3G/4G Wireless Router User Guide

V1.01

Content

Chapter 1 Installation

1.1 Overview

HDRM100 should be installed correctly to get good performance. Generally, the installation should be guided with the help of our engineer.

※Note

Don’t install Router device with power on.

1.2 Package list

Recommend you reserve the package box, in order to re-use when transfer. The box is environment protected material.

※ HDRM100, 1 unit

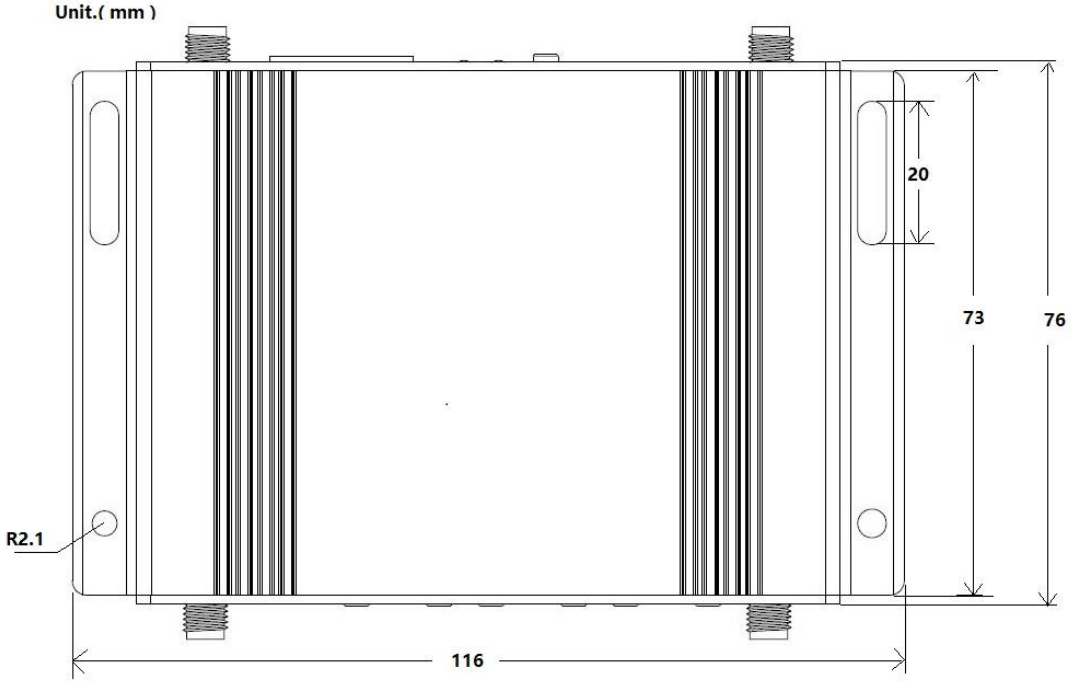
※ 4G antenna, 2 units (option)

※ WiFi antenna, 1 unit

※ GPS antenna, 1 unit (option)

※ 6V/2A adapter, 1 unit

1.3 Dimension and installation hole



1.4 Indication LED

Please refer to following description for status of LED.

LED	Status	Description
RSSI	Green	Strong 4g lte signal
	Red	Weak 4g lte signal
System	every 1 second on	System normal
	off	System fail over
NET	Every 3 seconds on	Registered without data transmission
	Every 1 second on	Registered with data transmission
	off	un-registration
LAN	always on	device available
	Every 3 seconds on	Data is on transmission
	off	device is not available
WAN	always on	WAN port normal
	Every 3 seconds on	data transmission
	off	WAN port disconnection

1.5 Adapter,Antenna and SIMCard

Adapter in box is 6V/2A. But customer could choose different one

according to the wide range of HDRM100 4G router, the input range is from DC 6V/2 to DC 48V/1A peak.

HDRM100 4G router requires 2 units of 4G antenna, standard female SMA connector, 50 ohm impedance; WiFi 2.4G antenna, standard male SMA connector, 50 ohm impedance.

