



深圳市海凌科电子有限公司

7688A 串口转 wifi 以太网路由使用说明

串口转w i f i 以太网软件使用方法

本章介绍软件参数配置过程。可通过 Web 浏览器进行配置，客户可以使用 Internet Explorer, Firefox, Chrome, 搜狗浏览器, 360 浏览器等浏览器软件进行。本文使用 Windows 7 操作系统和 Internet Explorer 9.0 浏览器举例予以说明。

1.1. 建立 Web 配置环境

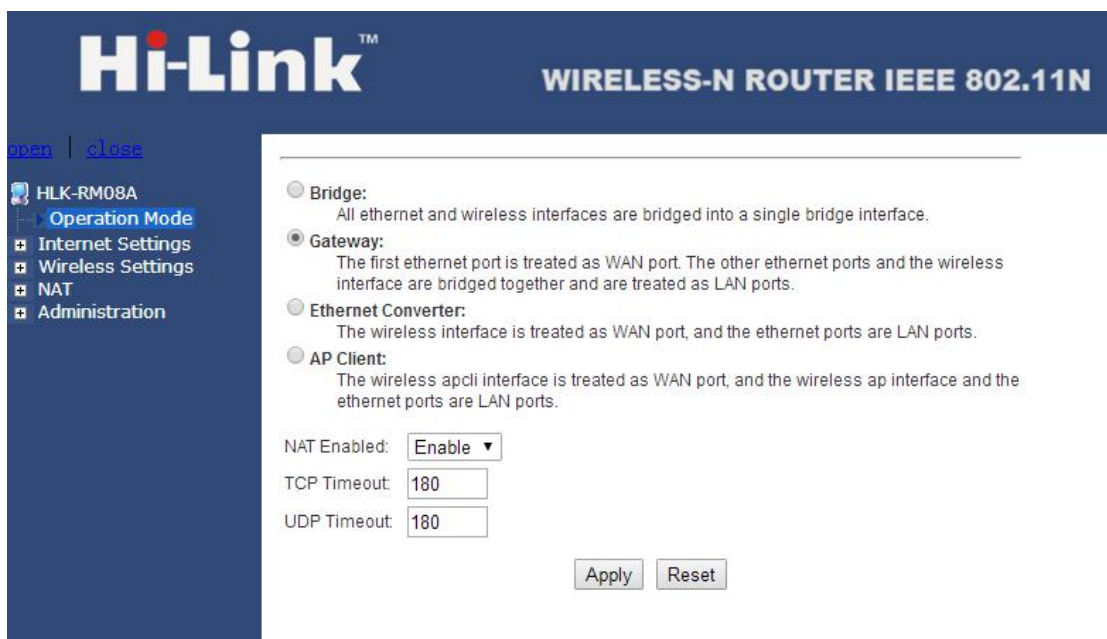
7688A 支持通过本地以太网接口或 WiFi 进行配置。本地以太网接口设置的默认 IP 地址为 192.168.16.254，子网掩码为 255.255.255.0。按照如下步骤搭建 Web 配置环境：

步骤 1 用以太网线连接 7688A 路由器的 LAN 接口和计算机的以太网接口。默认计算机可自动获取 IP 地址。也可固定设置计算机的 IP 地址，格式为：192.168.16.xxx(其中 xxx 表示 1~253 间的任一数)，子网掩码为 255.255.255.0。

步骤 2 打开浏览器，在地址栏中输入“<http://192.168.16.254>”，回车。在弹出的登录对话框中，输入登录的用户名和密码。默认的用户名/密码为：admin/admin。

