InRouter 700 Series User's Manual

Second Edition, March, 2013

(For Firmware Version: 1.3.7.r2565)

InRouter 700 Series User's Manual

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This user manual may include intentional technical or typographical errors. Changes are periodically made to the manual to correct such errors, and these changes are not informed in new editions.

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Email: support@inhandnetworks.com

Release Notes

2011. 3. 24th: Add description for functions:

1. WOL (Wakeup Over LAN) at “Networks”→”LAN”;
2. SMS control (reboot/show status) at “Service”→”SMS”;
3. “User+X.509” mode for OpenVPN client;

Add Notice:

1. WAN/LAN settings: don’t set the WAN/LAN IP as 192.168.3.1 (the default IP of DMZ port);

2011.8.21st: Add description for functions:

1. “Double Dialup”, set backup parameters for PPP dialup at “Networks”→”Dialup”;
2. “Double IPSec”, set backup IPSec tunnel at “VPN” → “IPSec Tunnels”;
3. “DHCP Relay” at “Service” → “DHCP Relay”;
4. “DNS Relay” at “Service” → “DNS Relay”
5. Enable “SSH configuration”;
6. Disable “Multi Manager” function at “System” → “Admin Access”;
7. “Loopback” at “Networks” → “Loopback”;
8. “Port Mirror” at “Networks” → “Port Mirror”;

2012.1.12th: Add description for functions:

1. Add description for “Multi IP Access”;
2. Add network models for United States market;
3. Add description for “Dynamic GRE”;
4. Add model selection for ICMP;
5. “Status” □ “Modem” display changes;

2012.5.8th: Add description for functions:

1. Add short connection for DTU (trigger by serial port);
2. Add the Virtual IP port mapping for “Firewall→Port Mapping”;
3. Use two units to display signal strength : asu, dBm

content

I

Introduction to InRouter 700 Series

- Overview
- Product Models
- Product Features & Specifications
- Package Checklist

1.1 Overview

InRouter 700 series industrial grade routers provide users with stable and high speed connection between remote devices and customer’s center via 2.5G/3G networks. They allow wide voltage power supply (9-48V DC), large range operating temperature from -25 ℃ to 70 ℃ (-10 ~ 158F)/ humidity: 95% RH, and fully satisfy various EMC verifications, which ensure stability and reliability under harsh industrial conditions. The InRouter 700 can be placed on a desktop or DIN-mounted.

InRouter 700 series products support VPN (IPSec/PPTP/ L2TP/GRE/SSL VPN), which create high-security links between remote equipment and customer’s center.

In Addition, InRouter 700 series products support the Device Manager remote device manage platform, which realizes remote operation including remote control, remote monitor, parameters configure, firmware upgrade, log/alarm management, information statistics/display, batch configuration/update and etc.

Important Safety Information

This product is not intended for use in the following circumstances

- Area(s) where radio transmission equipment (such as cell phone) are not permitted.
- Hospitals, health care facilities and area(s) where cell phones are restricted by law.
- Gas stations, fuel storage and places where chemical are stored.
- Chemical plants or places with potential explosion hazard.
- Any metal surface that may weaken the radio signal level.

RF safety distance

- For GPRS router, the compliance boundary distance is r=0.26m for GSM 900MHz and r=0.13m for DCS 1800 MHz.
- For HSUPA router, the compliance boundary distance is r=0.26m for GSM 900MHz and
- r=0.13m for DCS 1800 MHz, r=.0.094 for WCDMA 900MHz, r=0.063 for WCDMA 2100MHz.

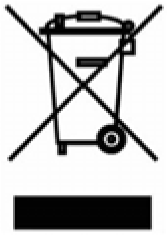
Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WEEE Notice

The Directive on Waste Electrical and Electronic Equipment (WEEE), which entered into force as European law on 13th February 2003, resulted in a major change in the treatment of electrical equipment at end-of-life.
The purpose of this Directive is, as a first priority, the prevention of WEEE, and in addition, to promote the reuse, recycling and other forms of recovery of such wastes so as to reduce disposal.

The WEEE logo (shown at the left) on the product or on its box indicates that this product must not be disposed of or dumped with your other household waste. You are liable to dispose of all your electronic or electrical waste equipment by relocating over to the specified collection point for recycling of such hazardous waste. Isolated collection and proper recovery of your electronic and electrical waste equipment at the time of disposal will allow us to help conserving natural resources. Moreover, proper recycling of the electronic and electrical waste equipment will ensure safety of human health and environment.



For more information about electronic and electrical waste equipment disposal, recovery, and collection points, please contact your local city centre, household waste disposal service, shop from where you purchased the equipment, or manufacturer of the equipment.

1.2 Package Checklist

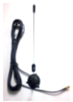
We put each InRouter 700 cellular router in a box with standard accessories. Additionally, there're optional accessories can be ordered. When you receive our package, please check carefully, and if there're items missing or appearing to be damaged, please contact with your InHand Networks sales representative.

Items in package include:

Standard Accessories:

Accessories	Description
InRouter 700 Serials Wireless Router	1
Cable	1 Cross line,CAT-5,1.5M
Document and Software CD	1
Antenna	5m Cellular Antenna
Power Supply	
	Power Adapter, 100-265V AC in, 12V DC out (included in IR7xx)
	Power plug, American Standard (included in IR7xx)

Optional Antennas:

Picture	Type	Description
	GSM/GPRS Cellular Antennas	GPRS Quad-band (included in IR7xxGS55)
	UMTS/HSDPA/WCDMA Cellular Antennas	UMTS Quad-band (included in IR7xxWH01)
	Anti-thief antenna	UMTS Quad-band (Optional for IR7xxWH01)
	Stick antenna	UMTS Quad-band (Optional for IR7xxWH01)
	Anti-thief antenna	UMTS Quad-band (Optional for IR7xxWH01)

1.3Product Features

1.3.1 Interfaces

WAN

Cellular WAN:

Band Options:

HSUPA /HSDPA/WCDMA
850/900/1900/2100MHz
GSM/GPRS/EDGE
850/900/1800/1900MHz

Ethernet WAN:

Ethernet: 10/100 Mbps, RJ45 connector, Auto MDI/MDIX

Magnetic Isolation Protection: 1.5 KV built-in

LAN

IR701/791:

Number of Ports: 1

Ethernet: 10/100 Mbps, RJ45 connector, Auto MDI/MDIX

Magnetic Isolation Protection: 1.5 KV built-in

IR704/794:

Number of Ports: 4

Ethernet: 10/100 Mbps, RJ45 connector, auto MDI/MDIX

Magnetic Isolation Protection: 1.5 KV built-in

Serial

A. Serial Type: RS232/485

B. Data bit: 5/6/7/8

C. Stop bit: 1/2

D. Check bit: N/O/D

E. Baud rate: 1,200bit/s~ 115,200bit/s

SIM Interface

SIM Control: 3 V

1.3.2 Functions

PPP

Support VPDN/APN, fast access to virtual private dial-up network (VPDN) provided by mobile operator, ensure high-security data transmission.

Support PPPoE (Point to Point Protocol over Ethernet) Protocol.

Support CHAP/PAP/MS-CHAP/MS-CHAP V2 authorization

Support Connection Detection, auto-recovery, auto-link, ensure reliable communication.

Support On-demand connection, SMS Activity

Dynamic IP

Support DHCP, applied as Server/Client

Dynamic DNS

Support Dynamic DNS-IP Binding

Flux Management

Support rate limiting,

Firewall Function

Package filtering

Port Mapping

Virtual Address Mapping

DMZ zone

MAC addresses binding.

Route function

Support Static Routing Table

VPN (for IR79x only)

IPSec VPN

L2TP VPN

PPTP VPN

GRE

SSL VPN

Link Backup

VRRP

Support VRRP protocols, realizing immediate link backup

Hot Link Backup (for IR7x4 only)

Support Wireless Hot Link Backup for cable link via only one device

DNS Forwarding

Support DNS Forwarding, support DNS record

Network tools

Support Ping, Trace Route and Telnet

Wakeup Over LAN (WOL)

Support Wakeup over LAN, to wakeup industrial PC over Eth. after receives SMS.

RSSI + Cell ID Display

1.3.3 Environmental Limits

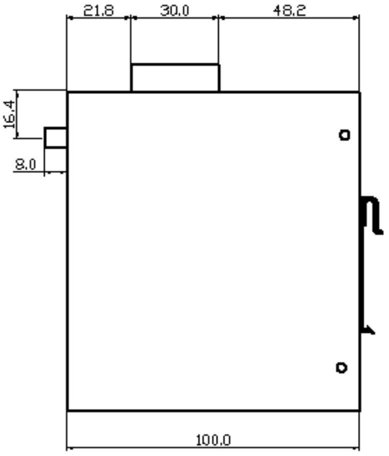
Operating Temperature: -25 to 70 ℃ (-10 to 158 ℉)
Operating Humidity: 5 to 95% RH
Storage Temperature: -40 to 85 ℃ (-40 to 167 ℉)

1.3.4 Power Requirements

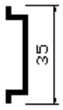
Power Inputs: 1 terminal block, including power jack and serial.
Input Voltage: 9 -48 VDC

1.3.5 Physical Characteristics

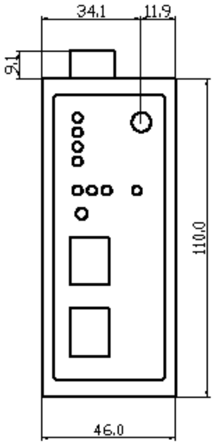
Housing: Steel, providing IP30 protection
Weight: 490g
Dimensions (mm)
IR701/791:



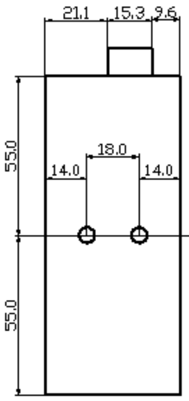
Side View



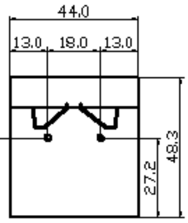
DIN Rail Kit



Front View



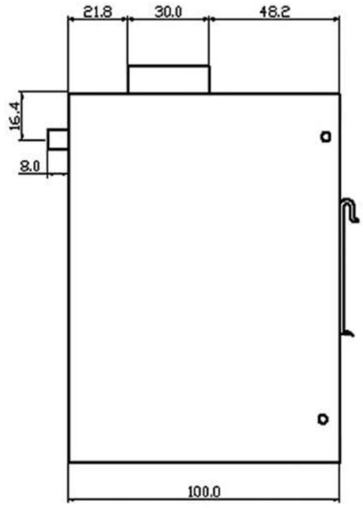
Rear View



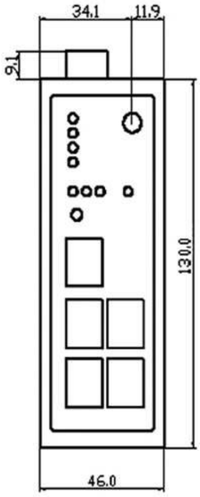
DIN Rail Kit

IR704/794:

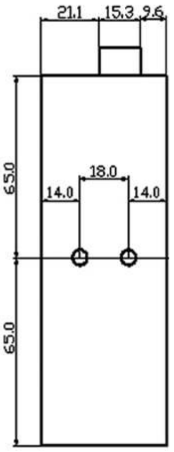
Side View



Front View



Back View



RF conducted interference: EN61000-4-6, Level 3
Damped oscillation Immunity: EN61000-4-12, Level 3
Power-frequency electromagnetic fields Immunity: EN61000-4-8, Level 5
Anti-shock: IEC60068-2-27
Drop: IEC60068-2-32
Vibration: IEC60068-2-6

1.3.7 Device Management Software

Device Manager:
Centralized management solution for InHand Networks Devices

1.3.8 Warranty

Warranty Period: 1 year (Optional service for 3 years)

1.4Product Models

The current models of InRouter700 Series include: InRouter701/791GS55,InRouter701/791WH01,InRouter 704/794WH01.

The models are classified according to main difference including cellular network, VPN support and interface for device.

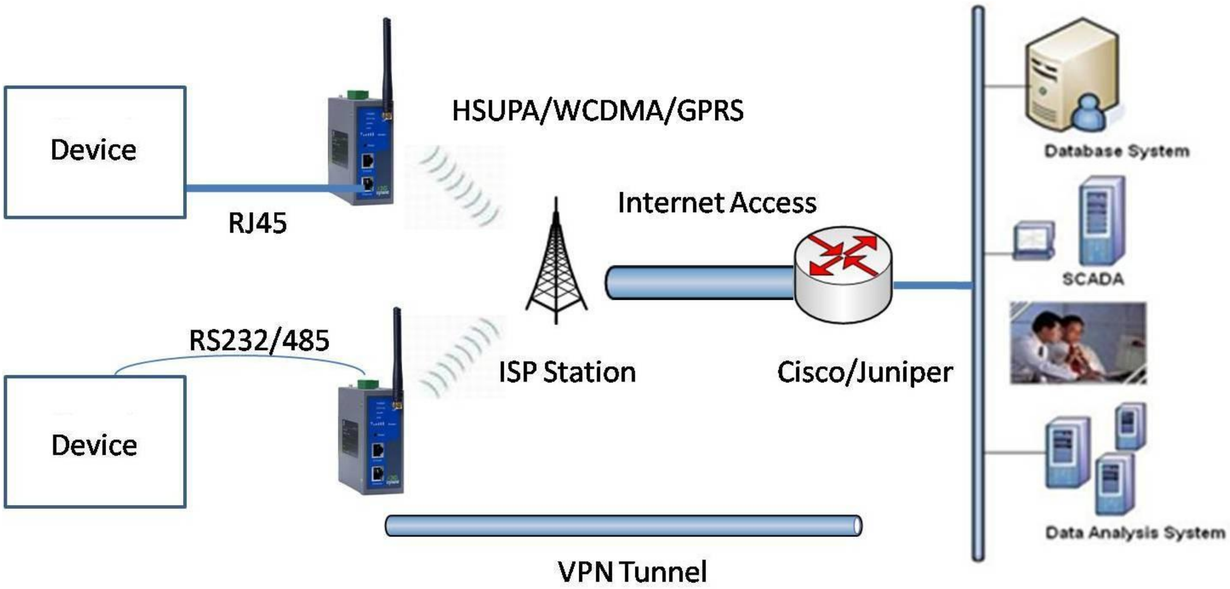
Model	Serial	LAN	Cellular WAN	Ethernet WAN	VPN	CA X.509 base64
GPRS						
IR701GS55	RS232/485	1 RJ45	GSM/GPRS 850/ 900/1800/1900 MHz	N/A	N/A	N/A
IR791GS55	RS232/485	1 RJ45	GSM/GPRS 850/ 900/1800/1900 MHz	N/A	IPSec/PPTP/L2TP/GRE/SSL	Support
UTMS						
IR701WH01	RS232/485	1 RJ45	HSUPA /HSDPA/WCDMA: 850/900/1900/2100MHz GSM/GPRS/EDGE: , 850/900/1800/1900MHz	N/A	N/A	N/A
IR791WH01	RS232/485	1 RJ45	HSUPA /HSDPA/WCDMA: 850/900/1900/2100MHz GSM/GPRS/EDGE: , 850/900/1800/1900MHz	N/A	IPSec/PPTP/L2TP/GRE/SSL	Support
IR704WH01	RS232/485	4 RJ45	WCDMA/HSUPA 850/900/1900/2100MHz	ADSL/DHCP/ PPPoE/Static IP	N/A	N/A
IR794WH01	RS232/485	4 RJ45	WCDMA/HSUPA 850/900/1900/2100MHz	ADSL/DHCP/ PPPoE/Static IP	IPSec/PPTP/L2TP/GRE/SSL	Support
USB Modem						
IR701UE	RS232/485	1 RJ45	USB Modem	N/A	N/A	N/A
IR791UE	RS232/485	1 RJ45	USB Modem	N/A	IPSec/PPTP/L2TP/GRE/SSL	Support
IR704UE	RS232/485	4 RJ45	USB Modem	ADSL/DHCP/ PPPoE/Static IP	N/A	N/A
IR794UE	RS232/485	4 RJ45	USB Modem	ADSL/DHCP/ PPPoE/Static IP	IPSec/PPTP/L2TP/GRE/SSL	Support

II

Quick Installation Guide

- Typical Application
- Panel Layout
- Quick Connect to Internet
- Quick IPSec VPN Configuration
- Reset to Factory Defaults

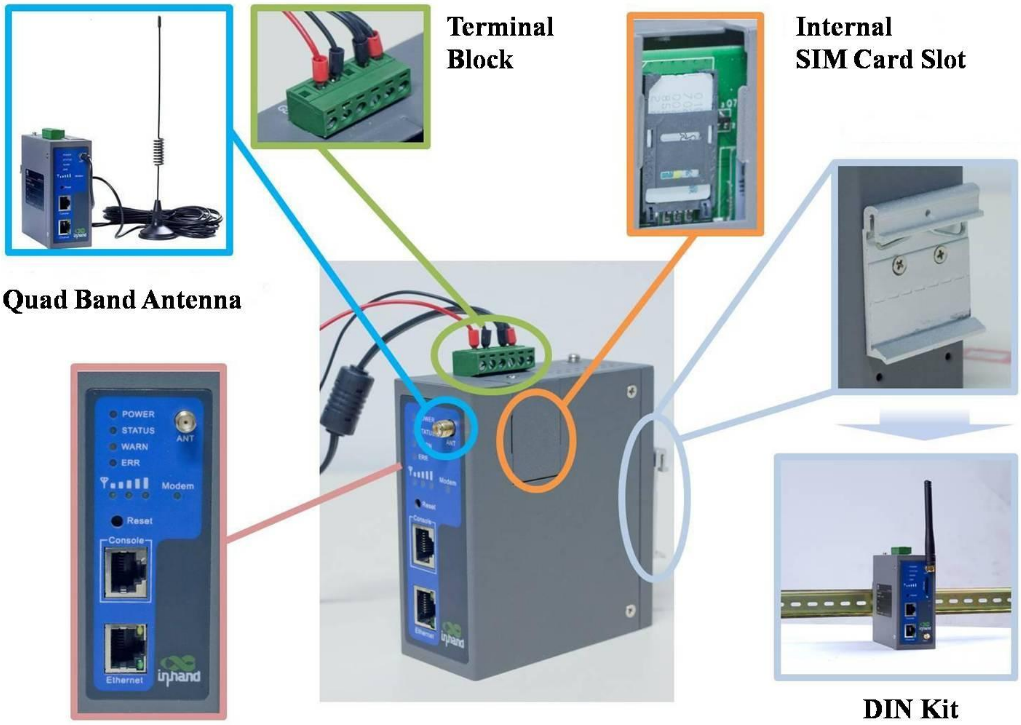
2.1 Typical Application



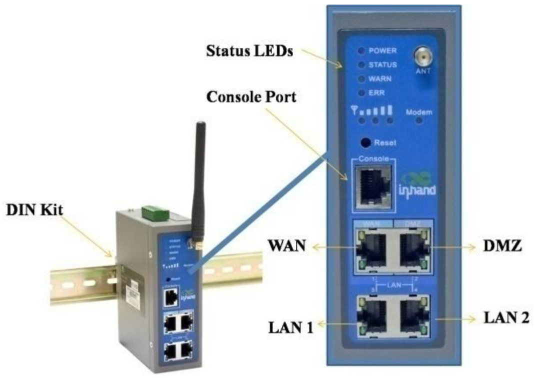
InRouter 700 series can be used to connect your device (with RS232/485/Ethernet Interface) to internet via GPRS/HSUPA cellular network. Meanwhile, to ensure the security and access, InRouter 700 series support VPN, enabling remote access and secure data transmission through Internet.

2.2 Panel Layout

IR701/791:



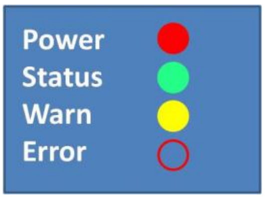
IR704/794:



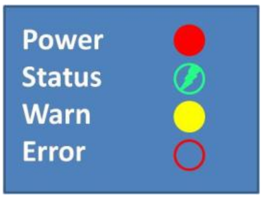
Interface	Description
Power Interface	Access 9-48 V DC Power Supply
Serial	Access to the serial line, realizing
Ethernet Ports	One 10/100Base-TX RJ45 Port (IR701/791GS55, IR701/791WH01, IR701/791UE) Four 10/100Base-TX RJ45 Ports, (IR704/794UE, IR704/794WH01)
ANTENNA	2.5G/3G antenna
SIM Card Connector	Hold SIM card

Description of LED

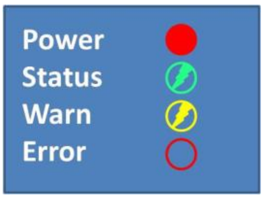
Legend: On--● Off--○ Blink--⚡



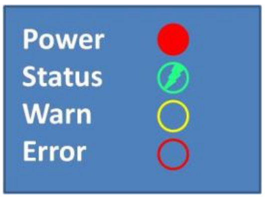
Power on



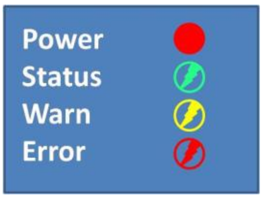
Start to run firmware



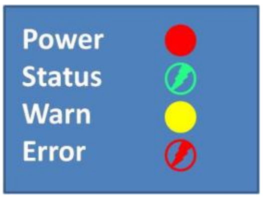
Begin dial to Internet



Connect to internet

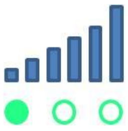


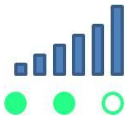
Upgrading firmware

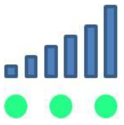


Restore factory default

Signal Status LED Description

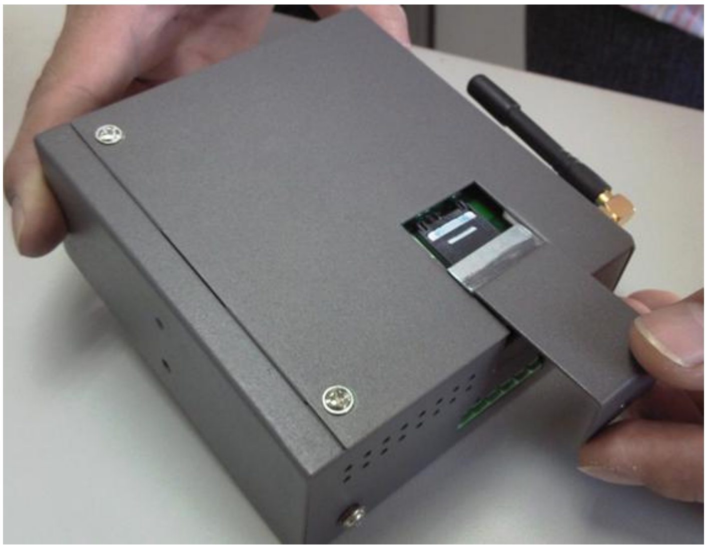

----- Signal: 1-9 (poor signal level, router cannot work, please check the antenna and local signal level)


------ Signal: 10-19 (Router can work under this signal level)


------ Signal: 20-31 (Perfect signal level)

2.3 Quick Connection to Internet

2.3.1 Insert SIM Card



Open InRouter SIM/UIM card case at the bottom, insert the SIM card and close the case.

For the external USB modem type, insert the USB card into the USB port.

2.3.2 Antenna Installation

After install the IR700, connect the interface of enhanced antenna to the interface of skin antenna and screw closely. Put the amplifier of enhanced antenna to where it can receive the good signal.

Attention: Position and angle of the antenna may influence the quality of signal.

2.3.3 Power Supply

Link the power supply in the product package with InRouter, watch where the InRouter Power LED on the panel is light up. If not, please connect with InHand for technical supports.

You can configure IR700 after the Power LED lights up.

2.3.4 Connect

Link IR700 with PC:

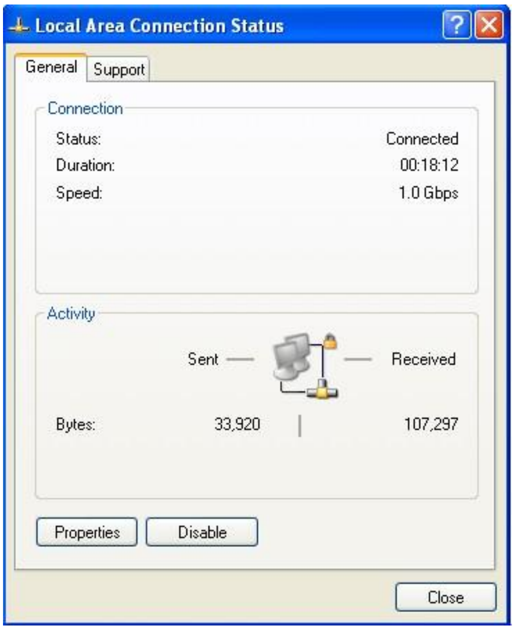
(1) Using the cable to link IR700 with PC;

(2) After connected, you can see one LED of RJ45 Interface turns green and the other flashes.

2.3.5 Build Connection between InRouter and your PC

IR700 Router can auto-distribute IP address for PC. Please set the PC to automatically obtain IP address via DHCP. (Based on the Windows Operation System):

1) Open "Control Panel", double click "Network Connections" icon, and enter "Network Connections" Screen.
2) Double click "Local Area Connection", enter "Local Area Connection Status" screen:



Local Area Connection Status

General | Support

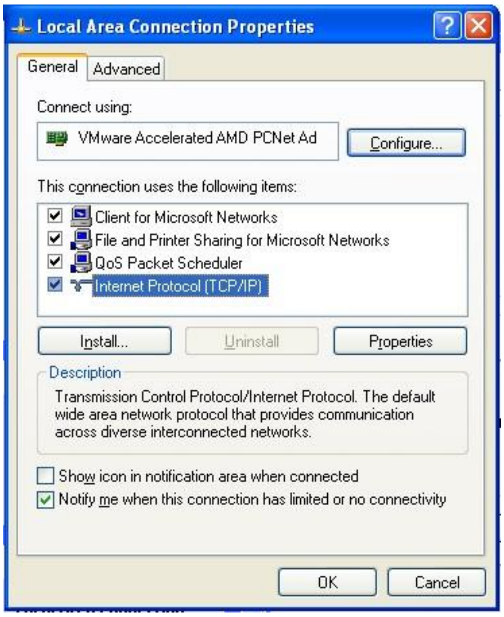
Connection

Status:	Connected
Duration:	00:18:12
Speed:	1.0 Gbps

Activity

	Sent	Received
Bytes:	33,920	107,297

3) Click "Properties", enter "Local Area Connection Properties" screen



Local Area Connection Properties

General | Advanced

Connect using:

VMware Accelerated AMD PCNet Ad

This connection uses the following items:

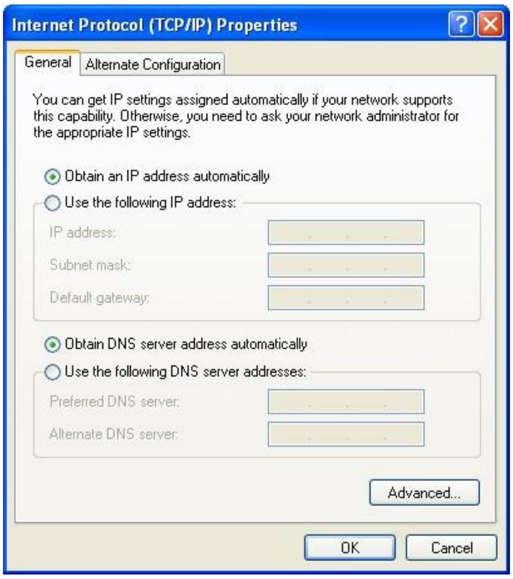
☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ QoS Packet Scheduler
☑ Internet Protocol (TCP/IP)

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

□ Show icon in notification area when connected
☑ Notify me when this connection has limited or no connectivity

Choose "Internet Protocol (TCP/IP)", click "properties" button, ensure your PC can obtain IP and DNS address automatically. (Or you can set your PC in the subnet: 192.168.2.0/24, for example, set IP: 192.168.2.10, Net Mask: 255.255.255.0, Default Gateway: 192.168.2.1)



Internet Protocol (TCP/IP) Properties

General | Alternate Configuration

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

● Obtain an IP address automatically

○ Use the following IP address:

IP address: . . .