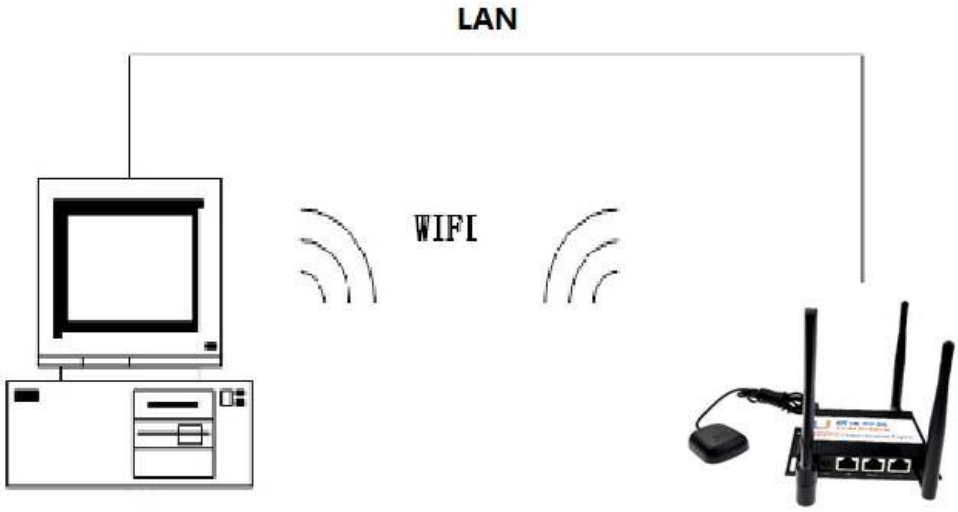
HDRM100 4G router uses Push-button simcard holder, supports 1.8V/3V sim/usim card, ESD protection inside.

Chapter 2 Configuration

2.1 Setup

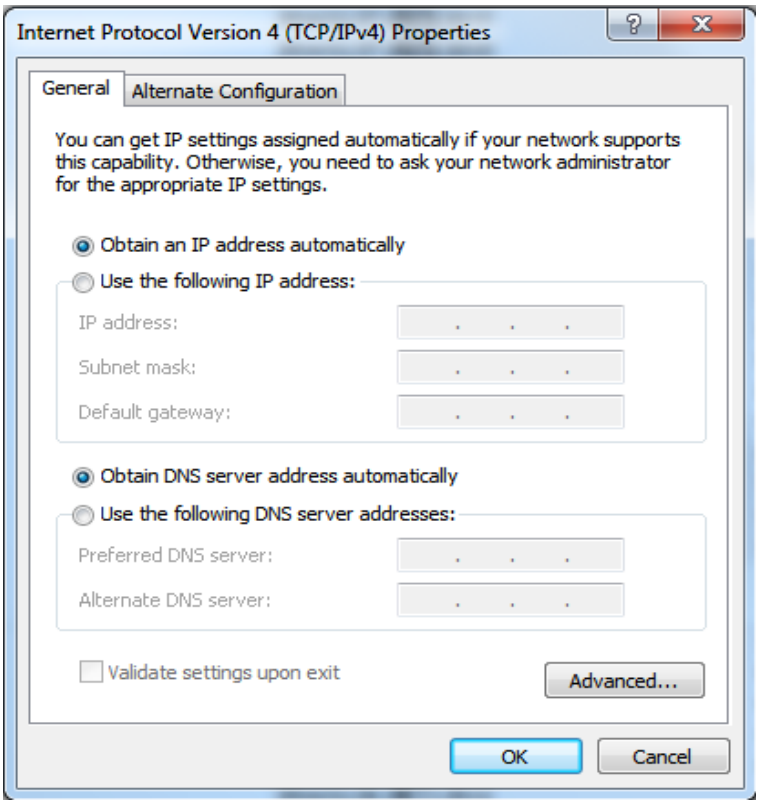
Before configuration, HDRM100 4G router should be connected to PC via Ethernet cable or Wi-Fi network.

1) With Ethernet cable. One end of cable insert to one of “Local Network” ports (named “LAN” port), another end connects to PC Ethernet port.
2) With Wi-Fi network. SSID of HDRM100 is “HEAD WEBLINK” default without password.



2.2 Configuration

2.2.1 IP address setting



2.2.2 Configuration page

PC could access the configuration pages after connect to HDRM100 4G router via IE explorer or other browser tools.

There have 11 pages for setting, antenna,service,VPN, security, access limit,NAT,QoS, application, management and Status pages. You can get detail for each page.

