Maestro E200 Series
Quick Start Guide User Manual

Version 1.1

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1 Revision History

Version	Date	Details	Originated by	Reviewed by
1	9 April 2014	First issue	Samuel Chereau	
1.1	21 July 2014	E200 V1.1 Combined H/W and S/W manual	Alok Kelkar & Akshay Natu	Shripad Nawalkar

This manual is written without any warranty.

Maestro Wireless Solutions Ltd. reserves the right to modify or improve the product and its accessories which can also be withdrawn without prior notice.

Besides, our company stresses the fact that the performance of the product as well as accessories depends not only on the proper conditions of use, but also on the environment around the places of use.

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Table of Contents

2 Safety Precautions

2.1 General precautions

- The router generates radio frequency (RF) power. When using the router care must be taken on safety issues related to RF interference as well as regulations of RF equipment.
- Do not use the router in aircraft, hospitals, petrol stations or in places where using GSM products is prohibited.
- Be sure that the router will not be interfering with nearby equipment. For example: pacemakers or medical equipment. The antenna of the router should be away from computers, office equipment, home appliance, etc.
- Always keep the router with minimum safety distance of 26.6cm or more from human body.
- Do not put the antenna inside metallic box, containers, etc.

2.2 Using the router in vehicle

- Check for any regulation or law authorizing the use of GSM in vehicle in your country before installing the router.
- Install the router by qualified personnel. Consult your vehicle dealer for any possible interference of electronic parts by the router.
- Be careful when the router is powered by the vehicle's main battery. The battery may be drained after extended period.

2.3 Protecting your router

To ensure error-free usage, please install and operate your router with care. Do remember the following:

- Do not expose the router to extreme conditions such as high humidity/rain, high temperatures, direct sunlight, caustic/harsh chemicals, dust, or water.
- Do not try to disassemble or modify the router. There is no user serviceable part inside. The warranty would be void in case of tampering.
- Do not drop, hit or shake the router.
- Do not use the router under extreme vibrating conditions.
- Do not pull the power supply cable. Please attach or detach it by holding the connector after switching off the supply.
- Connect the router only according to the instruction manual. Failure to do it will void the warranty.

3 Specifications

3.1 Cellular

- Quad bands GSM/GPRS/EDGE 850/900/1800/1900MHz
- Dual bands WCDMA depending on E205XT SKU's:
  - E205XT00: 850/1900MHz (SL8080T) with GPS.
  - E205XT02: 900/2100MHz (SL8082T) with GPS.
  - E205XT04: 800/850/2100MHz (SL8084T) with GPS.
- Support Data, SMS
- SIM Tool Kit Class 2
- AT command set (GSM 07.05, GSM 07.07 and Sierra Wireless proprietary)

3.2 Linux processor

- High performance 32bit 360MHz MIPS24KEc core CPU
- Integrated 1T1R 2.4GHz Wi-Fi 11n (150Mbps throughput)
- Integrated 10/100 Ethernet PHY
- Linux version 2.6.21 (GCC version 3.4.2)
- Memory size: 8MB Flash, 32MB SDRAM

3.3 Power supply requirements

- Input voltage range: 9-60V
- Rated current: 650mA

3.4 Typical current consumption

	@9V	**@12V**	**@24V**	**@48V**	**@60V**
Idle state (Ethernet, Wi-Fi & Cellular not connected)	180mA	140mA	70mA	40mA	40mA
Ethernet connected (Wi-Fi & Cellular not connected)	230mA	160mA	80mA	50mA	50mA
Ethernet & Wi-Fi connected (Cellular not connected)	230mA	160mA	80mA	50mA	50mA
Ethernet & Wi-Fi connected Cellular transmitting at max power	400mA	270mA	130mA	70mA	70mA

3.5 Interfaces

- SIM holder
- RJ45 8P8C WAN connector
- RJ45 8P8C LAN connector
- Wi-Fi RP-SMA antenna connector
- Active GPS SMA antenna connector
- Cellular SMA antenna connector
- 4-pin MicroFit Molex connector for power supply and digital inputs/outputs
- Reset button

3.6 Dimensions

- Overall size:83.9mm x 60mm x 25mm
- Weight: 130g

3.7 Temperature range

- Operating: -20°C ~ 60°C
- Storage: -40°C ~ 80°C
- Relative humidity: up to 95% without condensation

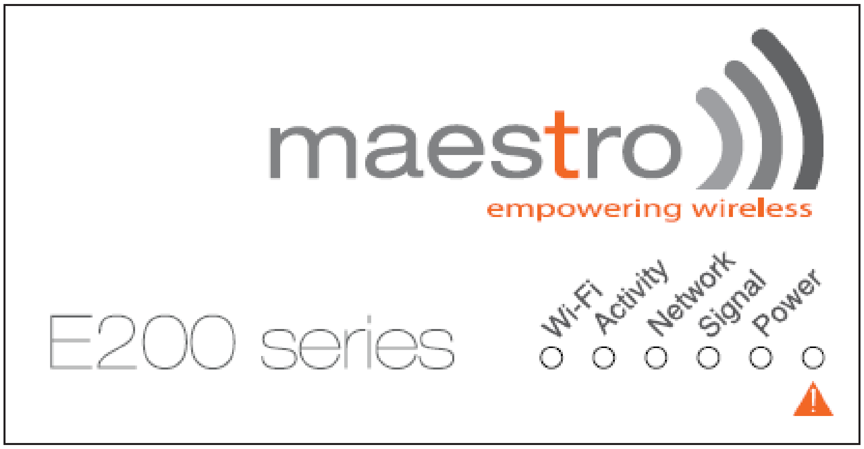
3.8 Performance data

- Boot time: ~30seconds
- Failover time: <15seconds
- ~100Mbps throughput from WAN to LAN
- Maximum 2 VPN clients

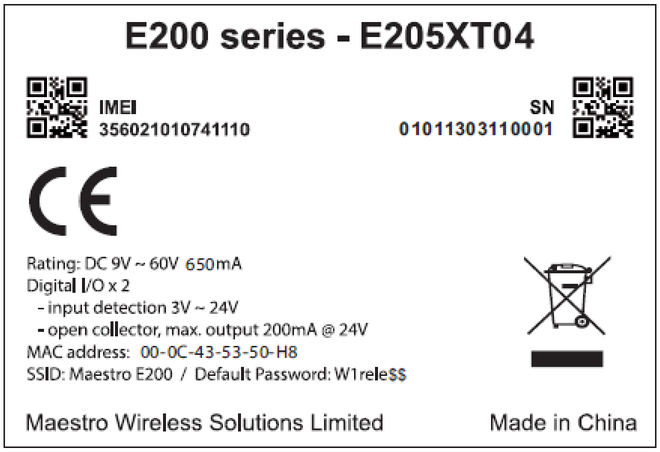
3.9 Core features

- Web-based user interface, quick set-up wizard, log viewer, save/load configuration
- NTP, secure remote management (security/hacking protection is being tested and added),
- WAN as Ethernet, PPPoE, cellular
- DHCP server, UPNP, DNS, routing static/dynamic, NAT, MAC filtering
- Wi-Fi b/g/n 1T1R (max. 150Mbps throughput) with WDS support
- Channel auto-select, power setting
- Security: WEP, WPA/WPA2 or Radius server (TKIP/AES)
- Firewall: address filtering, DMZ, content filtering, QoS, block flood & scan
- VPN server & client: PPTP, L2TP/Ipsec (Under test to support most common client, ie Win7 etc…), OpenVPN
- M2M focus: DynDNS, SMS, I/O, scheduled auto-reboot, ping, GPS

3.10 Front label



3.11 Back label



E200 series - E205XT04

IMEI
356021010741110

SN
01011303110001

CE

Rating: DC 9V ~ 60V 650mA
Digital I/O x 2
- input detection 3V ~ 24V
- open collector, max. output 200mA @ 24V
MAC address: 00-0C-43-53-50-H8
SSID: Maestro E200 / Default Password: W1rele$$

Maestro Wireless Solutions Limited

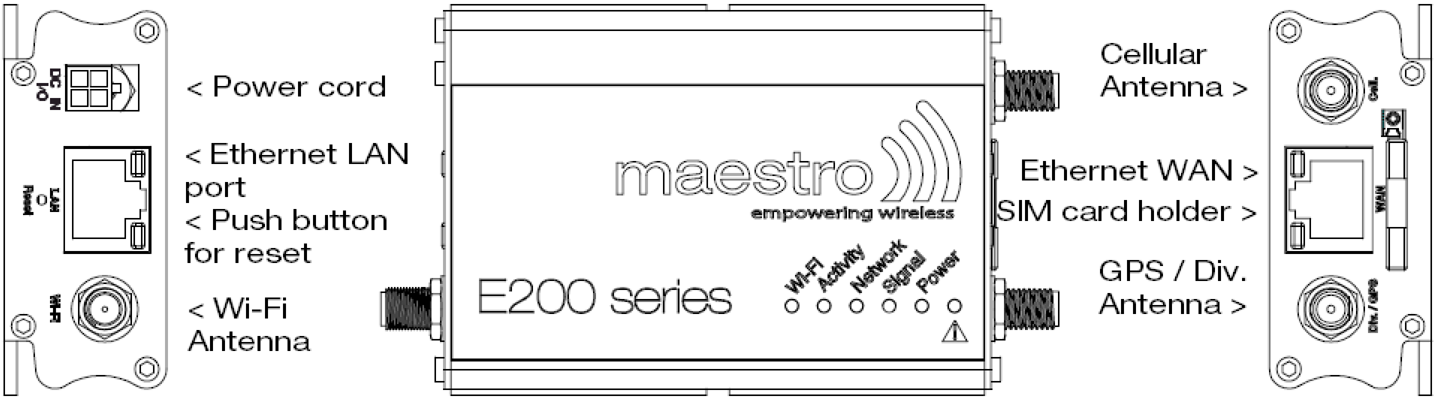
Made in China

3.12 Packing

- Bulk carton of 50 pieces
- Each E200 in a single plastic bag without any accessories
- Overall size: 635 x 235 x 150mm
- Weight: 7kg

4 Equipment Description

4.1 Interfaces



Above picture reflects real device dimensions.

4.2 Status indicator

- Wi-Fi blue LED will indicate:
  - OFF: Wi-Fi network is deactivated
  - ON: Wi-Fi network is activated
  - Flashing: Wi-Fi network connection traffic
- Activity amber LED will indicate:
  - OFF: cellular data service is not connected
  - ON: cellular data service is connected
  - Flashing: cellular data service traffic
- Network amber LED will indicate:
  - OFF: SIM card is not inserted
  - ON: SIM card is inserted
  - Flashing: device is registered on the cellular network
- Signal amber LED will indicate:
  - OFF: no signal (CSQ<10)
  - Flashing: weak signal (10<CSQ<20)
  - ON: strong signal (CSQ>20)
- Power green LED will indicate:
  - OFF: power off
  - ON: power on
- Alert read LED, denoted by a /!\ icon, will indicate:
  - OFF: no alert, device is running smoothly

- ON: hardware fault (High temperature, problem with module or SIM card)
- Flashing: software fault (Crash, issues…)

4.3 SMA female antenna connector (Cellular and GPS)

- GSM SMA female connector fits penta-band 850/900/1800/1900/2100MHz antenna with an impedance of 50Ω, or any similar dual band antenna.
- GPS SMA female connector fits active or passive GPS antenna with an impedance of 50Ω.

NOTE: make sure to install GSM and GPS antenna with an angle of 90° to avoid disturbance.

4.4 RP-SMA female antenna connector (Wi-Fi)

Wi-Fi RP-SMA female connector fits a Wi-Fi antenna with an impedance of 50Ω.

4.5 8P8C RJ45 connector (WAN/LAN)

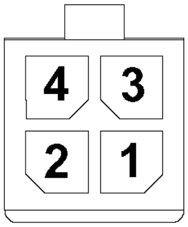
The two 8P8C RJ45 connector fits standard Ethernet cable category 5 or better (5e, 6, etc…). Both cross and straight cable works.

4.6 Reset button

- One push will soft reset the device,
- Push the reset button for 3 seconds and the device will be factory reset to default settings.

NOTE: use a paper clip to push the reset button gently.