Subnet mask: . . .

Default gateway: . . .

● Obtain DNS server address automatically

○ Use the following DNS server addresses:

Preferred DNS server: . . .

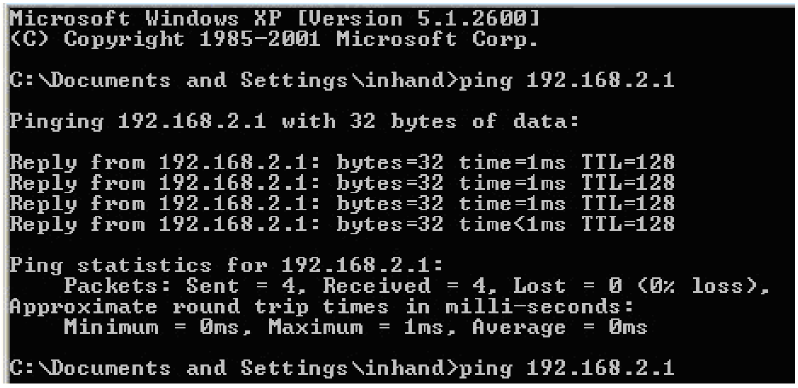
Alternate DNS server: . . .

Click “OK”, InRouter will allocate an IP address: 192.168.2.X, and a gateway: 192.168.2.1(the default address of IR700).

After configure TCP/IP protocols, you can use ping command to check whether the link between PC and Router is built correctly. Below is an example to execute Ping command under Windows XP:

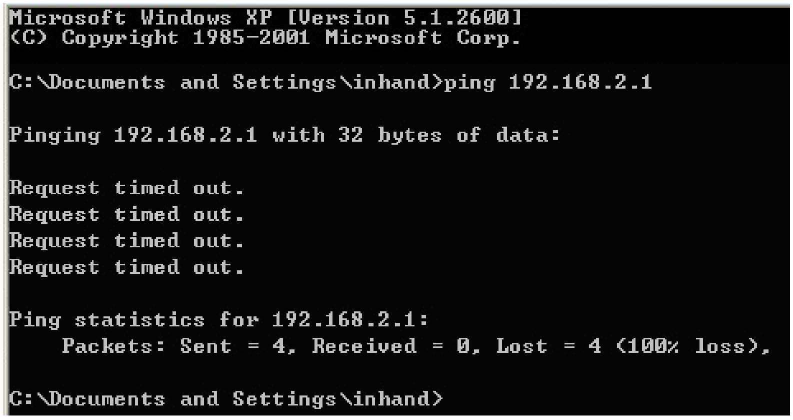
Ping 192.168.2.1

If the screen shows:



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\inhand>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=1ms TTL=128
Reply from 192.168.2.1: bytes=32 time=1ms TTL=128
Reply from 192.168.2.1: bytes=32 time=1ms TTL=128
Reply from 192.168.2.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\inhand>ping 192.168.2.1
```

Then the PC and InRouter are correctly connected. Else if it shows:



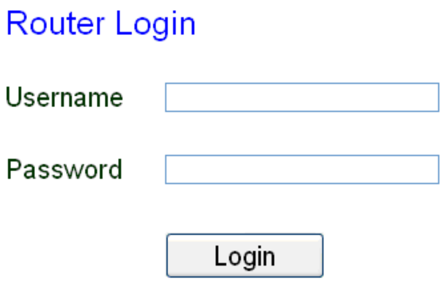
```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\inhand>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

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

The connection is not built, you need to check step by step starting from Section 2.3.4.

2.3.6 Start to configure your InRouter 700(Optional)

After you have finished the former steps, you can configure the Router:

1) Open IE browser, input the default IP address of the Router: http://192.168.2.1, you can see the login page as below:



Router Login

Username

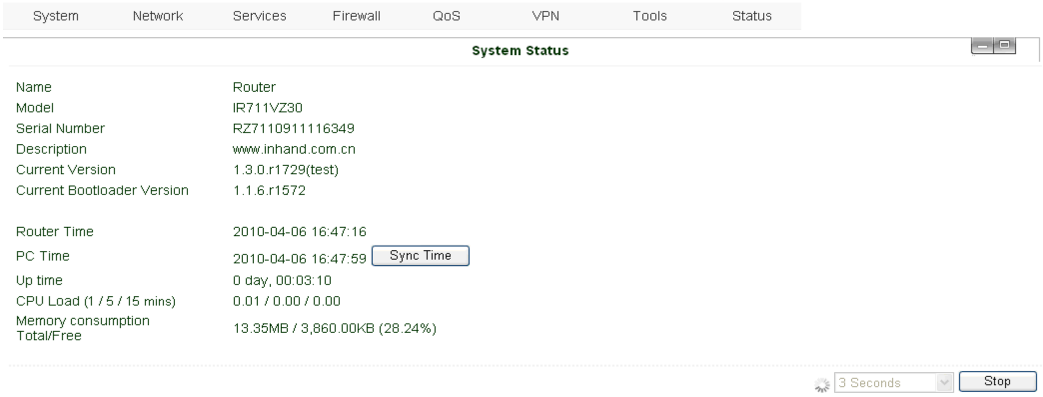
Password

Input "username" (default: adm) and the "password" (default: 123456), then click "login" to enter the operation screen.

2) Change the IP configuration:

Attention: After updating the configuration, please click "apply" to activate your configuration.

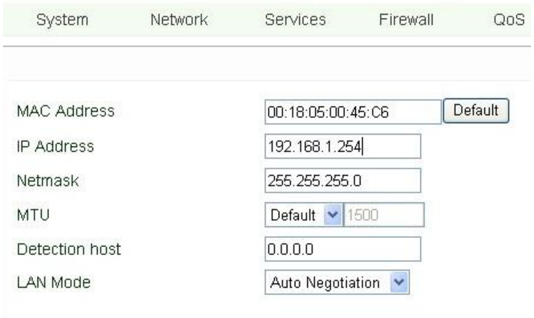
If you want to set your own IP of InRouter 700, please follow the instructions below:



System Status

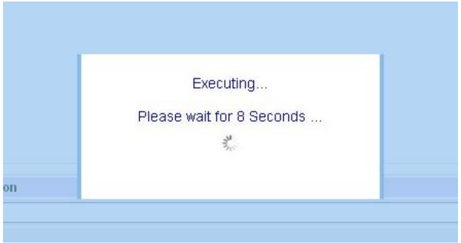
Name	Router
Model	IR711VZ30
Serial Number	RZ7110911116349
Description	www.inhand.com.cn
Current Version	1.3.0.r1729(test)
Current Bootloader Version	1.1.6.r1572
Router Time	2010-04-06 16:47:16
PC Time	2010-04-06 16:47:59 Sync Time
Up time	0 day, 00:03:10
CPU Load (1 / 5 / 15 mins)	0.01 / 0.00 / 0.00
Memory consumption Total/Free	13.35MB / 3,860.00KB (28.24%)

Click "Network"=>"LAN", change the IP address to 192.168.1.254:



MAC Address	00:18:05:00:45:C6 Default
IP Address	192.168.1.254
Netmask	255.255.255.0
MTU	Default 1500
Detection host	0.0.0.0
LAN Mode	Auto Negotiation

3) Click "Apply", then you will see:



Executing...

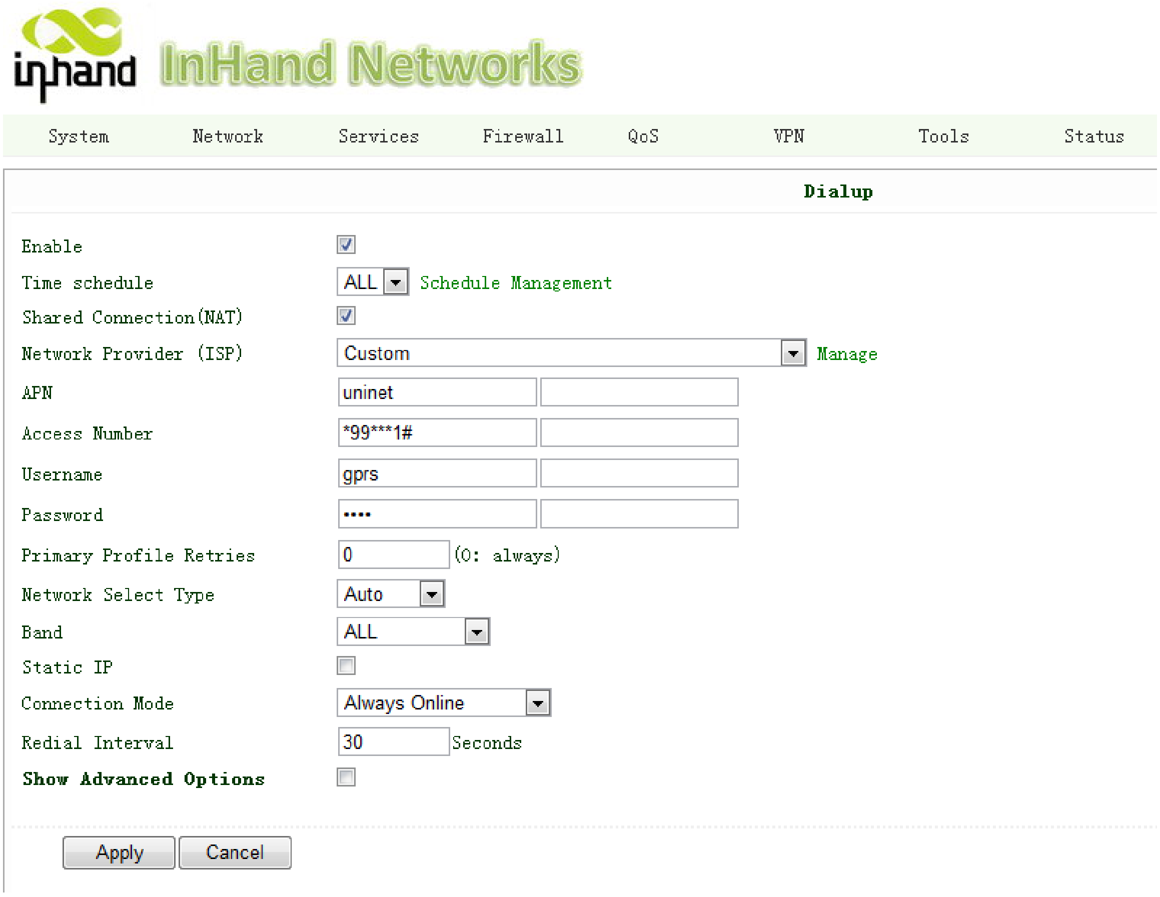
Please wait for 8 Seconds ...

Now the IP address of IR700 has been reset, and in order to enter the configuration page, you need to set your PC in the same subnet as InRouter, for example: 192.168.1.10/24 then input the updated IP address (192.168.1.254) in your IE Browser.

2.3.7 Connect InRouter with Internet

Follow the configuration steps below to enable IR700 to connect to Internet.

Click “Network”=>“Dialup”, enter dialup configuration interface:



Dialup

Enable	☑	
Time schedule	ALL	Schedule Management
Shared Connection(NAT)	☑	
Network Provider (ISP)	Custom	Manage
APN	uninet	
Access Number	*99***1#	
Username	gprs	
Password	••••	
Primary Profile Retries	0	(0: always)
Network Select Type	Auto	
Band	ALL	
Static IP	□	
Connection Mode	Always Online	
Redial Interval	30	Seconds
Show Advanced Options	□	

Please check the APN, Dialup Number, Username and Password:

Dialup Number, Username and Password are provided by local mobile operator. The following examples show parameters provided by China Mobile, Vodafone. Please contact with local operator for details.

1: China Mobile

APN: CMNET

Phone Number: *99#

User Name: web

Password: web

2: Vodafone

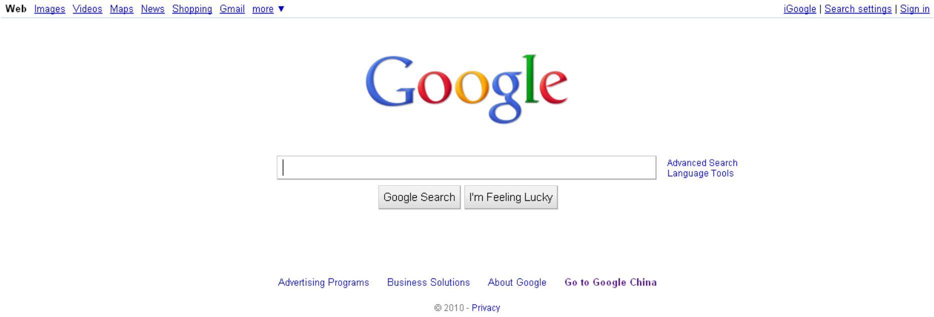
APN: internet

Phone Number: *99#

User Name: web

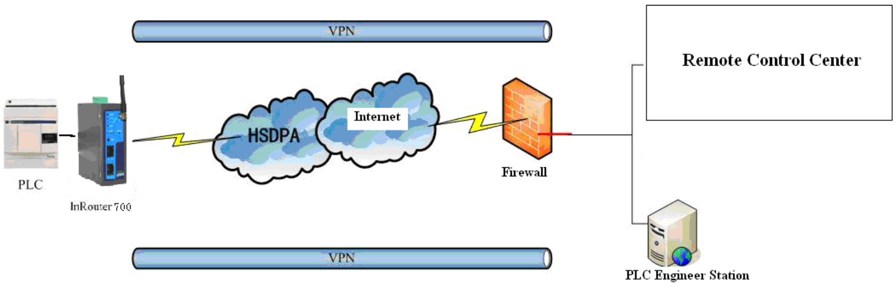
Password: web

After correctly configurting, InRouter 700 can now access Internet. Open IE Browser, input www.google.com, you should see the Google home pages:

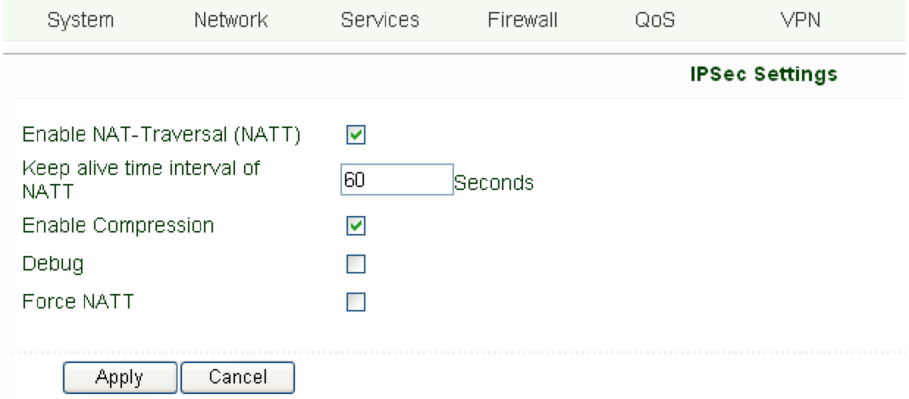


2.4Quick IPSec VPN Configuration

If you need to build a VPN tunnel to access to your remote PLC through Internet or you need to ensure security of the data transmission, here’s a quick configuration guide of IPSec for InRouter700 Series



Connect PC with Router to enter router configuration interface, select “VPN” => “IPSec setting”:



IPSec Settings

Enable NAT-Traversal (NATT) ☑

Keep alive time interval of NATT 60 Seconds

Enable Compression ☑

Debug □

Force NATT □

Enable NAT-Traversal (NATT): select enable.

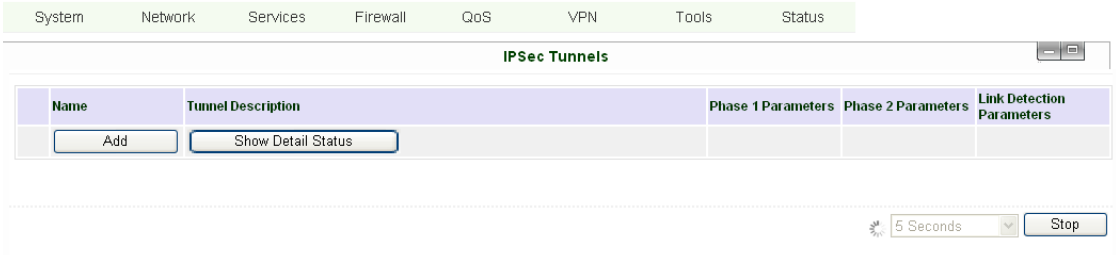
Keep alive time interval of NATT: set the “Keep alive time interval of NATT”, default is 60 seconds.

Enable Compression: select enable.

Please change the parameters according to actual situation.

Click “Apply” to complete the configuration.

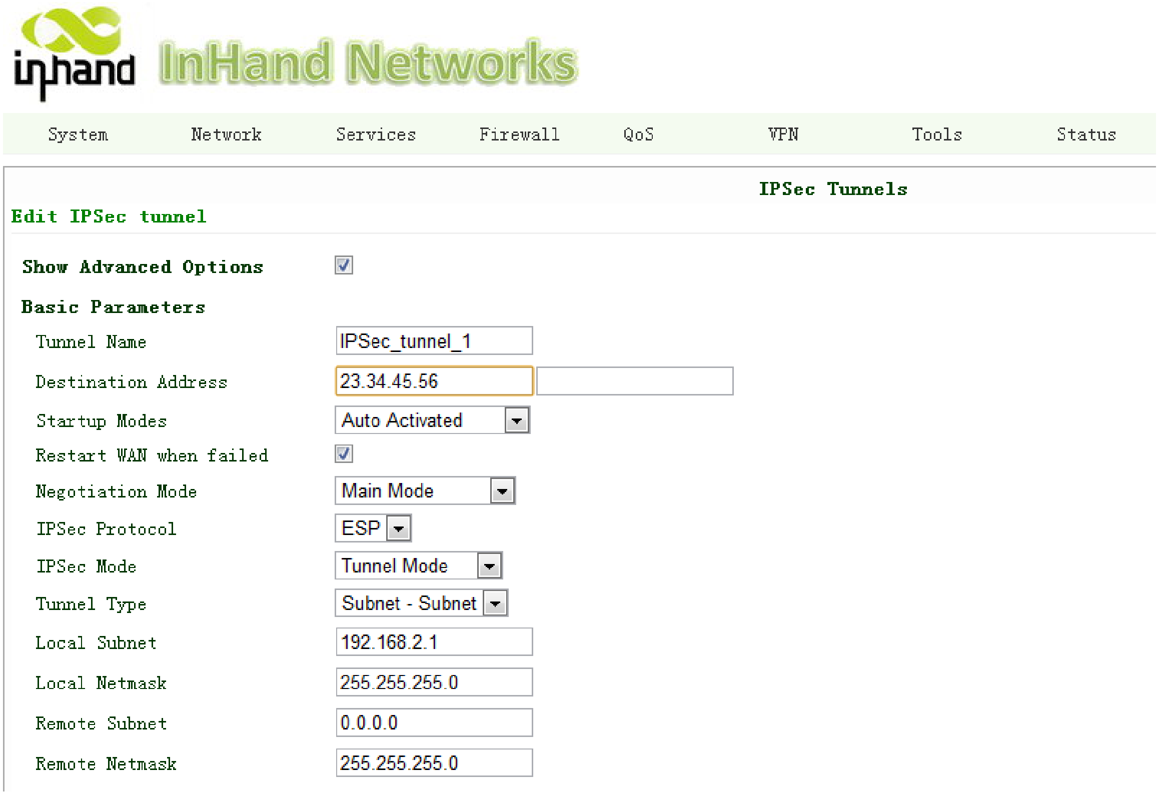
1） Select “VPN”=> “IPSec Tunnels” to check or modify parameters of IPSec Tunnels.



IPSec Tunnels

Name	Tunnel Description	Phase 1 Parameters	Phase 2 Parameters	Link Detection Parameters
Add	Show Detail Status			

Click “Add” to add a new IPSec Tunnel:



Edit IPSec tunnel

Show Advanced Options ☑

Basic Parameters

Tunnel Name	IPSec_tunnel_1
Destination Address	23.34.45.56
Startup Modes	Auto Activated
Restart WAN when failed	☑
Negotiation Mode	Main Mode
IPSec Protocol	ESP
IPSec Mode	Tunnel Mode
Tunnel Type	Subnet - Subnet
Local Subnet	192.168.2.1
Local Netmask	255.255.255.0
Remote Subnet	0.0.0.0
Remote Netmask	255.255.255.0

Basic Parameters: basic parameters of IPSec tunnel.

Tunnel Name: name IPSec tunnel, the default is IPSec_tunnel_1.

Destination Address: set to VPN server IP/domain, e.g.: the domain provided by GJJ is gjj-ovdp.3322.org.

Startup Modes: select Auto Activated.

Negotiation Mode: optional between Main Mode and Aggressive Mode. Generally, select Main Mode.

IPSec Protocols: optional among ESP, AH. Generally, select ESP.

IPSec Mode: optional between Tunnel Mode and Transport Mode. Generally, select Tunnel Mode.

Tunnel Type: optional among Host-Host, Host-Subnet, Subnet-Host and Subnet-Subnet.

Local Subnet: IPSec local subnet protected. E.g.: 172.16.16.0.

Local Net Mask: IPSec local Net Mask protected. E.g.: 255.255.255.252.

Remote Subnet: IPSec remote subnet protected. E.g.: 172.16.0.0.

Remote Net Mask: IPSec remote Net Mask protected. E.g.: 255.240.0.0.

Phase 1 Parameters: configuration parameters during Phase 1 of IPSec negotiation.

IKE Policy: optional between 3DES-MD5-96 and AES-MD5-96, suggest selecting 3DES-MD5-96.

IKE Lifetime: the default is 86400 seconds.

Local ID Type: optional among FQDN, USERFQDN, IP address, suggest selecting IP address.

Remote ID Type: optional among FQDN, USERFQDN, IP address, suggest selecting IP address.

Authentication Type: optional between Shared Key and Certificate, generally choose Shared Key.

Key: set IPSec VPN negotiating key.

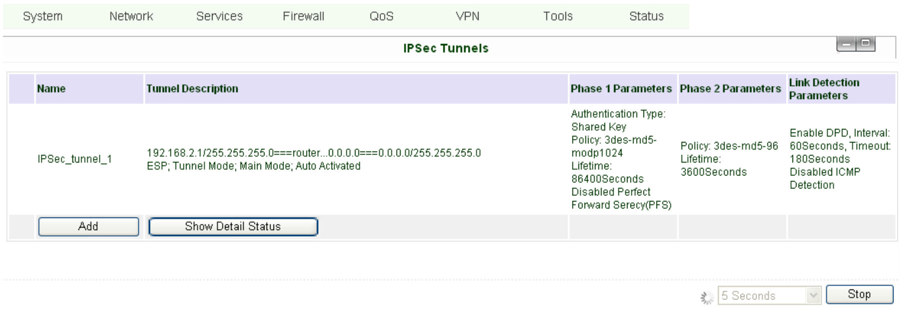
Phase 2 Parameters: configuration parameters during Phase 2 of IPSec negotiation.

IPSec Policy: optional between 3DES-MD5-96 and AES-MD5-96, suggest selecting 3DES-MD5-96.

IPSec Lifetime: the default is 3600 seconds.

Perfect Forward Encryption: Optional among None, GROUP1, GROUP2 and GROUP5. This parameter should match with the server, generally, select “None”.

Click “Save” to finish adding IPSec Tunnel:



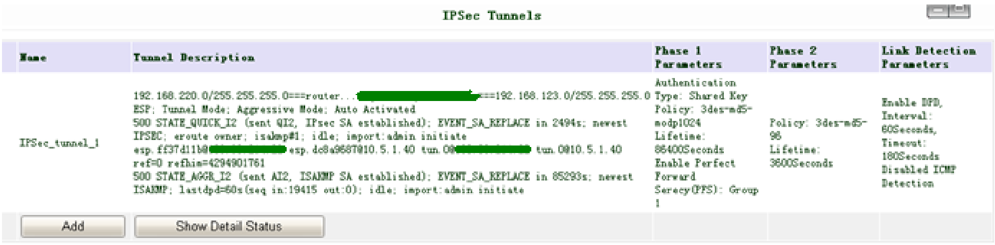
IPSec Tunnels

Name	Tunnel Description	Phase 1 Parameters	Phase 2 Parameters	Link Detection Parameters
IPSec_tunnel_1	192.168.2.1/255.255.255.0===router...0.0.0.0===0.0.0.0/255.255.255.0 ESP; Tunnel Mode; Main Mode; Auto Activated	Authentication Type: Shared Key Policy: 3des-md5-modp1024 Lifetime: 86400Seconds Disabled Perfect Forward Serecy(PFS)	Policy: 3des-md5-96 Lifetime: 3600Seconds	Enable DPD, Interval: 60Seconds, Timeout: 180Seconds Disabled ICMP Detection

You can click “Show Detail Status” to observe the specific connection details, or click “Add” to add a new tunnel.:

Now you have successfully built a high-security IPSec tunnel.

Here’s an example. We set an IPSec Tunnel from subnet: 192.168.220.0/24 to subnet: 192.168.123.0/24, when it succeeds, the screen will show:

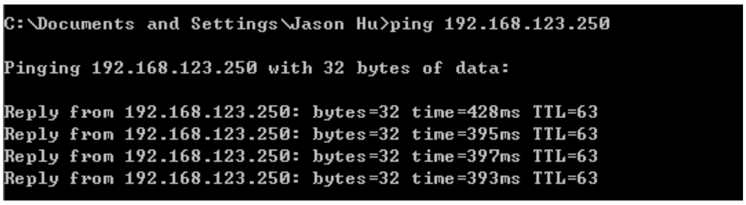


IPSec Tunnels

Name	Tunnel Description	Phase 1 Parameters	Phase 2 Parameters	Link Detection Parameters
IPSec_tunnel_1	192.168.220.0/255.255.255.0===router...[redacted]===192.168.123.0/255.255.255.0 ESP; Tunnel Mode; Aggressive Mode; Auto Activated 500 STATE_QUICK_I2 (sent QI2, IPsec SA established); EVENT_SA_REPLACE in 2494s; newest IPSEC; eroute owner; isakmp#1; idle; import:admin initiate esp.ff37d11b[redacted] esp.dc8a9587@10.5.1.40 tun.0[redacted] tun.0@10.5.1.40 ref=0 refhim=4294901761 500 STATE_AGGR_I2 (sent AI2, ISAKMP SA established); EVENT_SA_REPLACE in 85293s; newest ISAKMP; lastdpd=60s(seq in:19415 out:0); idle; import:admin initiate	Authentication Type: Shared Key Policy: 3des-md5-modp1024 Lifetime: 86400Seconds Enable Perfect Forward Serecy(PFS): Group 1	Policy: 3des-md5-96 Lifetime: 3600Seconds	Enable DPD, Interval: 60Seconds, Timeout: 180Seconds Disabled ICMP Detection

And the PC in IPSec client subnet can get access to the server’s subnet.