Default user name is admin and the default password is admin

2.3 Management and Configuration

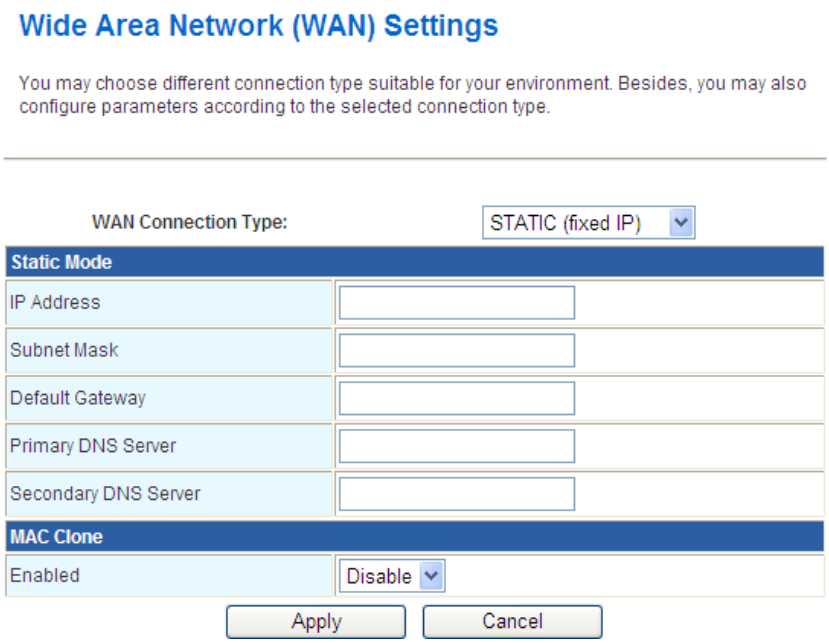
2.3.1 Network setting

2.3.1.1 WAN connection type

WAN connection type includes: static IP, dynamic IP, PPPoE, PPTP, L2TP, 3G/4G/LTE types.

Option 1: Static IP

Normally fiber-optic network will use this option. Service provider will provide IP address, subnet mask, gateway and DNS info. These parameters should be configured same on HDRM100



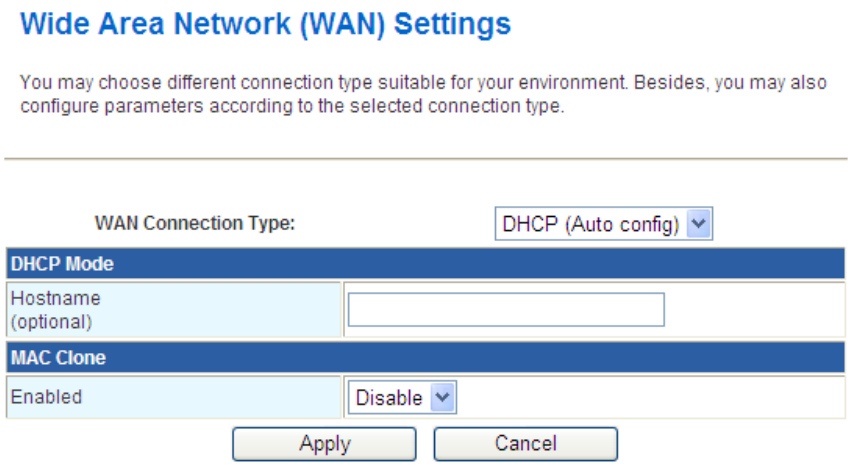
IP Address：user owner ip adress

Subnet Mask：user owner subnet mask

Default Gateway：user owner gateway

Option 2: Dynamic IP

Connect Ethernet cable to WAN port, configure as following.