4.7 4-pin Micro-Fit Molex connector (Power and input/output)

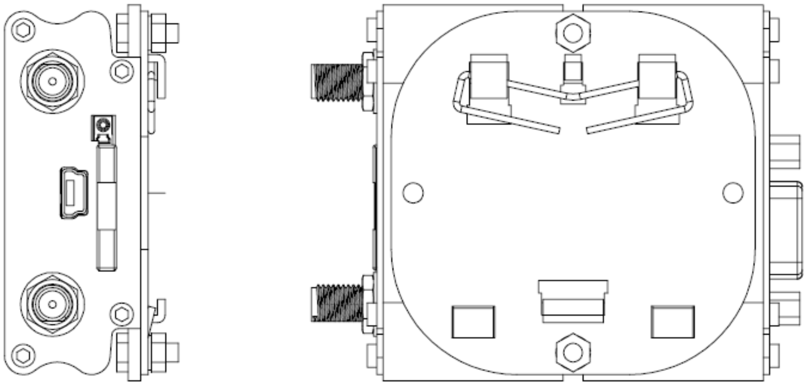


Pin number	Name	Functions
1	DIO1	Digital Input / Output (3V for input detection, 24V max.)
2	DIO2	Digital Input / Output (3V for input detection, 24V max.)
3	POWER-	DC power negative input (or ground)
4	POWER+	DC power positive input (9V to 60V max.)

5 Hardware Installation

5.1 Mounting the router

If delivered with the DIN clip accessory, use two M3 screws to mount the DIN clip on the back of the router as shown on figure below.



5.2 Installing the SIM card

Press the small button next to the SIM holder to eject the SIM Tray, the Tray will slide out. Put the SIM card to the tray; make sure it is completely inserted in the tray, then carefully put back the tray into the slot.

Note: DO NOT pull out the SIM holder without pushing the ejector button.

5.3 Connecting the external antennas (SMA type)

Connect both antennas with SMA male connector on the router; make sure antennas are tightly secured. Select a GSM antenna with the right GSM frequency and an impedance of 50Ω; incorrect antenna will affect communication and even damage the modem. Select an active GPS antenna with an impedance of 50Ω; incorrect antenna will affect GPS sensitivity and time to fix.

Note: Make sure to install GSM and GPS antennas with an angle of at least 90º to avoid disturbance.

Note: Respect a safety distance of at least 26.6cm to the antenna during the modem operation.

5.4 Connecting the router to your existing WAN access

Use standard Ethernet Cat5e cable to connect your existing WAN access, note that the WAN side of the modem is highlighted with the orange colored side plate.

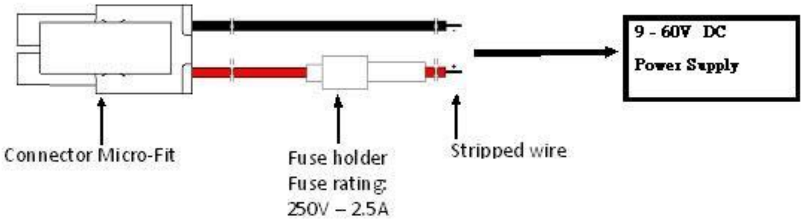
5.5 Connecting the router to your device / LAN

Use standard Ethernet Cat5e cable to connect your device / LAN.

5.6 Connecting the DC power supply

If delivered with the power cord accessory, use the open ending of the power cord to connect a DC supply. Refer to the following for power supply requirement:

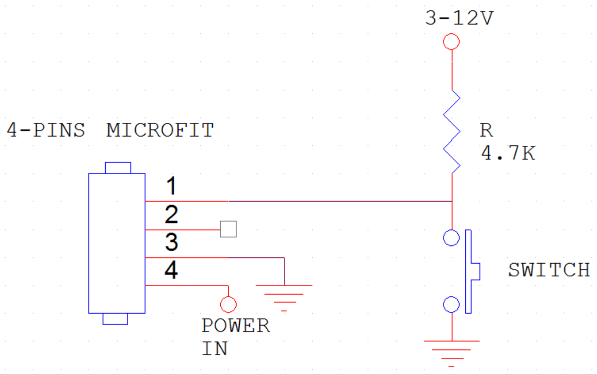
- Input voltage range: 9-60V
- Rated current: 650mA



Plug the DC Molex connector of the power cord in the router and it will turn on automatically. The power led will light when power is applied.

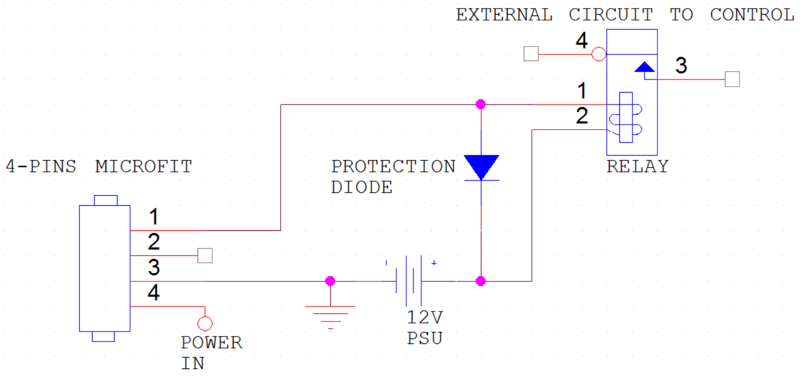
5.7 Digital input/output wiring diagrams

Example of DIO1 used as an input to sense a switch:



- Output needs to be open when using as an input
- Input is high when voltage is over 3V and low when voltage is below 0.5V

Example of DIO1 used as an output to control an external relay circuit:



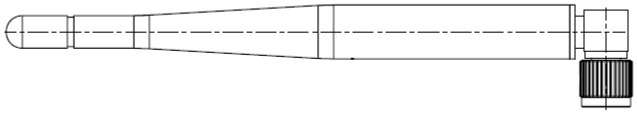
- Output is open collector, shorted to the ground, external power supply needs to be added in current driven application, maximum current is 200mA

- If used to control relay, a protection diode needs to be added in parallel of the relay coil to avoid current peak when triggered.

5.8 Optional accessories

You may contact your sales agent for the following optional accessories:

Penta-band L-shape antenna – ACC-A11



- Frequency bands: 850/900/1800/1900/2100MHz
- Antenna gain:
  - 2.0 ± 0.7dBi @ 880MHz
  - 1.0 ± 0.7dBi @ 1990MHz
- Polarization Linear

Power cord with fuse – ACC-CA10

- 4-pin Micro-Fit connector
- 1m AWG20 cables with stripped wire end
- 2.5A glass fuse with plastic holder

6 Default settings

- Web admin page:
  - IP address: http://10.10.10.254/
  - Username: **admin**
  - Password: **admin**
- Wi-Fi enabled, with WPA/WPA2 TKIP key:
  - SSID: **Maestro E200**
  - WPA key: **W1rele$$**
- Connection:
  - DHCP activated, starting IP: 192.168.1.100 with a pool of 100 clients
  - WAN as automatic DHCP IP, with Cellular backup
  - Cellular default APN is "internet"

All web browsers supported from IE6 to latest Chrome/Firefox/Safari

7 E200 Series Router configuration and Usage

Maestro E200 router can be widely used in M2M industry such as, intelligent network, intelligent transportation, intelligent household, financial sector, mobile POS terminal, supply chain automation, industrial automation, building automation, fire control, public security, environmental protection, meteorology, digital medical treatment, telemetry, military, space exploration, agriculture, forestry, water, coal, petrochemical and other fields.

Getting Started

Unpack the box you received containing E200 series router. The box contains the following:

1. E200 series router
2. Power supply with mains cable and 4pin Microfit power connector
3. Ethernet cable 1 No.
4. Antenna 2 Nos. Please note that a third antenna, (GPS antenna) is not included in the standard package. It can be ordered as an extra accessory.

Follow these instructions to install your E200 series router:

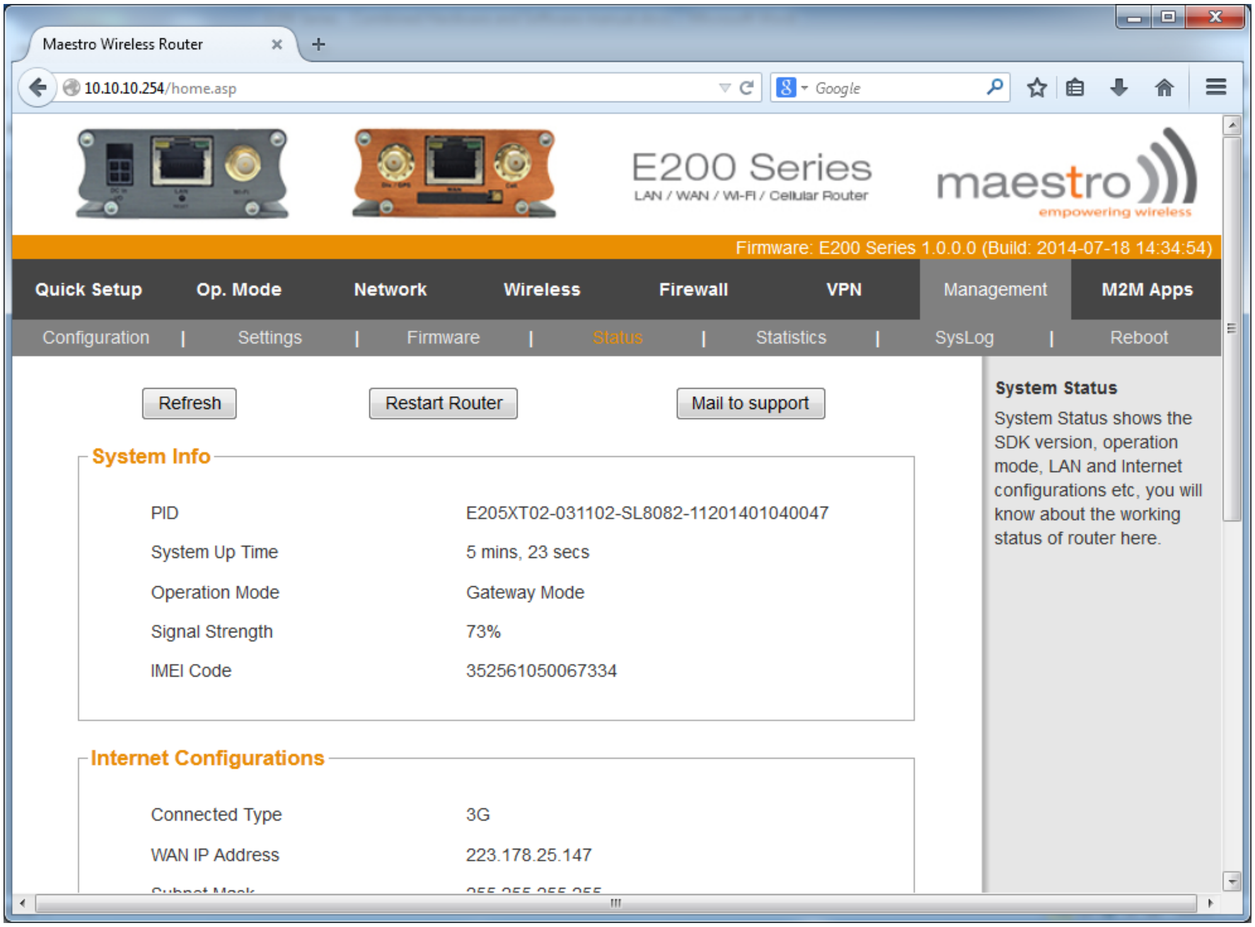
- Plug correct antenna, in the provided Socket. Wi-Fi antenna is RP-SMA(With Male Socket on modem, marked as Wi-Fi), and GSM antenna is SMA(With female socket on the modem, marked as GSM).
- Insert your SIM card. (2G or above, Internet enabled)
- Connect your existing Ethernet cable to the WAN side (i.e. your company network), and connect the LAN port to your computer using a standard Ethernet cable provided along with the router.
- Plug the 4-pin MicroFit power connector to a standard 12V power supply.
- Switch on power. Power LED will light on; after about 15seconds all LED will light on implying that the boot sequence is completed.
    - ❖ Wi-Fi blue LED will indicate:
        - OFF: Wi-Fi network is deactivated
        - ON: Wi-Fi network is activated
        - Flashing: Wi-Fi network connection traffic
    - ❖ Activity amber LED will indicate:
        - OFF: cellular data service is not connected
        - ON: cellular data service is connected
        - Flashing: cellular data service traffic
    - ❖ Network amber LED will indicate:
        - OFF: SIM card is not inserted
        - ON: SIM card is inserted
        - Flashing: device is registered on the cellular network
    - ❖ Signal amber LED will indicate:
        - OFF: no signal (CSQ<10)

        - ON: strong signal (CSQ>20)
        - Flashing: weak signal (10<CSQ<20)
    - ❖ Power green LED will indicate:
        - OFF: power off
        - ON: power on
    - ❖ Alert red LED, denoted by a /!\ icon, will indicate:
        - OFF: no alert, device is running smoothly
        - ON: hardware fault (High temperature, problem with module or SIM card)
        - Flashing: software fault (Crash, issues…)

- On your computer, go to network connections/ properties / ipv4 and select 'obtain IP automatically'.