Open command in your PC, then ping a PC in the server’s subnet:



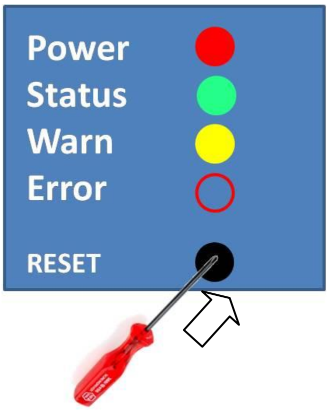
```
C:\Documents and Settings\Jason Hu>ping 192.168.123.250

Pinging 192.168.123.250 with 32 bytes of data:

Reply from 192.168.123.250: bytes=32 time=428ms TTL=63
Reply from 192.168.123.250: bytes=32 time=395ms TTL=63
Reply from 192.168.123.250: bytes=32 time=397ms TTL=63
Reply from 192.168.123.250: bytes=32 time=393ms TTL=63
```

2.5 Reset to Factory Defaults

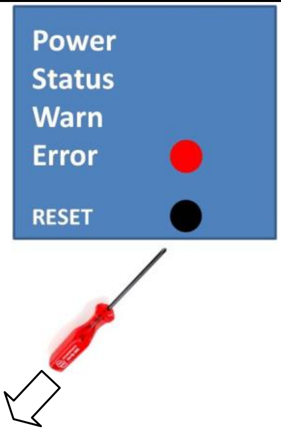
2.5.1 Hardware Approach

Legend: On--● **Off--**○ **Blink--**⚡

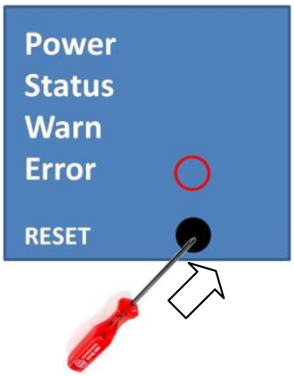
1) Press and hold RESET button while turning on IR700:



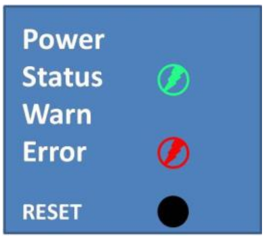
2) When you see ERROR LED turns on (about 10 seconds after power on), release the RESET button:



3) After a few seconds, the ERROR LED then turns off, now press RESET button again:



4) Then you will see ERROR and STATUS LED blink, which means reset to factory defaults succeed!



Factory default settings:

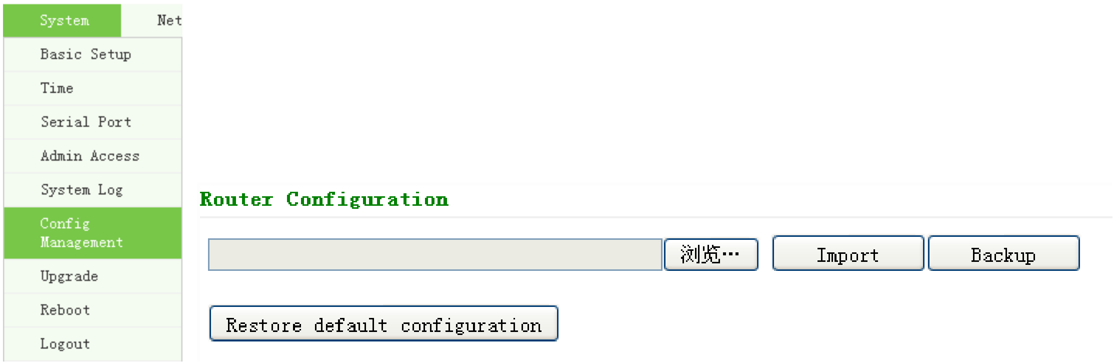
IP: 192.168.2.1

Net Mask: 255.255.255.0

Serial parameter: 19200-8-N-1

2.5.2 Web Approach

1) Login the web interface of IR700, select “System”→”Config Management”:



2) Click “Restore default configuration” to Reset IR700.

III

Advanced Configuration

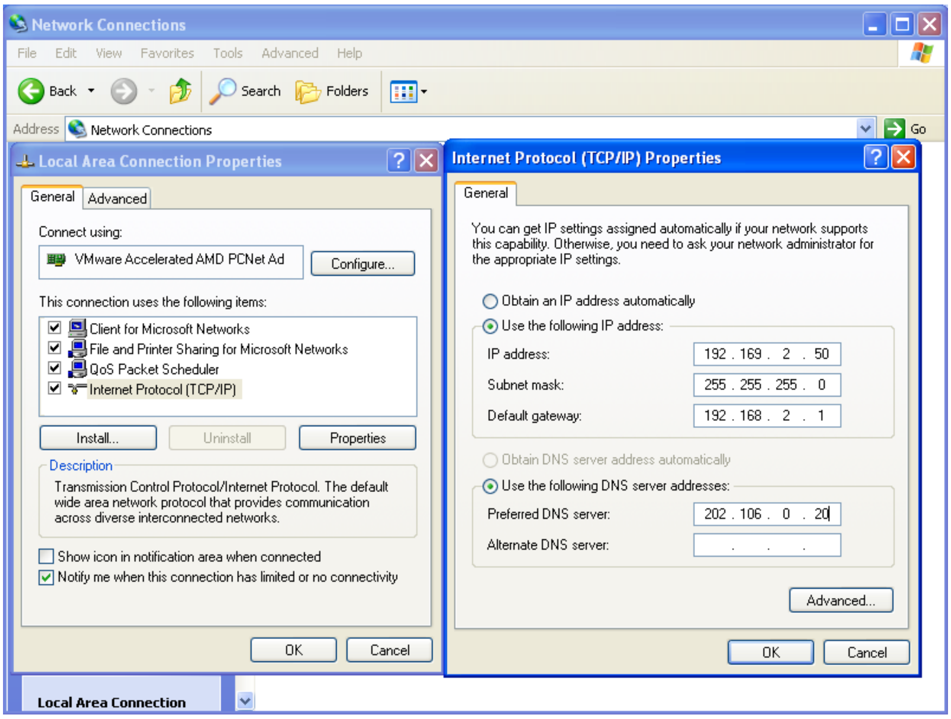
- Configuration on Web

3.1 Configuration on Web

InRouter must be correctly configured before use. This Chapter will show you how to configure InRouter via Web interfaece.

3.1.1 Preparation

Firstly, connect your devices to IR700 with a cable or a HUB (switch), then set the IP of PC and IR700 in the same subnet, for example: Set PC IP to 192.168.2.50, net mask: 255.255.255.0, gateway (default IP of IR700: 192.168.2.1):



Network Connections

Local Area Connection Properties

Connect using: VMware Accelerated AMD PCNet Ad

This connection uses the following items:

☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ QoS Packet Scheduler
☑ Internet Protocol (TCP/IP)

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

☐ Show icon in notification area when connected
☑ Notify me when this connection has limited or no connectivity

Internet Protocol (TCP/IP) Properties

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:

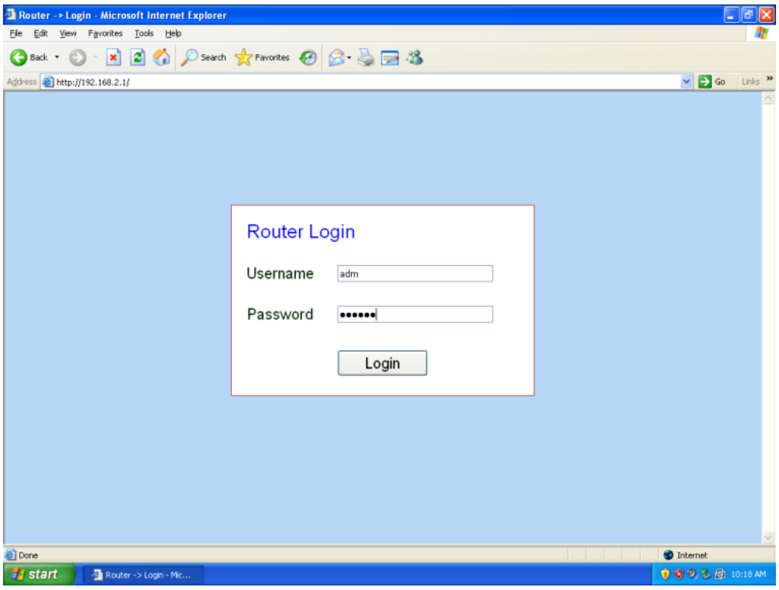
IP address: 192 . 169 . 2 . 50
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 2 . 1

○ Obtain DNS server address automatically
● Use the following DNS server addresses:

Preferred DNS server: 202 . 106 . 0 . 20
Alternate DNS server: . . .

Open IE browser, input the IP address of IR700: http://192.168.2.1 (default IP of IR700).

Then you'll see the Login Window pop up, you need to login as Administrator. Input the username and password (default: adm/123456).



Router -> Login - Microsoft Internet Explorer

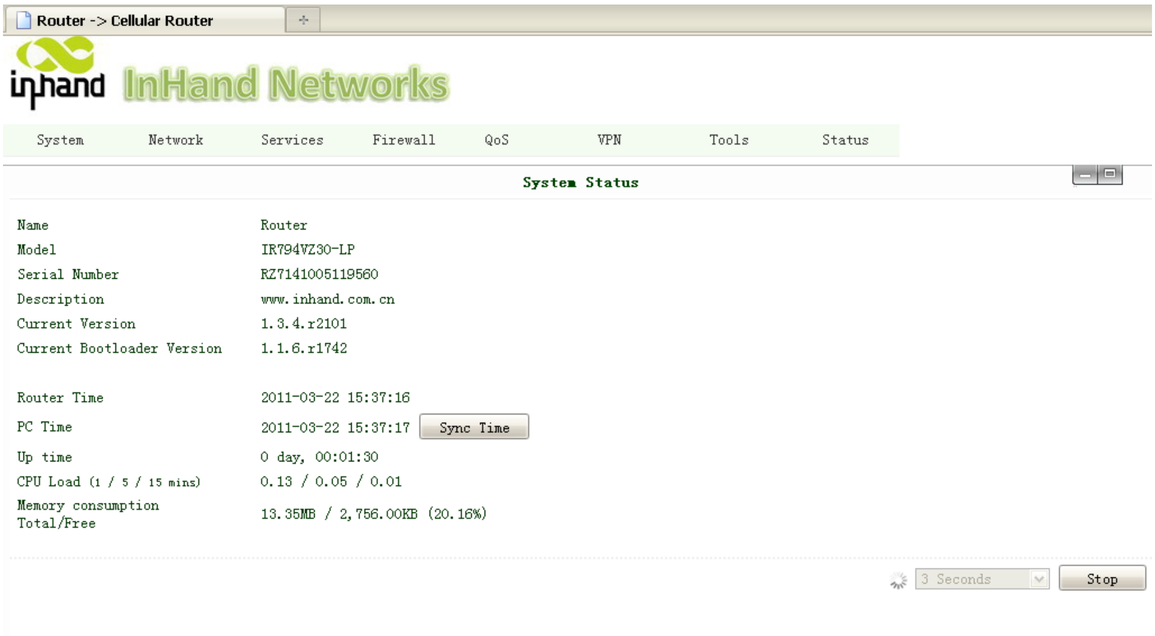
Address: http://192.168.2.1/

Router Login

Username: adm

Password: ••••••

Click "Login" to enter configure interface:

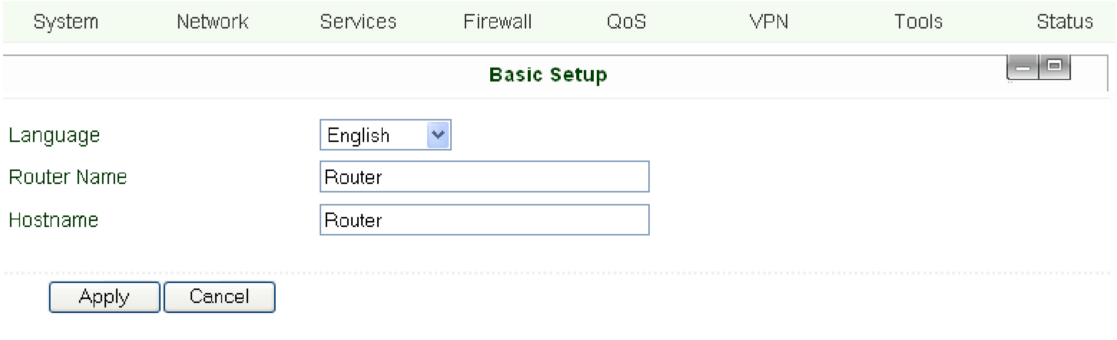


Name	Router
Model	IR794VZ30-LP
Serial Number	RZ7141005119560
Description	www.inhand.com.cn
Current Version	1.3.4.r2101
Current Bootloader Version	1.1.6.r1742
Router Time	2011-03-22 15:37:16
PC Time	2011-03-22 15:37:17
Up time	0 day, 00:01:30
CPU Load (1 / 5 / 15 mins)	0.13 / 0.05 / 0.01
Memory consumption Total/Free	13.35MB / 2,756.00KB (20.16%)

3.1.2 System

System settings include the 9 parts: Basic Setup, Time, Serial Port, Admin Access, System Log, Config Management, Update, Reboot and Logout.

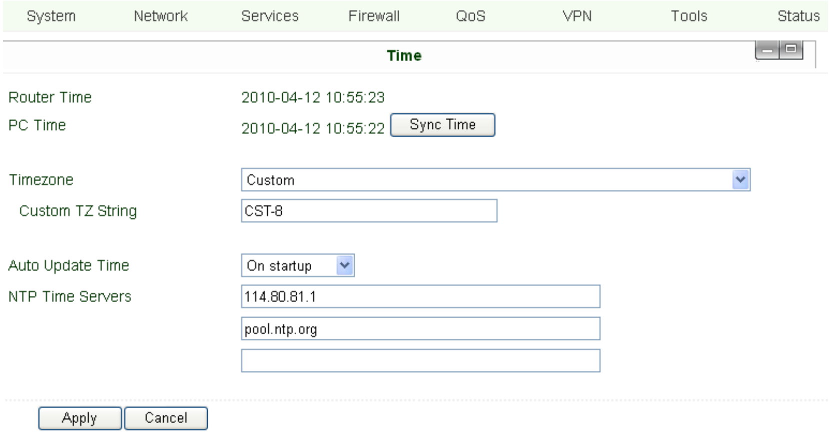
(1) Basic Setup



Language	English
Router Name	Router
Hostname	Router

Parameters Name	Description	Default	Example
Language	Choose language of configuration web	Chinese	English
Router Name	Set name of InRouter	Router	My InRouter
Host Name	Name the device/PC linked with IR700	Router	My InRouter

(2) Time



Router Time 2010-04-12 10:55:23

PC Time 2010-04-12 10:55:22

Timezone: Custom

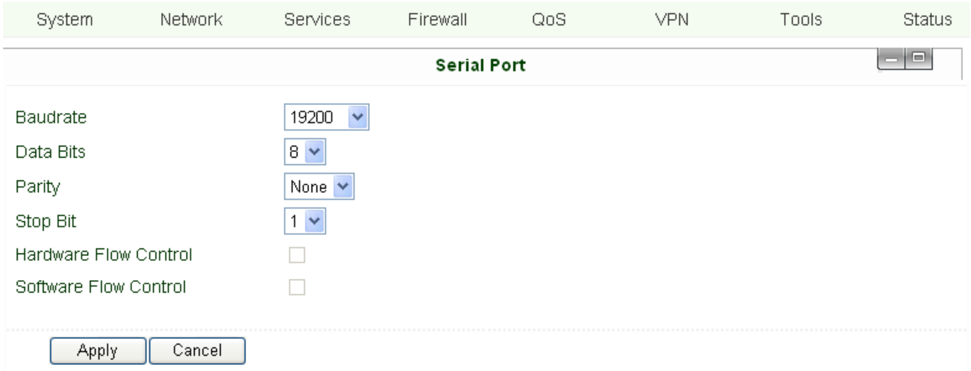
Custom TZ String: CST-8

Auto Update Time: On startup

NTP Time Servers: 114.80.81.1, pool.ntp.org

Name	Description	Default
Router Time	Display router time	1970-1-1 8:00:00
PC Time	Display PC time (or the time of device linked with router)	
Time Zone	Set time zone	Custom
Custom TZ string	Set the string of time zone of Router	CST-8
Auto Update Time	Time Update Interval	Disabled
NTP Time Servers (after enable the Auto Update Time)	Setting for NTP Time server. (Three at the most)	pool.ntp.org

(3) Serial Port



Baudrate: 19200

Data Bits: 8

Parity: None

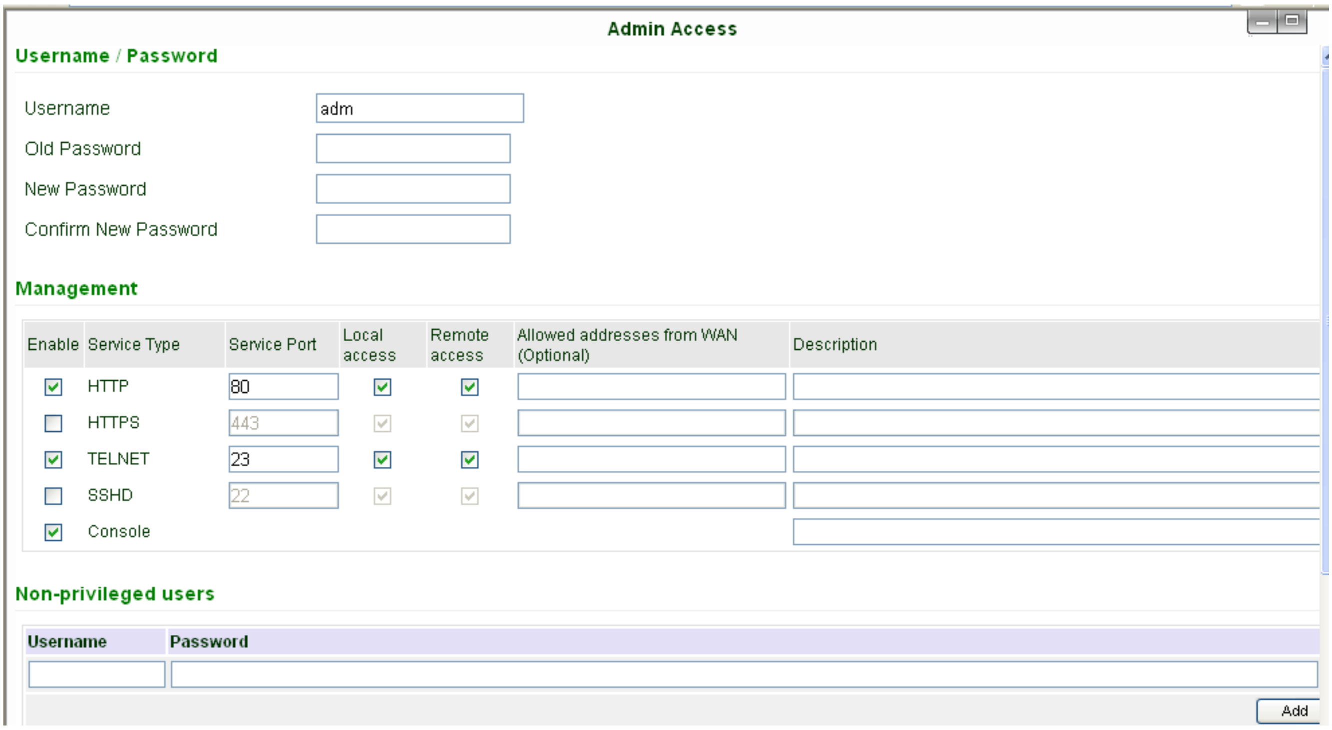
Stop Bit: 1

Hardware Flow Control □

Software Flow Control □

Name	Description	Default
Baud Rate	Serial baud rate	19200
Data Bit	Serial data bits	8
Parity	Set parity bit of serial data.	None
Stop Bit	Set stop bit of serial data.	1
Hardware Flow Control	Enable Hardware Flow Control	Disable
Software Flow Control	Enable Software Flow Control	Disable

(4) Admin Access



Admin Access

Username / Password

Username	adm
Old Password	
New Password	
Confirm New Password	

Management

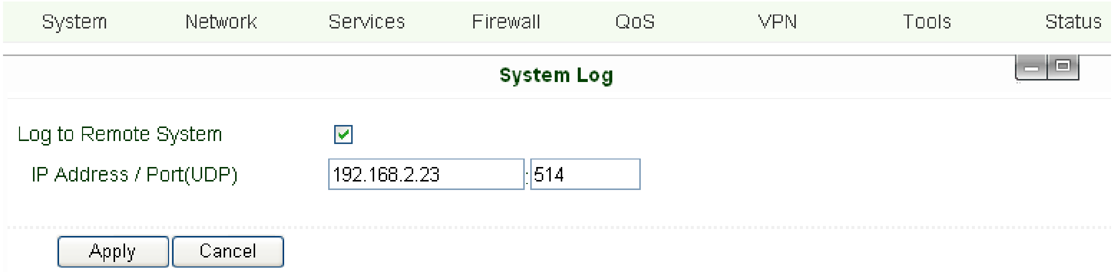
Enable	Service Type	Service Port	Local access	Remote access	Allowed addresses from WAN (Optional)	Description
☑	HTTP	80	☑	☑		
☐	HTTPS	443	☑	☑		
☑	TELNET	23	☑	☑		
☐	SSHD	22	☑	☑		
☑	Console					

Non-privileged users

Username	Password

Name	Description	Default
Username/Password		
Username	Username for configuration web login	adm
Old Password	To change the password, you need to input the old one	123456
New Password	Input new password	
Confirm New Password	Input the new password again	
Management		
HTTP/HTTPS/TELNET/SSHD/Console		
Enable	Select to enable	Enable
Service Type	HTTP/HTTPS/TELNET/SSHD/Console	80/443/23/22/Blank
Local Access	Enable—allow manage Router by LAN(e.g.: HTTP) Disable—forbid manage Router by LAN.	Enable
Remote Access	Enable—allow to manage IR700 by WAN. (e.g.: HTTP) Disable—forbid to manage IR700 by WAN. (e.g.: HTTP)	Enable
Allowed Access from WAN (Optional)	Set the range of allowed IP address for WAN (HTTP/HTTPS/TELNET/SSHD)	Control services server can be set at this time, for example 192.168.2.1/30 or 192.168.2.1-192.168.2.10
Description	Describe the parameters of management (non-influence to IR700)	
Other Parameters		
Log Timeout	Set the Log Timeout, configuration web will be disconnected after timeout	500 seconds

(5) System Log



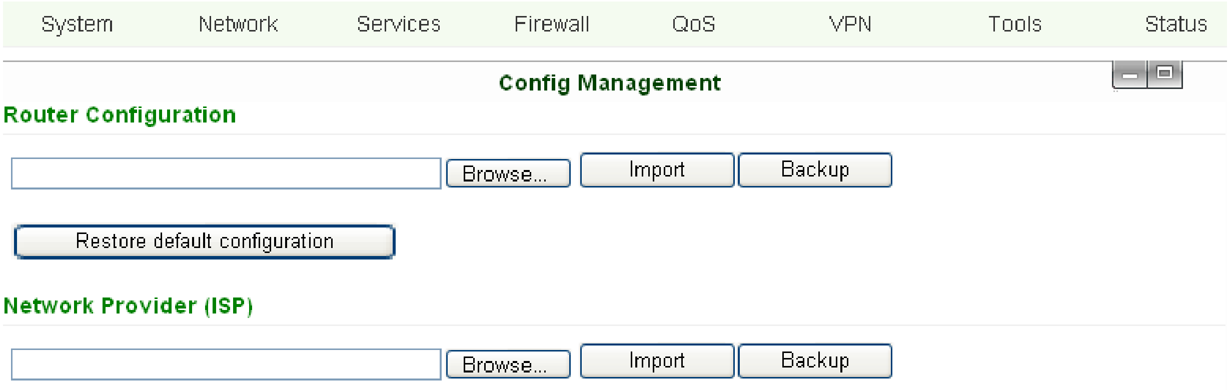
System Log

Log to Remote System ☑

IP Address / Port(UDP) 192.168.2.23 : 514

Name	Description	Default
Log to Remote System	Enable remote log server	Disable
IP address/Port (UDP)	Set the IP and Port of remote log server	Port: 514

(6) Config Management



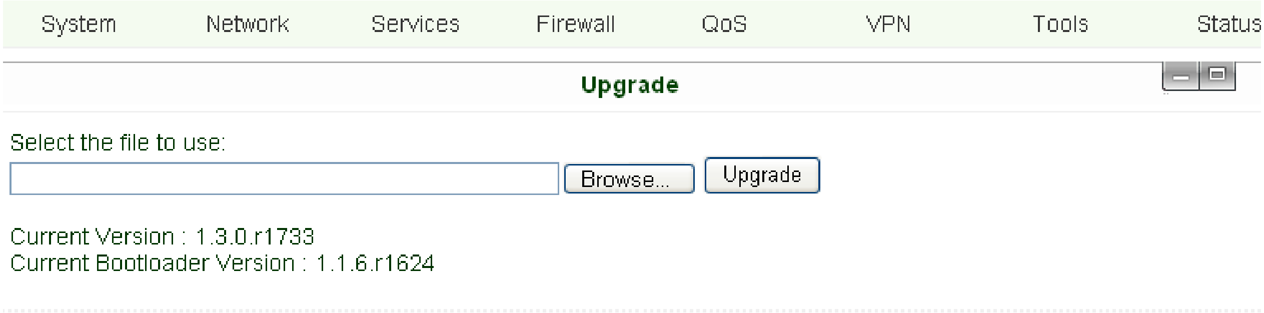
Config Management

Router Configuration

Network Provider (ISP)

Name	Description
Router Configuration	Import/Backup configuration file
Restore default configuration	Click to reset IR700 (to enable RESET, you need to reboot IR700)
Network Provider (ISP)	Used to configure the APN, username, password and other parameters of major operators

(7) System Upgrade

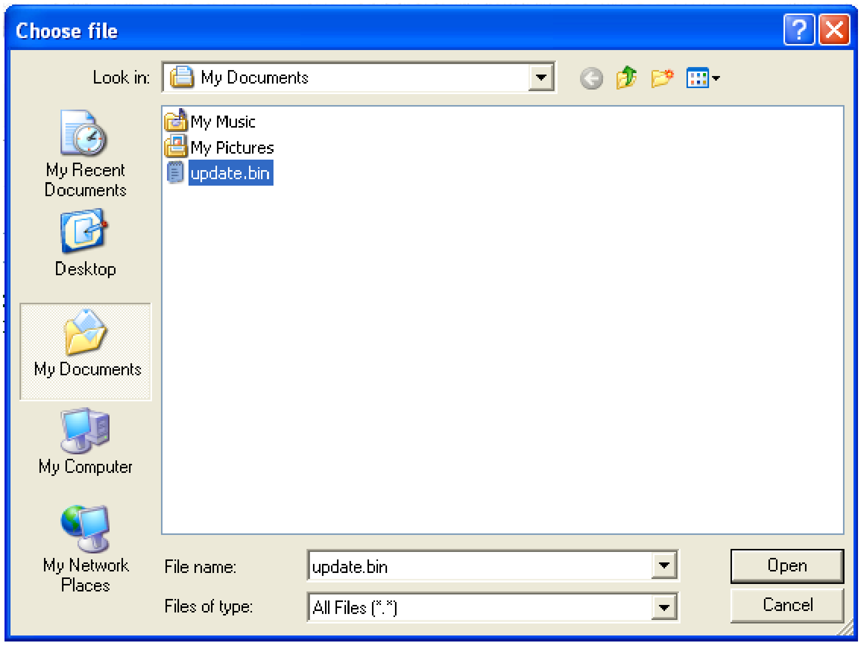


Upgrade

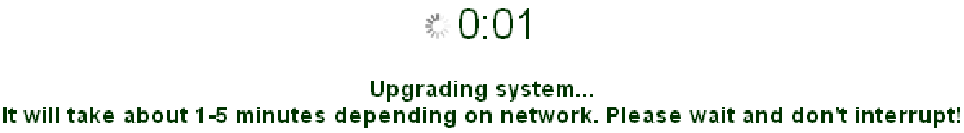
Select the file to use:

Current Version : 1.3.0.r1733
Current Bootloader Version : 1.1.6.r1624

To upgrade the system, click “System”=>”System upgrade” to enter upgrade page, then follow the steps below: Click “Browse”, choose the upgrade file;



Click "update", and then click "sure" to begin update, the window will show as below.