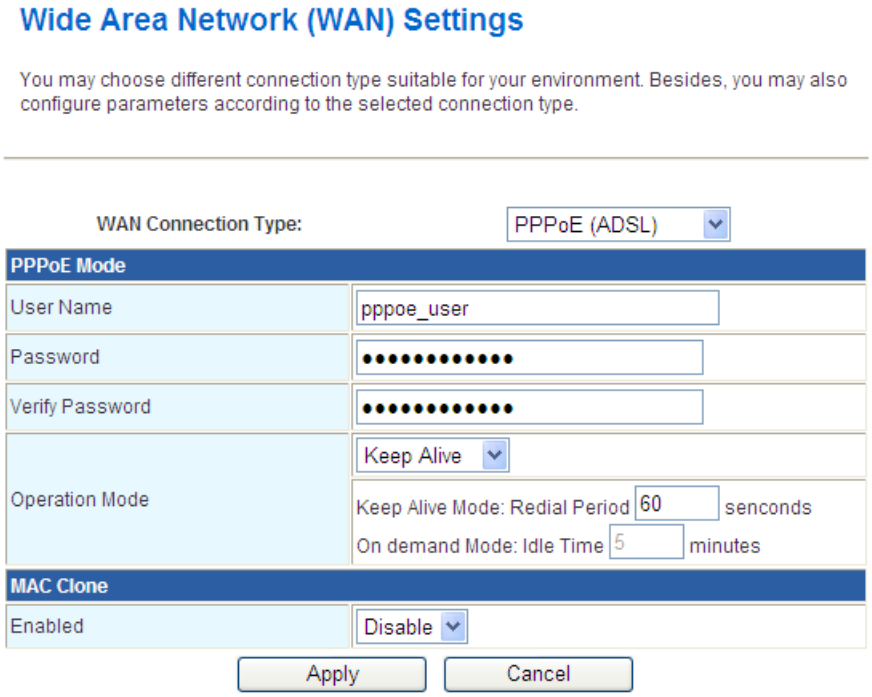


Router uses this dynamic IP as WAN connection type.

Option 3: PPPoE

Usually ADSL service from China telecom and China Netcom will use this option. PPPoE connection requires username, password, provider

name from ISP for router configuration.



User Name： the user name for log in internet

Password： the user password for log in internet

Option 4: PPTP

PPTP, Point to Point Tunneling Protocol, is a new enhanced encryption protocol developed based on PPP protocol. PPTP supports VPN, PAP and EAP, etc.

Remote user is allowed to access safely local network via ISP, internet or other network.

Wide Area Network (WAN) Settings

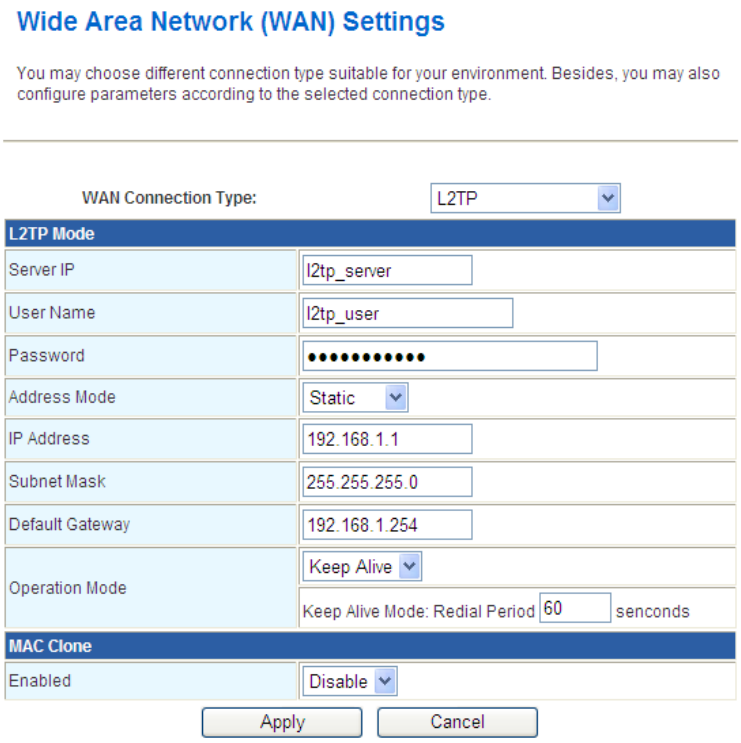
You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

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 senconds
MAC Clone	
Enabled	Disable

