12V/1A.

Ръководство за употреба.

Особености на продукта

Стандарти и протоколи		IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.3, IEEE 802.3u, CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE.
Порт	WAN	One 10/100M self-adapting RJ-45 WAN port. (When working in gateway mode, it's a WAN port but when working in any other mode, it's a LAN port.)
	LAN	4 порта 10/100M self-adapting RJ-45 LAN порта
	Честотен обхват	2.4-2.4835GHz
	Безжичен сигнал	11n: Up to 300Mbps 11g: Up to 54Mbps 11b: Up to 11Mbps
	Канали	1 до 14 канала(според страната, в която се използва)
Разпределение на спектъра		DSSS (Direct Sequence Spread Spectrum)
Параметри Wireless	Модулация на технологията	DBPSK, DQPSK, CCK и OFDM (BPSK/QPSK/16-QAM/64-QAM)
	Чувствителност на приемника @PER	270M: -68dBm@10% PER 130M: -68dBm@10% PER 108M: -68dBm@10% PER 54M: -68dBm@10% PER 11M: -85dBm@8% PER 6M: -88dBm@10% PER 1M: -90dBm@8% PER
Разстояние на трансмисиите		Indoor: 300M, Outdoor: 500M (depending on environment)
Network Media		10Base-T: 3e UTP or above; 100Base-TX: 5e UTP
	WLAN	Статус индикатор WLAN (on/off)
Инструкции	WAN	Status indicator for WAN
LED	LAN	Статус индикатор за LAN
	WPS	WPS индикатор
	POWER	Power индикатор (вкл./изкл.)
Работна среда		Работна температура: 0°C ~45°C Работна влажност: 10% ~90%(non-condensing) Storage temperature: -40°C ~70°C Съхранение при влажност: 5% ~90%(без кондензация)
Външно захранване		Изход за адаптор: DC5V/2A или DC12V/1A

LED индикатори



Индикатор мощност: LED-а ще свети, когато устройството е включено.

Статус индикатор за LAN: LED-а ще свети, когато е установена връзка. LED-а ще примигва, когато данните са били предадени или приети.

Статус индикатор за WAN: LED-а ще свети когато е установена връзка. LED-а ще примигва, когато се предават данни.

Статус индикатор за WLAN: LED-а ще свети когато някоя функция е активна. LED-а ще се изключва, когато безжичната функция е недостъпна. LED-а ще примигва, когато се предават данни.

Предупреждения за инсталирането на рутера

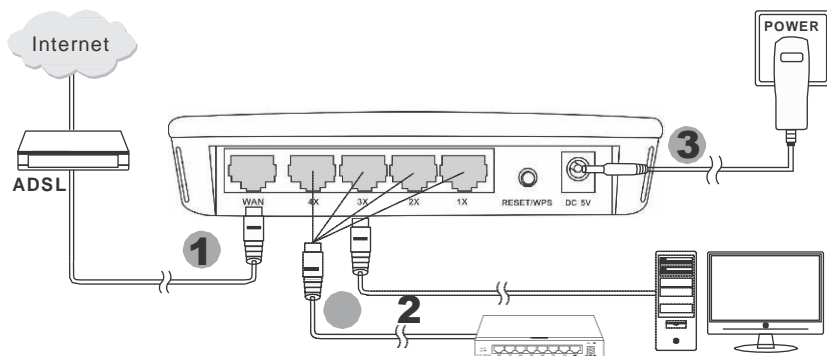
При първата инсталация на рутера, моля следвайте описаните правила, за да избегнете повредата на устройството или намаляването на капацитета му поради неправилно боравене или инсталиране:

1. Рутера трябва да бъде държан далеч от мобилни телефони, микровълнови печки, хладилници или други източници на смущения.
2. Препоръчва се да се спазва разстояние от 12 м. между две подобни устройства.
3. За да се получи максимален сигнал, дръжте рутера в нормално положение.
4. Дръжте рутера далеч от бетонни стени или метални парапети, тъй като тези обекти могат да блокират или абсорбират сигналите.
5. Рутера трябва да бъде държан на закрито, далеч от слънчева светлина, дъжд или мълнии.
6. Дръжте рутера далеч от топлина и огън.