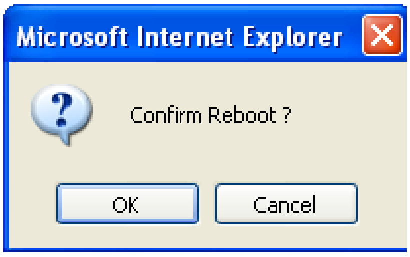
0:01

Upgrading system...
It will take about 1-5 minutes depending on network. Please wait and don't interrupt!

Upgrade firmware succeed, and click "reboot" to restart IR700.

(8) Reboot

If you need to reboot system, please click "System"=>"Reboot", Then click "OK" to restart system.

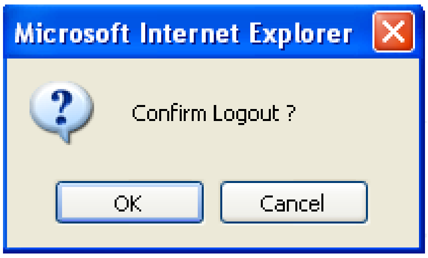


Microsoft Internet Explorer

Confirm Reboot ?

(9) Logout

If you need to logout system, click "System"=>"Logout", and then click "OK".



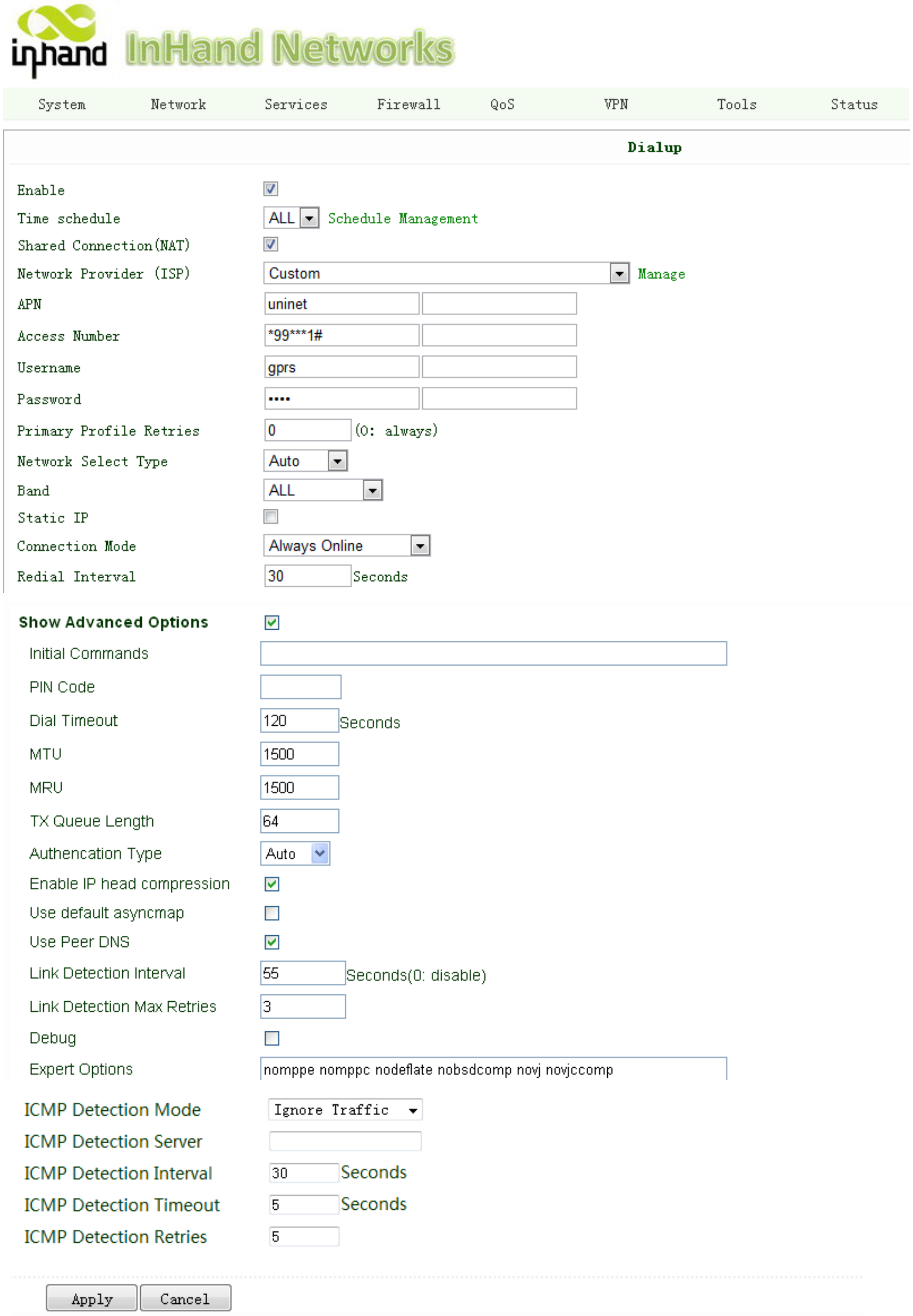
Microsoft Internet Explorer

Confirm Logout ?

3.1.3 Network

Network settings include Dialup, LAN, DNS, DDNS, Static Route, and etc.

(1) Dialup



Dialup

Enable ☑

Time schedule: ALL ▾ Schedule Management

Shared Connection(NAT) ☑

Network Provider (ISP): Custom ▾ Manage

APN: uninet

Access Number: *99***1#

Username: gprs

Password: ••••

Primary Profile Retries: 0 (0: always)

Network Select Type: Auto ▾

Band: ALL ▾

Static IP □

Connection Mode: Always Online ▾

Redial Interval: 30 Seconds

Show Advanced Options ☑

Initial Commands:

PIN Code:

Dial Timeout: 120 Seconds

MTU: 1500

MRU: 1500

TX Queue Length: 64

Authencation Type: Auto ▾

Enable IP head compression ☑

Use default asyncmap □

Use Peer DNS ☑

Link Detection Interval: 55 Seconds(0: disable)

Link Detection Max Retries: 3

Debug □

Expert Options: nomppe nomppc nodeflate nobsdcomp novj novjccomp

ICMP Detection Mode: Ignore Traffic ▾

ICMP Detection Server:

ICMP Detection Interval: 30 Seconds

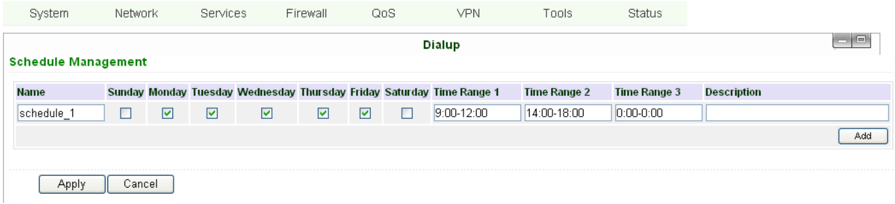
ICMP Detection Timeout: 5 Seconds

ICMP Detection Retries: 5

Name	Description	Default
Enable	Enable PPP dialup	Enable
Time Schedule	Set time for online and offline	ALL
SHARED	Enabled—device linked with Router **Can** access to internet. Disable—device **Can NOT** access to internet via Router.	Enable
ISP	Select local ISP, if not listed here, please select ”Customer”	Customer
Network Select Type	Choose mobile network type	HSDPA (or GPRS)
APN	APN parameters provided by **Local ISP, you can set TWO different group of dialup parameters (APN/Username/Password) and set one as backup**	cmnet/uninet
Access Number	Dialup parameters provided by **Local ISP**	“*99#”“*99***1#” or #777
Username	Dialup parameters provided by **Local ISP**	“gprs” or ”CDMA”

Password	Dialup parameters provided by **Local ISP**	“gprs” or ”CDMA”
Primary Profile Retries	After retries and dialup still failed, router will try backup dialup parameters (if you have set two IPSec tunnels and one as backup, router will also stop the main one and try another, more details please see at “VPN” → “IPSec”)	0 (always use main parameters and never use backup)
Static IP	Enable Static IP if your SIM card can get static IP address	Disable
Connection Mode	Optional Always Online,	Always Online
Redial Interval	When Dial fails, InRouter will redial after the interval	30 seconds
Show Advanced Options	Enable configure advanced options	Disabled
Initial Commands	Used for advanced parameters	Blank
Dial Timeout	Set dial timeout (IR700 will reboot after timeout)	120 seconds
MTU	Set max transmit unit	1500
MRU	Set max receive unit	1500
TX Queue Length	Set length of transmit queue	3
Enable IP header compression	Enable IP header compression	Disabled
Use default asyncmap	Enable default asyncmap, PPP advanced option	Disabled
Using Peer DNS	Click Enable to accept the peer DNS	Enabled
Link Detection Interval	Set Link Detection Interval	30 seconds
Link Detection Max Retries	Set the max retries if link detection failed	3
Debug	Enable debug mode	Enable
Expert Option	Provide extra PPP parameters, normally user needn’t set this.	Blank
ICMP Detection Mode	MONITOR TRAFFIC When InRouter detected there are “business” data (DTU,IPSec) receive or transmit, InRouter will not send ICMP probe packet. When detected without business data, InRouter will send ICPM probe packet	Ignore Traffic
	IGNORE TRAFFIC No matter whether InRouter have some data receive or transmit(DUT,IPSec data), InRouter always send the ICMP probe packet.	
	HANDOVER ONLY InRouter send the ICMP probe Packet when the field change from a base station to other station.	
ICMP Detection Server	Set ICMP Detection Server, blank represents none	Blank
ICMP Detection Interval	Set ICMP Detection Interval	30 seconds
ICMP Detection Timeout	Set ICMP Detection Timeout (IR700 will reboot if ICMP time out)	5 seconds
ICMP Detection Max Retries	Set the max number of retries if ICMP failed	5

Dialup----Time Schedule Management:



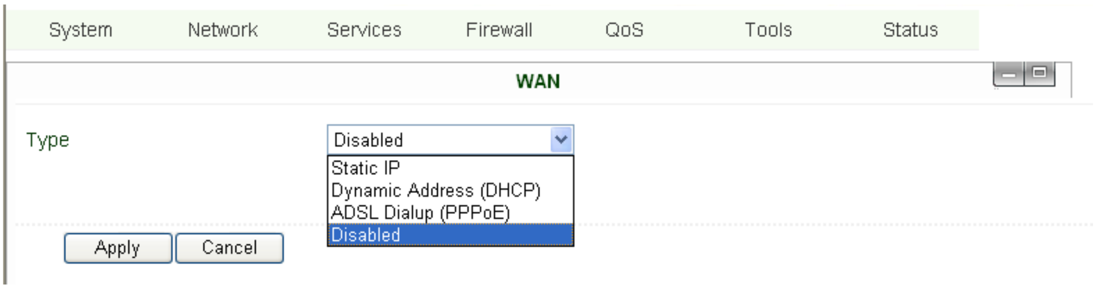
Schedule Management

Name	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Time Range 1	Time Range 2	Time Range 3	Description
schedule_1	☐	☑	☑	☑	☑	☑	☐	9:00-12:00	14:00-18:00	0:00-0:00	

Name	Description	Default
Name	Name the schedule	schedule 1
Sunday		Blank
Monday		Enable
Tuesday		Enable
Wednesday		Enable

Thursday		Enable
Friday		Enable
Saturday		Blank
Time Range 1	Set Time Range 1	9:00-12:00
Time Range 2	Set Time Range 2	14:00-18:00
Time Range 3	Set Time Range 3	0:00-0:00
Description	Describe configuration	Blank

(2) WAN (for IR7x4 only)



Type: Disabled

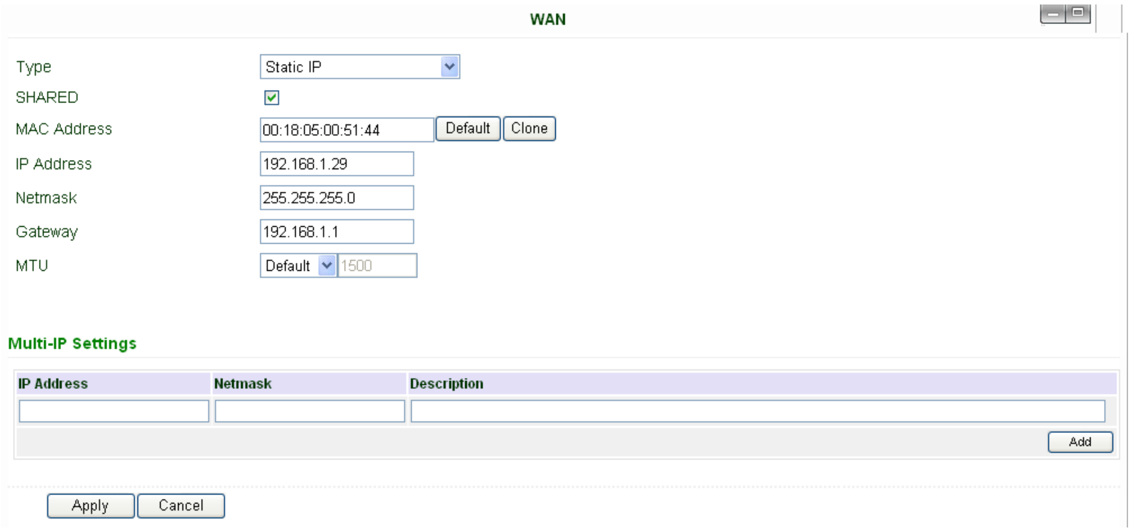
This page is to set the type of WAN port:

Name	Description	Default

Type	Static IP;
	Dynamic Address(DHCP);
	ADSL Dialup(PPPoE);
	Disabled
		Disabled

Attention: There can only be one WAN type at one time, enabling one type WAN will disabled another.

WAN—Static IP



Type: Static IP

SHARED: ☑

MAC Address: 00:18:05:00:51:44

IP Address: 192.168.1.29

Netmask: 255.255.255.0

Gateway: 192.168.1.1

MTU: Default 1500

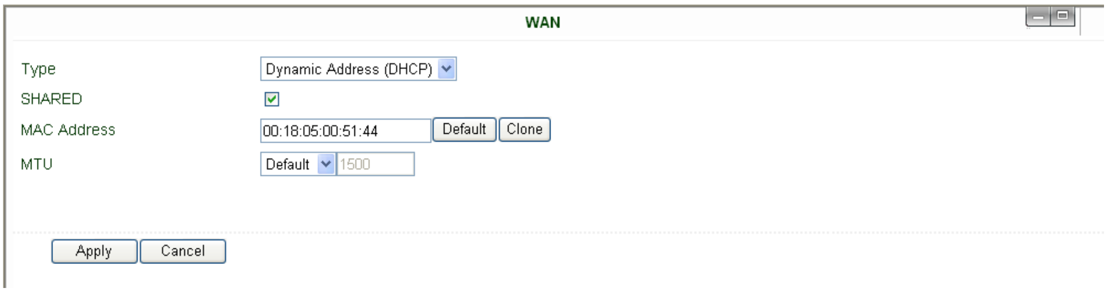
IP Address	Netmask	Description

Notice: please **DO NOT** set WAN address as: 192.168.3.x (an IP for DMZ port).

Name	Description	Default
Type	Static IP	
SHARED	Enabled—the local device linked with Router can get access to internet. Disable—the local device can't get access to internet via Router.	Enable
MAC Address	Set MAC Address	
IP Address	Set WAN port IP	192.168.1.29
Net Mask	Set WAN port Net Mask	255.255.255.0

Gateway	Set WAN Gateway	192.168.1.1
MTU	Set Max Transmission Unit, optional between default and manual	1500
Multi-IP Settings(can set 8 additional IP address at the most)		
IP address	Set the additional IP address of LAN	Blank
Net Mask	Set Net Mask	Blank
Description	Describe the settings	Blank

WAN—Dynamic Address (DHCP)

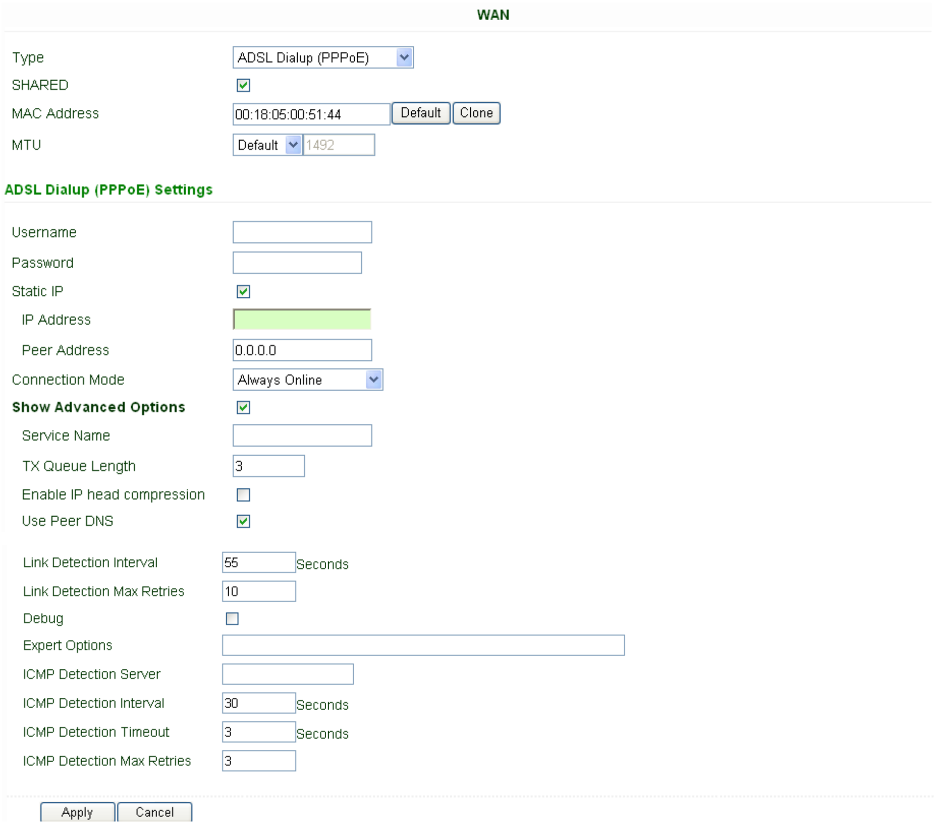


WAN

Type: Dynamic Address (DHCP)
SHARED: ☑
MAC Address: 00:18:05:00:51:44 [Default] [Clone]
MTU: Default 1500

Name	Description	Default
Type	Dynamic Address (DHCP)	
SHARED	Enabled—the local device linked with Router can get access to internet. Disable—the local device can't get access to internet via Router.	Enable
MAC Address	Set MAC Address	
MTU	Set Max transmission unit, optional between default and manual	1500

WAN --ADSL



WAN

Type: ADSL Dialup (PPPoE)
SHARED: ☑
MAC Address: 00:18:05:00:51:44 [Default] [Clone]
MTU: Default 1492

ADSL Dialup (PPPoE) Settings

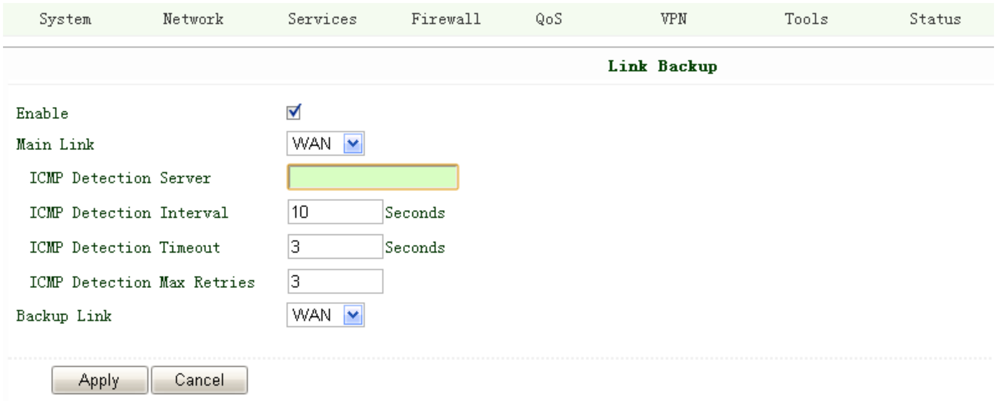
Username:
Password:
Static IP: ☑
IP Address:
Peer Address: 0.0.0.0
Connection Mode: Always Online
Show Advanced Options: ☑
Service Name:
TX Queue Length: 3
Enable IP head compression: ☐
Use Peer DNS: ☑

Link Detection Interval: 55 Seconds
Link Detection Max Retries: 10
Debug: ☐
Expert Options:
ICMP Detection Server:
ICMP Detection Interval: 30 Seconds
ICMP Detection Timeout: 3 Seconds
ICMP Detection Max Retries: 3

Name	Description	Default
Type	ADSL Dialup (PPPoE)	

SHARED	Enabled—the local device linked with Router can get access to internet. Disable—the local device can't get access to internet via Router.	Enable
MAC Address	Set MAC Address	
MTU	Set Max Transmission Unit, optional between default and manual	1500
ADSL Dialup (PPPoE) Settings		
Username	Set username for dialing up	Blank
Password	Set password for dialing up	Blank
Static IP	Enable Static IP	Disabled
IP address	Static IP Address	Blank
Peer IP	Set Peer IP	Blank
Connection Mode	Set connection mode (Connect on Demand/Always Online/ Manual)	Always Online
Advanced Options		
Show advanced options	Enable advanced configuration	Disabled
Service Name	Name the service	Blank
TX Queue Length	Set TX Queue Length	3
Enable IP head compression	Click to enable IP head compression	Disabled
User Peer DNS	Enable User Peer DNS	Disabled
Link Detection Interval	Set link detection interval	55 seconds
Link Detection Max Retries	Set link detection max retries	10 (times)
Debug	Select to enable debug-mode	Disabled
Expert Options	Set expert parameters	Blank
ICMP Detection Server	Set ICMP Detection Server	Blank
ICMP Detection Time	Set ICMP Detection Time	30
ICMP Detection Timeout	Set ICMP Detection Timeout	3
ICMP Detection Max Reties	Set ICMP Detection Max Reties	3

(3) Link Backup (for IR7x4 only)



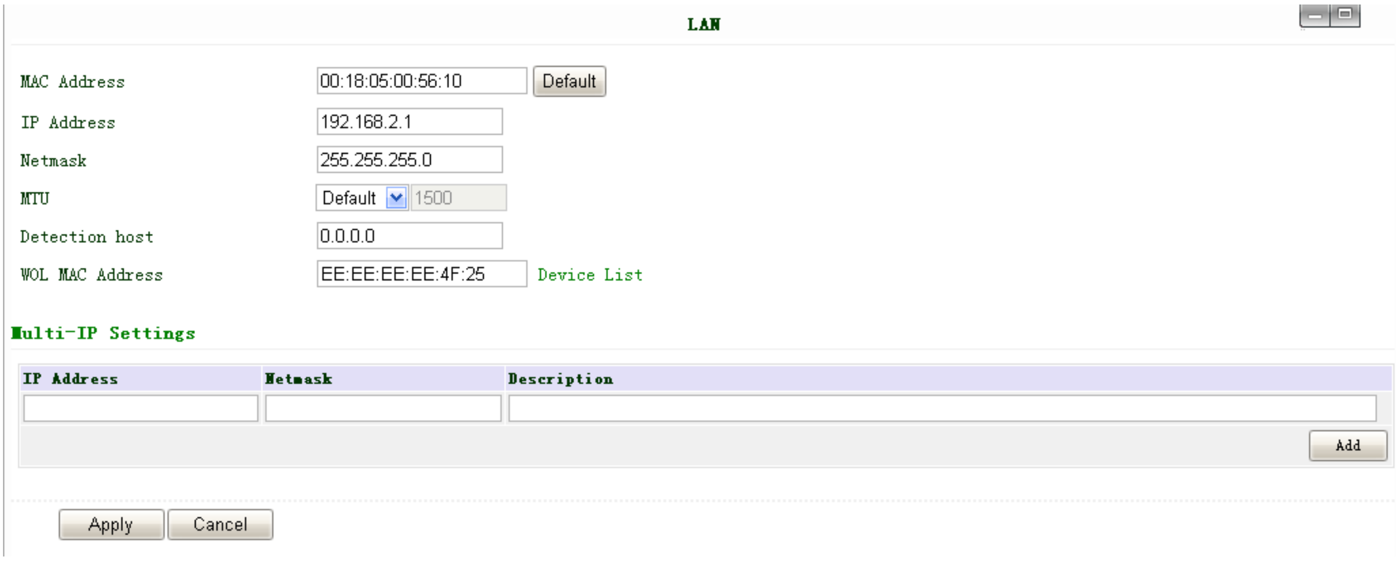
Enable ☑
Main Link WAN
ICMP Detection Server
ICMP Detection Interval 10 Seconds
ICMP Detection Timeout 3 Seconds
ICMP Detection Max Retries 3
Backup Link WAN

Link Backup, to realize link backup between Cellular WAN and Ethernet WAN, when one fails, IR700 will try the other

Name	Description	Default
Enable	Enable Link Backup service	Disabled
Main Link	InRouter will choose this for normal WAN connection	WAN (Ethernet WAN)
ICMP Detection Server	ICMP can ensure a link to certain destination	
ICMP Detection Interval	Time interval between ICMP packages	10
ICMP Detection Timeout	Timeout for each ICMP package	3 (seconds)
ICMP Detection Max Retries	After the retries if no ICMP succeed, dialup will try the backup link	3

Backup Link	Select the backup link	WAN

(4) LAN



LAN

MAC Address 00:18:05:00:56:10 Default

IP Address 192.168.2.1

Netmask 255.255.255.0

MTU Default 1500

Detection host 0.0.0.0

WOL MAC Address EE:EE:EE:EE:4F:25 Device List

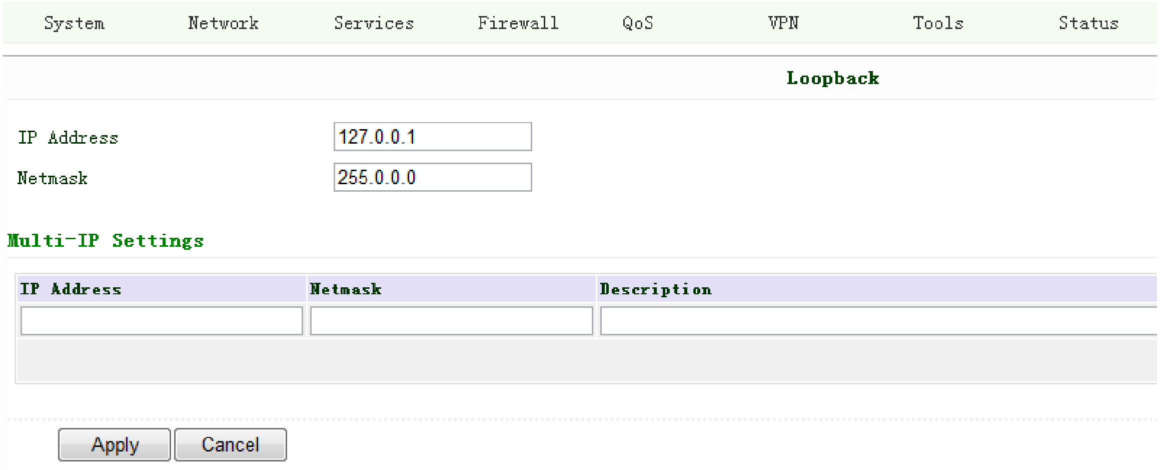
Multi-IP Settings

IP Address	Netmask	Description

Notice: please **DO NOT** set LAN address as: 192.168.3.x (an IP for DMZ port).