Apply Cancel

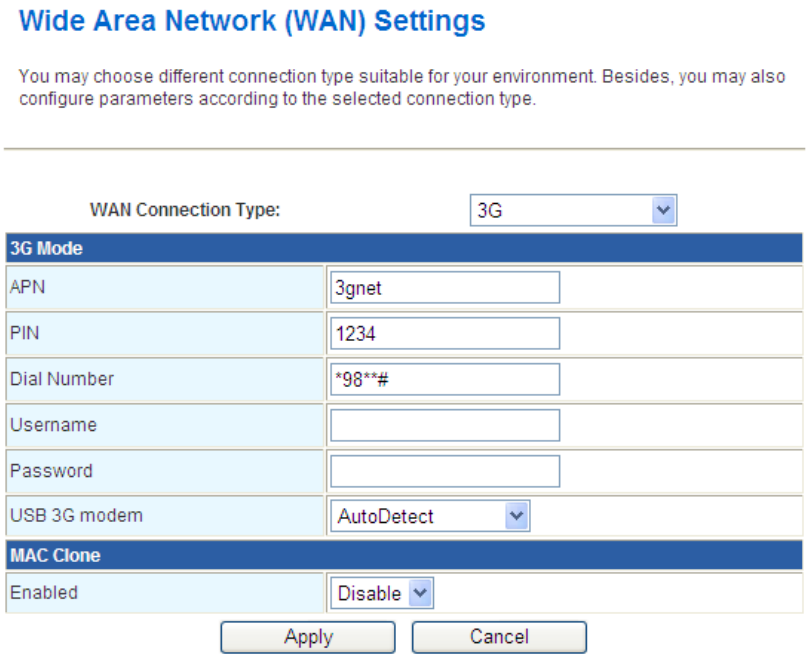
Option 5: L2TP

In computer networking, Layer 2 Tunneling Protocol (L2TP) is a tunneling protocol used to support virtual private networks (VPNs) or as part of the delivery of services by ISPs. It does not provide any encryption or confidentiality by itself. Rather, it relies on an encryption protocol that it passes within the tunnel to provide privacy.



Option 6: 3G/4G/LTE

Using 3G/4G LTE module inside, Router could do PPP protocol with APN and dial number (like *99**#).



2.3.1.2 Local Network

IP address, subnet, etc could be configured as following.

Local Area Network (LAN) Settings

You may enable/disable networking functions and configure their parameters as your wish.

LAN Setup	
Hostname	HEAD WEBLINK
IP Address	10.10.10.254
Subnet Mask	255.255.255.0
LAN 2	○ Enable ◉ Disable
LAN2 IP Address	
LAN2 Subnet Mask	
MAC Address	00:0C:43:76:20:58
DHCP Type	Server
Start IP Address	10.10.10.100
End IP Address	10.10.10.200
Subnet Mask	255.255.255.0
Primary DNS Server	168.95.1.1
Secondary DNS Server	8.8.8.8
Default Gateway	10.10.10.254
Lease Time	86400

Local IP: the IP address in local

Subnet mask: local subnet mask

Gateway: router internal gateway.

2.3.1.3 DHCP clients list

All clients connected are list here, including Wi-Fi network and LAN cable. Router could be a DHCP server which could assign different IP address for each station. If DHCP server option enabled, then all station could be configured with IP and DNS auto mode, ensure there has no other DHCP server in the network.

DHCP Client List

You could monitor DHCP clients here.

DHCP Clients			
Hostname	MAC Address	IP Address	Expires in
mk-liuning	18:CF:5E:54:9B:67	10.10.10.100	22:28:55
bu1-zenghaishen	AC:81:12:2B:16:A2	10.10.10.101	21:40:49
MK-guoyikun	00:26:82:89:57:AC	10.10.10.102	21:41:00
mk-xuxuhua	00:26:82:7B:FD:77	10.10.10.103	21:41:00
mk-zhengwenwen	00:26:82:4D:50:48	10.10.10.104	21:41:07
MK-zhouxin	B8:EE:65:D4:D8:08	10.10.10.105	21:41:20
JackSundeiPhone	78:3A:84:6C:EF:EB	10.10.10.106	23:40:49
android-96b6b2f	20:08:ED:82:FB:96	10.10.10.107	22:02:32
MK-wangjie	00:71:CC:56:42:26	10.10.10.108	23:46:51