图 4 Web 配置管理用户认证界面

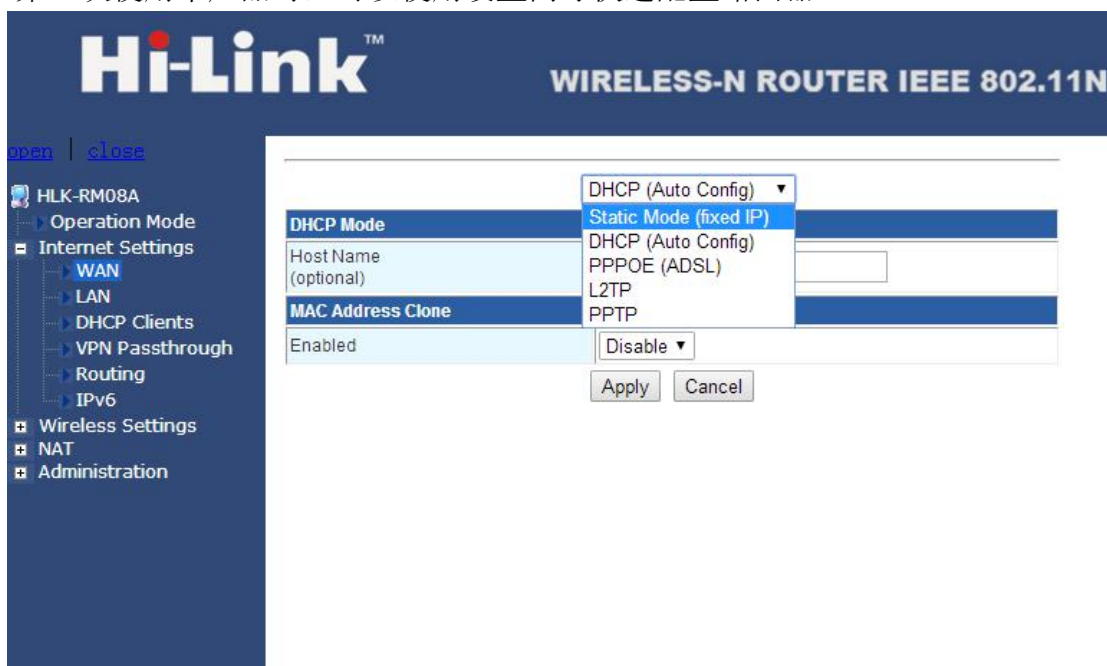
步骤 3 登陆成功界面如下。点击“简体中文”按钮，将界面切换为中文。后面章节中所以功能介绍都以简体中文界面为准。



登陆成功界面

1.2. 快速开始

第一次使用本产品时，可以使用设置向导快速配置路由器。



设置向导→下一步，会出现 6 中不同的联网方式。现介绍一下比较常用的 3G、DHCP、Static Mode、PPPOE 四种模式的配置方法。

1.2.1.联网

进入配置向导

The image shows the Hi-Link configuration interface for a WIRELESS-N ROUTER IEEE 802.11N. The left sidebar contains a navigation menu with the following items: HLK-RM08A, Operation Mode, Internet Settings (expanded), WAN (selected), LAN, DHCP Clients, VPN Passthrough, Routing, IPv6, Wireless Settings, NAT, and Administration. The main content area displays the WAN configuration for the selected 'WAN' option. At the top, there is a dropdown menu set to 'PPPOE (ADSL)'. Below this, the 'PPPoE Mode' section includes fields for 'User Name' (pppoe_user), 'Password' (masked with dots), and 'Verify Password' (masked with dots). There are also buttons for password visibility. The 'Operation Mode' section shows a 'Keep Alive' dropdown and an 'On demand Mode: Idle Time' of 5 minutes. The 'MAC Address Clone' section has an 'Enabled' dropdown set to 'Disable'. At the bottom, there are 'Apply' and 'Cancel' buttons.

PPPoE Mode	
User Name	pppoe_user
Password
Verify Password
Operation Mode	Keep Alive
On demand Mode: Idle Time 5 minutes	

MAC Address Clone	
Enabled	Disable

Apply Cancel

1.2.2.DHCP(自动获取 IP)

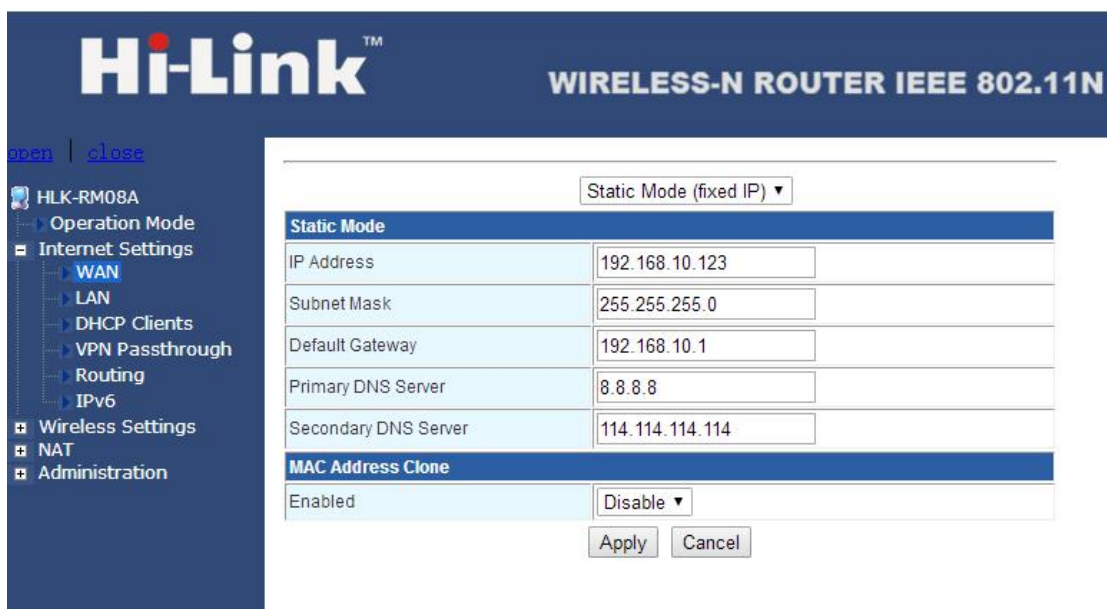
7688A 路由器的 WAN 口接上级路由器或交换机的 LAN 口，并且该网络须开启 DHCP，使路由器可以获取到 IP。