  This step is needed if the router is to be used in LAN DHCP Mode. Else you need to configure the (Fixed) IP which you want your computer to get which should be in the same sub domain as the router.
- Open your browser on your computer with the address http://10.10.10.254
- Enter the default login "admin" and password "admin"

You will be presented with the status page as below:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

System Info

PID	E205XT02-031102-SL8082-11201401040047
System Up Time	5 mins, 23 secs
Operation Mode	Gateway Mode
Signal Strength	73%
IMEI Code	352561050067334

Internet Configurations

Connected Type	3G
WAN IP Address	223.178.25.147
Subnet Mask	255.255.255.255

System Status

System Status shows the SDK version, operation mode, LAN and Internet configurations etc, you will know about the working status of router here.

The Status sub-tab is a part of the Management tab. It gives the current status of your router and the parameters with which your router is configured.

You can click on REFRESH button to refresh the current display page to provide an updated status of the Router. Please note that there is no auto refresh option available.

Restart button will restart the router with the current saved settings.

Mail to Support will capture the system logs and mail the same to support@maestro-wireless.comfor analysis.

You can use tabs on this web page, to configure your router parameters. The tab Quick set up lets you configure bare essentials to get the basic routing functionality up and running. Other tabs let you configure the router parameters individually and in more detail. These are:

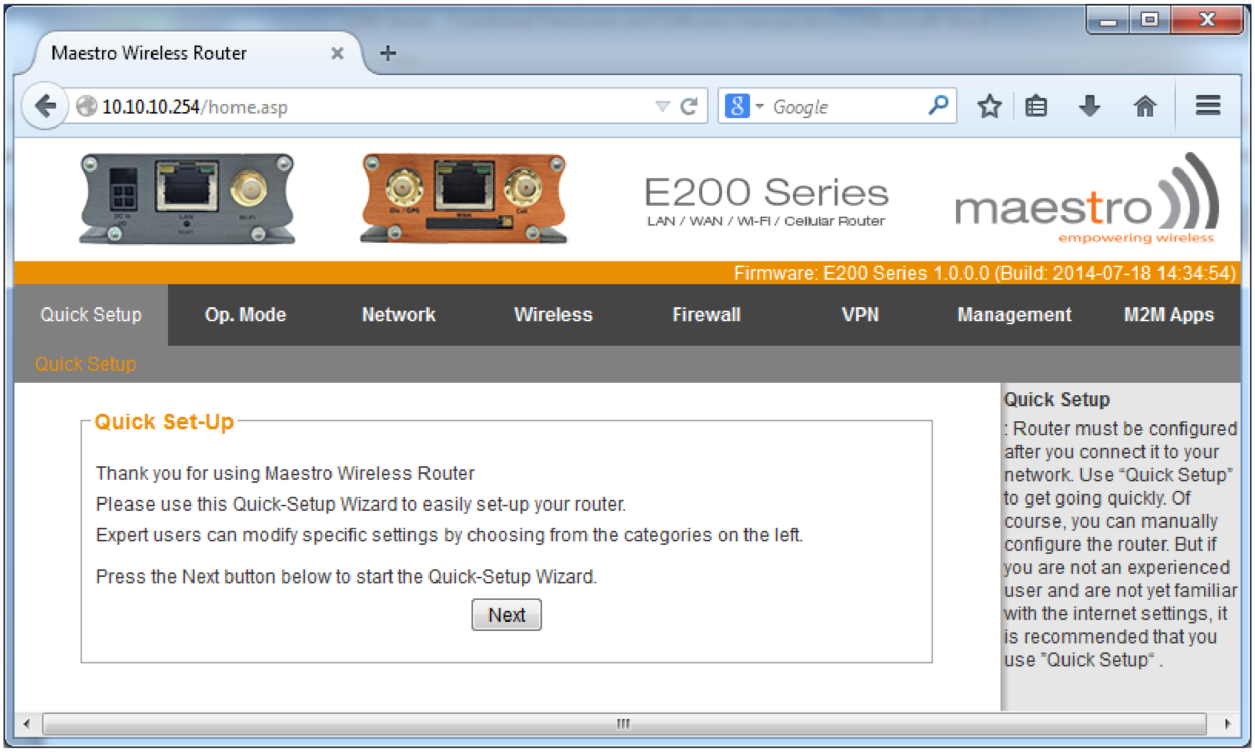
- Quick Set Up
- Op Mode
- Network

- Wireless
- Firewall
- VPN
- M2M apps

The following pages give a detailed explanation of the each.

7.1 Quick Setup

When you click on Quick set up tab, the following page is displayed:



Quick Set-Up

Thank you for using Maestro Wireless Router
Please use this Quick-Setup Wizard to easily set-up your router.
Expert users can modify specific settings by choosing from the categories on the left.

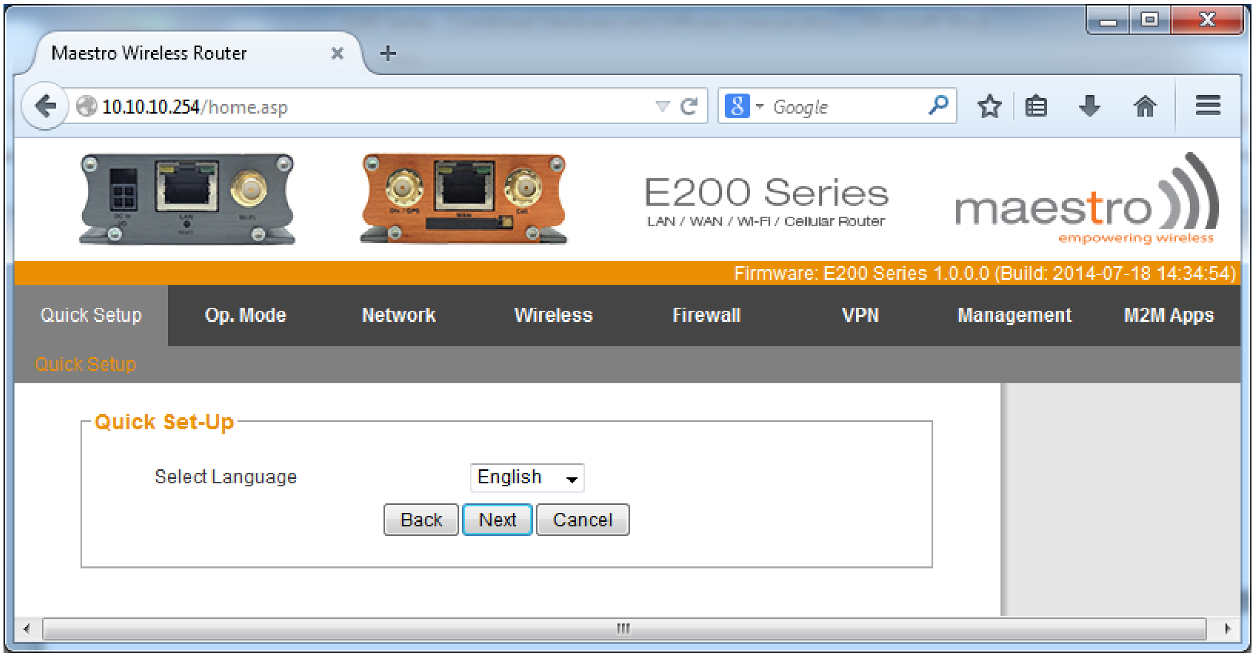
Press the Next button below to start the Quick-Setup Wizard.

Quick Setup

: Router must be configured after you connect it to your network. Use "Quick Setup" to get going quickly. Of course, you can manually configure the router. But if you are not an experienced user and are not yet familiar with the internet settings, it is recommended that you use "Quick Setup".

The quick set up tab lets you configure essential parameters of your router and gets you going. Of course, you can use other tabs on this web page to configure your router parameters in detail.

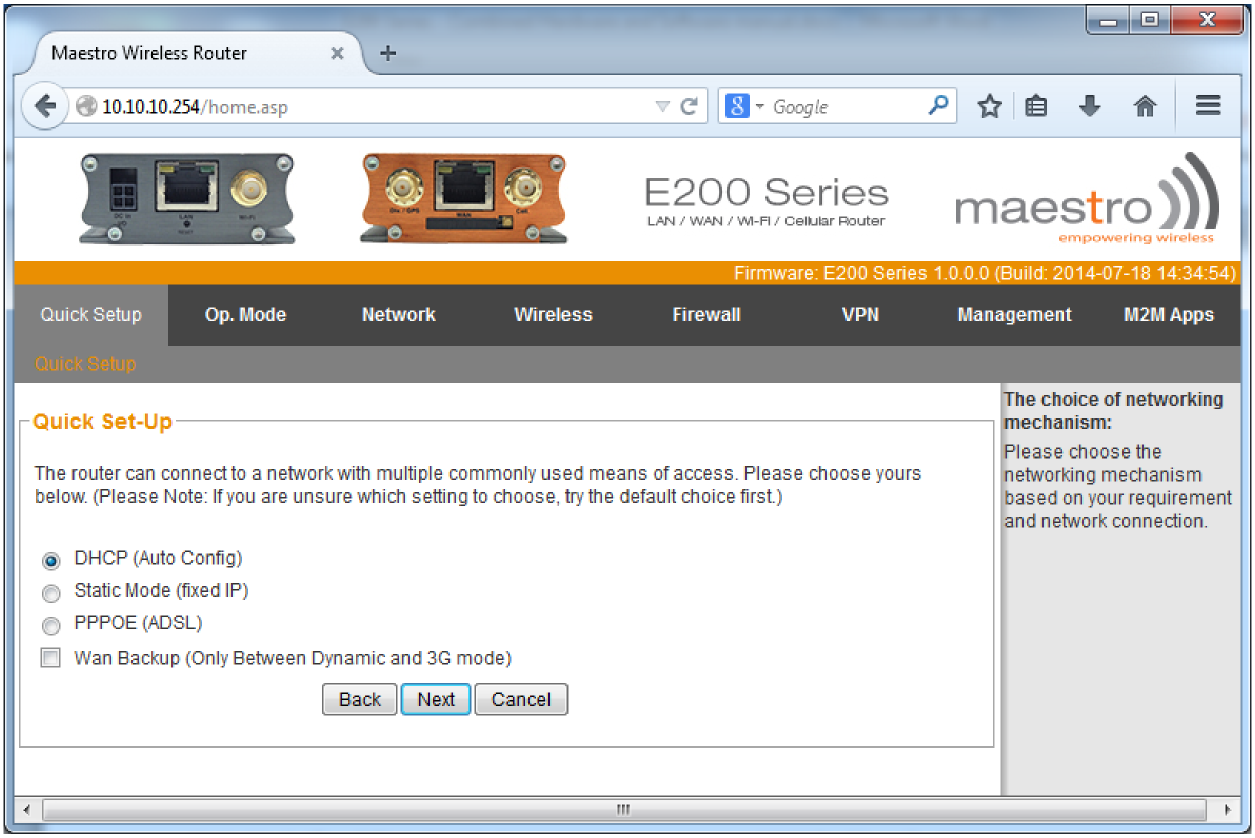
Click on NEXT button to proceed. Following page will be displayed:



Quick Set-Up

Select Language: English

Choose your language from the drop-down menu and click NEXT:



Quick Set-Up

The router can connect to a network with multiple commonly used means of access. Please choose yours below. (Please Note: If you are unsure which setting to choose, try the default choice first.)

- ● DHCP (Auto Config)
- ○ Static Mode (fixed IP)
- ○ PPPOE (ADSL)
- □ Wan Backup (Only Between Dynamic and 3G mode)

The choice of networking mechanism:

Please choose the networking mechanism based on your requirement and network connection.