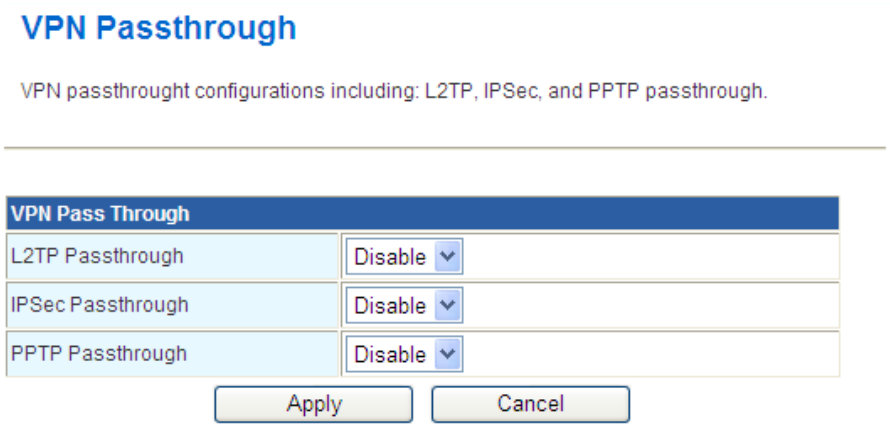
2.3.1.4 VPN

A virtual private network (VPN) extends a private network across a public network, such as the Internet. It enables a computer or Wi-Fi-enabled device to send and receive data across shared or public networks as if it were directly connected to the private network, while benefiting from the functionality, security and management policies of the private network. A VPN is created by establishing a virtual point-to-point connection through the use of dedicated connections, virtual tunneling protocols, or traffic encryptions.

A VPN connection across the Internet is similar to a wide area network (WAN) link between websites. From a user perspective, the extended network resources are accessed in the same way as resources

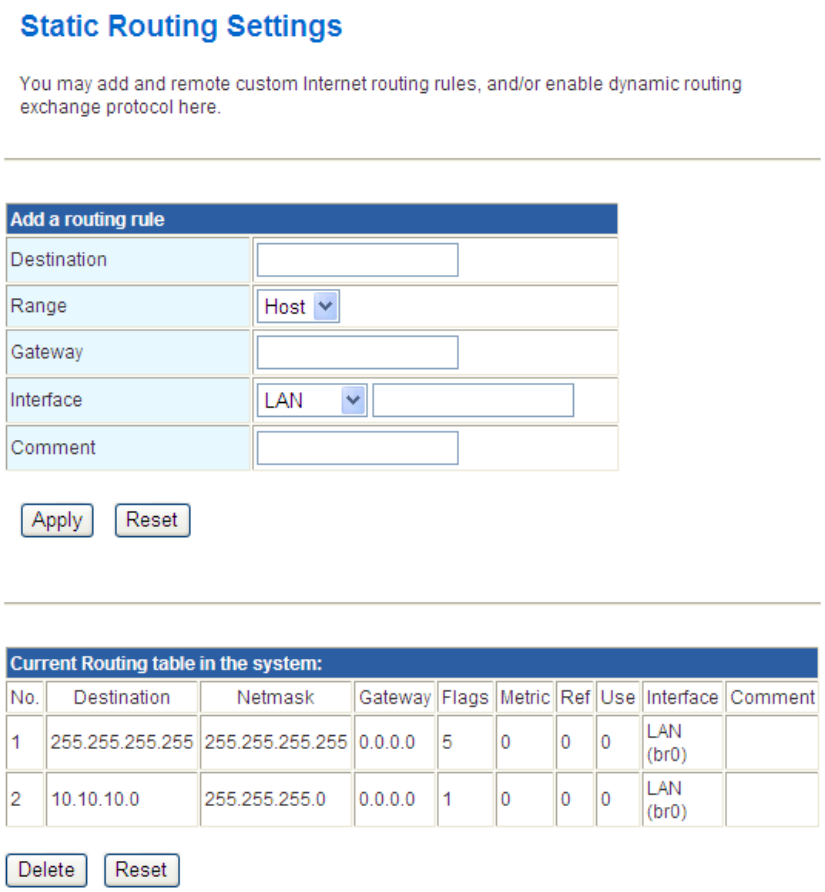
available within the private network.

VPN supports IPsec, PPTP and L2TP passthrough.



2.3.1.5 Advanced configuration

Only static mode is available. In order to set static router between router device and other network, please configure host as following.



2.3.2 Wireless network setting

2.3.2.1 General setting

Wi-Fi general setting items could be configured here as following.

Basic Wireless Settings

You could configure the minimum number of Wireless settings for communication, such as Network Name (SSID) and Channel. The Access Point can be set simply with only the minimum setting items.