选择 DHCP(自动配置)

1.2.3.固定 IP

7688A 的 WAN 口接上级路由器或交换机的 LAN 口, 选择 Static Mode (固定 IP)




输入 IP 地址，子网掩码，默认网关，DNS 等 → 下一步

 注意：输入的 IP 地址要在上一级网络 IP 段内，子网掩码，默认网关，DNS 要与上一级网络一致，不然会造成无法联网等问题。

1.2.4.PPPOE 联网（ADSL 拨号上网）

该模式适用于 ADSL 拨号上网, 选择 PPPOE（ADSL 拨号）



The image shows the configuration interface of a Hi-Link WIRELESS-N ROUTER IEEE 802.11N. The left sidebar contains a navigation menu with the following items: HLK-RM08A, Operation Mode, Internet Settings (selected), WAN (selected), LAN, DHCP Clients, VPN Passthrough, Routing, IPv6, Wireless Settings, NAT, and Administration. The main content area displays the PPPoE (ADSL) configuration form. At the top, there is a dropdown menu set to 'PPPOE (ADSL)'. Below this, the 'PPPoE Mode' section includes fields for 'User Name' (filled with 'hlk16258665'), 'Password' (masked with dots), and 'Verify Password' (masked with dots). There are also buttons for password visibility. The 'Operation Mode' section has a 'Keep Alive' dropdown and an 'On demand Mode: Idle Time' field set to '5' minutes. The 'MAC Address Clone' section has an 'Enabled' dropdown set to 'Disable'. At the bottom are 'Apply' and 'Cancel' buttons.

PPPoE Mode	
User Name	hlk16258665
Password
Verify Password
Operation Mode	Keep Alive
On demand Mode: Idle Time 5 minutes	

MAC Address Clone	
Enabled	Disable

填写电信网络提供商提供的用户名，密码

1.3. 运作模式

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

open | close

HLK-RM08A

Operation Mode

Internet Settings

- WAN
- LAN
- DHCP Clients
- VPN Passthrough
- Routing
- IPv6

Wireless Settings

NAT

Administration

☐ Bridge:
All ethernet and wireless interfaces are bridged into a single bridge interface.

☒ Gateway:
The first ethernet port is treated as WAN port. The other ethernet ports and the wireless interface are bridged together and are treated as LAN ports.

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

☐ AP Client:
The wireless apcli interface is treated as WAN port, and the wireless ap interface and the ethernet ports are LAN ports.

NAT Enabled:

TCP Timeout:

UDP Timeout:

Apply

Reset

如上图所示，路由器有 4 种运行模式，

第一种运作模式为桥接（bridge）模式，此模式可用于扩大原有 AP 点的覆盖范围，延长无线通信距离，使用此模式时请关闭 7688A 路由器的 DHCP。

第二种运行模式为网关模式，为最常用的模式 WAN 为广域网，其它是局域网。

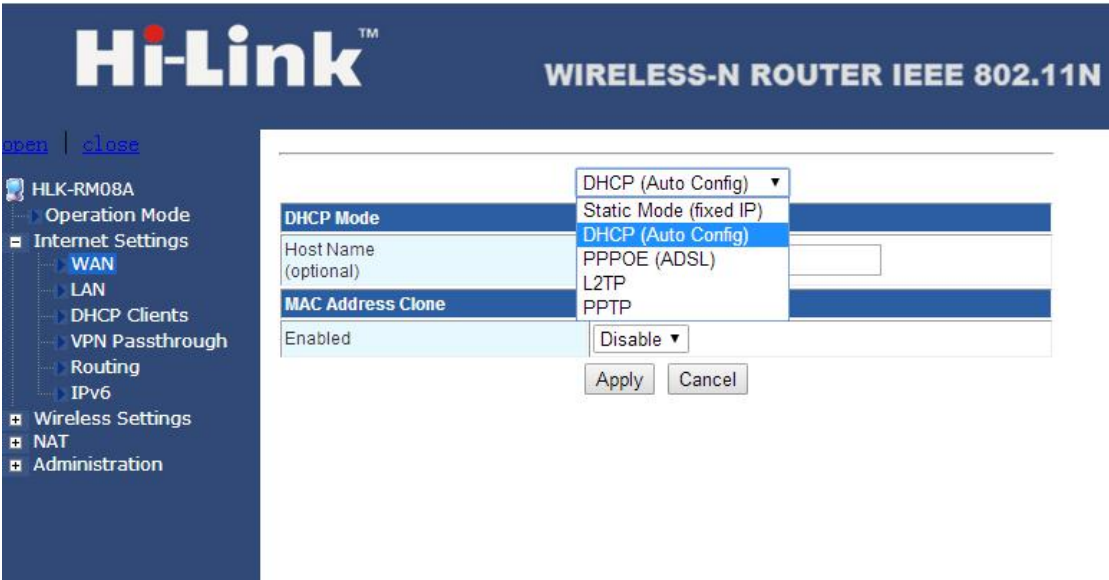
第三种运行模式，无线网络为广域网，其它是局域网。

第四种运行模式为 AP Client 模式，类似与 bridge 模式可以扩大 AP 点的覆盖范围，不同之处为该模式下 7688A 路由器具备 DHCP 功能，可以为接入设备分配 IP。

1.4. 网络设置

1.4.1. 广域网络

在广域网络联机模式有静态（固定 IP）、动态（自动获取）、PPPoE (ADSL)、L2TP、PPTP。



1.4.2. 局域网设置

默认的局域网设置界面如下：

open

close

HLK-RM08A

Operation Mode

Internet Settings

WAN

LAN

DHCP Clients

VPN Passthrough

Routing

IPv6

Wireless Settings

NAT

Administration

LAN Interface Setup

Hostname

Mediatek

IP Address

192.168.16.254

Subnet Mask

255.255.255.0

LAN2

Enable

Disable

LAN2 IP Address

LAN2 Subnet Mask

MAC Address

8C:88:2B:00:01:5B

DHCP Type

Server

DHCP Start IP

192.168.16.100

DHCP End IP

192.168.16.200

DHCP Subnet Mask

255.255.255.0

DHCP Primary DNS

192.168.16.254

DHCP Secondary DNS

8.8.8.8

DHCP Default Gateway

192.168.16.254

DHCP Lease Time

86400

Statically Assigned

MAC:

该页面中有几个比较常用的配置项，如下：

项目	默认值	说明
IP 地址	192.168.16.254	该 IP 地址决定了 7688A 路由器所处的网段，同时该地址为 7688A 路由器的管理地址以及网关
子网掩码	255.255.255.0	
DHCP 类型	服务器	开启和关闭 DHCP 功能
起始 IP 地址	192.168.16.100	IP 段须和 IP 地址 在同一网段
结束 IP 地址	192.168.16.200	IP 段须和 IP 地址 在同一网段
惯用 DNS 服务器	192.168.16.254	一般直接填写网关即可
预设信关	192.168.16.254	网关，须和 IP 地址 相同

1.4.3.DHCP 客户端列表

可以查看所有连接 7688A 的客户端。

1.4.5.高级路由器配置

您可以在此新增/移除订制的静态路由规则, 或者启用动态路由规则交换协议。

open | close

HLK-RM08A

Operation Mode

Internet Settings

- WAN
- LAN
- DHCP Clients
- VPN Passthrough
- Routing
- IPv6

Wireless Settings

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

NAT

Administration

Static Routing Settings

You may add or remote Internet routing rules here.

Add a routing rule

Destination

Host/Net

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	10.0.0.0	255.0.0.0	0.0.0.0	1	0	0	0	LAN(br0)	

Delete Selected

Reset

1.5. 无线网络设置

无线网络设置类中，包含了所有关于 WIFI 的设置。

1.5.1.基本设置

基本的无线通讯设置，譬如：网络名称（SSID）和频道。基本设置项目可以做简单的无线存取节点设置。

open | close

HLK-RM08A

- Operation Mode
- Internet Settings
 - WAN
 - LAN
 - DHCP Clients
 - VPN Passthrough
 - Routing
 - IPv6
- Wireless Settings
 - Basic
 - Advanced
 - Security
 - WPS
 - Station List
 - Statistics
- NAT
- Administration

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

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	4.1.0.0
Radio On/Off	RADIO OFF
WiFi UP/DOWN	WiFi OFF
Network Mode	11b/g/n mixed mode
Network Name(SSID)	HI-LINK_015B Hidden Isolated
Broadcast Network Name (SSID)	Enable Disable
AP Isolation	Enable Disable
BSSID	8C:88:2B:00:01:5A
Frequency (Channel)	2412MHz (Channel 1)
HT Physical Mode	
Operating Mode	Mixed Mode Green Field
Channel BandWidth	20 20/40
Guard Interval	long Auto

1.5.2.高级设置

使用高级设置对无线执行细部设置。高级设置包含非基本设置项目，例如：信标间隔、控制传送速率、基本数据传输速率等。

[open](#) | [close](#)