You can choose:

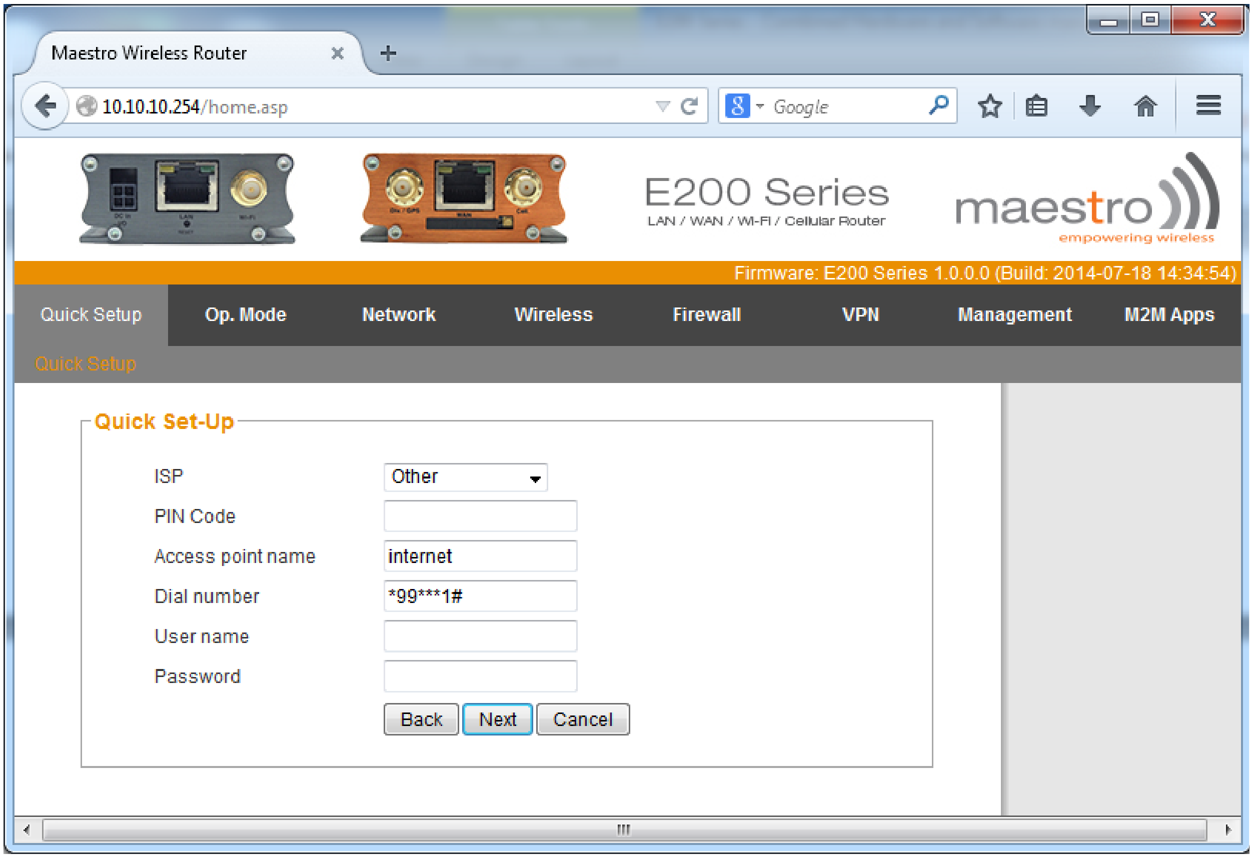
DHCP (Auto Config) if the router is connected on WAN behind another Router. This setting will enable the Maestro Router to obtain WAN IP from its WAN Side DHCP Router.

Static Mode (fixed IP): In this Mode, you can assign your own WAN IP address for Maestro Router.

PPPOE (ADSL): This feature will enable PPP dial-up over incoming Ethernet line.

Wan Backup – Tick in this box will enable the Router to intelligently switch to 3G WAN in absence of Wired WAN and roll back to Wired WAN once available.

Click on NEXT after you make your choice.



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

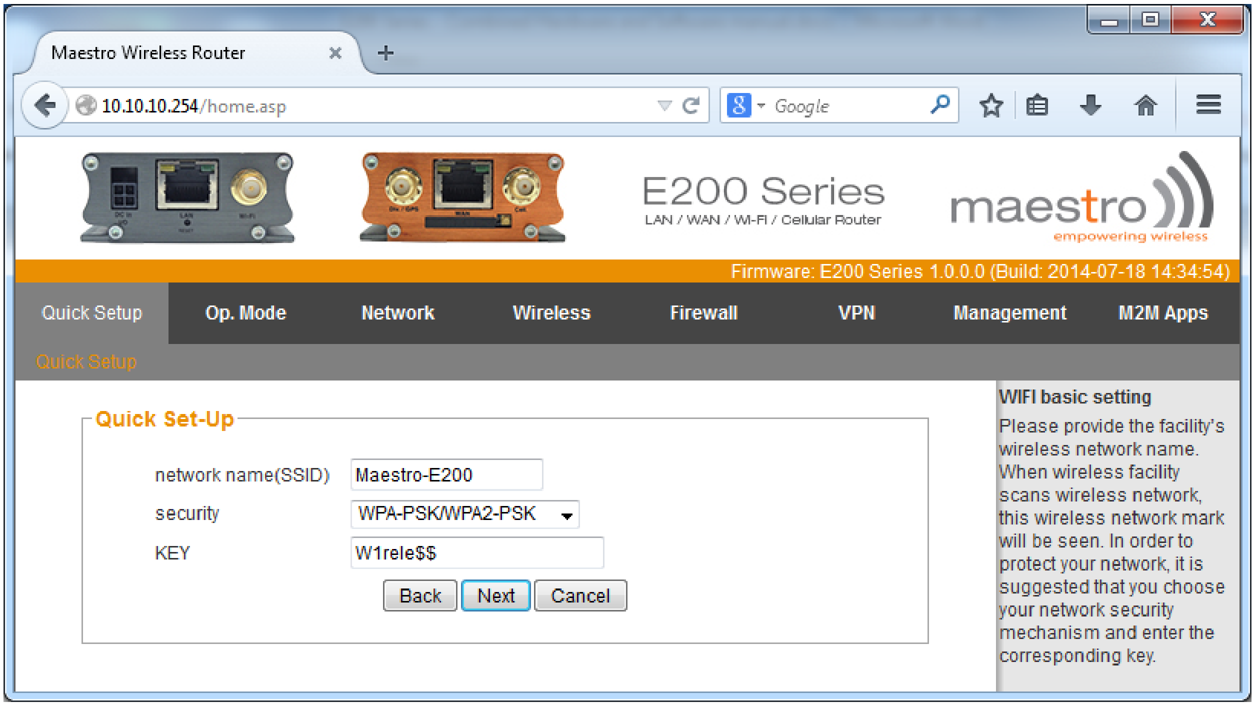
Quick Set-Up

ISP	Other
PIN Code	
Access point name	internet
Dial number	*99***1#
User name	
Password	

You choose your internet service provider (ISP) from the Drop Down Menu. If your ISP doesn't appear in the drop down menu or if you are using some special service from the Cellular operator, you will need to manually enter the ISP packet data settings.

Enter the pin code, Access point name, Dial number, User name and Password corresponding to your ISP.

This can also be set up in Network/ Cellular sub tab.



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

Quick Set-Up

network name(SSID): Maestro-E200

security: WPA-PSK/WPA2-PSK

KEY: W1rele$$

WIFI basic setting

Please provide the facility's wireless network name. When wireless facility scans wireless network, this wireless network mark will be seen. In order to protect your network, it is suggested that you choose your network security mechanism and enter the corresponding key.

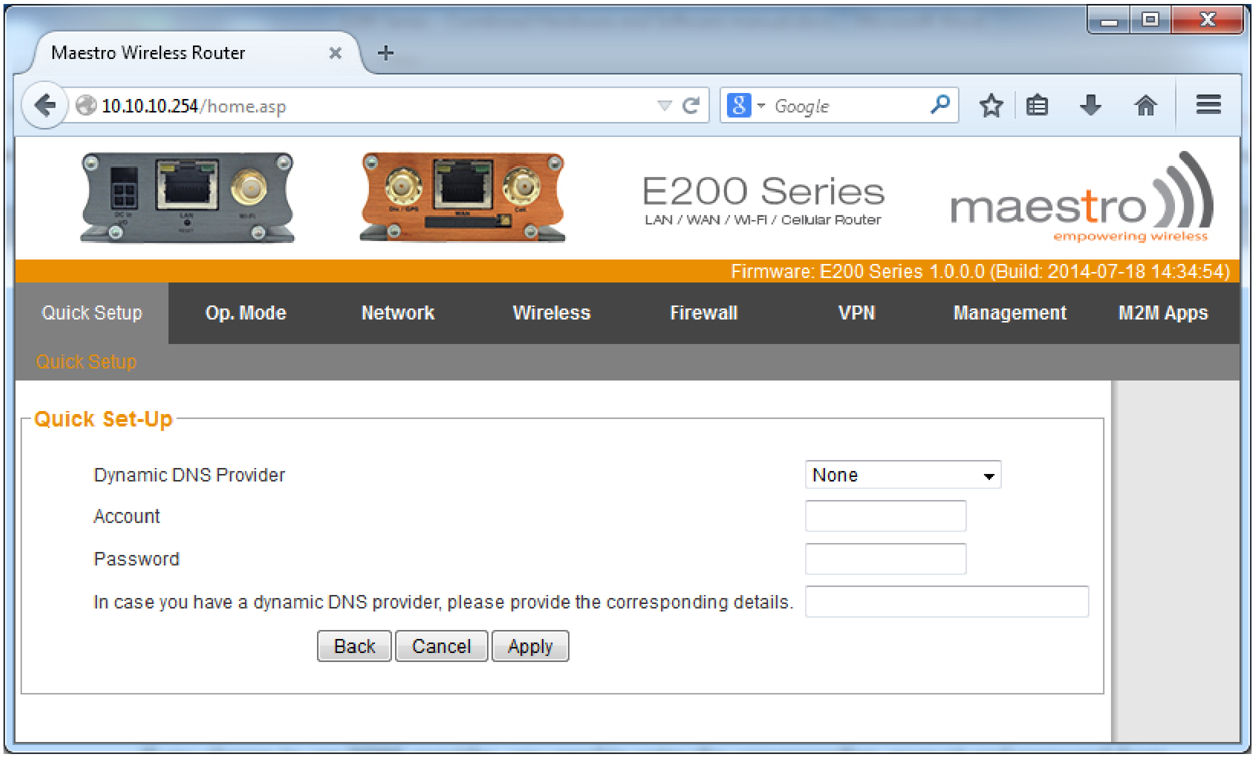
Click on NEXT after you enter the information. Enter the Wi-Fi basic settings here.

Choose your Network Name (SSID).

You can choose to disable the security or choose default Security type. It is recommended that security is NOT disabled.

You can enter the corresponding security key. Press 'NEXT' button to proceed.

For More advanced Wi-Fi settings, refer to page Wireless tab.



Quick Set-Up

Dynamic DNS Provider: None

Account

Password

In case you have a dynamic DNS provider, please provide the corresponding details.