Wireless Network	
Driver Version	2.7.1.6
Radio On/Off	RADIO OFF
WiFi On/Off	WiFi OFF
Network Mode	11b/g/n mixed mode
Network Name(SSID)	HEAD WEBLINK Hidden ☐ Isolated ☐
Broadcast Network Name (SSID)	◉ Enable ○ Disable
AP Isolation	○ Enable ◉ Disable
BSSID	00:0C:43:76:20:58
Frequency (Channel)	2412MHz (Channel 1)
HT Physical Mode	
Operating Mode	◉ Mixed Mode ○ Green Field
Channel BandWidth	○ 20 ◉ 20/40
Guard Interval	○ Long ◉ Auto
MCS	Auto
Reverse Direction Grant(RDG)	○ Disable ◉ Enable
Extension Channel	2432MHz (Channel 5)
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
HT LDPC	◉ Disable ○ Enable

Mixed-mode: supports 802.11b, 802.11g and 802.11n standards.

BG-mode: support s 802.11b and 802.11g standards

B-mode only: supports 802.11b standard only

G-mode only: supports 802.11g standard only

NG-mode: supports 802.11g and 802.11n standards

N-mode only: supports 802.11n standard

SSID: the WiFi device name for users. This is unique name which consists of number and letter, case sensitive, the length is less than 32 characters.

Channel: ID from 1 to 14. In multiple wireless networks, recommend different channel.

2.3.2.2 Advanced setting

Advanced Wireless Settings

Use the Advanced Setup page to make detailed settings for the Wireless. Advanced Setup includes items that are not available from the Basic Setup page, such as Beacon Interval, Control Tx Rates and Basic Data Rates.

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	Enable Disable
Short Slot	Enable Disable
Tx Burst	Enable Disable
Pkt_Aggregate	Enable Disable
IEEE 802.11H Support	Enable Disable(only in A band)
Country Code	None
Support Channel	Ch1~14

Wi-Fi Multimedia	
WMM Capable	Enable Disable
APSD Capable	Enable Disable
WMM Parameters	WMM Configuration

2.3.2.3 Security configuration

There have opemwep,wap,wap-psk,wap2,etc encryption way

Wireless Security/Encryption Settings

Setup the wireless security and encryption to prevent from unauthorized access and monitoring.

Select SSID	
SSID choice	MK-PM

"MK-PM"	
Security Mode	WPA2-PSK

WPA	
WPA Algorithms	○ TKIP ◉ AES ○ TKIPAES
Pass Phrase	ok123456
Key Renewal Interval	3600 seconds (0 ~ 4194303)

Access Policy	
Policy	Disable
Add a station Mac:	

Apply Cancel

2.3.2.4 Clients list

You can see current clients in the list.

Station List

You could monitor stations which associated to this AP here.

Wireless Network							
MAC Address	Aid	PSM	MimoPS	MCS	BW	SGI	STBC
AC:81:12:2B:16:A2	3	1	3	7	20M	0	0
00:00:00:93:25:00	0	7	128	0	20M	0	0

2.3.2.5 Summary

AP Wireless Statistics

Wireless TX and RX Statistics

Transmit Statistics	
Tx Success	125608
Tx Retry Count	1186, PER=1.0%
Tx Fail after retry	20, PLR=1.6e-04
RTS Successfully Receive CTS	0
RTS Fail To Receive CTS	0
Receive Statistics	
Frames Received Successfully	524130
Frames Received With CRC Error	429497, PER=45.0%
SNR	
SNR	25, n/a, n/a

Reset Counters

2.3.3 NAT configuration

2.3.3.1 Port transmit

Port transfer is for public service on network, such as web server, ftp server or other internet application.

Virtual Server Settings

You may setup Virtual Servers to provide services on Internet.