Name	Description	Default
MAC Address	The MAC address in LAN	00:10:A1:86:95:02 (Provided by InHand) , for manufactures
IP Address	Set IP Address in LAN	192.168.2.1 (If Changed, you need to input the new address for entering the configuration web)
Net Mask	Set Net Mask of LAN	255.255.255.0
MTU	Set MTU length, optional between Default and Manual	1500
Detection Host	Set Detection Host Address	0.0.0.0
WOL MAC Address	Set the MAC of PC in the LAN of router, for Wakeup Over LAN (WOL) function, you should also set “Networks”→ “Dialup” and change dialup mode into “Trigger by SMS”.	Blank
Multi-IP Settings (Support additional 8 IP addresses at the most)		
IP Address	Set additional IP Address of LAN	Blank
Description	Description about this IP address	Blank

(5) Loopback



Loopback

IP Address 127.0.0.1

Netmask 255.0.0.0

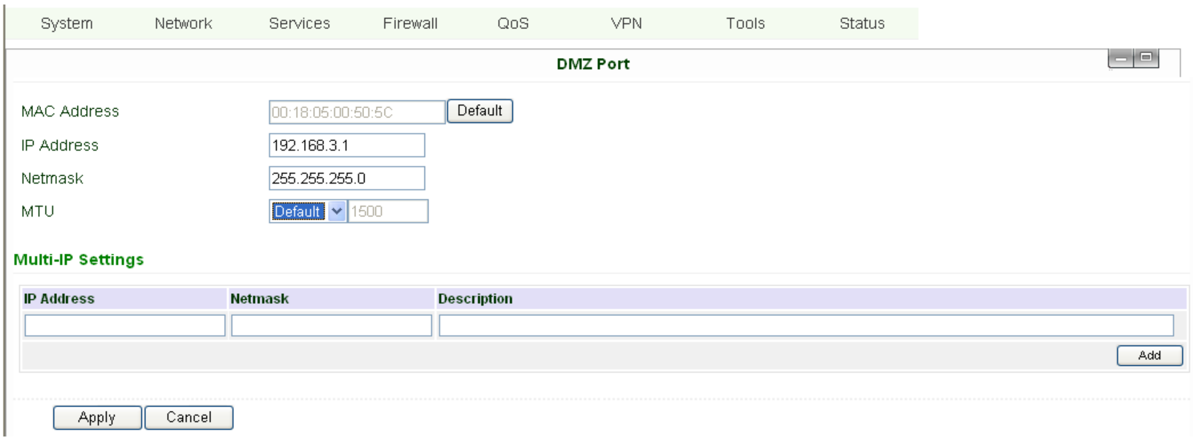
Multi-IP Settings

IP Address	Netmask	Description

Name	Description	Default
IP Address	The IP Address for loopback	127.0.0.1
Net Mask	Set Net Mask of loopback host	255.0.0.0
Multi-IP Settings (Support additional 8 IP addresses at the most)		
IP Address/Net mask	Set additional IP/Net mask of loopback host	Blank
Description	Description about this IP address	Blank

(6) DMZ Port (for IR7x4 only)

Configure this page after select WAN-DMZ-LAN mode in Port Mode page.



MAC Address 00:18:05:00:50:5C

IP Address 192.168.3.1

Netmask 255.255.255.0

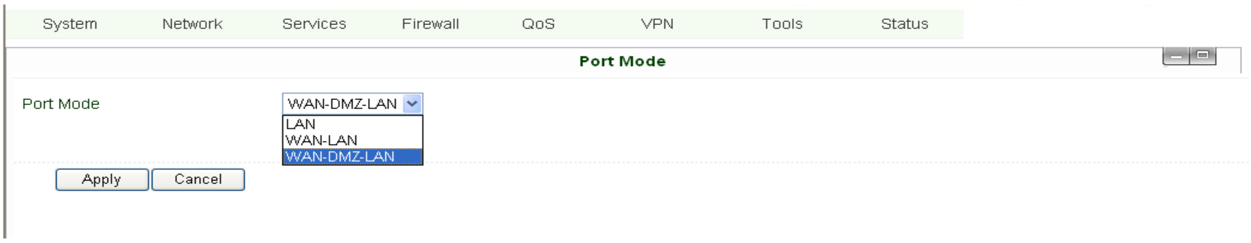
MTU Default 1500

Multi-IP Settings

IP Address	Netmask	Description

Name	Description	Default
MAC Address	Set MAC address of DMZ port	(Provided by Manufacture: InHand)
IP Address	Set IP Address of DMZ port	192.168.3.1
Net Mask	Set Net Mask of DMZ port	255.255.255.0
MTU	Optional between Default & Manual	Default (1500)
Multi-IP Settings (8 additional IP address at the most)		
IP Address	Set additional IP address for DMZ port	Blank
Net Mask	Set Net Mask	Blank
Description	Description of additional IP address	Blank

(7) Port Mode (for IR7x4 only)

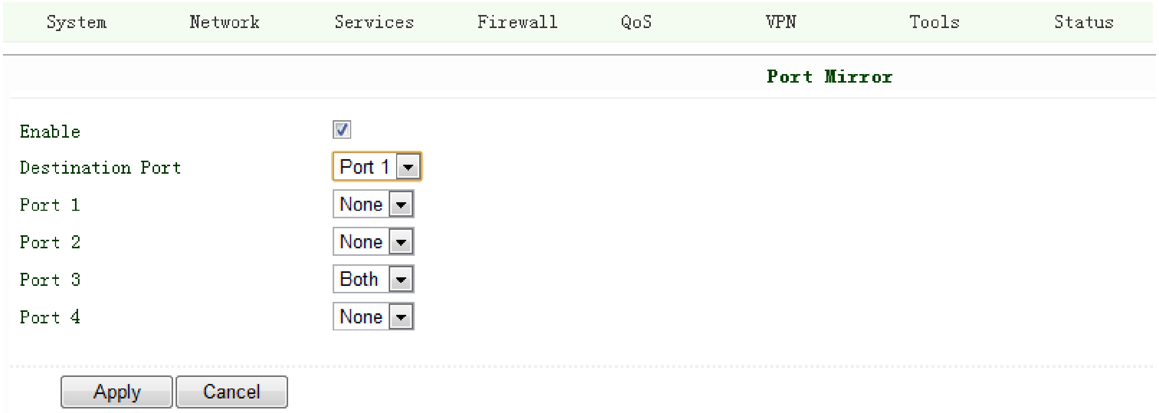


Port Mode WAN-DMZ-LAN

Notice: please **DO NOT** set WAN IP/LAN IP/DMZ IP the same; it will disable your link to internet!

Name	Descriptions	Default
Port Mode	LAN (four LAN ports) WAN-LAN (3 LAN ports and 1 WAN port) WAN-DMZ-LAN (1 WAN port, 1 DMZ port and 2 LAN ports)	WAN-DMZ-LAN

(8) Port Mirror (for IR7x4 only)



Enable ☑

Destination Port: Port 1

Port 1: None

Port 2: None

Port 3: Both

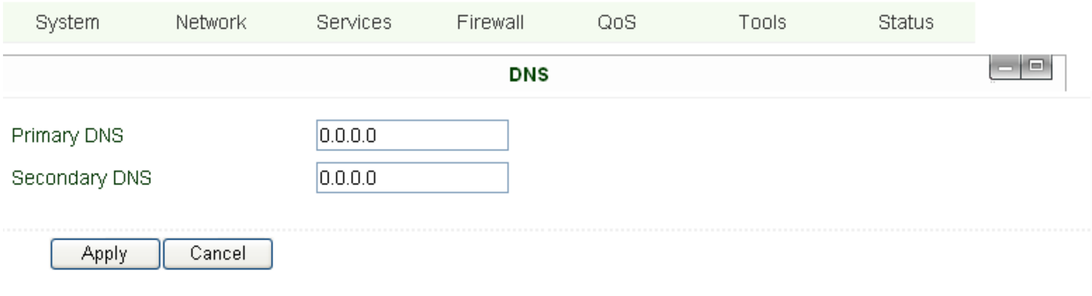
Port 4: None

This function is used for Engineer capture packages of different ports of IR700.

Destination Port: the port to which you wand to send the copied packages.

Here we set Port 3 as example, after you set Port 1 as destination port, and Port 3“Both”, you can link your PC to Port 1 and get the packages sent and received by Port 3.

(9) DNS

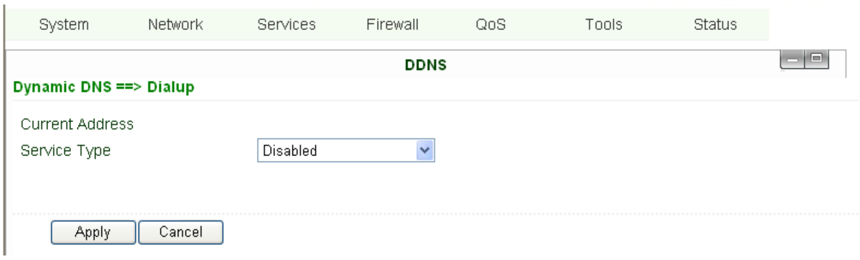


Primary DNS: 0.0.0.0

Secondary DNS: 0.0.0.0

Name	Description	Default
Primary DNS	Set Primary DNS	Blank
Secondary DNS	Set Secondary DNS	Blank

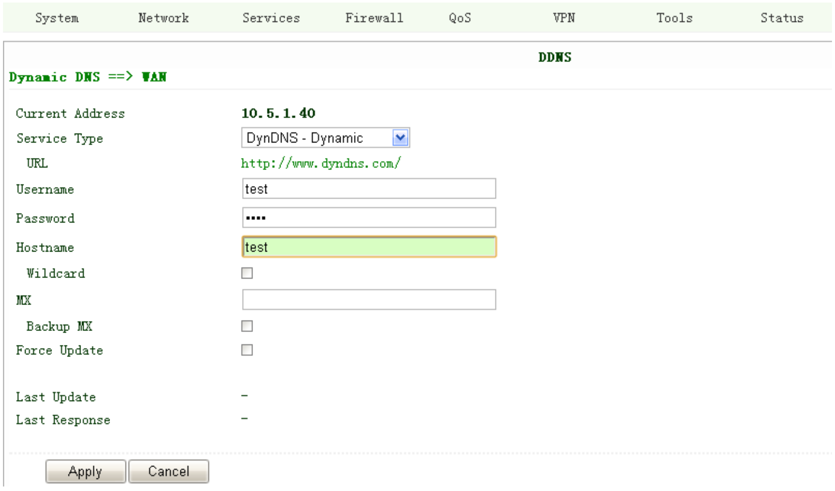
(10) DDNS (Dynamic DNS)



Current Address

Service Type: Disabled

Name	Description	Default
Current Address	Show the current IP address	Blank
Service Type	Select DDNS Provider	Disabled



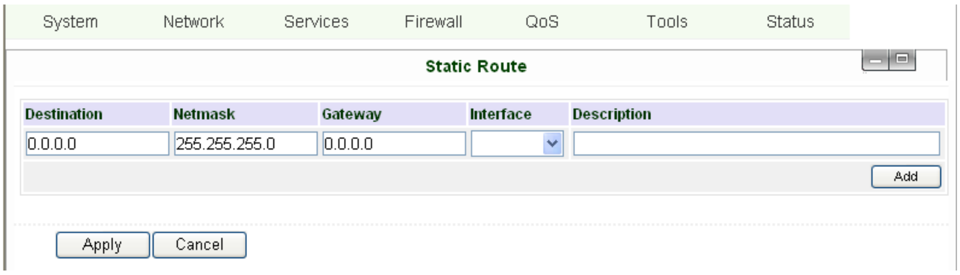
Dynamic DNS ==> WAN

Current Address 10.5.1.40
Service Type DynDNS - Dynamic
URL http://www.dyndns.com/
Username test
Password ••••
Hostname test
Wildcard □
MX
Backup MX □
Force Update □

Last Update -
Last Response -

Name	Description	Default
Service Type	DynDNS - Dynamic	
URL	http://www.dyndns.com/	
Username	Registered username for DDNS	
Password	Registered password for DDNS	
Hostname	Registered hostname for DDNS	

(11) Static Route



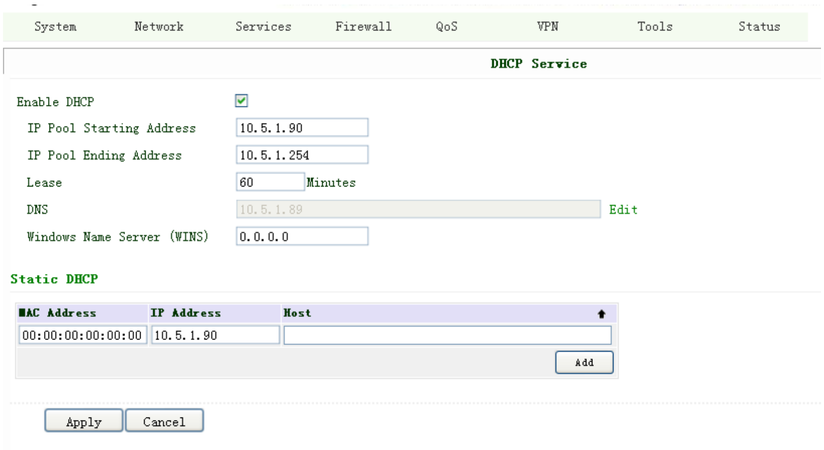
Destination	Netmask	Gateway	Interface	Description
0.0.0.0	255.255.255.0	0.0.0.0		

Name	Description	Default
Destination	Set IP address of destination	Blank
Net Mask	Set subnet Mask of destination	255.255.255.0
Gateway	Set the gateway of destination	Blank
Interface	Optional LAN/WAN port access to destination	Blank
Description	Describe static route	Blank

3.1.4 Service

Service settings include DHCP Service, DNS Forwarding, VRRP and other related parameters.

(1) DHCP Service



DHCP Service

Enable DHCP ☑

IP Pool Starting Address 10.5.1.90

IP Pool Ending Address 10.5.1.254

Lease 60 Minutes

DNS 10.5.1.89 Edit

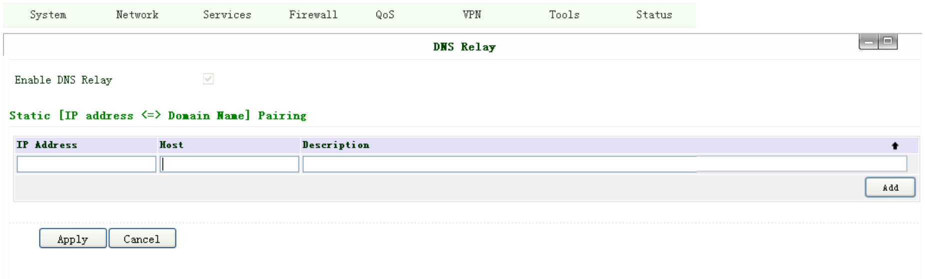
Windows Name Server (WINS) 0.0.0.0

Static DHCP

MAC Address	IP Address	Host
00:00:00:00:00:00	10.5.1.90	

Name	Description	Default
Enable DHCP	Click to enable DHCP	Enable
IP Pool Starting Address	Set the starting IP address of DHCP pool	192.168.2.2
IP Pool Ending Address	Set the ending IP address of DHCP pool	192.168.2.100
Lease	Set the valid time lease of IP address obtained by DHCP	60 minutes
DNS	Set DNS Server	192.168.2.1
Windows Name Server (WINS)	Set WINS	Blank
Static DHCP (can set 20 designated IP address at the most)		
MAC Address	Set the MAC address of a designated IP address	Blank
IP address	Set the static IP address	192.168.2.2
Host	Set the hostname	Blank

(2) DNS Relay



DNS Relay

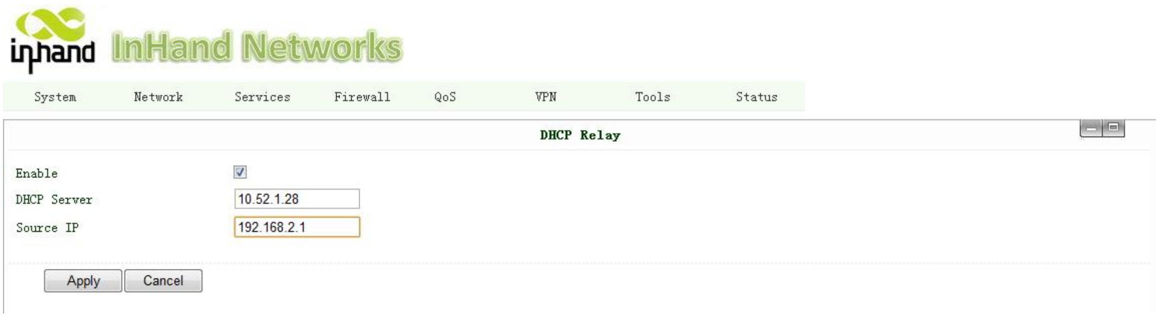
Enable DNS Relay ☑

Static [IP address <=> Domain Name] Pairing

IP Address	Host	Description

Name	Description	Default
Enable DNS Relay	Click to enable DNS Relay	Disabled
Designate IP address<=>DNS couples (20 at the most)		
IP Address	Set IP address <=> DNS couples	Blank
Host	Set the name of IP address <=> DNS couples	Blank
Description	Describe IP address <=> DNS couples	Blank

(3) DHCP Relay



Enable ☑

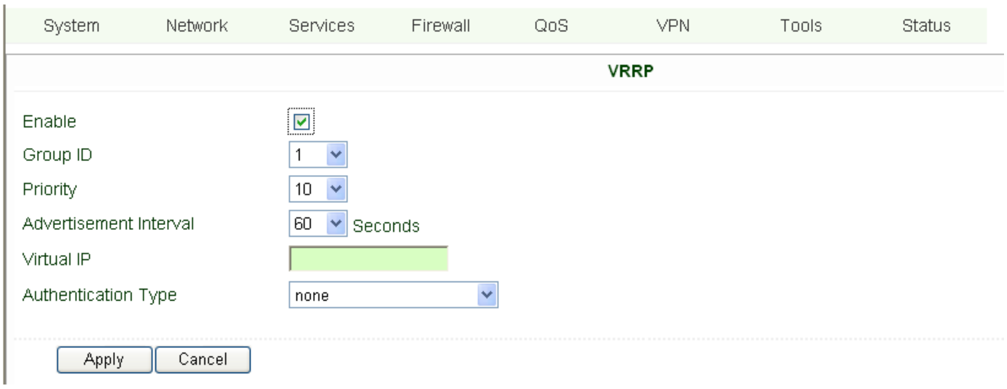
DHCP Server 10.52.1.28

Source IP 192.168.2.1

This function can realize DHCP relay and send relay packages to LAN interface of router.

Name	Description	Default
Enable DHCP Relay	Click to enable DHCP Relay	Enable (after enable DHCP)
DHCP Server	Set the DHCP Server's address, always you need ensure DHCP server is in the same LAN or VPN subnet as IR700's LAN	Blank
Source IP	The interface IR700 will forward the DHCP acknowledge packages (always set the LAN IP of IR700)	Blank

(4) VRRP



Enable ☑

Group ID 1

Priority 10

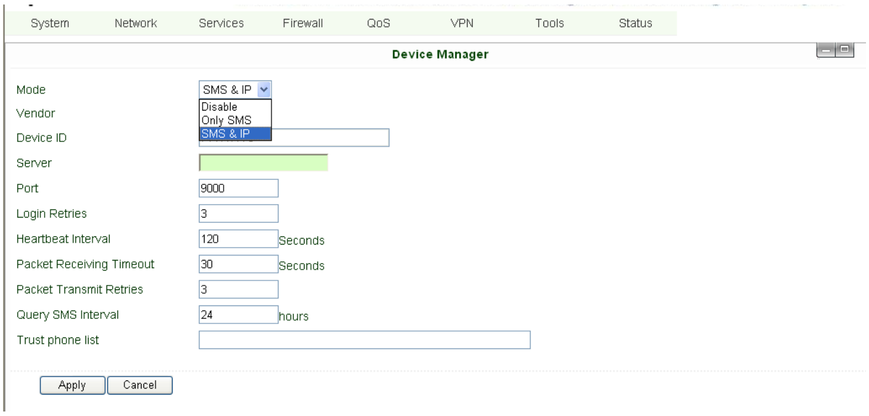
Advertisement Interval 60 Seconds

Virtual IP

Authentication Type none

Name	Description	Default
Enable	Select to enable VRRP	Disable
Group ID	Select group id of routers (range 1-255)	1
Priority	Select priority for router (range 1—254)	10 (bigger number stands for higher priority)
Advertisement Interval	Set ad interval	60 sec
Virtual IP	Set Virtual IP	Blank
Authentication Type	Optional: None/Password type	None

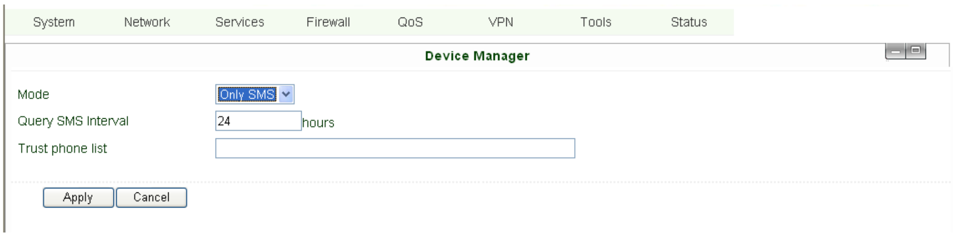
(5) Device Manager



Device Manager

Mode: SMS & IP
Vendor
Device ID
Server
Port: 9000
Login Retries: 3
Heartbeat Interval: 120 Seconds
Packet Receiving Timeout: 30 Seconds
Packet Transmit Retries: 3
Query SMS Interval: 24 hours
Trust phone list

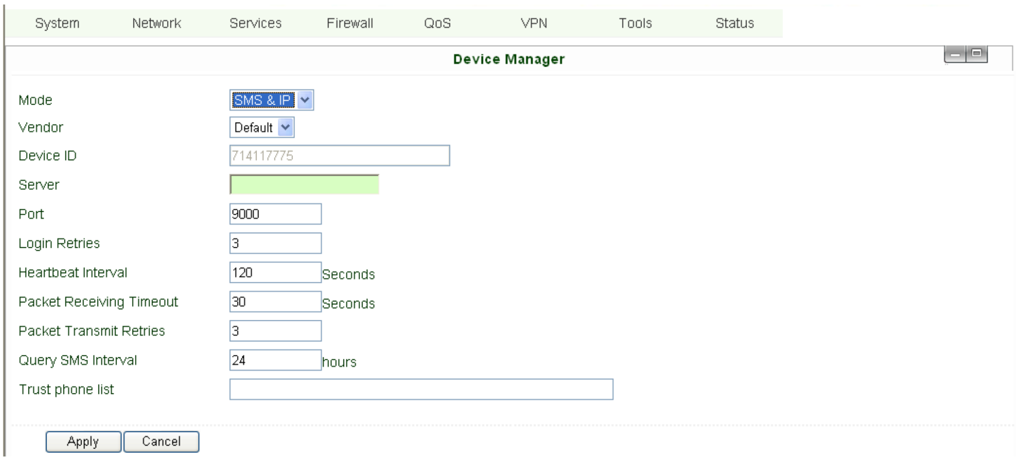
Name	Description	Default
Mode	Disabled/Only SMS/SMS+IP	Disable



Device Manager

Mode: Only SMS
Query SMS Interval: 24 hours
Trust phone list

Name	Description	Default
Mode	Only SMS	
Query SMS Interval	Set how long to check SMS	24 hours
Trust Phone List	Add trust Cell Phone List	



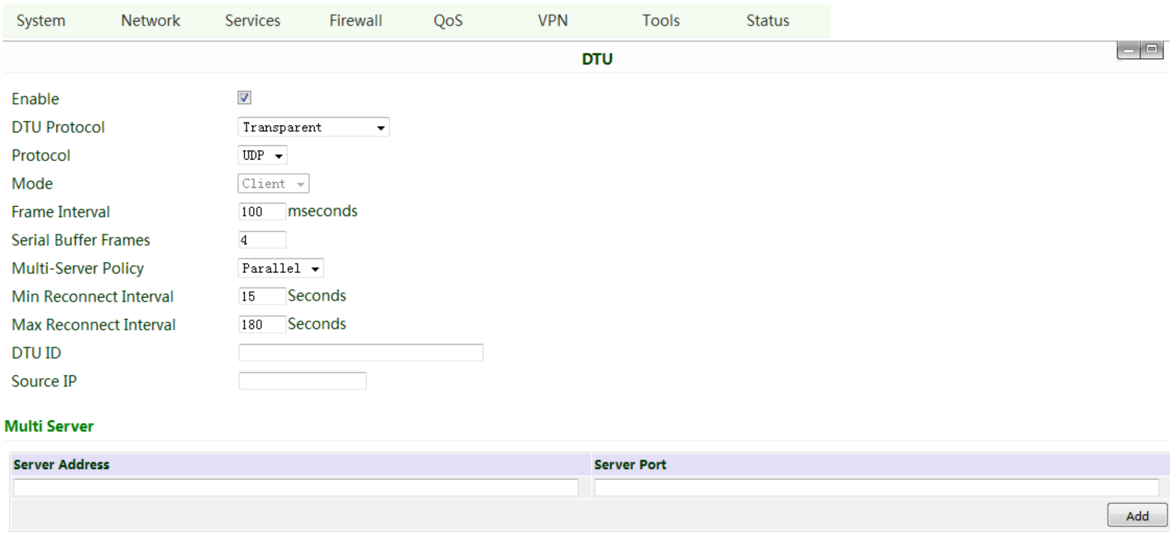
Device Manager

Mode: SMS & IP
Vendor: Default
Device ID: 714117775
Server
Port: 9000
Login Retries: 3
Heartbeat Interval: 120 Seconds
Packet Receiving Timeout: 30 Seconds
Packet Transmit Retries: 3
Query SMS Interval: 24 hours
Trust phone list

Name	Description	Default
Mode	SMS+IP Mode	
Vendor	Set Vendor Name	Default
Device ID	Set Device ID	
Server	Set Device Manager Server IP	
Port	Set Port For DM	9000
Login Retries	Set login retries	3
Heartbeat Interval	Set interval of heartbeat	120
Packet Receiving Timeout	Set packet receiving timeout	30
Packet Transmit Retries	Set packet transmit reties	3

Query SMS Interval	Set how long to check SMS	24
Trust phone list	Set trust cell phone list	

(6) DTU



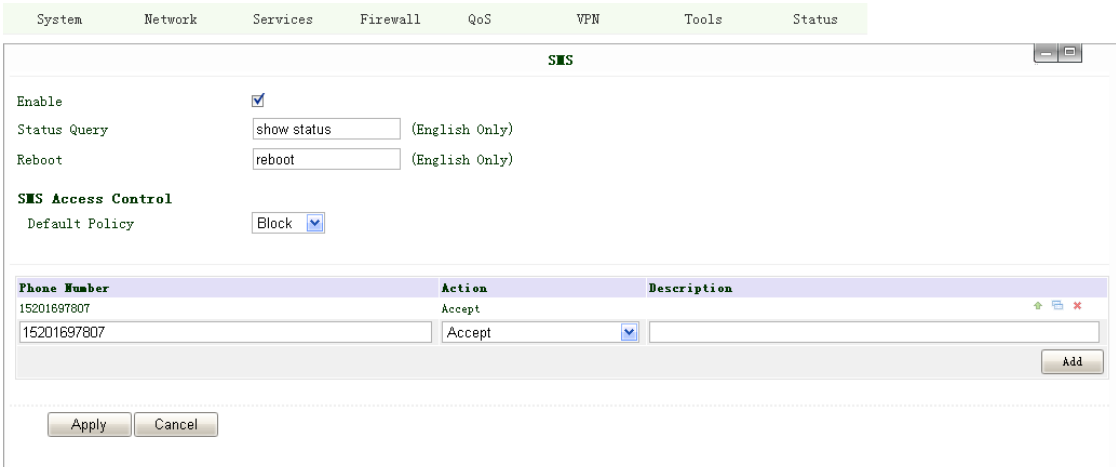
Enable ☑
DTU Protocol Transparent
Protocol UDP
Mode Client
Frame Interval 100 mseconds
Serial Buffer Frames 4
Multi-Server Policy Parallel
Min Reconnect Interval 15 Seconds
Max Reconnect Interval 180 Seconds
DTU ID
Source IP

Multi Server

Server Address	Server Port

Name	Description	Default
Enable	Click to enable DTU	Disable
DTU Protocol	Set DTU protocol, Please see more in related Quick Guide	Transparent
Protocol	Optional between TCP/UDP	UDP
Mode	Set DTU as client or server	Client
Frame Interval	Set Frame Interval	100
Serial Buffer Frames	Set Serial Buffer Frames	4
Multi-Server Policy	Set Multi-Server Policy: Parallel/ Poll	Parallel
DTU ID	Set ID of DTU	Blank
Multi Server	Set the IP address and Port of server to receive data.	Blank

(7) SMS



Enable ☑
Status Query show status (English Only)
Reboot reboot (English Only)

SMS Access Control
Default Policy Block

Phone Number	Action	Description
15201697807	Accept	
15201697807	Accept	

Name	Description	Default
Enable	Click to enable SMS control	Disable

Status Query	Set Status Query SMS, and you can see status of router by send SMS (e.g.: show status).	
Reboot	Let the router reboot	
SMS Access Control		
Default Policy	Block or Accept control SMS from certain Phone	Block
Phone List	Include phone numbers accepted or blocked to send SMS to router	

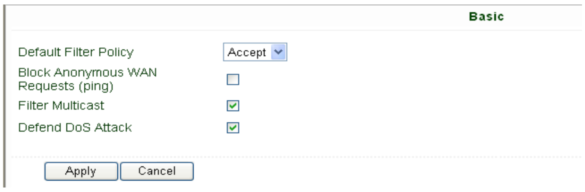
Notice: Before using this function, please make sure you have a SIM card in the router that has SMS function. Otherwise, please contact local mobile operator to get one.