HLK-RM08A

➤ Operation Mode

■ Internet Settings

➤ WAN

➤ LAN

➤ DHCP Clients

➤ VPN Passthrough

➤ Routing

➤ IPv6

■ Wireless Settings

➤ Basic

➤ **Advanced**

➤ Security

➤ WPS

➤ Station List

➤ Statistics

⊕ NAT

⊕ Administration

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	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Short Slot	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Tx Burst	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Pkt_Aggregate	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IEEE 802.11H Support	<input type="radio"/> Enable <input checked="" type="radio"/> Disable (only in A band)
Country Code	US (United States) ▼
Support Channel	Ch1~11 ▼

1.5.3.安全设置

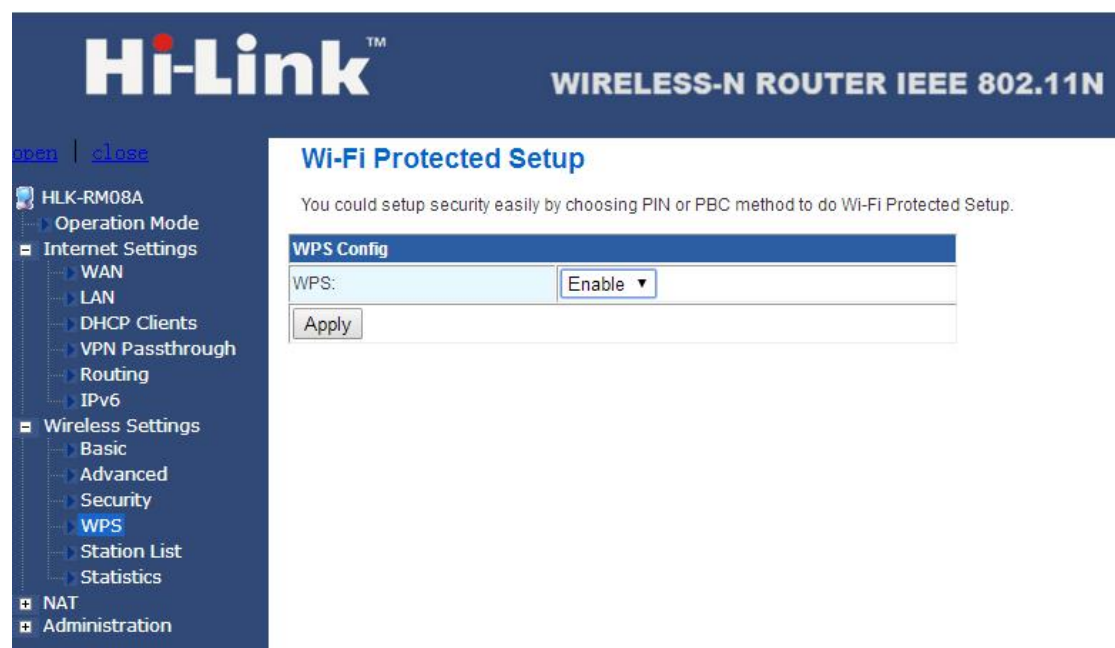
设置无线网络的密码、加密方式访问策略等。



The screenshot shows the 'Wireless Security/Encryption Settings' page of a Hi-Link router. The left sidebar contains a navigation menu with 'Security' highlighted under 'Wireless Settings'. The main content area has a title bar 'Wireless Security/Encryption Settings' and a subtitle 'Setup the wireless security and encryption to prevent from unauthorized access and monitoring.' Below this, there are several sections: 'Select SSID' with a dropdown menu showing 'HI-LINK_015B'; 'HI-LINK_015B' section with a 'Security Mode' dropdown set to 'WPA2PSKWPA2PSK'; 'WPA' section with 'WPA Algorithms' (radio buttons for TKIP, AES, and TKIPAES, with AES selected), 'Pass Phrase' (text field with '12345678'), and 'Key Renewal Interval' (text field with '3600' and 'seconds (0 ~ 4194303)'); 'Access Policy' section with 'Policy' (dropdown menu set to 'Disable') and 'Add a station Mac:' (text field). At the bottom are 'Apply' and 'Cancel' buttons.