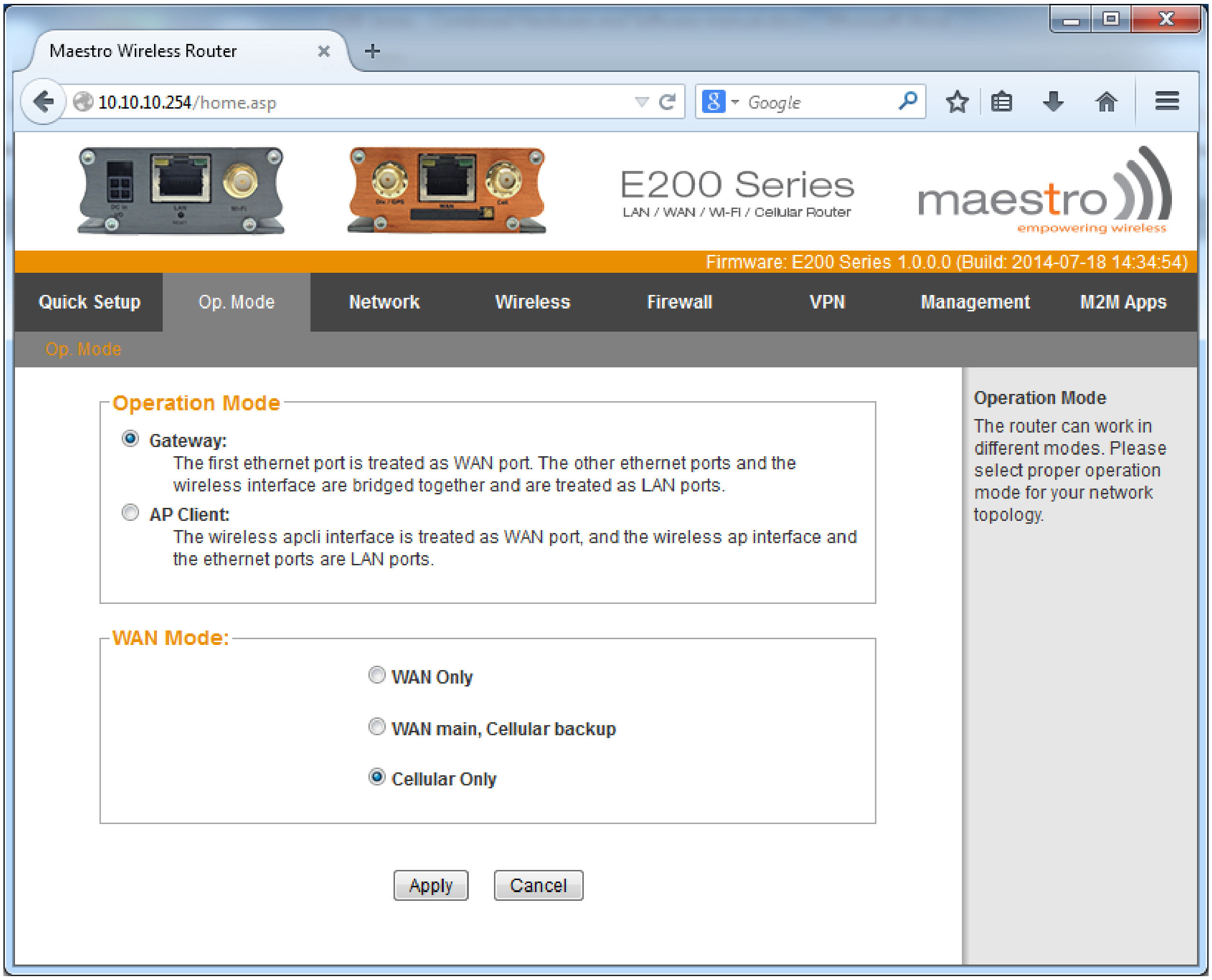
You can choose from the list of dynamic DNS servers from the drop down menu or 'NONE' to disable the DDNS service.

If you choose to use DDNS provider, you need to enter the corresponding account and password from the provider. In the DDNS box, enter URL provided by DDNS provider.

You can APPLY the settings you have made or CANCEL them. You can move to previous screen by pressing BACK button anytime.

7.2 Op Mode

When you click on Op Mode tab, the following page is displayed:



Operation Mode

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

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

WAN Mode:

○ WAN Only

○ WAN main, Cellular backup

● Cellular Only

Operation Mode
The router can work in different modes. Please select proper operation mode for your network topology.

You can choose the Operation Mode (Gateway or AP Client).

In the Gateway mode, your WAN is either wired WAN or 3G and you LAN is either Wired LAN or Wi-Fi.

In the AP Client mode, your WAN is WAN port, 3G and Wi-Fi and you LAN is wired LAN port.

You can also choose the WAN Mode:

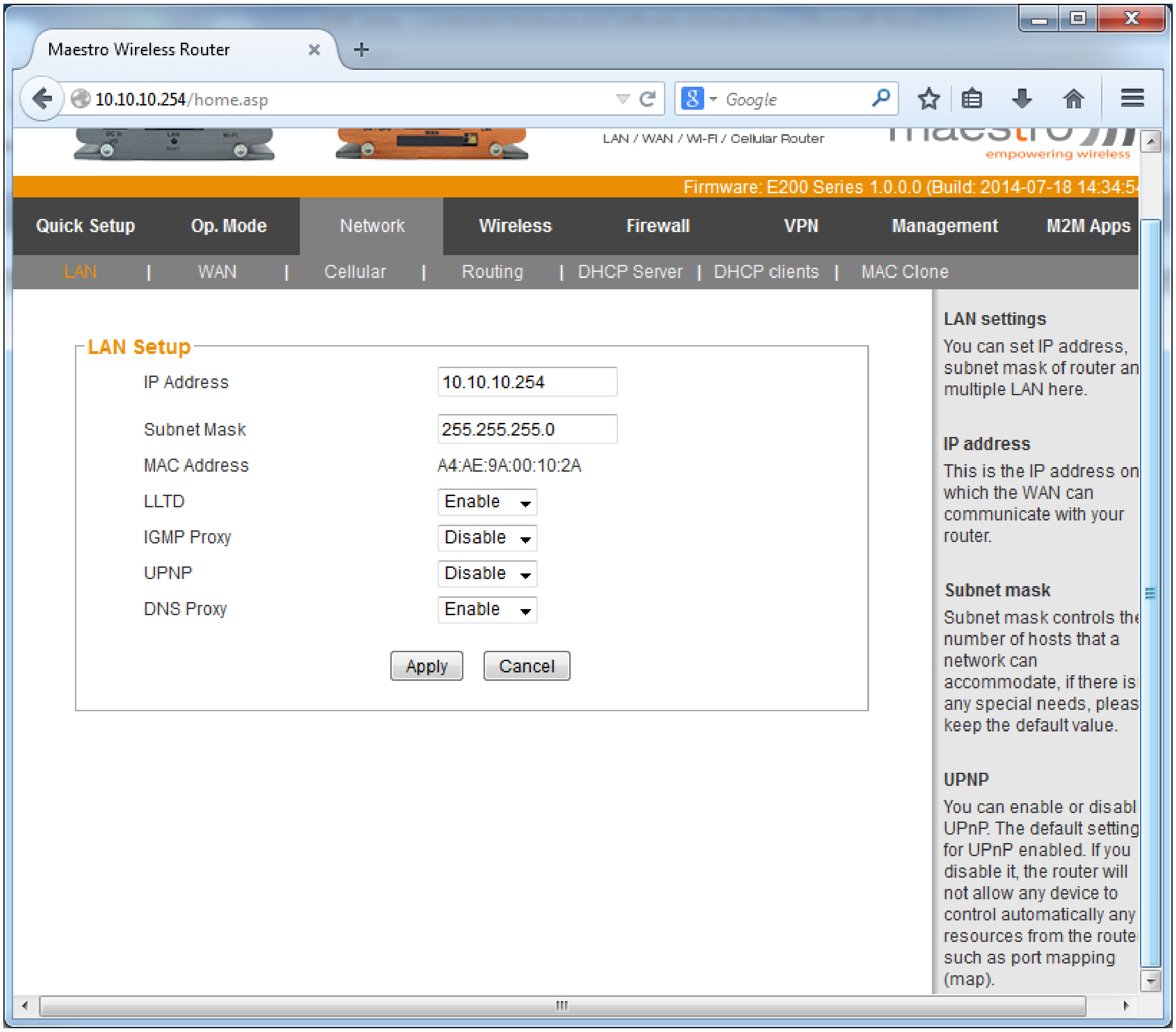
In ‘WAN only’ and ‘Cellular only’ cases, only WAN or CELLULAR connection will be enabled. If you chose ‘WAN main CELLULAR Backup’, the connection by default will be WAN, on failure of which

Click on APPLY to save your settings or on CANCEL to nullify them.

7.3 Network

When you click on Network tab, the following page is displayed:

7.3.1 LAN


Maestro Wireless Router
10.10.10.254/home.asp
Google
LAN / WAN / Wi-Fi / Cellular Router
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:5
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
LAN | WAN | Cellular | Routing | DHCP Server | DHCP clients | MAC Clone
Apply
Cancel

LAN Setup

IP Address	10.10.10.254
Subnet Mask	255.255.255.0
MAC Address	A4:AE:9A:00:10:2A
LLTD	Enable
IGMP Proxy	Disable
UPNP	Disable
DNS Proxy	Enable

LAN settings
You can set IP address, subnet mask of router an multiple LAN here.

IP address
This is the IP address on which the WAN can communicate with your router.

Subnet mask
Subnet mask controls the number of hosts that a network can accommodate, if there is any special needs, pleas keep the default value.

UPNP
You can enable or disabl UPnP. The default setting for UPnP enabled. If you disable it, the router will not allow any device to control automatically any resources from the route such as port mapping (map).

The Network tab has multiple sub- tabs. By default LAN sub tab is displayed as above. Other sub tabs are:

- WAN
- Cellular

- Routing
- DHCP Server
- DHCP Clients
- MAC Clone

A brief explanation of the options on LAN tab is as follows:

The IP Address is the one given to your router by your LAN.

The Subnet mask is used to mask off some part of the IP Address range. By default it would be 255.255.255.0

The MAC address is fixed and is given on the label of your router.

LLTD: is a protocol used mostly with windows machines, to determine quality of service. If you decide to use LLTD protocol for your QoS, you will need to ENABLE it.

IGMP Proxy: is used to do IP multicast routing if required. Enable this setting in order to perform multicast routing

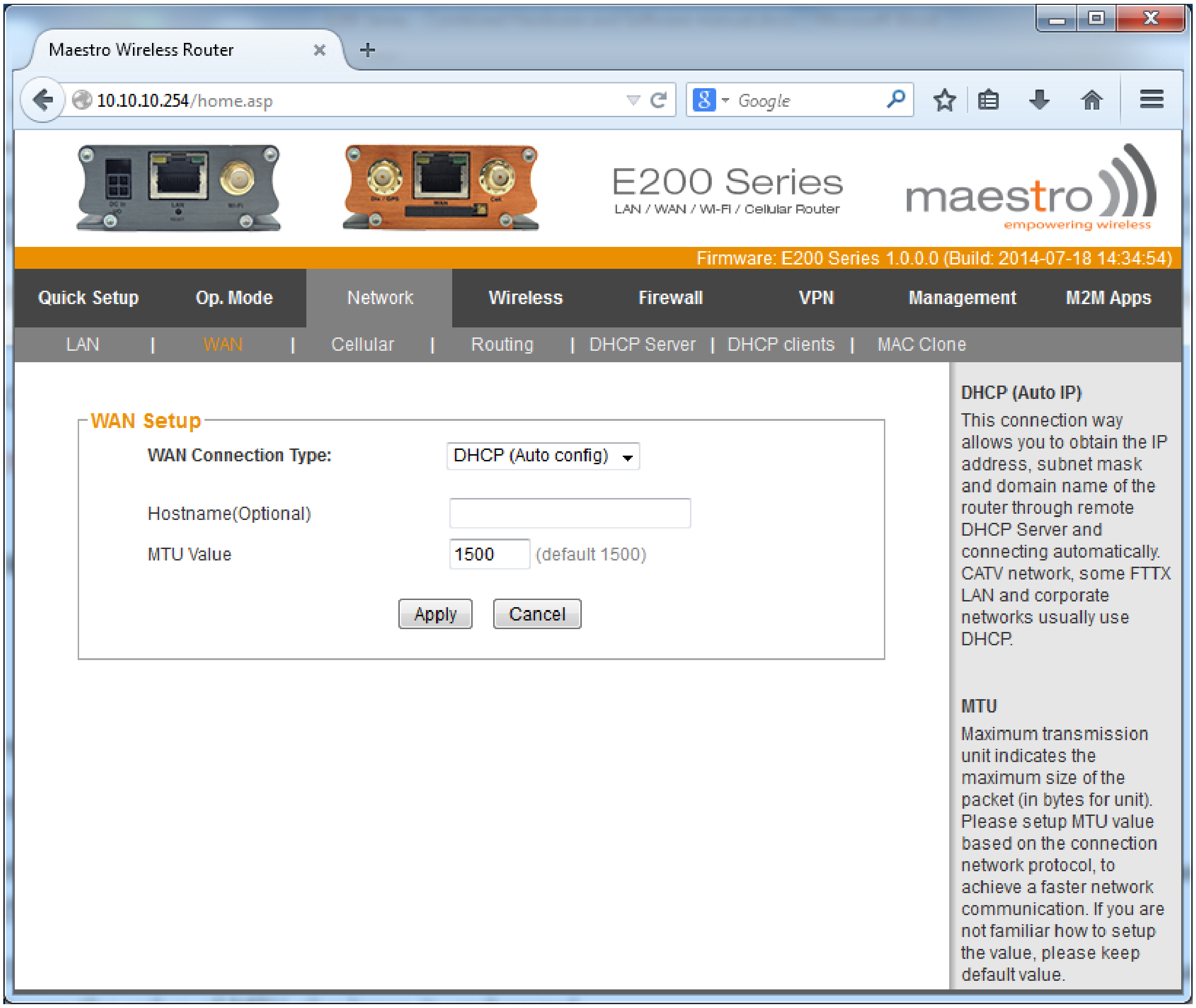
UPNP: UPnP is Universal plug and play service, used inside the network, in order to discover other devices on same network.