Бележки

1. Прехвърлянето на данни варира в зависимост от мястото на разположение.
2. Използвайте това ръководство за обща употреба, настройките могат да бъдат направени различно от професионалисти.
3. Ръководството може да бъде променяно без това да се оповестява предварително

Инструкции за свързване



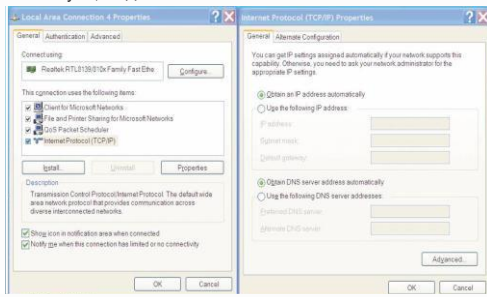
Управление и свързване

Преди първата употреба на рутера, следвайте инструкциите (пример с “Windows XP”):

1. Проверете в “Network Connections”, дали компютъра има вградена мрежова карта.



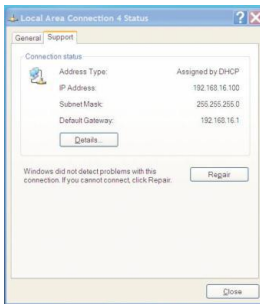
2. Настройте вашият IP address през “Internet Protocol (TCP/IP)”. Обикновено, DHCP сървъра на рутера е включен, така че изберете “Obtain an IP address automatically” и „Obtain server address automatically”, под основният т



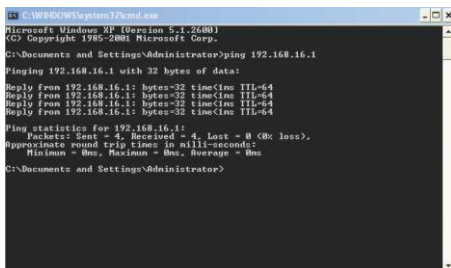
Съвети:

Изберете “Obtain an IP address automatically” само когато сървъра DHCP на рутера е активен. Също така, можете да настроите сами IP адреса. Въпреки това, IP адреса на компютъра и на рутера трябва да бъдат настроени в една и съща подмрежа и не може да бъде записан един IP адрес. IP адреса по подразбиране е 192.168.16.1, а маска на подмрежата е 255.255.255.0, така че IP адреса не трябва да бъде 192.168.16.1.

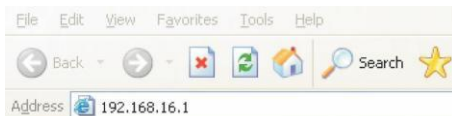
3. Можете да намерите зададения адрес в прозореца Support, както е показано по-долу:



4. Кликнете на Start | Programs | Accessories | Command Prompt, напишете 192.168.16.1, и натиснете Enter (както е показано по-долу). Ако на екрана се появи снимката от по-долу, това означава, че сте се свързали.



5. Влезте в интерфейса на рутера отваряйки един уеб браузър. Въведете <http://192.168.16.1> (IP адреса на рутера) и натиснете Enter.



6. Ще се появи един прозорец за вписване, въведете user name/password



7. Кликнете на бутона ОК. Ако потребителя и паролата са били правилни, ще се свържете.



8. Вече сте влезли в страницата за настройки.

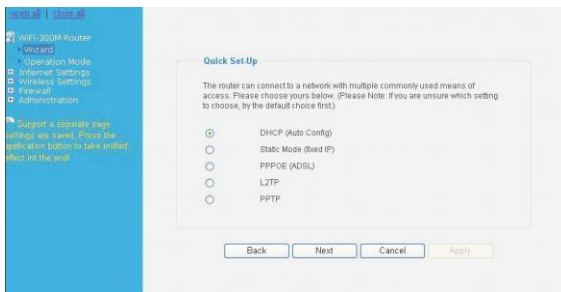
Wizard

Можете да изберете бързо конфигуриране с Wizard, дори и да не сте запознат с рутера.

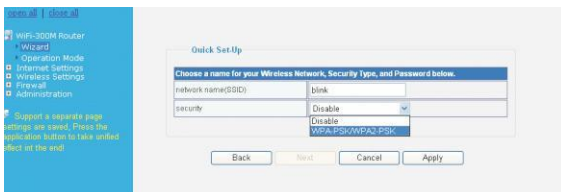
1. Кликнете на „Wizard“ в левия край и кликнете на „Next“ в десния край “Quick setting” . Така ще започне процедурата по настройката на рутера.



2. Това устройство поддържа всичките пет често използвани начина за свързване към мрежата. Режима по подразбиране е предварително избран. Изберете желаният вариант. Натиснете Next.