1.5.4.WPS

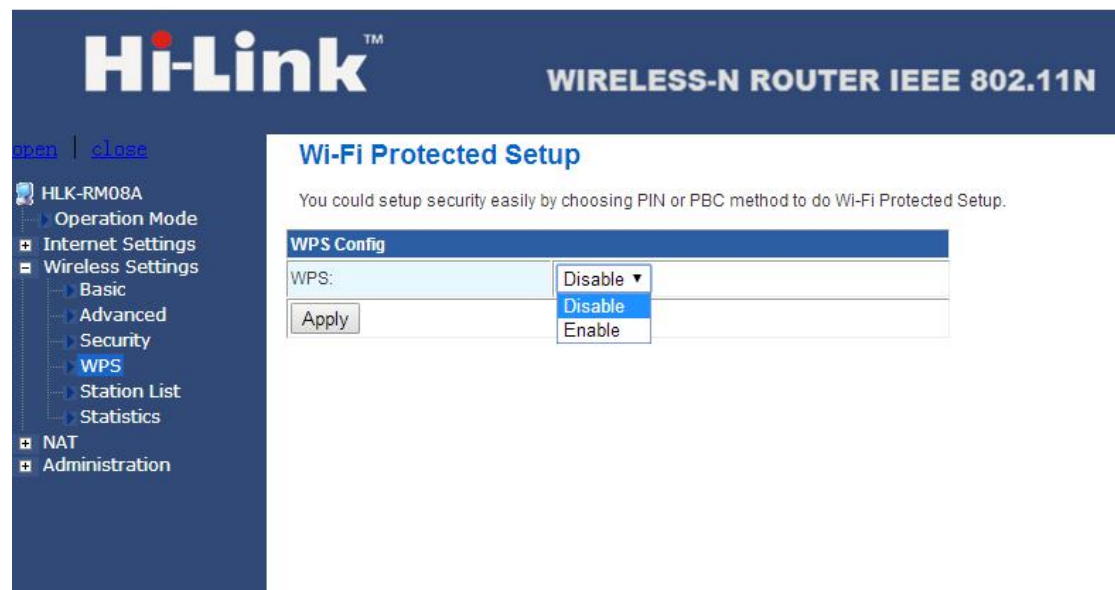
快速访问连接功能



The screenshot shows the 'Wi-Fi Protected Setup' page of a Hi-Link router. The left sidebar contains a navigation menu with 'WPS' highlighted under 'Wireless Settings'. The main content area has a title bar 'Wi-Fi Protected Setup' and a subtitle 'You could setup security easily by choosing PIN or PBC method to do Wi-Fi Protected Setup.' Below this is a 'WPS Config' section with a 'WPS:' dropdown menu set to 'Enable' and an 'Apply' button.

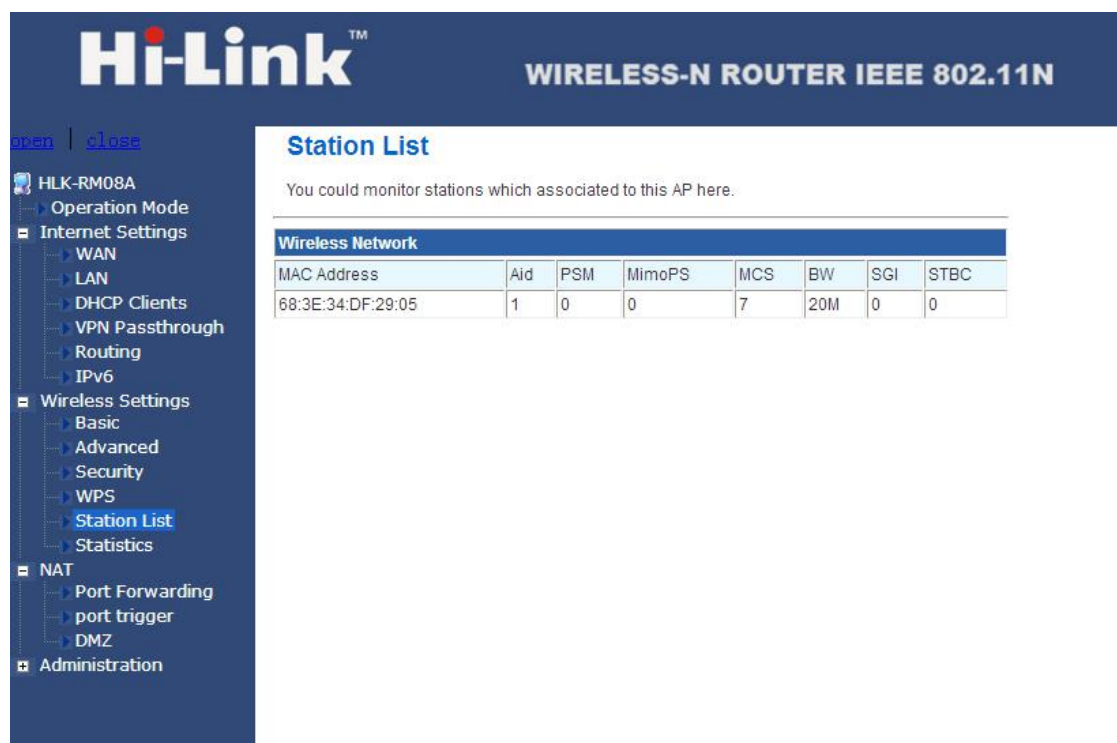
1.5.5.WPS

WPS 相关的设置。



1.5.6.客户端列表

可以监视连结上这台无线存取节点的客户端。



1.5.7.统计资料

统计无线收发数据量等。



1.6. 防火墙

设置 MAC、IP、端口过滤，端口映射，远程管理，内容过滤等，访问限制等相关网络安全功能。

1.6.1.MAC/IP/Port 过滤设置

您可以建立防火墙规则来保护您的网路远离 Internet 病毒蠕虫恶意攻击。

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

open | close

HLK-RM08A

Operation Mode

Internet Settings

- WAN
- LAN
- DHCP Clients
- VPN Passthrough
- Routing
- IPv6

Wireless Settings

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

NAT

- Port Forwarding
- port trigger
- DMZ

Administration

Virtual Server Settings

You may setup Virtual Servers to provide services on Internet.