SMS you will get in your mobile phone:
Host: (SN);
Uptime: (the uptime of router for this time of reboot);
State: (Online/Offline) (Cellular WAN IP)
LAN: (Up) (LAN IP)

3.1.5 Firewall

This page is to configure the firewall parameters

(1) Basic Configuration

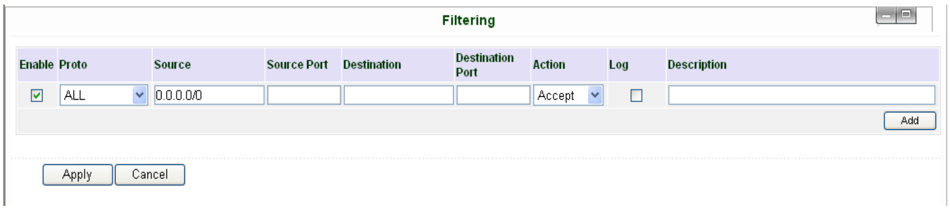


Basic

Default Filter Policy: Accept
Block Anonymous WAN Requests (ping): ☐
Filter Multicast: ☑
Defend DoS Attack: ☑

Name	Description	Default
Default Filter Policy	Optional between Accept /Refused	Accept
Block Anonymous WAN Request (ping)	Click to enable filer ping request	Disable
Filter Multicast	Click to enable filter multicast	Enable
Defend DoS Attack	Click to enable Defend DoS Attack	Enable

(2) Filtering

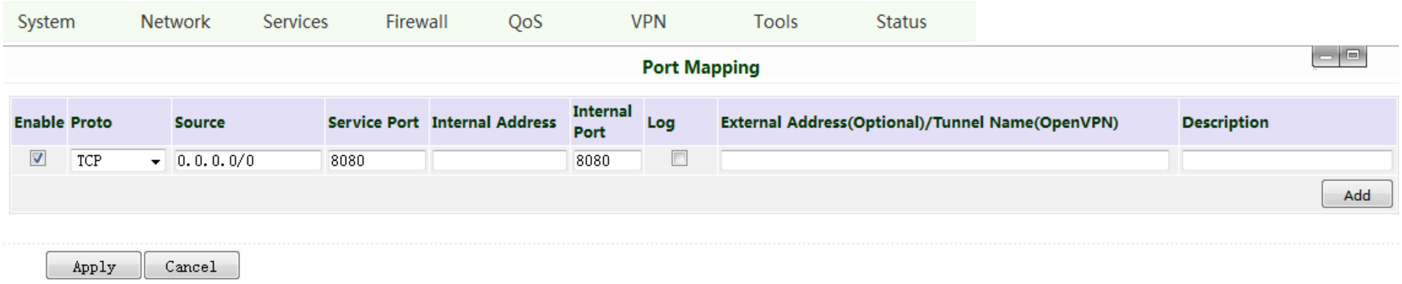


Filtering

Enable	Proto	Source	Source Port	Destination	Destination Port	Action	Log	Description
☑	ALL	0.0.0.0/0				Accept	☐	

Name	Description	Default
Enable	Click to enable filtering	Blank
Protocol	Optional among TCP/UDP/ICMP	All
Source IP address	Set Source IP address	Blank
Source Port	Set Source Port	Blank
Destination IP	Set destination IP	Blank
Destination Port	Set destination port	Blank
Action	Accept/Deny	Accept
Log	Click to enable login	Disable

(3) Port Mapping

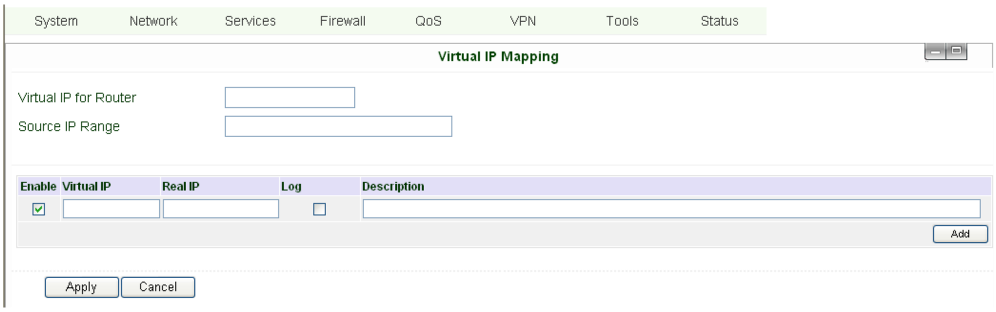


Port Mapping

Enable	Proto	Source	Service Port	Internal Address	Internal Port	Log	External Address(Optional)/Tunnel Name(OpenVPN)	Description
☑	TCP	0.0.0.0/0	8080		8080	□		

Name	Description	Default
Enable	Click Enable Port Mapping	Disable
Source	To fill with source IP	0.0.0.0/0
Service Port	Fill the port of service	8080
Internal Address	Set the internal IP for mapping	Blank
Internal Port	Set the Port mapping to internal	8080
Log	Click to enable log about port mapping.	Disable
External Address(Optional) /Tunnel Name(OpenVPN)	Set the virtual IP or tunnel name which get in VPN	Blank
Description	Describe meanings of each mapping	Blank

(4) Virtual IP Mapping



Virtual IP Mapping

Virtual IP for Router

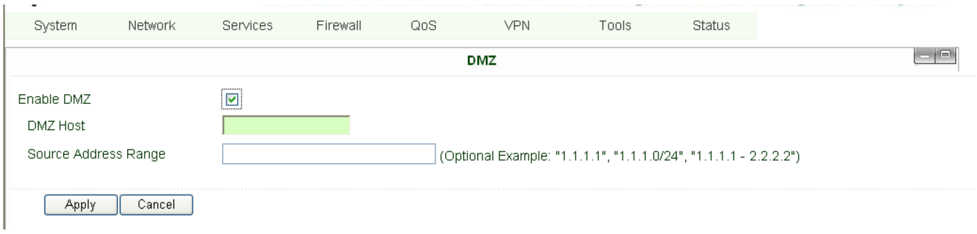
Source IP Range

Enable	Virtual IP	Real IP	Log	Description
☑			□	

An internal PC’s IP can match to a virtual IP, and external network can access to internal PC via this virtual IP address.

Name	Description	Default
Virtual IP for Router	Set Virtual IP for Router	Blank
Source IP Range	Set range of source IP address	Blank
Virtual IP	Set virtual IP	Blank
Real IP	Set real IP	Blank
Log	Enable logging concerned with virtual IP	Disable
Description	Describe this configuration	Blank

(5) DMZ (All Port Mapping)



DMZ

Enable DMZ ☑

DMZ Host

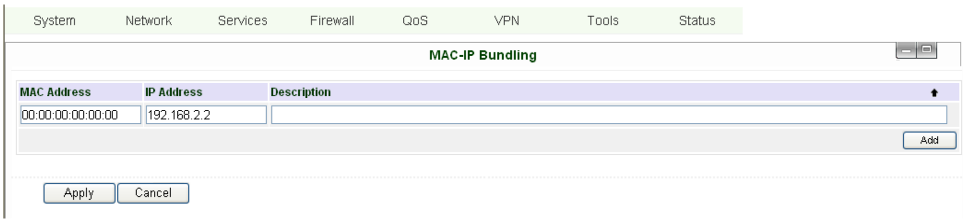
Source Address Range (Optional Example: "1.1.1.1", "1.1.1.0/24", "1.1.1.1 - 2.2.2.2")

Mapping all the ports and then external PC can get access to all the ports of internal device behind IR700.

Attention: this function cannot map the admin port of IR700 (e.g.: 80 TCP) to the device's port.

Name	Description	Default
Enable DMZ	Click to Enable DMZ	Disable
DMZ Host	Set host IP of DMZ	Blank
Source Address Range	Set IP address with restrict IP access	Blank

(6) MAC-IP Bundling

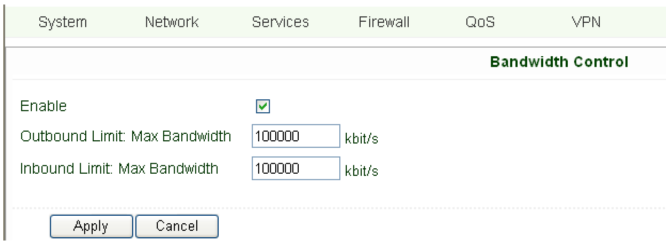


MAC Address	IP Address	Description
00:00:00:00:00:00	192.168.2.2	

When firewall denies all access to the external network, only PC with MAC-IP Bundling can access external network

Name	Description	Default
MAC Address	Set Bundling Mac address	Blank
IP Address	Set Bundling IP address	192.168.2.2
Description	Describe this configuration	Blank

3.1.6 QoS



Enable ☑

Outbound Limit: Max Bandwidth 100000 kbit/s

Inbound Limit: Max Bandwidth 100000 kbit/s

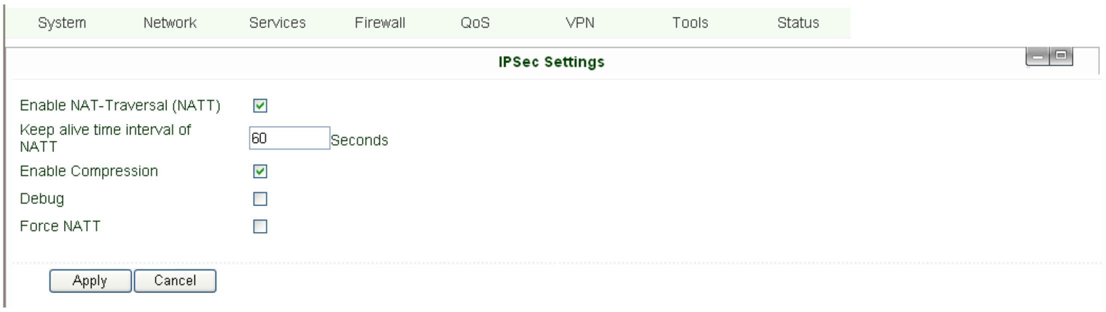
Name	Description	Default
Enable	Click to enable	Disable
Outbound Limit Max Bandwidth	Set the limit speed of out- bound bandwidth	100000kbit/s
Inbound Limit Max Bandwidth	Set the limit speed of inbound bandwidth	100000kbit/s

3.1.7 VPN(For IR79x only)

This page introduces the parameters in InRouter 700's Web.

(1) IPSec Settings

To build an IPSec VPN Tunnel, you need first set IPSec properties in this page, then turn to IPSec Tunnels to add your VPN:



IPSec Settings

Enable NAT-Traversal (NATT) ☑

Keep alive time interval of NATT 60 Seconds

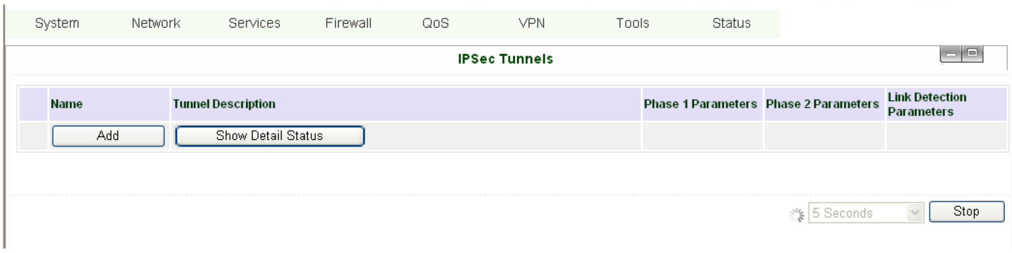
Enable Compression ☑

Debug □

Force NATT □

IPSec Settings		
Description: 1. Select to Enable or Disable NATT, normally we need to enable, unless you ensure there is no NAT routers in the network. 2．Select to enable Compression Mode or Debug		
Name	**Description**	**Default**
Enable NAT Transversal (NATT)	Click to enable NATT	Enable
Keep alive time interval of NATT	Set live time for NATT	60 sec
Enable Compression	Click to enable	Enable
Enable Debug	Click to enable	Disable
Force NATT	Click to enable	Disable

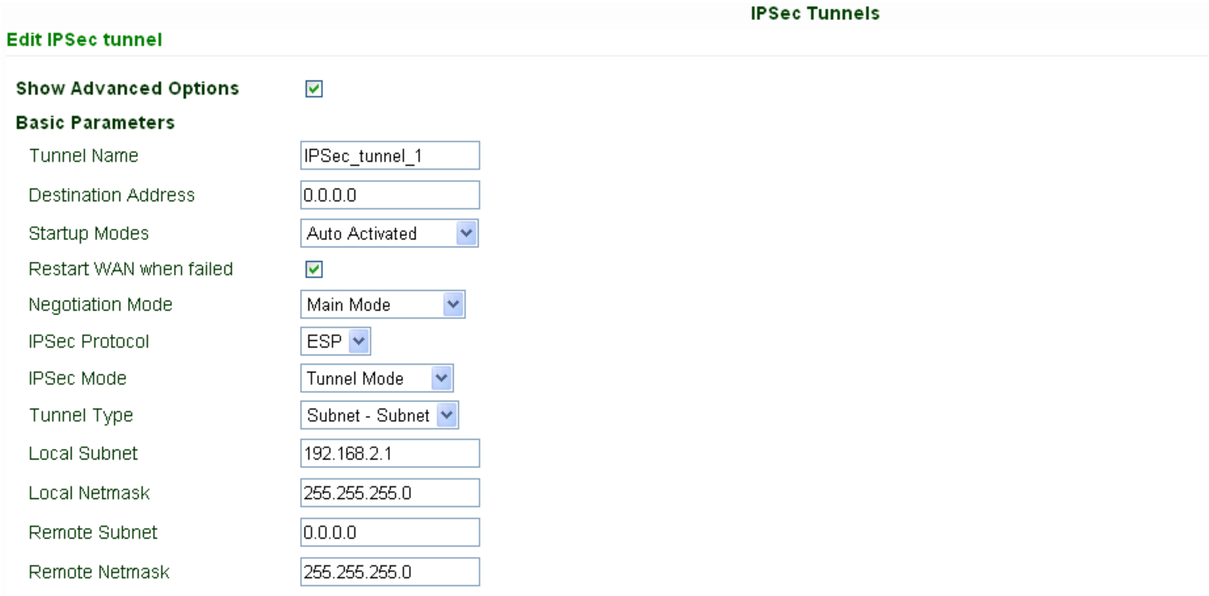
(2) IPSec Tunnels



IPSec Tunnels

Name	Tunnel Description	Phase 1 Parameters	Phase 2 Parameters	Link Detection Parameters
Add	Show Detail Status			

Click “Add” and enter the configuration web:

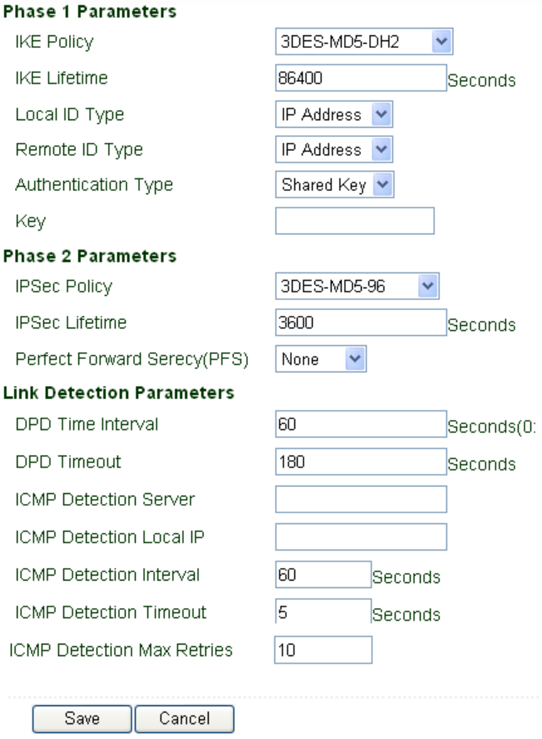

IPSec Tunnels

Edit IPSec tunnel

Show Advanced Options ☑

Basic Parameters

Tunnel Name	IPSec_tunnel_1
Destination Address	0.0.0.0
Startup Modes	Auto Activated
Restart WAN when failed	☑
Negotiation Mode	Main Mode
IPSec Protocol	ESP
IPSec Mode	Tunnel Mode
Tunnel Type	Subnet - Subnet
Local Subnet	192.168.2.1
Local Netmask	255.255.255.0
Remote Subnet	0.0.0.0
Remote Netmask	255.255.255.0



Phase 1 Parameters

IKE Policy: 3DES-MD5-DH2

IKE Lifetime: 86400 Seconds

Local ID Type: IP Address

Remote ID Type: IP Address

Authentication Type: Shared Key

Key:

Phase 2 Parameters

IPSec Policy: 3DES-MD5-96

IPSec Lifetime: 3600 Seconds

Perfect Forward Serecy(PFS): None

Link Detection Parameters

DPD Time Interval: 60 Seconds(0: disable)

DPD Timeout: 180 Seconds

ICMP Detection Server:

ICMP Detection Local IP:

ICMP Detection Interval: 60 Seconds

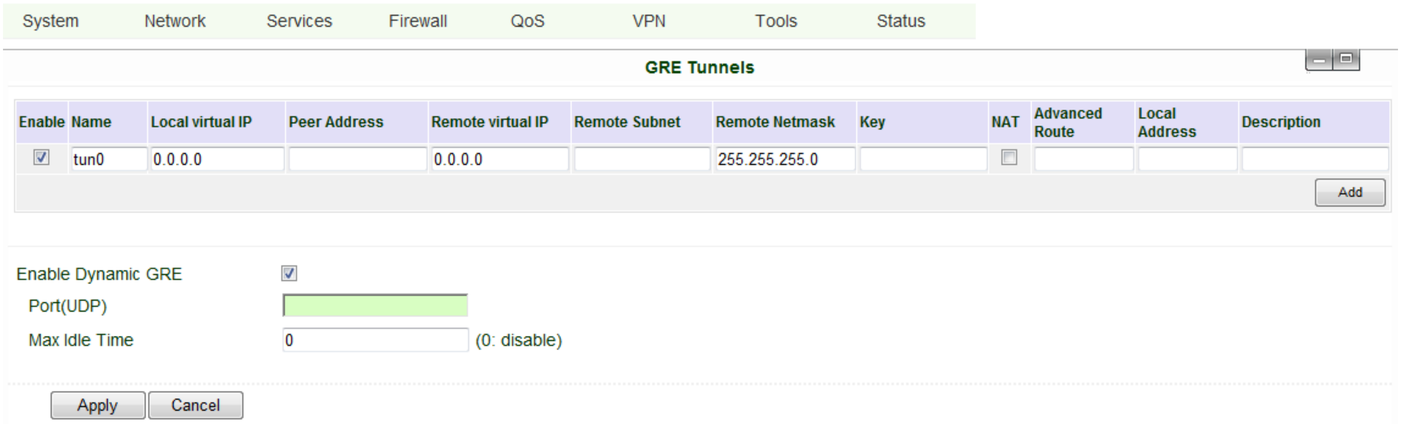
ICMP Detection Timeout: 5 Seconds

ICMP Detection Max Retries: 10

Name	Description	Default
Show Advanced Options	Click to enable advanced options	Disable
	Basic Parameters	
Tunnel Name	To name the tunnel	IPSec_tunnel_1
Destination Address	Set the destination address of IPSec VPN Server	Blank
Startup Mode	Auto Activate/Trigged by Data/Passive/Manually Activated	Enable
Negotiation Mode	Optional: Main Mode or Aggressive Mode	Main Mode
IPSec Mode (Enable Advanced options)	Optional: ESP or AH	ESP
IPSec Mode (Enable Advanced options)	Optional: Tunnel Mode or Transport Mode	Tunnel Mode
Tunnel Type	Optional: Host——Host, Host——Subnet, Subnet——Host, Subnet——Subnet	Subnet——Subnet Mode
Local Subnet	Set IPSec Local Protected Subnet	192.168.2.1
Local Subnet Net Mask	Set IPSec Local Protected Subnet Net Mask	255.255.255.0
Remote Subnet Address	Set IPSec Remote Protected Subnet	Blank
Remote Subnet Net Mask	Set IPSec Remote Protected Subnet Net Mask	255.255.255.0
	Phase 1 Parameters	
IKE Policy	Optional: 3DES-MD5-96 or AES-MD5-96	3DES-MD5-96
IKE Lifetime	Set IKE 的 Lifetime	86400 sec
Local ID Type	Optional: FQDN, USERFQDN, or IP Address	IP Address
Local ID (Only for FQDN 和 USERFQDN)	Set the ID according to ID type	Blank
Remote ID Type	Optional: FQDN, USERFQDN, or IP Address	IP Address
Remote ID (Only for FQDN and USERFQDN)	Set the ID according to ID type	Blank
Authentication Type	Optional: Shared Key or Certificate	Shared Key

Key (While choosing Shared Key Authentication Type)	Set IPSec VPN Negotiation Key	Blank
Phase 2 Parameters		
IPSec Policy	Optional: 3DES-MD5-96 or AES-MD5-96	3DES-MD5-96
IPSec Lifetime	Set IPSec Lifetime	3600sec
Perfect Forward Secrecy (PFS)	Optional: Disable, GROUP1, GROUP2, GROUP5	Disable ((Enable Advanced options)
Link Detection Parameters (Enable Advanced options)		
DPD Time Interval	Set DPD Time Interval	60sec
DPD Timeout	Set DPD Timeout	180sec
ICMP Detection Server	Set ICMP Detection Server	Blank
ICMP Detection Local IP	Set ICMP Detection Local IP	
ICMP Detection Interval	Set ICMP Detection Interval	30sec
ICMP Detection Timeout	Set ICMP Detection Interval	5sec
ICMP Detection Max Retries	Set ICMP Detection Max Retries	3

(3) GRE Tunnels



GRE Tunnels

Enable	Name	Local virtual IP	Peer Address	Remote virtual IP	Remote Subnet	Remote Netmask	Key	NAT	Advanced Route	Local Address	Description
☑	tun0	0.0.0.0		0.0.0.0		255.255.255.0		□			

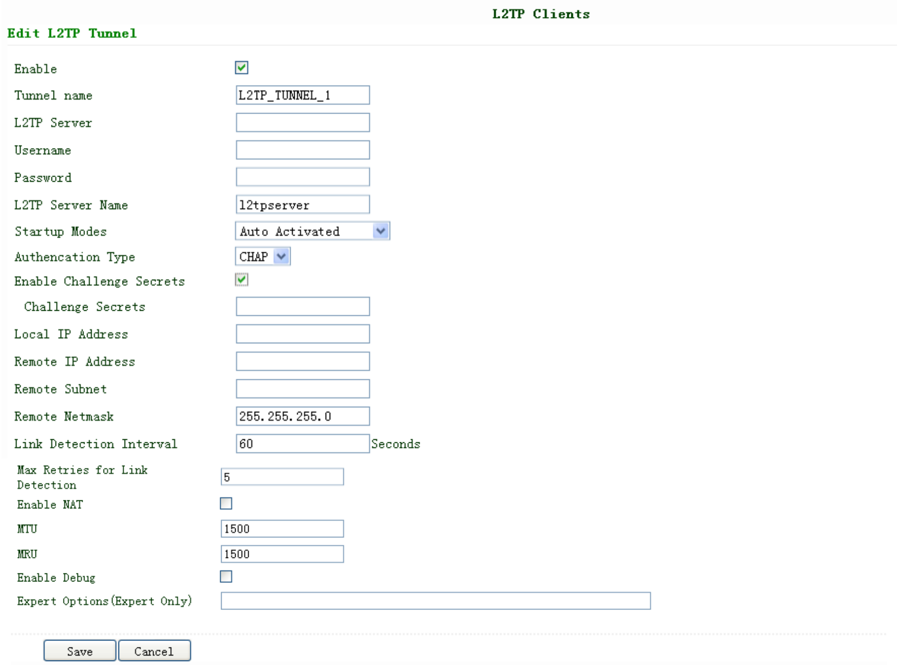
Enable Dynamic GRE ☑

Port(UDP)

Max Idle Time 0 (0: disable)

GRE Tunnels		
Name	Description	Default
Enable	Click Enable	Enable
Tunnel Name	Set GRE Tunnel Name	tun0
Local Virtual IP	Set Local Virtual IP	0.0.0.0
Remote Address	Set Remote Address	0.0.0.0
Remote Virtual IP	Set Remote Virtual IP	0.0.0.0
Remote Subnet Address	Set Remote Subnet Address	0.0.0.0
Remote Subnet Net Mask	Set Remote Subnet Net Mask	255.255.255.0
Key	Set Tunnel Key	Blank
NAT	Click Enable NAT Function	Disable
Description	Add Description	Blank
Enable Dynamic GRE	Enable Dynamic GRE	Disable
Port (UDP)	Communication port (10000~65535)	Blank
Max Idle Time	Beyond this time , no flows , tunnel are disconnected	0

(4) L2TP Clients



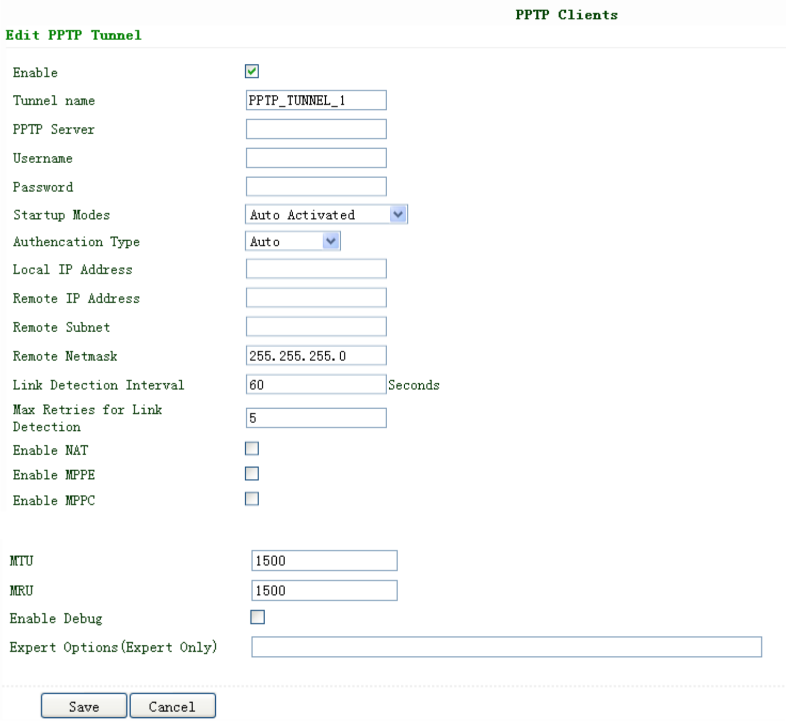
L2TP Clients

Edit L2TP Tunnel

Enable	☑
Tunnel name	L2TP_TUNNEL_1
L2TP Server	
Username	
Password	
L2TP Server Name	l2tpserver
Startup Modes	Auto Activated
Authencation Type	CHAP
Enable Challenge Secrets	☑
Challenge Secrets	
Local IP Address	
Remote IP Address	
Remote Subnet	
Remote Netmask	255.255.255.0
Link Detection Interval	60 Seconds
Max Retries for Link Detection	5
Enable NAT	☐
MTU	1500
MRU	1500
Enable Debug	☐
Expert Options(Expert Only)	