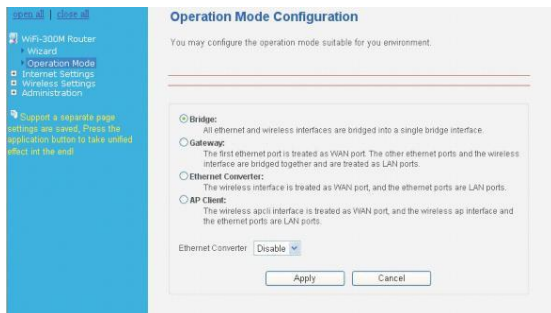


3. Можете да настроите името на мрежата и типа парола. Кликнете на бутона “Apply” . Системата ще рестартира компютъра, за да завърши настройките.

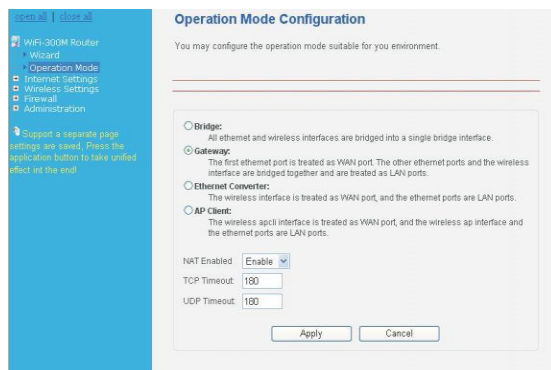


Режим на работа

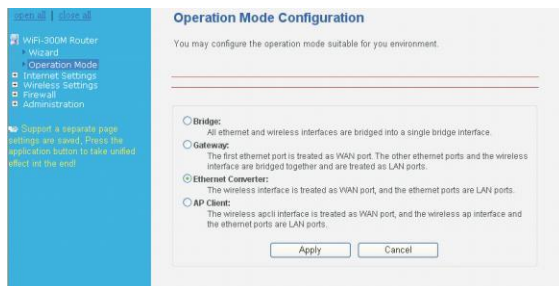
Рутерите SRX-WR150/300 поддържат 4 режима: Bridge mode, Gateway mode, Ethernet converter mode и AP клиент (режима по подразбиране е Gateway). Режима на работа е настроен на Bridge mode. Всички портове Ethernet и wireless-а са събрани на едно. Работи като един суич, като връзката wireless и firewall са деактивирани.



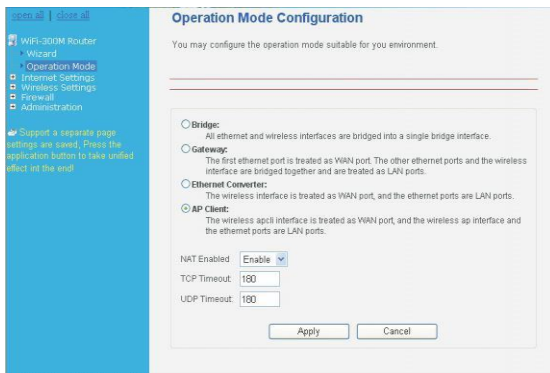
Настройка режим Gateway:
Gateway е режим по подразбиране. Жълтият Ethernet порт е за WAN port.



Настройка на режим Ethernet:
Wireless-а е разглеждан като WAN port, и портовете ethernet са LAN портове.



Режим на работа AP Client mode:
Wireless-а е разглеждан като WAN порт, wireless AP interface и ethernet портовете са LAN портове.



Интернет настройки WAN

Този рутър поддържа няколко типа WAN връзки. Изберете връзката в зависимост от интернет доставчика ви. Ако използвате динамична връзка, dial-up връзка, PPPoE dial-up връзка, etc., има два начина да проверите дали връзката ще работи. Единият начин е да заредите директно една страница, а другият е да се разграничи според състоянието на интернет конфигурацията.

Internet Configurations	
Connected Type	PPPOE
WAN IP Address	58.60.132.45
Subnet Mask	255.255.255.255
Default Gateway	58.60.132.1
Primary Domain Name Server	202.96.134.33
Secondary Domain Name Server	202.96.128.86
MAC Address	00:0C:43:30:52:5A

Успешна връзка

Някои интернет доставчици могат да искат блокиране на MAC адреса.



1. Режим на връзка 1: DHCP (Auto Config)
Този режим на свързване е удобен, тъй като търси автоматично IP адреса и адреса gateway.