Port Forwarding

Port ForwardingDisable ▾

IP Address

Port Range

ProtocolTCP&UDP ▾

Comment

(The maximum rule count is 32.)

ApplyReset

Current Port Forwarding in system:

No.	IP Address	Port Range	Protocol	Comment
-----	------------	------------	----------	---------

Delete SelectedReset

Virtual Server

Virtual ServerDisable ▾

1.6.2.Port 转送

您可以建立虚拟服务器来提供网络服务。

Hi-LinkTM

WIRELESS-N ROUTER IEEE 802.11N

open | close

HLK-RM08A

- Operation Mode
- Internet Settings
 - WAN
 - LAN
 - DHCP Clients
 - VPN Passthrough
 - Routing
 - IPv6
- Wireless Settings
 - Basic
 - Advanced
 - Security
 - WPS
 - Station List
 - Statistics
- NAT
 - Port Forwarding
 - port trigger
 - DMZ
- Administration

Port Trigger Setting

You may setup Port Trigger to provide services on Internet.

Port Trigger	
Port Trigger	Disable ▾
Trigger Port Protocol	TCP ▾
Trigger Port	
Incoming Port Protocol	TCP ▾
Incoming Port	
Comment	

(The maximum rule count is 32.)

ApplyReset

Current Port Trigger in system:

No.	Trigger Protocol	Trigger Port	Incoming Protocol	Incoming port	Comment
-----	------------------	--------------	-------------------	---------------	---------

Delete SelectedReset

1.6.3.DMZ 设置

您可以建立一个隔离区（DMZ）来区分内部网络与 Internet。

1.7. 系统管理

系统管理包括了语言设置，管理员账号密码，时间设置，动态域名设置，系统重启，固件更新，设置导出导入，恢复出厂设定，系统版本，广域网和局域网状态等。

1.7.1. 系统管理

您可以在这里设置系统的管理者及口令等。

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

open | close

HLK-RM08A

Operation Mode

Internet Settings

WAN

LAN

DHCP Clients

VPN Passthrough

Routing

IPv6

Wireless Settings

Basic

Advanced

Security

WPS

Station List

Statistics

NAT

Port Forwarding

port trigger

DMZ

Administration

Management

Upload Firmware

Settings Management

Status

Statistics

System Management

You may configure administrator account and password, NTP settings, and Dynamic NTP settings here.

Administrator Settings

Account

admin

Password

Apply

Cancel

NTP Settings

Current Time

Thu Jan 1 00:24:33 UTC 1970

Sync with host

Time Zone:

(GMT-11:00) Midway Island, Samoa

NTP Server

ex: time.nist.gov

ntp0.broad.mit.edu

time.stdtime.gov.tw

NTP synchronization

Apply

Cancel

1.7.2. 固件更新

更新 img 格式的固件，更新过程中请勿断电。



1.7.3.设置管理

可以导出当前的配置信息，也可以导入配置信息。点击“装入默认值”可将所有参数恢复默认。



1.7.4.无线存取节点状态

7688A 的版本号，WAN 口和 LAN 口信息。

open

close

HLK-RM08A

Serial2Net Settings

Advance Settings

UART 2 Settings

Administration

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

HLK-RM08A Serial2Net Settings

NetMode:

Default

WAN

IP Type:

DHCP

WiFi

SSID:

HI-LINK_015B

Encrypt Type:

WPA/WPA2 AES

Password:

12345678

IP Address:

192.168.16.254

Subnet Mask:

255.255.255.0

Current

Updated

Serial Configure:

57600,8,n,1

115200,8,n,1

Serial Framing Lenth:

64

64

Serial Framing Timeout:

10 milliseconds

10 milliseconds (< 256, 0 for no timeout)

Network Mode:

1

Server

网络模式有 4 中，如图：

open

close

HLK-RM08A

Serial2Net Settings

Advance Settings

UART 2 Settings

Administration

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

HLK-RM08A Serial2Net Settings

NetMode:

Default

Default

ETH-SERIAL

WIFI(CLIENT)-SERIAL

WIFI(AP)-SERIAL

Serial

WAN

IP Type:

4 中网络模式

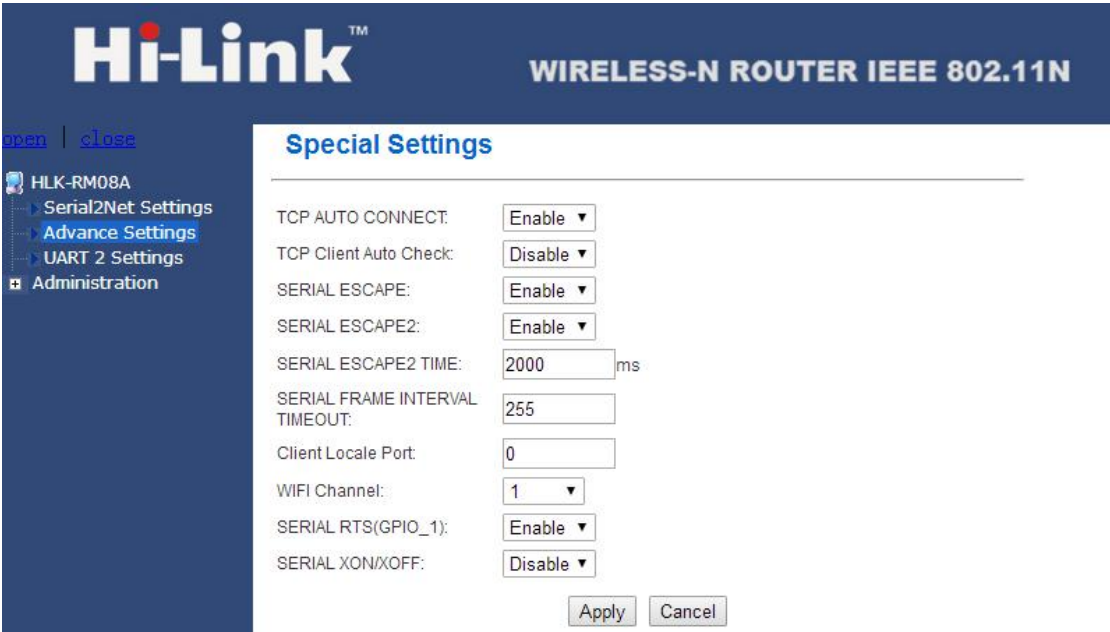
每种网络模式 7688A 路由器各接口的工作状态如下：

网络模式	WAN	LAN	串口 1	串口 2	WIFI (AP)	WIFI (STA)
默认	可用	可用	可用	可用	是	否
串口-以太网	可用	不可用	可用	可用	否	否

串口-无线 (WIFI STA)	不可用	不可用	可用	可用	否	是
串口-无线 (WIFI AP)	不可用	不可用	可用	可用	是	否

1.8.2.高级配置

串口功能的高级选项，一般情况下不需要配置。



1.8.3.串口 2 参数设置

串口 2 硬件接口暂没有提供，起功能和串口 1 功能一样。

open

close

HLK-RM08A

Serial2Net Settings

Advance Settings

UART 2 Settings

Administration

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

HLK-RM08A Serial2Net Settings:UART 2

	Current	Updated
Serial Configure:	57600,8,n,1	<input type="text" value="115200,8,n,1"/>
Serial Framing Lenth:	64	<input type="text" value="64"/>
Serial Framing Timeout:	10 milliseconds	<input type="text" value="10"/> milliseconds (< 256, 0 for no timeout)
Network Mode:	1(0:None,1:Server,2:Client)	<input type="text" value="Server"/>
Remote Server Domain/IP:	192.168.1.245	<input type="text" value="192.168.1.245"/>
Locale/Remote Port Number:	8081	<input type="text" value="8081"/>
Network Protocol:	1(0:None,1:TCP,2:UDP)	<input type="text" value="TCP"/>
Network Timeout:	0seconds	<input type="text" value="0"/> seconds (< 256, 0 for no timeout)
TCP AUTO CONNECT:	1	<input type="text" value="Enable"/>
TCP Client Auto Check:	1	<input type="text" value="Enable"/>
Client Locale Port:	0	<input type="text" value="0"/>

Apply

Cancel

1.8.4.系统管理

系统管理中的各项功能可以在 7688A 路由配置页面找到，此处不再复述。

open

close

HLK-RM08A

Serial2Net Settings

Advance Settings

UART 2 Settings

Administration

Hi-Link™

WIRELESS-N ROUTER IEEE 802.11N

System Management

You may configure administrator account and password, NTP settings, and Dynamic NTP settings here.

Administrator Settings

Account	<input type="text" value="admin"/>
Password	<input type="password" value="....."/>

Apply

Cancel

NTP Settings

Current Time	Thu Jan 1 00:28:57 UTC 1970 <input type="button" value="Sync with host"/>
Time Zone:	(GMT-11:00) Midway Island, Samoa
NTP Server	<input type="text" value=""/> ex: time.nist.gov ntp0.broad.mit.edu time.stdtime.gov.tw
NTP synchronization	<input type="checkbox"/>

Apply

Cancel