DNS Proxy: This setting is enabled if you require the device to act as a DNS proxy server, in order to improve the DNS lookup performance.

Choose APPLY or CANCEL as appropriate after you make your choices.

7.3.2 WAN

When you click on the WAN sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

WAN Setup

WAN Connection Type: DHCP (Auto config)

Hostname(Optional)

MTU Value 1500 (default 1500)

DHCP (Auto IP)

This connection way allows you to obtain the IP address, subnet mask and domain name of the router through remote DHCP Server and connecting automatically. CATV network, some FTTX LAN and corporate networks usually use DHCP.

MTU

Maximum transmission unit indicates the maximum size of the packet (in bytes for unit). Please setup MTU value based on the connection network protocol, to achieve a faster network communication. If you are not familiar how to setup the value, please keep default value.

You can set up your WAN using this tab.

The WAN connection type could be DHCP or Static IP or PPPOE.

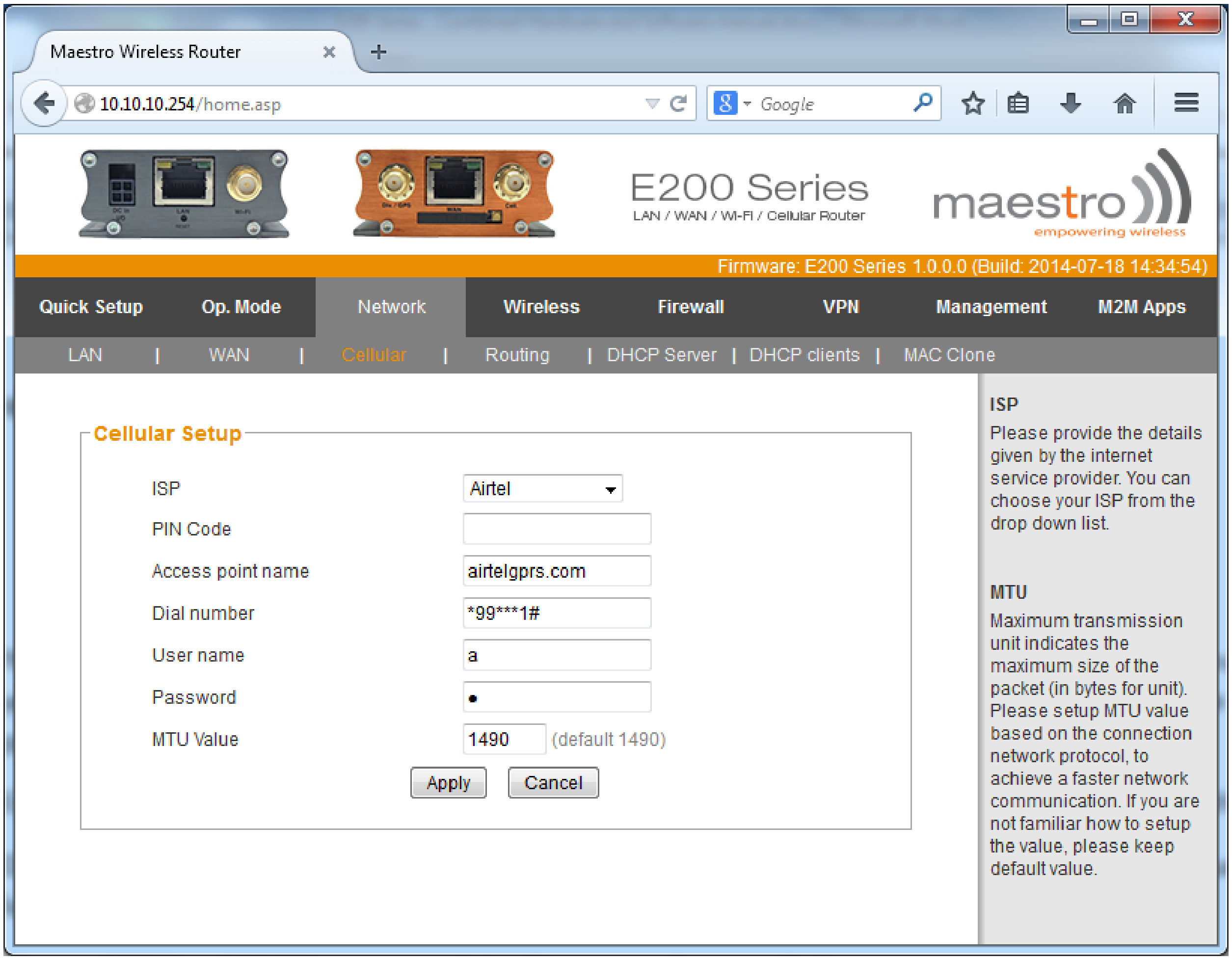
If you choose DHCP, the WAN IP address is decided by the remote DHCP server. You can give a fixed (Static) IP address, if you have one for the WAN. You can also choose the PPPoE dial up line.

Default value of MTU is 1500. If you have a low speed internet connection, then it would be advisable to lower the value of MTU else leave it unchanged.

Choose APPLY or CANCEL as appropriate after you make your choices.

7.3.3 Cellular

When you click on the Cellular sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
LAN | WAN | Cellular | Routing | DHCP Server | DHCP clients | MAC Clone
Apply
Cancel

Cellular Setup

ISP	Airtel
PIN Code	
Access point name	airtelgprs.com
Dial number	*99***1#
User name	a
Password	•
MTU Value	1490 (default 1490)

ISP

Please provide the details given by the internet service provider. You can choose your ISP from the drop down list.

MTU

Maximum transmission unit indicates the maximum size of the packet (in bytes for unit). Please setup MTU value based on the connection network protocol, to achieve a faster network communication. If you are not familiar how to setup the value, please keep default value.

You choose your ISP from the Drop down Menu. If your ISP doesn't appear in the drop down menu or if you are using some special service from the Cellular operator, you will need to manually enter the ISP packet data settings.

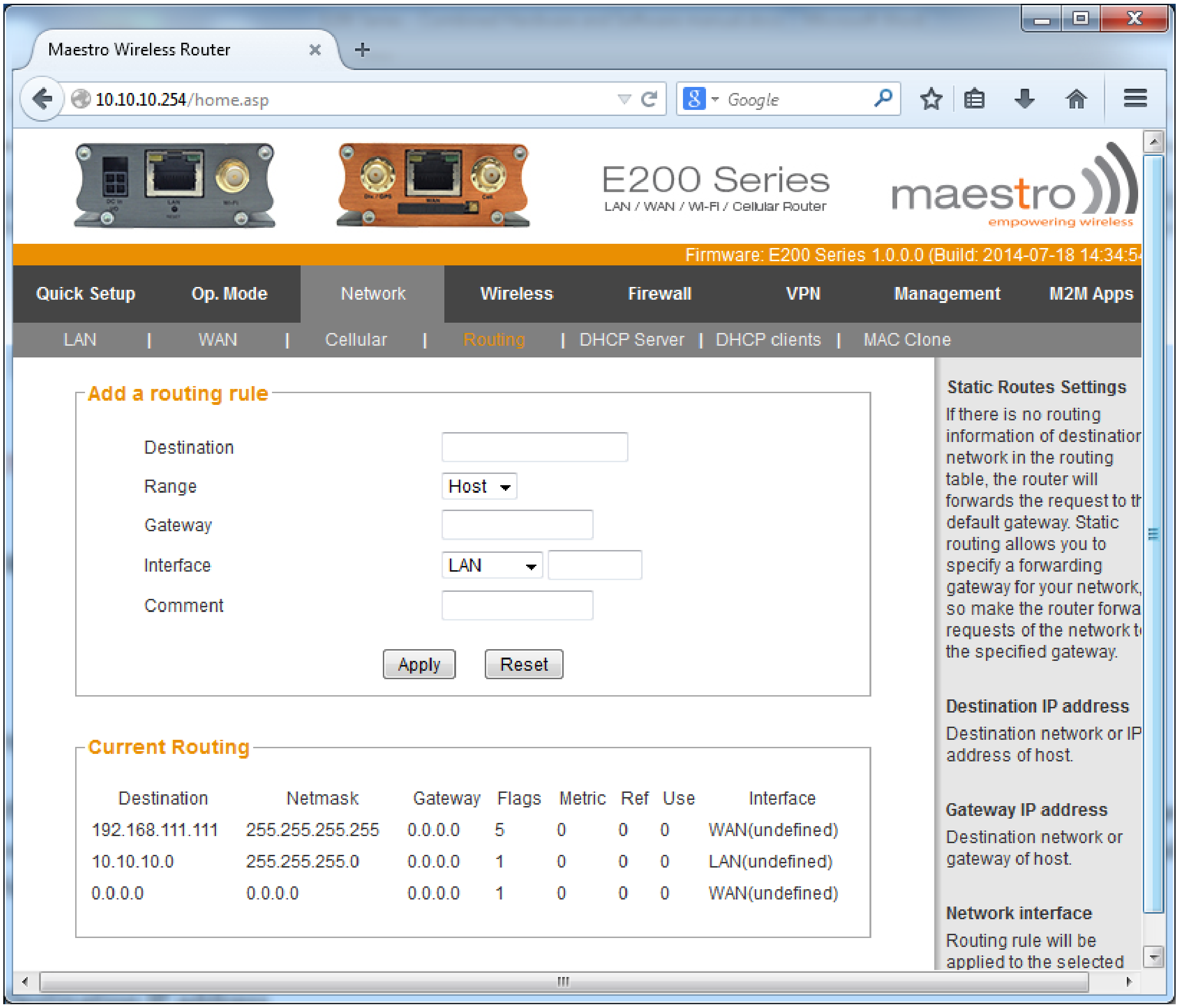
Enter the pin code, Access point name, Dial number, User name and Password corresponding to this ISP.

Default value of MTU is 1500. If you have a low speed internet connection, then it would be advisable to lower the value of MTU else leave it unchanged.

Choose APPLY or CANCEL as appropriate after you make your choices.

7.3.4 Routing

When you click on the Routing sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / WI-FI / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:5
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
LAN | WAN | Cellular | Routing | DHCP Server | DHCP clients | MAC Clone
Apply
Reset

Add a routing rule

Destination	
Range	Host
Gateway	
Interface	LAN
Comment	

Current Routing

Destination	Netmask	Gateway	Flags	Metric	Ref	Use	Interface
192.168.111.111	255.255.255.255	0.0.0.0	5	0	0	0	WAN(undefined)
10.10.10.0	255.255.255.0	0.0.0.0	1	0	0	0	LAN(undefined)
0.0.0.0	0.0.0.0	0.0.0.0	1	0	0	0	WAN(undefined)

Static Routes Settings

If there is no routing information of destinatior network in the routing table, the router will forwards the request to tl default gateway. Static routing allows you to specify a forwarding gateway for your network, so make the router forwa requests of the network t the specified gateway.

Destination IP address

Destination network or IP address of host.

Gateway IP address

Destination network or gateway of host.

Network interface

Routing rule will be applied to the selected

You can add routing rules to your router configuration using this page.

If there is no routing information of destination network in the routing table, the router will forward the request to the default gateway. If you provide the Destination IP address, the incoming request will be forwarded to the destination IP address by the router.

Destination IP address

Destination network or IP address of host.