2. Режим на връзка 2: Static (Fixed IP)

Ако вашият доставчик използва Static IP mode, моля изберете Static (fixed IP), за да настроите параметрите на мрежата. Ако не сте сигурни за режима, свържете се с вашият

The screenshot shows the 'Wide Area Network (WAN) Settings' page. The 'WAN Connection Type' is set to 'STATIC (fixed IP)'. The 'Static Mode' section contains the following fields:

IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
Primary DNS Server	8.8.8.8
Secondary DNS Server	4.4.4.4

The 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

IP Address: Въведете статичният IP адрес даден ви от интернет доставчика.

Subnet Mask: Въведете subnet mask.

Gateway: Въведете адреса WAN gateway.

Primary DNS Server: Въведете главният DNS server address даден от интернет доставчика. Всеки доставчик има собствен DNS адрес.

Secondary DNS Server: Въведете DNS сървър адресите.

3. Режим на връзка 3: PPPoE (xDSL)

PPPoE се използва за домашни и малки офис мрежи.

The screenshot shows the 'Wide Area Network (WAN) Settings' page. The 'WAN Connection Type' is set to 'PPPoE (xDSL)'. The 'PPPoE Mode' section contains the following fields:

User Name	pppoe_user
Password	*****
Verify Password	*****
Keep Alive	<input checked="" type="checkbox"/>
Operation Mode	Keep Alive Mode: Reconnect Period 60 seconds On demand Mode: Idle Time 10 minutes

The 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

User Name: Въведете името на потребителя, дадено от интернет доставчика.

Password: Въведете паролата дадена ви от интернет доставчика.

Operation Mode: Изберете един от трите режима (Keep Alive, Dynamic demand, или Manual demand):

1. Keep Alive: този режим позволява на рутера да се свързва автоматично когато е включен. Ако се загуби връзката, периодически се опитва възстановяването ѝ.

2. Dynamic demand: Рутера се свързва автоматично към LAN, когато това се зададе. Препоръчва се когато сте таксувани на трафик.

3. Manual demand: Потребителя свързва ръчно рутера към мрежата. Кликнете на Connection to the network. Кликнете на Disconnection to disconnect from the network.

4. Режим на връзка 4: L2TP

The screenshot shows the 'Wide Area Network (WAN) Settings' page. The 'WAN Connection Type' is set to 'L2TP'. The 'L2TP Mode' section contains the following fields:

Server IP	L2tp_server
User Name	L2tp_user
Password	*****
Address Mode	Static
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
Operation Mode	Keep Alive
Keep Alive Mode: Reconnect Period	60 seconds

The 'MAC Clone' section has a 'Select' dropdown set to 'Disable'. At the bottom are 'Save', 'Apply', and 'Cancel/Refresh' buttons.

Server IP: Въведете IP адреса на сървъра даден ви от интернет доставчика и потребителското име L2TP User Name.

Password: Въведете парола L2TP, дадена ви от доставчика.

Address Mode: Получаване на IP address:

Dynamic: Изберете този режим ако рутера може да открие автоматично IP адреса.

Static: Изберете този режим ако доставчика ви е дал статичен IP адрес.

IP Address: Изберете "Static" и въведете L2TP IP адреса.

Subnet Mask: Въведете Subnet Mask.

Default Gateway: Enter the Default Gateway address supplied by your ISP.Operation Mode (2 modes):

Keep Alive: Рутера се свързва автоматично към LAN.

Manual demand: ако мрежата се изключва от рутера, изберете този режим за ръчно свързване.

5. Режим на връзка 5: PPTP

Протокола PPP Tunneling изисква данните от интернет доставчика.

Wide Area Network (WAN) Settings
Choose your connection type and their parameters here.

WAN Connection Type: PPTP

PPTP Mode

Server IP	pptp_server
User Name	pptp_user
Password	*****
Address Mode	Static
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
Operation Mode	Keep Alive
Keep Alive Mode: Redial Period	60 seconds

MAC Clone

Select	Disable
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Save Apply Cancel/Refresh

Следните европейски стандарти са били следвани:

1999/5/EC Directive

ETSI EN 300 328 V1.7.1 (2006-05) EN 301 489-1 V1.8.1 (2008-04)

EN 301 489-17 V1.3.2 (2008-04) EN 50385:2002

IEC 60950-1:2005

EN 60950-1:2006+A11:2009