Name	Description	Default
Enable	Click Enable	Enable
Tunnel Name	Set Tunnel Name	L2TP_TUNNEL_1
L2TP Server	SetL2TP Server Address	Blank
Username	Set Server Username	Blank
Password	Set Server Password	Blank
Server Name	Set Server Name	l2tpserver
Startup Modes	Set Startup Modes: Auto Activated, Trigged by Data, Manually Activated	Auto Activated
Authencation Type	Set Authencation Type: CHAP, PAP	CHAP
Enable Challenge secrets	Set to enable Challenge secrets	Disable
Local IP Address	Set Local IP Address	Blank
Remote IP Address	Set Remote IP Address	Blank
Remote Subnet	Set Remote Subnet	Blank
Remote Subnet Net Mask	Set Remote Subnet Net Mask	255.255.255.0
Link Detection Interval	Set Link Detection Interval	60
Max Retries for Link Detection	Set Max Retries for Link Detection	5
Enable NAT	Click Enable NAT	Disable
MTU	Set MTU parameters	1500
MRU	Set MRU parameters	1500
Enable Debug Mode	Click Enable Debug Mode	Disable
Expert Options	Set Expert Options	Blank

(5) PPTP Clients



PPTP Clients

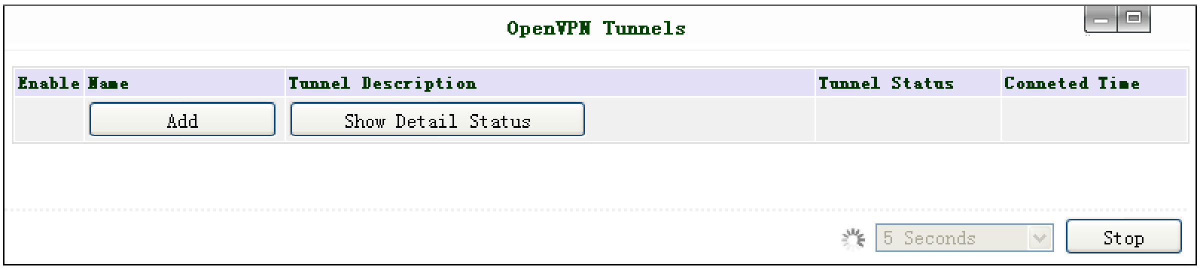
Edit PPTP Tunnel

Enable	☑
Tunnel name	PPTP_TUNNEL_1
PPTP Server	
Username	
Password	
Startup Modes	Auto Activated
Authencation Type	Auto
Local IP Address	
Remote IP Address	
Remote Subnet	
Remote Netmask	255.255.255.0
Link Detection Interval	60 Seconds
Max Retries for Link Detection	5
Enable NAT	□
Enable MPPE	□
Enable MPPC	□
MTU	1500
MRU	1500
Enable Debug	□
Expert Options(Expert Only)	

Name	Description	Default
Enable	Click Enable	Enable
Tunnel Name	Set Tunnel Name	PPTP_TUNNEL_1
PPTP Server	Set PPTP Server Address	Blank
Username	Set Server Username	Blank
Password	Set Server’s Password	Blank
Startup Mode:	Set Startup Modes: Auto Activated, Trigged by Data, Manually Activated	Auto Activated
Authencation Type	Set Authencation Type: CHAP, PAP, MS-CHAPv1, MS-CHAPv2	Auto
Local IP Address	Set Local IP Address	Blank
Remote IP Address	Set Remote IP Address	Blank
Remote Subnet	Set Remote Subnet	Blank
Remote Subnet Net Mask	Set Remote Subnet Net Mask	255.255.255.0
Link Detection Interval	Set Link Detection Interval	60
Max Retries for Link Detection	Set Max Retries for Link Detection	5
Enable NAT	Click Enable NAT	Blank
Enable MPPE	Click Enable MPPE	Blank
Enable MPPC	Click Enable MPPC	Blank
MTU	Set MTU parameters	1500
MRU	Set MRU parameters	1500
Enable Debug Mode	Click Enable Debug Mode	Blank
Expert Options	For InHand R&D only	Blank

(6) Open VPN Tunnels

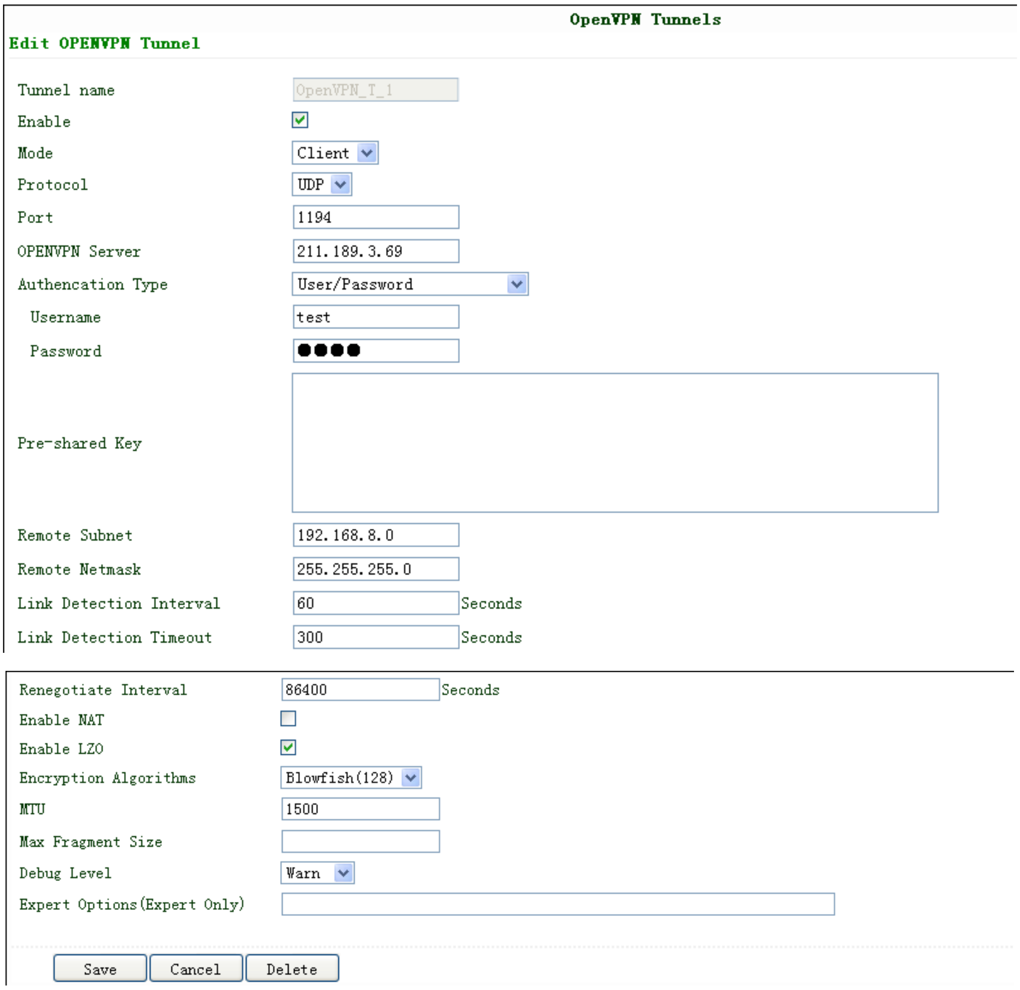
In the configuration WEB of 700, select “VPN”=> “Open VPN Tunnels” as below:



OpenVPN Tunnels

Enable	Name	Tunnel Description	Tunnel Status	Conneted Time
	Add	Show Detail Status		

Click “Add” to add a new Open VPN tunnel:



OpenVPN Tunnels

Edit OPENVPN Tunnel

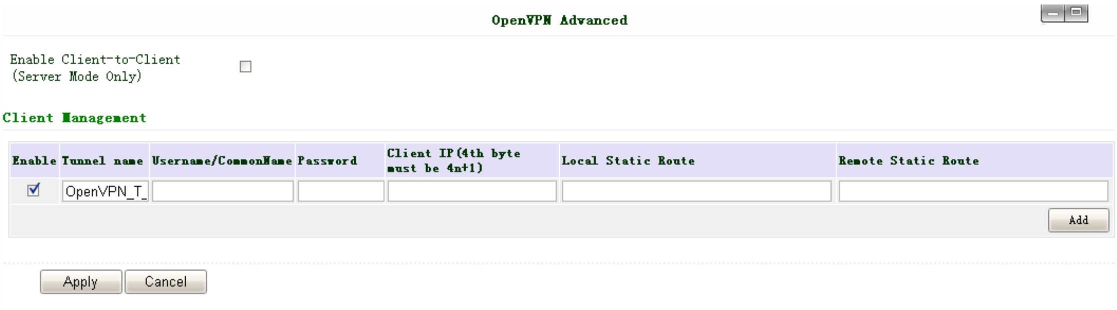
Tunnel name	OpenVPN_T_1
Enable	☑
Mode	Client
Protocol	UDP
Port	1194
OPENVPN Server	211.189.3.69
Authencation Type	User/Password
Username	test
Password	●●●●
Pre-shared Key	
Remote Subnet	192.168.8.0
Remote Netmask	255.255.255.0
Link Detection Interval	60 Seconds
Link Detection Timeout	300 Seconds
Renegotiate Interval	86400 Seconds
Enable NAT	□
Enable LZO	☑
Encryption Algorithms	Blowfish(128)
MTU	1500
Max Fragment Size	
Debug Level	Warn
Expert Options(Expert Only)	

Name	Description
Tunnel name	Can’t be set
Enable	Enable this configuration
Mode	Client or Server
Protocol	UDP or TCP
Port	Import or Export Certificate (CRL)
OPEN VPN Server	OPEN VPN Server’s IP or DNS
Authencation Type	(1) None ----- for host to host connection (not available when 700 as server) (2) Pre-shared Key ----- for host to host connection (not available when 700 as server) (3) User/Password ----- For multi users to access CA needed: Client: root CA (ca.crt) Server: root CA (ca.crt), public key (pub.crt), private key (pri.key) (4) X.509 Cert (multi-client) ----- CA mode for multi users to access

	CA needed: Client: root CA (ca.crt), public key (pub.crt), private key (pri.key) Server: root CA (ca.crt), public key (pub.crt), private key (pri.key) (5) X.509 Cert -----CA mode for host to host tunnel CA needed: Client: root CA (ca.crt), public key (pub.crt), private key (pri.key) Server: root CA (ca.crt), public key (pub.crt), private key (pri.key) (6) User+X.509 mode------username + password + CA certificate CA needed: Client: root CA (ca.crt), public key (pub.crt), private key (pri.key) Server: root CA (ca.crt), public key (pub.crt), private key (pri.key)
Pre-shared Key	Set shared key or TLS-AUTH static password
Remote Subnet, Remote Net mask	Set the static route of the router, always towards the subnet of its peer
Link Detection Interval, Link Detection Timeout	Always use default
Renegotiate Interval	Always use default
Enable NAT	Set NAT mode, meanwhile it will disable route mode
Enable MPPE	Enable MPPE, always set in server
Enable LZO	Enable LZO compression
Encryption Algorithms	Set encryption algorithms, must match with the server
MTU, Max Fragment Size	Always use default

(7) Open VPN Advanced

This configuration page is only used for the Open VPN Server.



OpenVPN Advanced

Enable Client-to-Client (Server Mode Only) □

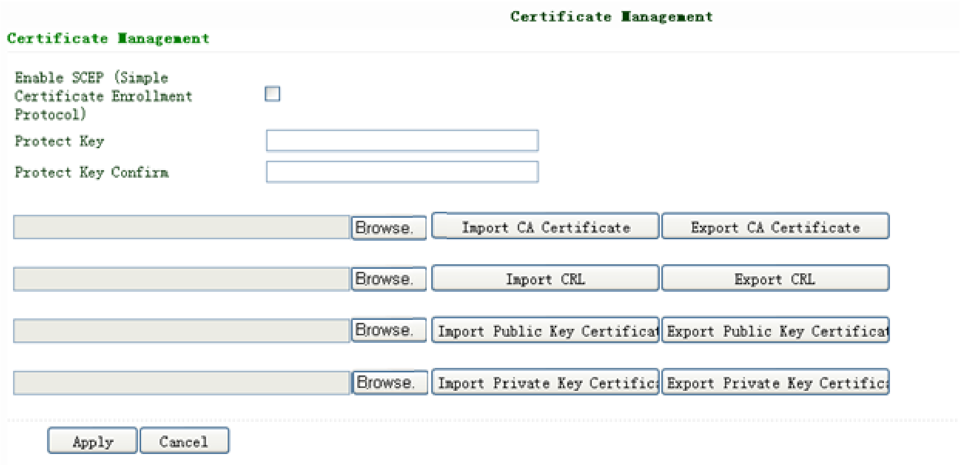
Client Management

Enable	Tunnel name	Username/CommonName	Password	Client IP(4th byte must be 4n+1)	Local Static Route	Remote Static Route
☑	OpenVPN_T_					

Name	Description
Enable Client-to-Client	Enable client access to other clients
Client Management	
Tunnel Name	Tunnel Name of the Client
Username/Common Name	Username (using Username/password mode) or Common Name in CA (CA mode)
Local Static Route	The client subnet
Remote Static Route	The server subnet

Attention: CA can only be produced by customer’s PC; InRouter700 cannot produce CA.

(8) Certificate Management



Certificate Management

Certificate Management

Enable SCEP (Simple Certificate Enrollment Protocol) □

Protect Key

Protect Key Confirm

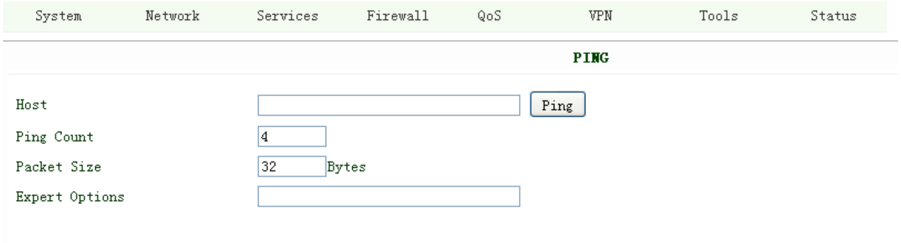
Browse.
Import CA Certificate
Export CA Certificate
Browse.
Import CRL
Export CRL
Browse.
Import Public Key Certificat
Export Public Key Certificat
Browse.
Import Private Key Certific
Export Private Key Certific
Apply
Cancel

Name	Description	Default
Enable SCEP (Simple Certificate Enrollment Protocol)	Click Enable	
Certificate Protected Key	Set Certificate Protected Key	Blank
Certificate Protected Key Confirm	Confirm Certificate Protected Key	Blank
Import/Export CA Certificate	Import or Export (CA) Certificate	Blank
Import/Export Certificate (CRL)	Import or Export Certificate (CRL)	Blank
Import/Export Public Key Certificate	Import or Export Public Key Certificate	Blank
Import/Export Private Key Certificate	Import or Export Private Certificate	Blank

3.1.8 Tools

Tools contain PING Detection, Route Trace, Link Speed Test and etc.

(1) PING



PING

Host

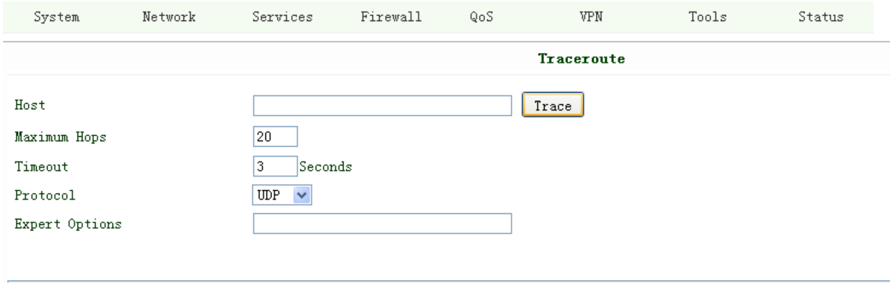
Ping Count 4

Packet Size 32 Bytes

Expert Options

Name	Description	Default
Host	Destination for PING	Blank
Ping Count	Set PING Counts	4 times
Packet Size	Set PING Packet Size	32 Bytes
Expert Options	Advanced parameters	Blank

(2) Trace Route



Traceroute

Host

Maximum Hops 20

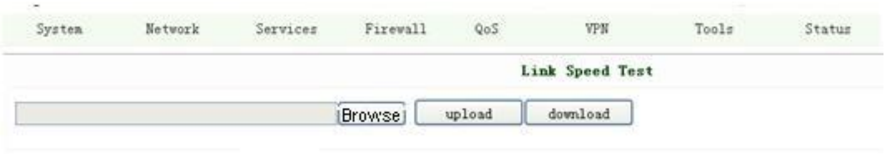
Timeout 3 Seconds

Protocol UDP

Expert Options

Name	Description	Default
Host	Destination for Trace Route	Blank
Max Hops	Set Max Hops	20
Time Out	Set Time Out	3 sec
Protocol	Optional: ICMP/UDP	UDP
Expert Options	Advanced parameters	Blank

(3) Link Speed Test



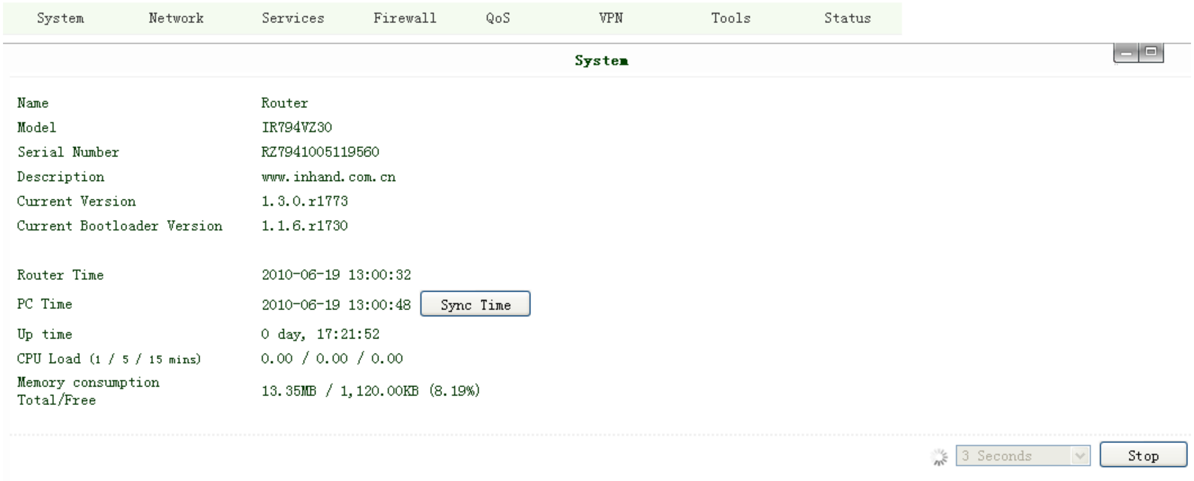
Link Speed Test

Test link speed via unload or download

3.1.9 Status

Status contains System, Modem, Network Connections, Route Table, Device List and Log.

(1) System Status



System

Name Router

Model IR794VZ30

Serial Number RZ7941005119560

Description www.inhand.com.cn

Current Version 1.3.0.r1773

Current Bootloader Version 1.1.6.r1730

Router Time 2010-06-19 13:00:32

PC Time 2010-06-19 13:00:48

Up time 0 day, 17:21:52

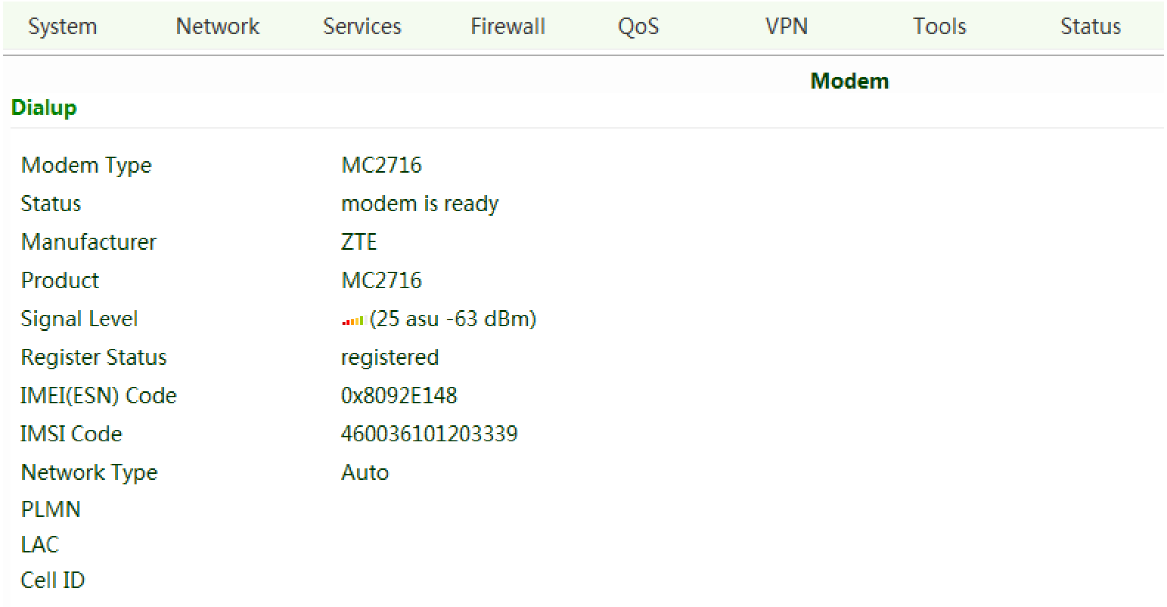
CPU Load (1 / 5 / 15 mins) 0.00 / 0.00 / 0.00

Memory consumption Total/Free 13.35MB / 1,120.00KB (8.19%)

3 Seconds

This page shows the status of system, including Name, Model Type, Current Version and etc.

(2) Modem Status



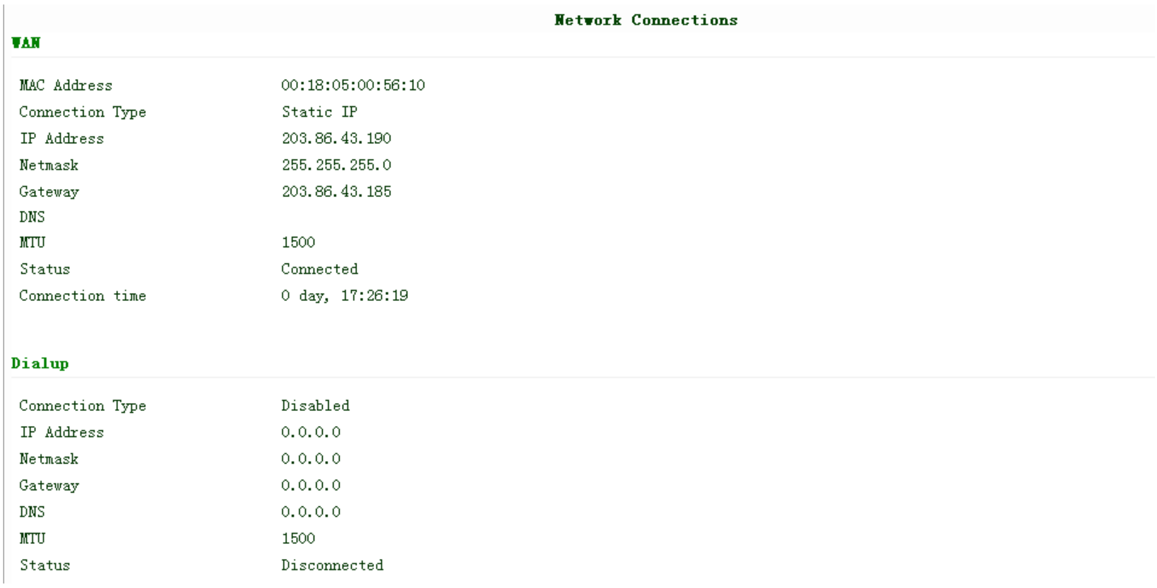
Modem

Dialup

Modem Type	MC2716
Status	modem is ready
Manufacturer	ZTE
Product	MC2716
Signal Level	▂▃▅ (25 asu -63 dBm)
Register Status	registered
IMEI(ESN) Code	0x8092E148
IMSI Code	460036101203339
Network Type	Auto
PLMN	
LAC	
Cell ID	

This page shows the status of Modem, including signal level.

(3) Network Connections



Network Connections

WAN

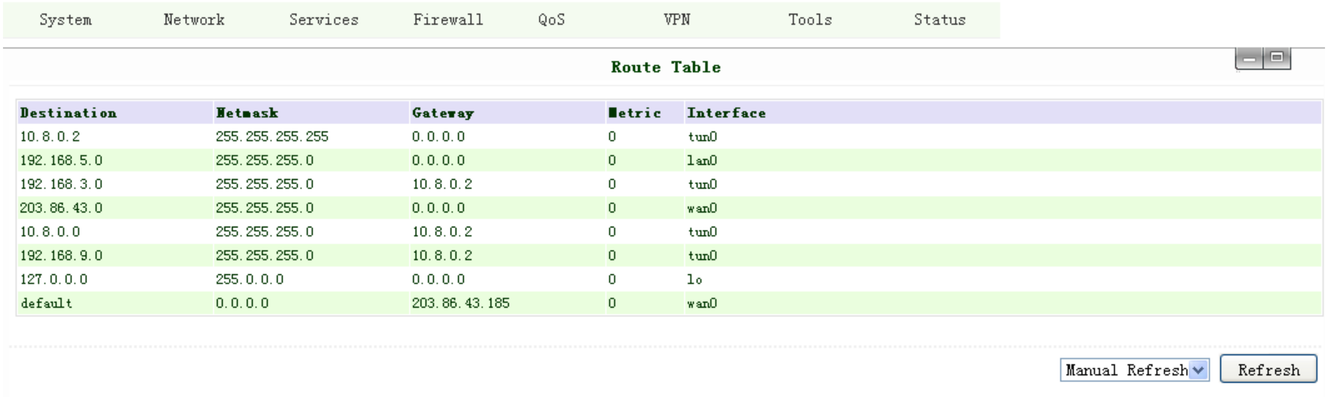
MAC Address	00:18:05:00:56:10
Connection Type	Static IP
IP Address	203.86.43.190
Netmask	255.255.255.0
Gateway	203.86.43.185
DNS	
MTU	1500
Status	Connected
Connection time	0 day, 17:26:19

Dialup

Connection Type	Disabled
IP Address	0.0.0.0
Netmask	0.0.0.0
Gateway	0.0.0.0
DNS	0.0.0.0
MTU	1500
Status	Disconnected

This page shows the network connections via WAN or LAN

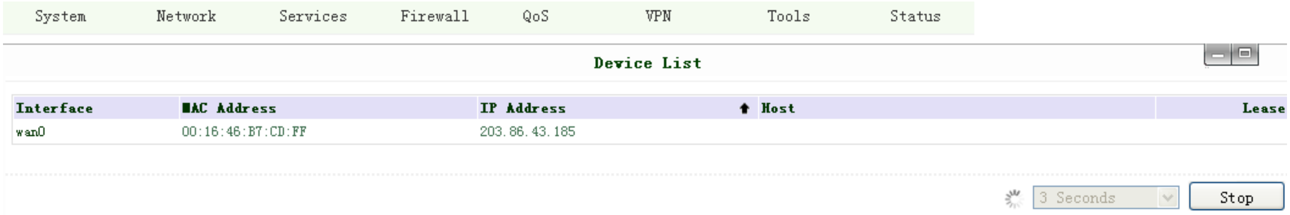
(4) Route Table



Destination	Netmask	Gateway	Metric	Interface
10.8.0.2	255.255.255.255	0.0.0.0	0	tun0
192.168.5.0	255.255.255.0	0.0.0.0	0	lan0
192.168.3.0	255.255.255.0	10.8.0.2	0	tun0
203.86.43.0	255.255.255.0	0.0.0.0	0	wan0
10.8.0.0	255.255.255.0	10.8.0.2	0	tun0
192.168.9.0	255.255.255.0	10.8.0.2	0	tun0
127.0.0.0	255.0.0.0	0.0.0.0	0	lo
default	0.0.0.0	203.86.43.185	0	wan0

This page shows the route table of IR700.