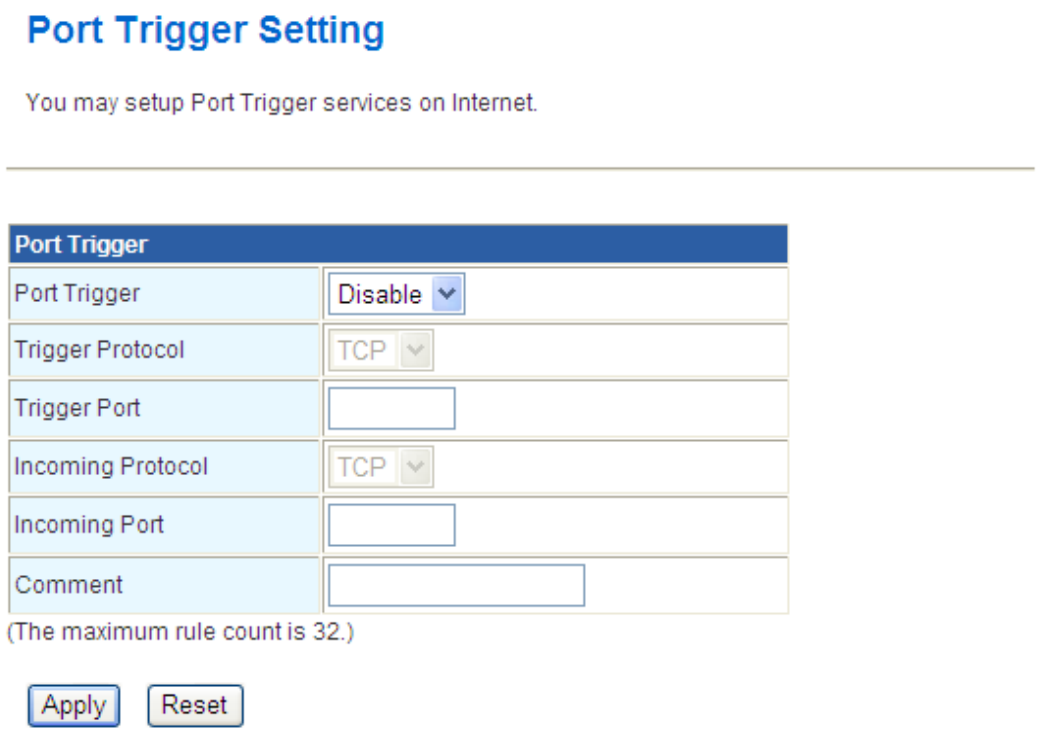
Port Forwarding	
Port Forwarding	Disable
IP Address	
Port Range	-
Protocol	TCP&UDP
Comment	

(The maximum rule count is 32.)

Apply Reset

2.3.3.2 Port Trigger

When a application specify a certain port (trigger port) to setup connection, router will transfer external connection to internal specified port (transfer port), the range is from 5000 to 6000.

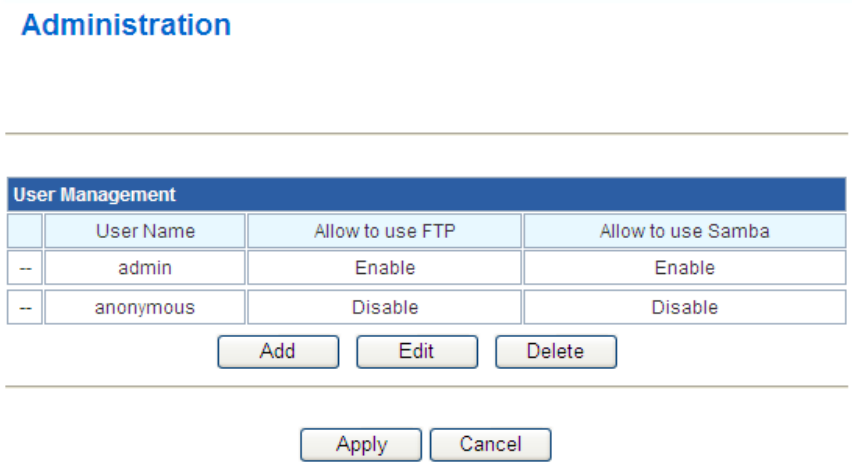


2.3.3.3 DMZ

A DMZ or demilitarized zone (sometimes referred to as a perimeter network) is a physical or logical subnetwork that contains and exposes an organization's external-facing services to a larger and untrusted network, usually the Internet. The purpose of a DMZ is to add an additional layer of security to an organization's local area network (LAN); an external attacker only has direct access to equipment in the DMZ, rather than any other part of the network. The name is derived from the term "demilitarized zone", an area between nation states in which military operation is not permitted.

2.3.4 Save Config

2.3.4.1 Account management



2.3.5 System management

2.3.5 .1 Management

Web page language, log username and password, network time could be configured here.

2.3.5.2 Configure management

Export: output current platform settings as .bat file to PC. Parameters will be SSID, users, password, connection type, etc.

Import: import a bat file to configure platform parameter's value.

Reload factory setting: make all settings return factory default values.

2.3.5.3 Status

Platform status includes system info, Internet configuration and LAN info,etc.

2.3.2.5 Summary

Check the summary info, such as memory capability, WLAN/LAN packages, etc.

2.3.2.6 System command

This is used to operate system file.

2.3.2.7 Version History

Check current version of Router.