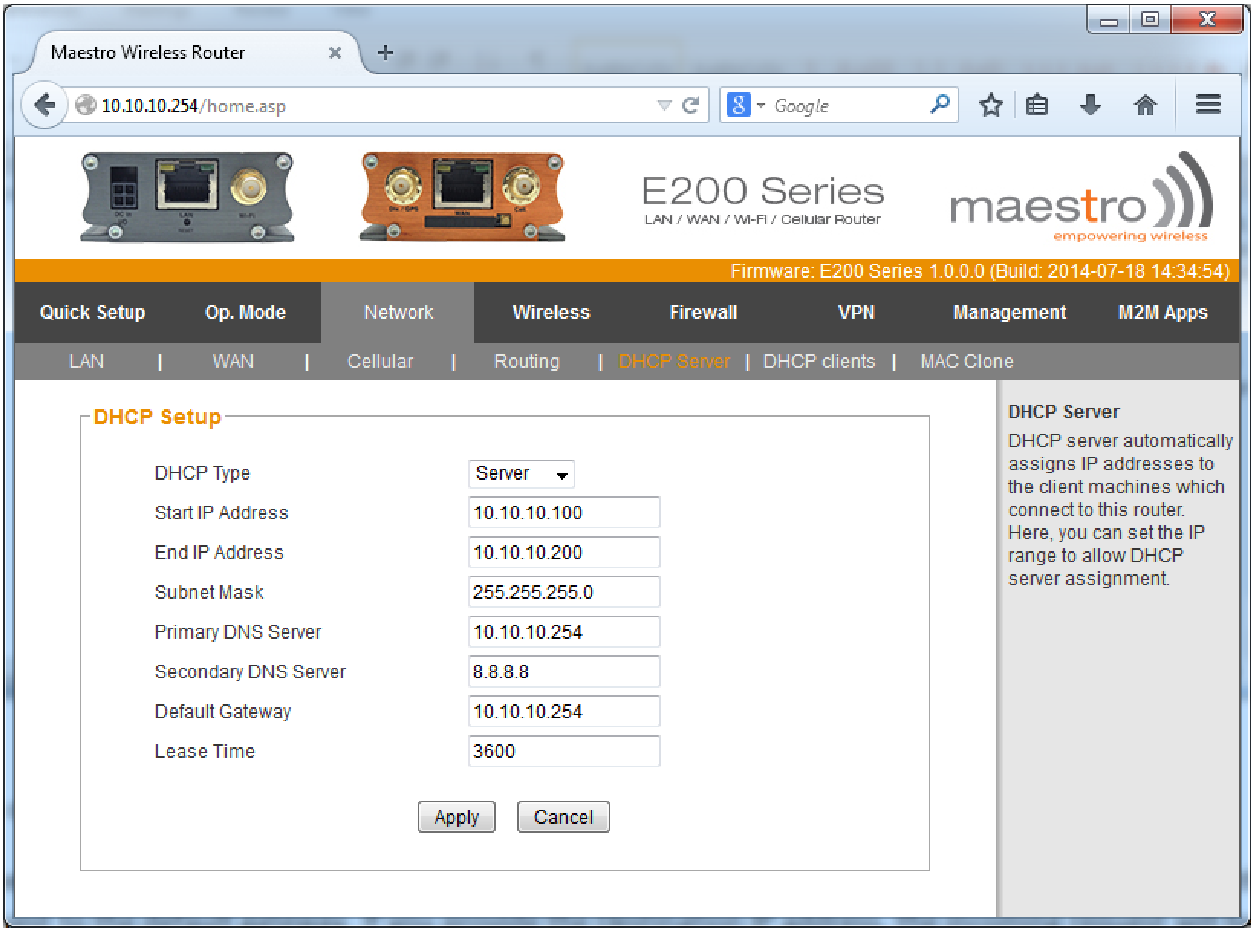
Gateway IP address

Destination network or gateway of host.

Choose APPLY or CANCEL as appropriate after you make your choices.
The current routing rule will be displayed in a window below.

7.3.5 DHCP Server

When you click on the DHCP Serversub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
LAN | WAN | Cellular | Routing | DHCP Server | DHCP clients | MAC Clone
Apply
Cancel

DHCP Setup

DHCP Type	Server
Start IP Address	10.10.10.100
End IP Address	10.10.10.200
Subnet Mask	255.255.255.0
Primary DNS Server	10.10.10.254
Secondary DNS Server	8.8.8.8
Default Gateway	10.10.10.254
Lease Time	3600

DHCP Server

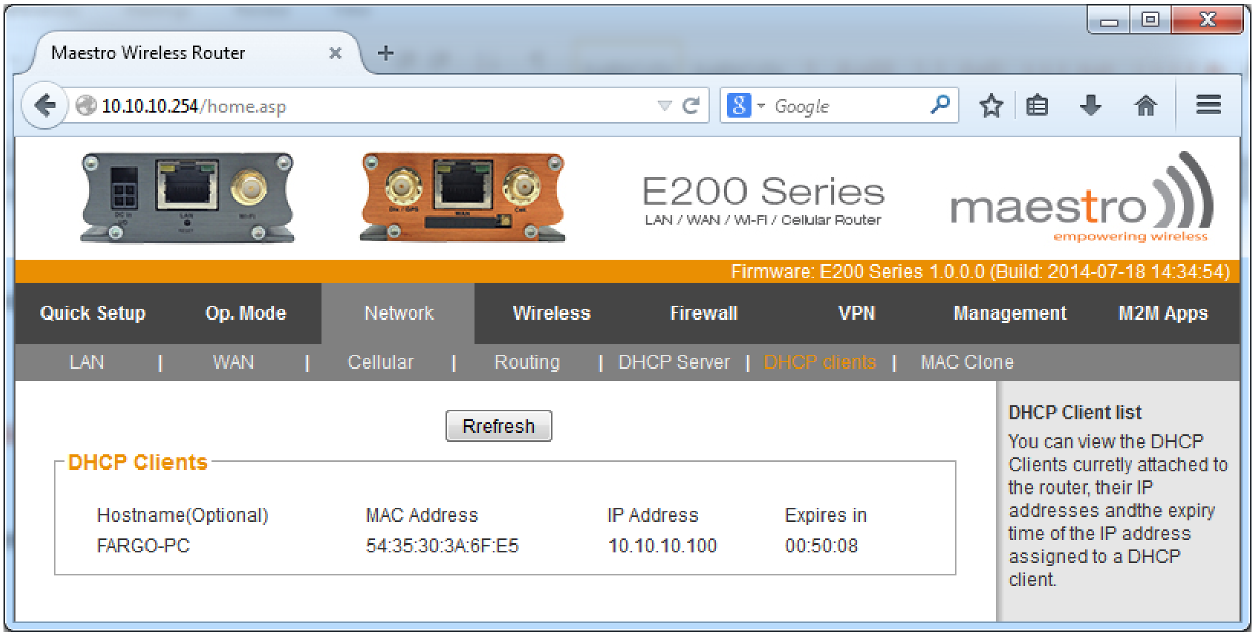
DHCP server automatically assigns IP addresses to the client machines which connect to this router. Here, you can set the IP range to allow DHCP server assignment.

You may choose here the range of Host IP addresses which your DHCP server can use for assignment to clients.

Choose APPLY or CANCEL as appropriate after you make your choices.

7.3.6 DHCP Clients

When you click on the DHCP Clients sub-tab, the following page is displayed:



Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
LAN | WAN | Cellular | Routing | DHCP Server | DHCP clients | MAC Clone
Rrefresh

DHCP Clients

Hostname(Optional)	MAC Address	IP Address	Expires in
FARGO-PC	54:35:30:3A:6F:E5	10.10.10.100	00:50:08

DHCP Client list

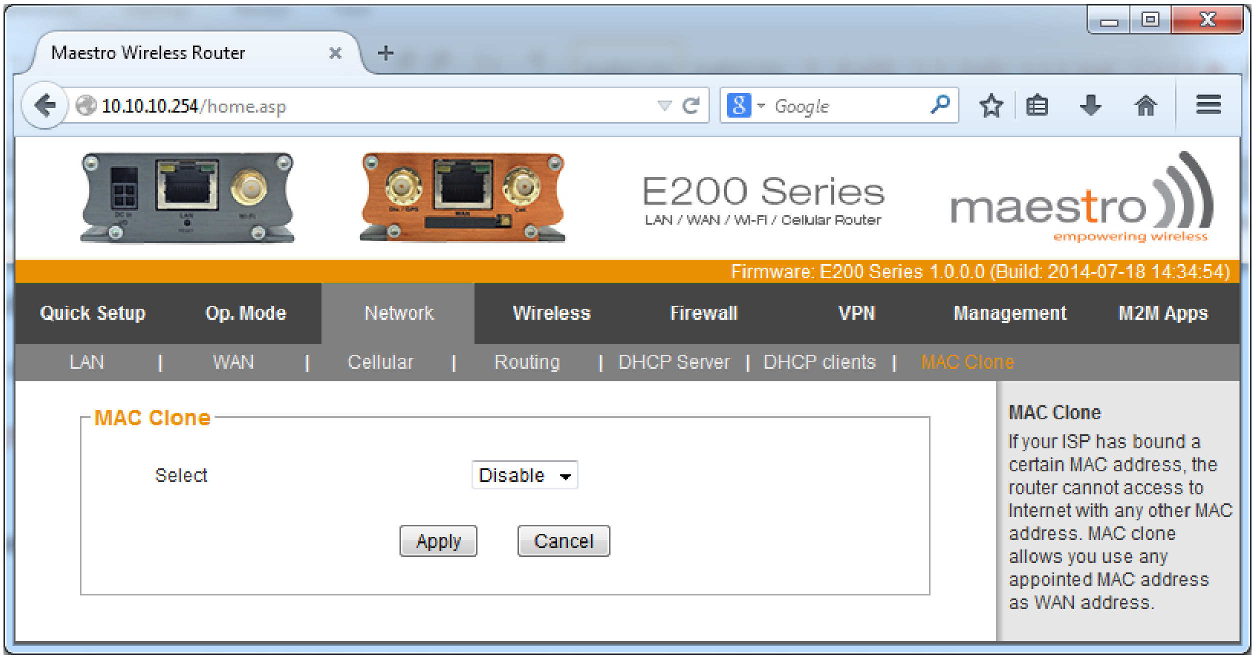
You can view the DHCP Clients curretly attached to the router, their IP addresses andthe expiry time of the IP address assigned to a DHCP client.

This page gives you the list of clients connected to your router as LAN connection. Each entry provides the Name and MAC address of the machine, the IP address assigned to it and the remaining time after which the assigned IP would expire.

You can press REFRESH button to refresh the list of clients.

7.3.7 MAC Clone

When you click on the MAC Clone sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
LAN | WAN | Cellular | Routing | DHCP Server | DHCP clients | MAC Clone
Apply
Cancel

MAC Clone

Select: Disable

MAC Clone

If your ISP has bound a certain MAC address, the router cannot access to Internet with any other MAC address. MAC clone allows you use any appointed MAC address as WAN address.

You may choose to ENABLE / DISABLE the MAC cloning. By default it is DISABLE.