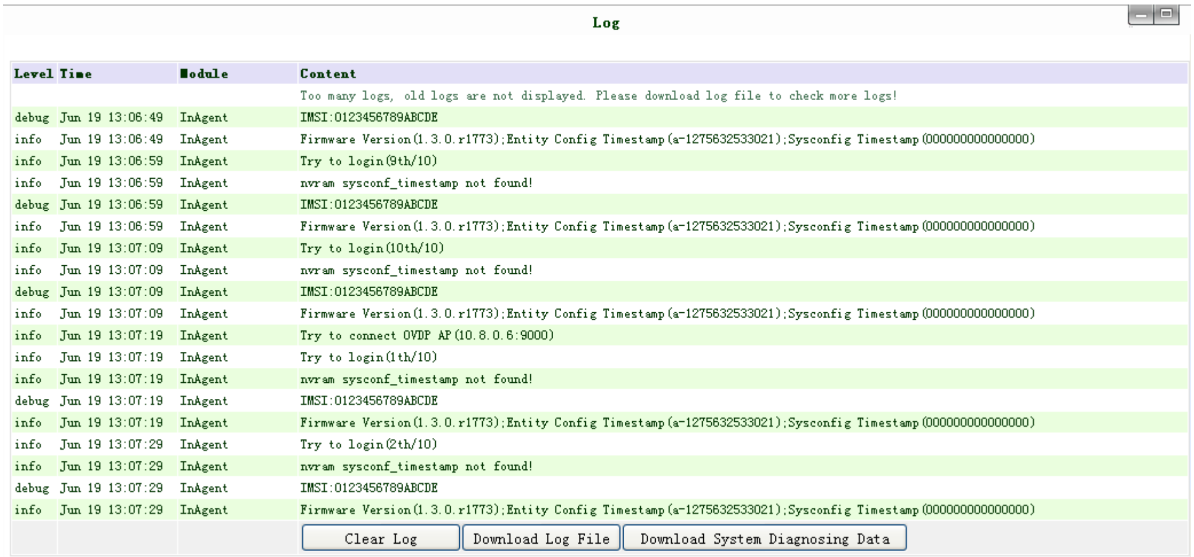
(5) Device List



Interface	MAC Address	IP Address	Host	Lease
wan0	00:16:46:B7:CD:FF	203.86.43.185		

This page shows the devices linked with IR700.

(6) Log



```
Level Time            Module   Content
                               Too many logs, old logs are not displayed. Please download log file to check more logs!
debug Jun 19 13:06:49 InAgent  IMSI:0123456789ABCDE
info  Jun 19 13:06:49 InAgent  Firmware Version(1.3.0.r1773);Entity Config Timestamp(a-1275632533021);Sysconfig Timestamp(000000000000000)
info  Jun 19 13:06:59 InAgent  Try to login(9th/10)
info  Jun 19 13:06:59 InAgent  nvram sysconf_timestamp not found!
debug Jun 19 13:06:59 InAgent  IMSI:0123456789ABCDE
info  Jun 19 13:06:59 InAgent  Firmware Version(1.3.0.r1773);Entity Config Timestamp(a-1275632533021);Sysconfig Timestamp(000000000000000)
info  Jun 19 13:07:09 InAgent  Try to login(10th/10)
info  Jun 19 13:07:09 InAgent  nvram sysconf_timestamp not found!
debug Jun 19 13:07:09 InAgent  IMSI:0123456789ABCDE
info  Jun 19 13:07:09 InAgent  Firmware Version(1.3.0.r1773);Entity Config Timestamp(a-1275632533021);Sysconfig Timestamp(000000000000000)
info  Jun 19 13:07:19 InAgent  Try to connect OVDP AP(10.8.0.6:9000)
info  Jun 19 13:07:19 InAgent  Try to login(1th/10)
info  Jun 19 13:07:19 InAgent  nvram sysconf_timestamp not found!
debug Jun 19 13:07:19 InAgent  IMSI:0123456789ABCDE
info  Jun 19 13:07:19 InAgent  Firmware Version(1.3.0.r1773);Entity Config Timestamp(a-1275632533021);Sysconfig Timestamp(000000000000000)
info  Jun 19 13:07:29 InAgent  Try to login(2th/10)
info  Jun 19 13:07:29 InAgent  nvram sysconf_timestamp not found!
debug Jun 19 13:07:29 InAgent  IMSI:0123456789ABCDE
info  Jun 19 13:07:29 InAgent  Firmware Version(1.3.0.r1773);Entity Config Timestamp(a-1275632533021);Sysconfig Timestamp(000000000000000)
```

This page shows the log of system, including download log file.

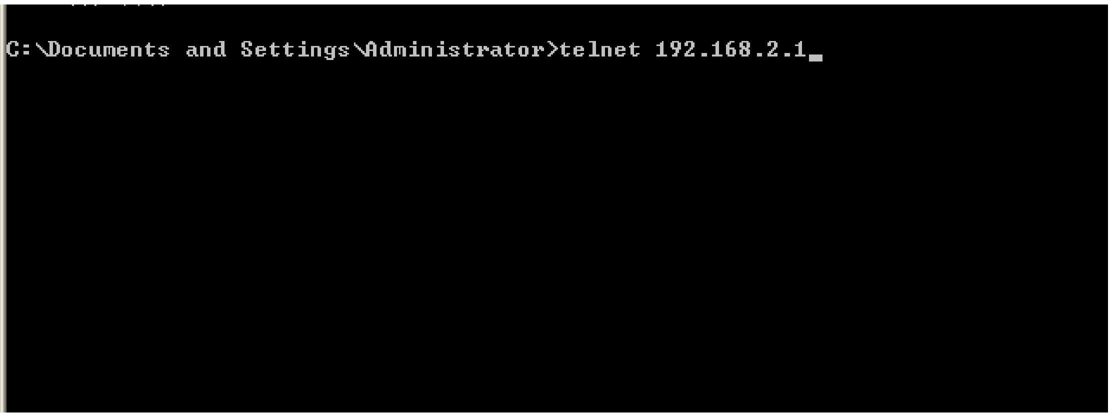
Under certain situation when there're problems that can't be diagnosed at the moment, you'll be asked to provide the diagnose log to InHand engineers, you may click "Download System Diagnosing Data" and then send the diagnose log to us.

IV

CLI Configuration

4.1 CLI Operation

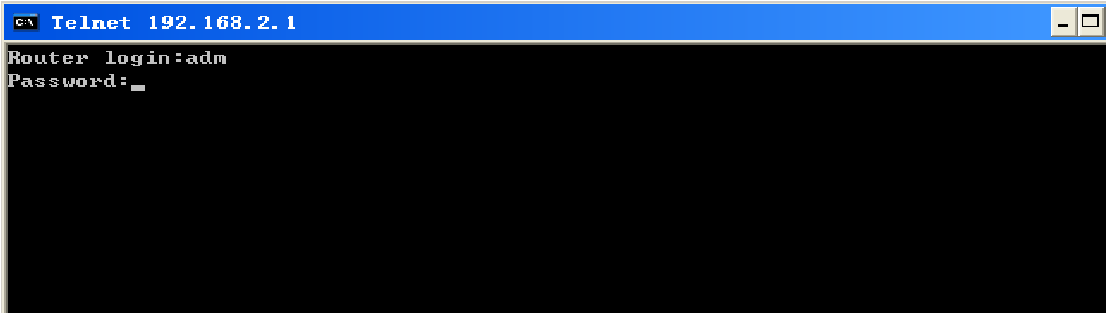
Step 1: Input telnet LAN IP to login CLI configuration. For example:



```
C:\Documents and Settings\Administrator>telnet 192.168.2.1_
```

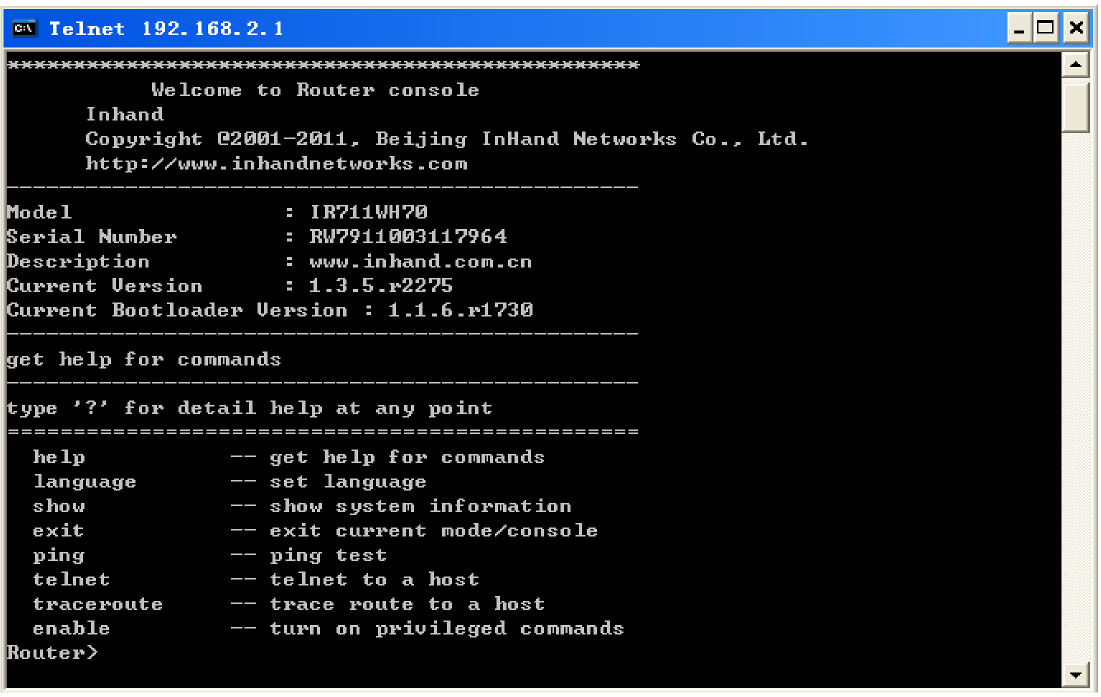
Step 2: After connection is succeed, input username and password of IR700. The default username/password is adm/123456

Attention: password will not be showed.



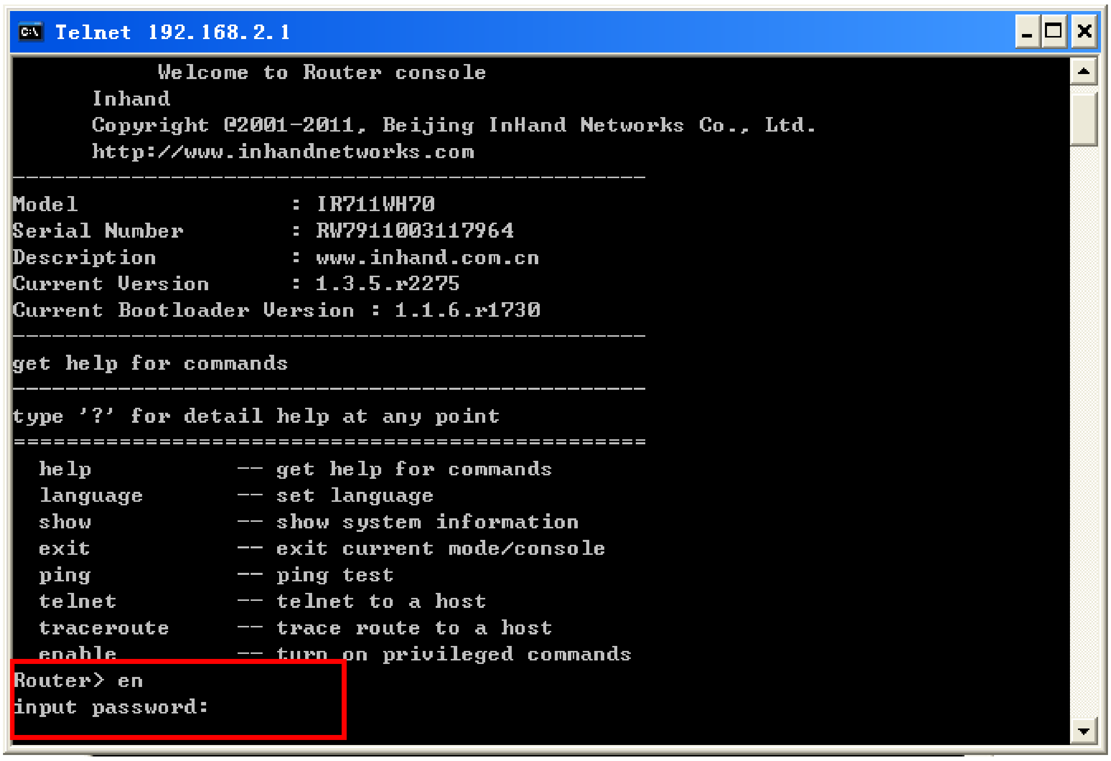
```
Router login:adm
Password:_
```

Step 3: Login to User Mode



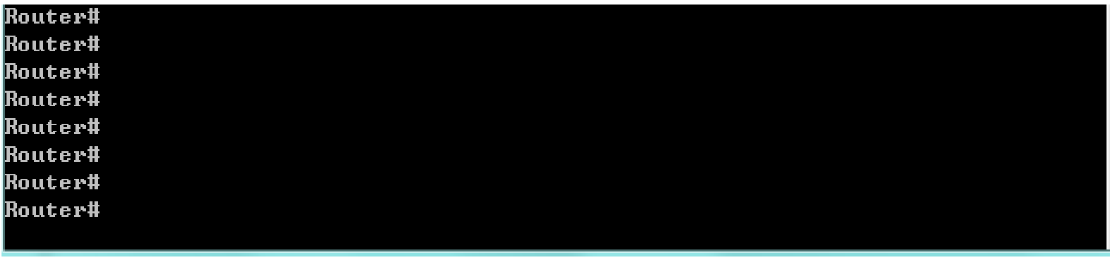
```
************************************************
           Welcome to Router console
      Inhand
      Copyright @2001-2011, Beijing InHand Networks Co., Ltd.
      http://www.inhandnetworks.com
------------------------------------------------
Model                : IR711WH70
Serial Number        : RW7911003117964
Description          : www.inhand.com.cn
Current Version      : 1.3.5.r2275
Current Bootloader Version : 1.1.6.r1730
------------------------------------------------
get help for commands
------------------------------------------------
type '?' for detail help at any point
================================================
  help            -- get help for commands
  language        -- set language
  show            -- show system information
  exit            -- exit current mode/console
  ping            -- ping test
  telnet          -- telnet to a host
  traceroute      -- trace route to a host
  enable          -- turn on privileged commands
Router>
```

Step 4: enter privileged mode, password is 123456



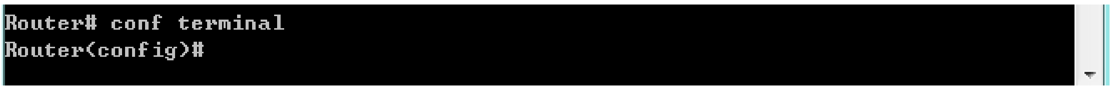
```
           Welcome to Router console
      Inhand
      Copyright @2001-2011, Beijing InHand Networks Co., Ltd.
      http://www.inhandnetworks.com
------------------------------------------------
Model                  : IR711WH70
Serial Number          : RW7911003117964
Description            : www.inhand.com.cn
Current Version        : 1.3.5.r2275
Current Bootloader Version : 1.1.6.r1730
------------------------------------------------
get help for commands
------------------------------------------------
type '?' for detail help at any point
================================================
  help            -- get help for commands
  language        -- set language
  show            -- show system information
  exit            -- exit current mode/console
  ping            -- ping test
  telnet          -- telnet to a host
  traceroute      -- trace route to a host
  enable          -- turn on privileged commands
Router> en
input password:
```

Step 5: Login to privileged mode successfully



```
Router#
Router#
Router#
Router#
Router#
Router#
Router#
Router#
```

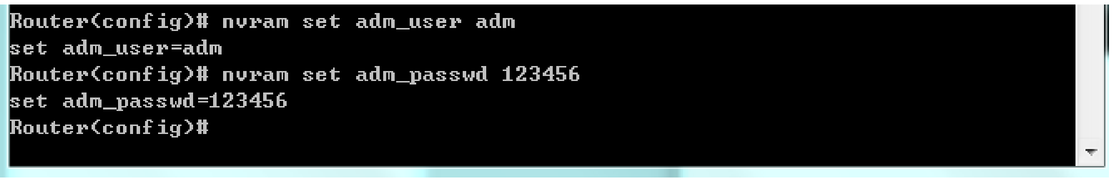
Step 6: Enter configured mode, then you could configure parameters you want to set up.



```
Router# conf terminal
Router(config)#
```

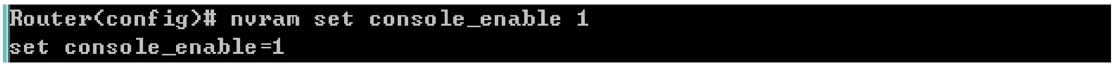
4.2 CLI command

Configure username and password



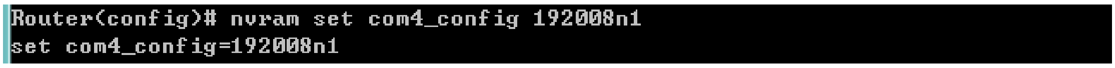
```
Router(config)# nvram set adm_user adm
set adm_user=adm
Router(config)# nvram set adm_passwd 123456
set adm_passwd=123456
Router(config)#
```

Enable serial function



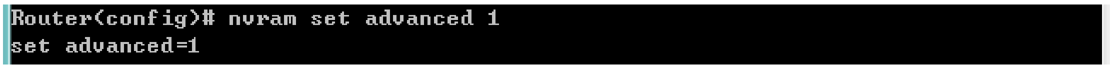
```
Router(config)# nvram set console_enable 1
set console_enable=1
```

Configure serial port parameters, like baudrate, parity, stop bit and so on.



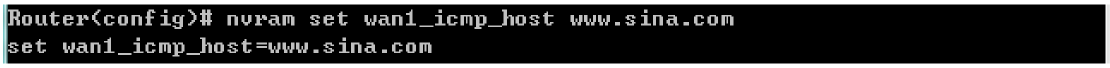
```
Router(config)# nvram set com4_config 192008n1
set com4_config=192008n1
```

Enable advanced options of dialup



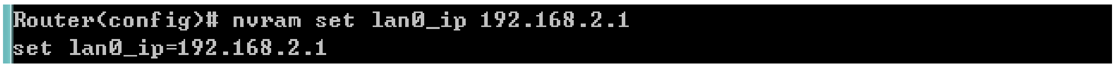
```
Router(config)# nvram set advanced 1
set advanced=1
```

Configure ICMP server



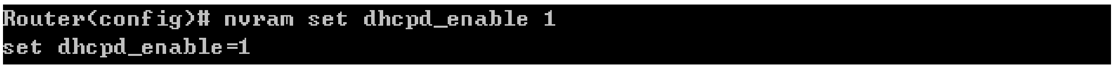
```
Router(config)# nvram set wan1_icmp_host www.sina.com
set wan1_icmp_host=www.sina.com
```

Configure LAN IP



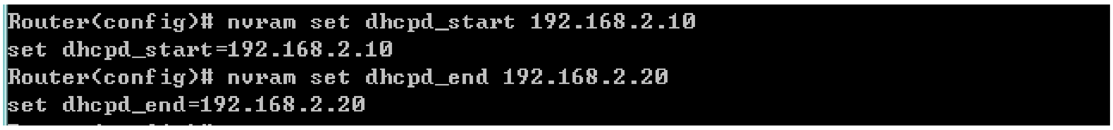
```
Router(config)# nvram set lan0_ip 192.168.2.1
set lan0_ip=192.168.2.1
```

Enable DHCP function



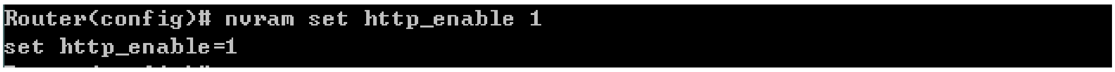
```
Router(config)# nvram set dhcpd_enable 1
set dhcpd_enable=1
```

Configure DHCP IP pool: 192.168.2.10-192.168.2.20



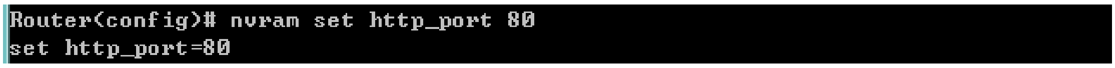
```
Router(config)# nvram set dhcpd_start 192.168.2.10
set dhcpd_start=192.168.2.10
Router(config)# nvram set dhcpd_end 192.168.2.20
set dhcpd_end=192.168.2.20
```

Enable HTTP function



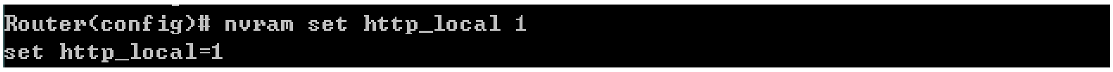
```
Router(config)# nvram set http_enable 1
set http_enable=1
```

Configure HTTP service port



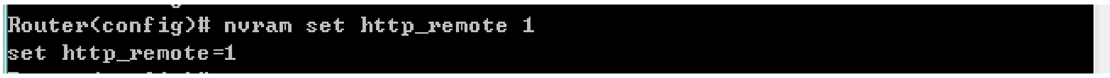
```
Router(config)# nvram set http_port 80
set http_port=80
```

Enable HTTP local access



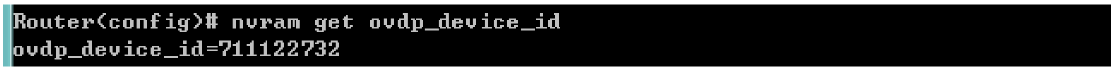
```
Router(config)# nvram set http_local 1
set http_local=1
```

Enable HTTP remote access



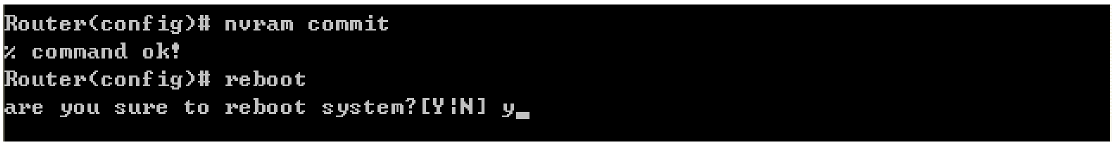
```
Router(config)# nvram set http_remote 1
set http_remote=1
```

Check device ID



```
Router(config)# nvram get ovdp_device_id
ovdp_device_id=711122732
```

After configuration, please don’t forget to commit and reboot router!



```
Router(config)# nvram commit
% command ok!
Router(config)# reboot
are you sure to reboot system?[Y|N] y_
```

FQA

1. **InRouter is powered on, but can not access Internet through it?**

   Please check：

   ✧ Whether the InRouter is inserted with a SIM card.

   ✧ Whether the SIM card is enabled with data service, whether the service of the SIM card is suspended because of an overdue charge.

   ✧ Whether the dialup parameters, e.g. APN, dialup number, account, and password are correctly configured.

   ✧ Whether the IP Address of your computer is the same subnet with InRouter and the gateway address is InRouter LAN address.

2. **InRouter is powered on, have a ping to detect InRouter from your PC and find packet loss?**

   Please check if the network crossover cable is in good condition.

3. **Forget the setting after revising IP address and can`t configure InRouter?**

   Method 1: connect InRouter with serial cable, configure it through console port.

   Method 2: within 5 seconds after InRouter is powered on, press and hold the Restore button until the ERROR LED flashes, then release the button and the ERROR LED should goes off, press and hold the button again until the ERROR LED blinks 6 times, the InRouter is now restored to factory default settings. You may configure it now.

4. **After InRouter is powered on, it frequently auto restarts. Why does this happen?**

   Please check:

   ✧ Whether the module works normally.

   ✧ Whether the InRouter is inserted with a SIM card.

   ✧ Whether the SIM card is enabled with data service, whether the service of the SIM card is suspended because of an overdue charge.

   ✧ Whether the dialup parameters, e.g. APN, dialup number, account, and password are correctly configured.

   ✧ Whether the signal is normal.

   ✧ Whether the power supply voltage is normal.

5. **Why does upgrading the firmware of my InRouter always fail?**

   Please check:

   ✧ When upgrading locally, check if the local PC and InRouter are in the same network segment.

   ✧ When upgrading remotely, please first make sure the InRouter can access Internet.

6. **After InRouter establishes VPN with the VPN server, your PC under InRouter can connect to the server, but the center can`t connect to your PC under InRouter?**

   Please make sure the firewall of your computer is disabled.

7. **After InRouter establishes VPN with the VPN server, Your PC can`t connect to the server?**

   Please make sure “Shared Connection” on “Network=>WAN” or “Network=>Dialup” is enabled in the configuration of InRouter.

8. **InRouter is powered on, but the Power LED is not on?**

   ✧ Check if the protective tube is burn out.

   ✧ Check the power supply voltage range and if the positive and negative electrodes are correctly connected.

9. InRouter is powered on, but the Network LED is not on when connected to PC?

✧ When the PC and InRouter are connected with a network cable, please check whether a network crossover cable is used.

✧ Check if the network cable is in good condition.

✧ Please set the network card of the PC to 10/100M and full duplex.

10. InRouter is powered on, when connected with PC, the Network LED is normal but can`t have a ping detection to the InRouter?

✧ Check if the IP Address of the PC and InRouter are in the same subnet and the gateway address is InRouter LAN address.

11. InRouter is powered on, but can`t configure through the web interface?

✧ Whether the IP Address of your computer is the same subnet with InRouter and the gateway address is InRouter LAN address.

✧ Check the firewall settings of the PC used to configure InRouter, whether this function is shielded by the firewall.

12. The InRouter dialup always fails, I can`t find out why?

Please restore InRouter to factory default settings and configure the parameters again.

13. How to restore InRouter to factory default settings?

- IR700 routers:

1. Press and hold the Restore button, power on InRouter;
2. Release the button until after the STATUS LED flashes and the ERROR LED is on;
3. After the button is released, the ERROR LED will go off, within 30s press and hold the Restore button again until the ERROR LED flashes;
4. Release the button, the system is now successfully restored to factory default settings.

Support

In case you have problems with the installation and use, please address them to us by e-mail: support@inhandnetworks.com.

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