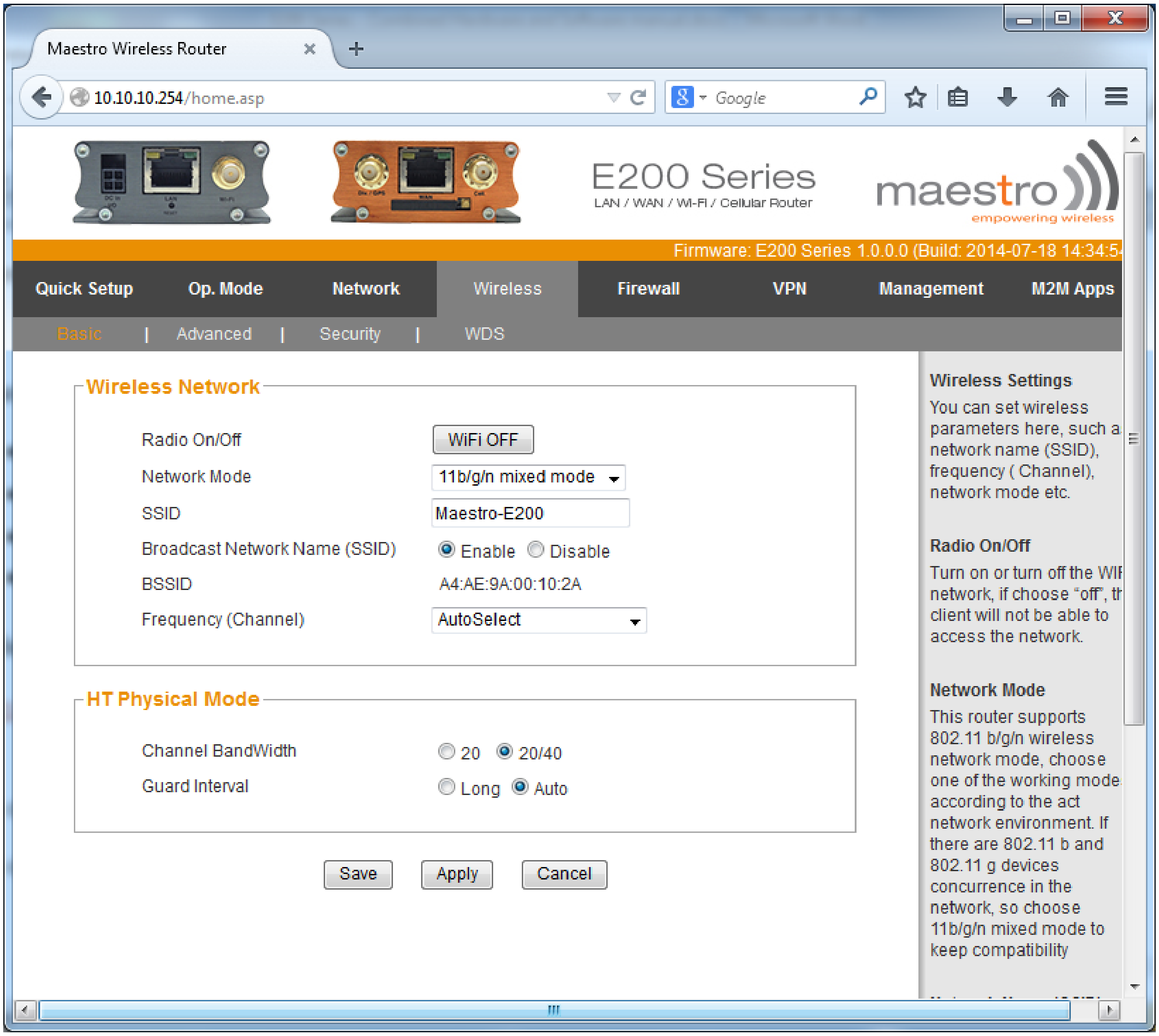
CHAnge the Snapshot with ENABLE MAC

If you choose to ENABLE it, you can provide the MAC address recognized by your service provider. This MAC address will be used to override the MAC address of the router, which connects to the ISP.

You can choose to APPLY the change or CANCEL it.

7.4 Wireless

When you click on the Wireless tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:5

Wireless Network

Radio On/Off	WiFi OFF
Network Mode	11b/g/n mixed mode
SSID	Maestro-E200
Broadcast Network Name (SSID)	● Enable ○ Disable
BSSID	A4:AE:9A:00:10:2A
Frequency (Channel)	AutoSelect

HT Physical Mode

Channel BandWidth	○ 20 ● 20/40
Guard Interval	○ Long ● Auto

Wireless Settings
You can set wireless parameters here, such a network name (SSID), frequency (Channel), network mode etc.

Radio On/Off
Turn on or turn off the WIF network, if choose "off", th client will not be able to access the network.

Network Mode
This router supports 802.11 b/g/n wireless network mode, choose one of the working mode according to the act network environment. If there are 802.11 b and 802.11 g devices concurrence in the network, so choose 11b/g/n mixed mode to keep compatibility

It has sub-tabs

- Basic
- Advanced
- Security
- WDS

By default, the Basic sub-tab is displayed.

7.4.1 Basic

You can choose Wireless Network parameters and HT Physical mode parameters here.

You can choose to switch OFF or ON your Wi-Fi network.

If you switch it ON, you can choose the mode of 802.11 protocols. It supports different versions to facilitate communication from older to newer devices speaking 802.11 protocols namely 802.11b/g/n..

You can choose the Network Name (SSID) that would be visible to the world. The visibility is controlled by 'Broadcast Network Name' switch which can be ENABLEd/DISABLEd.

The BSSID is the corresponding MAC address which is fixed.

The Channel frequency can be chosen manually or set to Auto select.

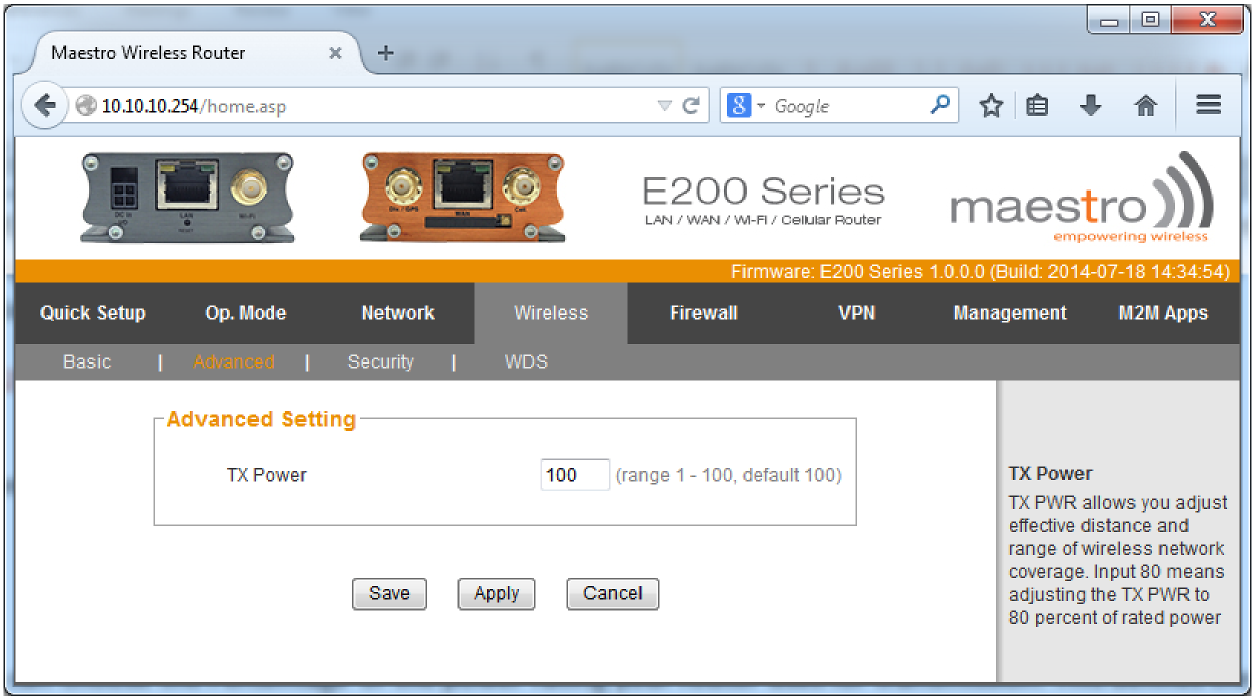
Choose the channel band width and Guard Interval that is appropriate for you. The lower bandwidth (20 MHz) would reduce the speed of wireless communication. Preferably, do not change the default Bandwidth and guard interval.

You can choose between SAVE, APPLY and CANCEL.

SAVE button is used to save the setting but not immediately APPLY it. The APPLY button would apply the change and reboot the routerimmediately. The CANCEL button negates any change you made to the setting.

7.4.2 Advanced

When you click on the Advanced sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

Advanced Setting

TX Power 100 (range 1 - 100, default 100)

TX Power

TX PWR allows you adjust effective distance and range of wireless network coverage. Input 80 means adjusting the TX PWR to 80 percent of rated power

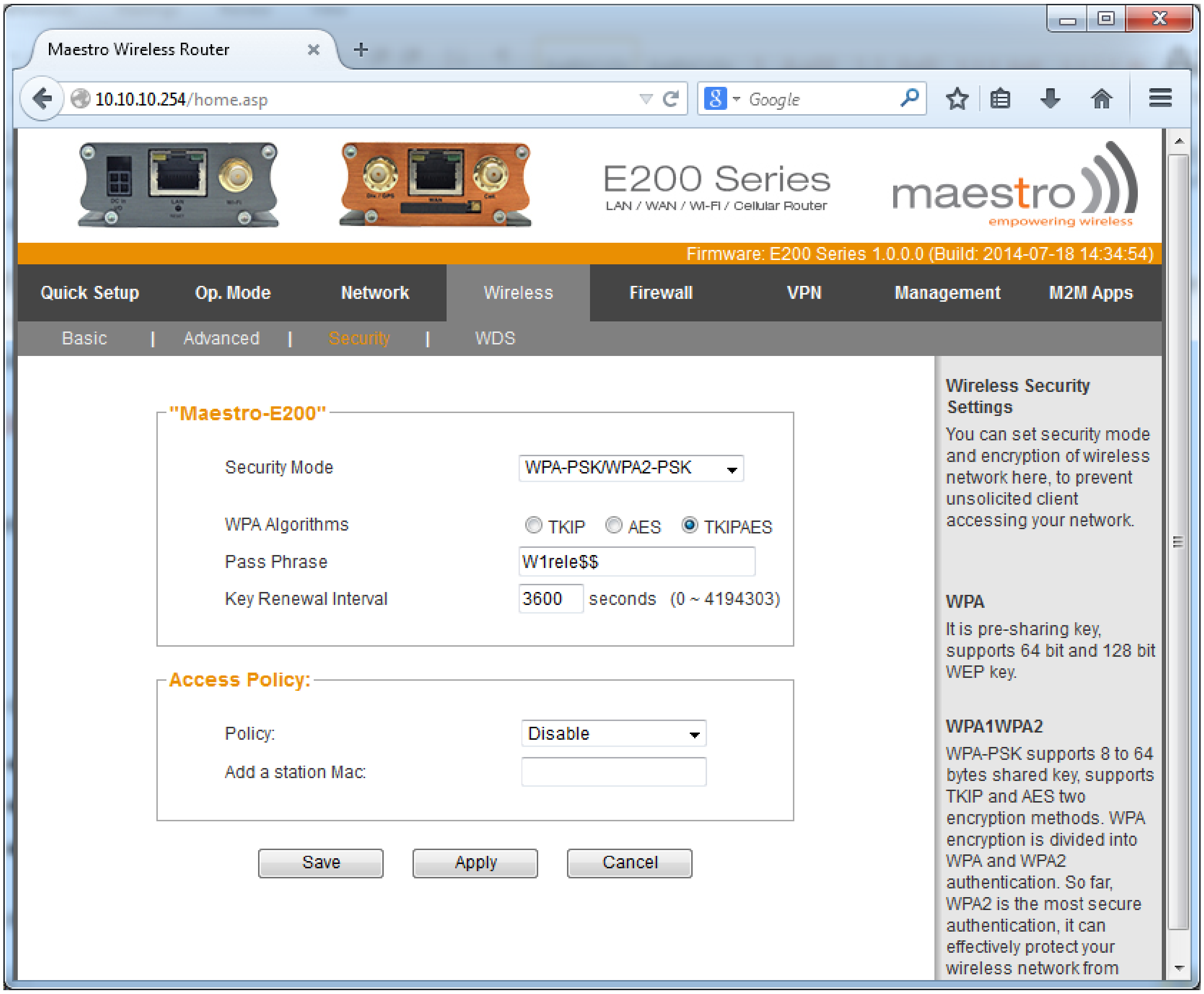
You can choose the Percentage of the power rating your router uses for transmission. This defines the range of communication over the wireless network.

You can choose between SAVE, APPLY and CANCEL.

SAVE button is used to save the setting but not immediately APPLY it. The APPLY button would apply the change and reboot the router immediately. The CANCEL button negates any change you made to the setting.

7.4.3 Security

When you click on the Security sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

"Maestro-E200"

Security Mode	WPA-PSK/WPA2-PSK
WPA Algorithms	○ TKIP ○ AES ● TKIPAES
Pass Phrase	W1rele$$
Key Renewal Interval	3600 seconds (0 ~ 4194303)

Access Policy:

Policy:	Disable
Add a station Mac:	

Wireless Security Settings

You can set security mode and encryption of wireless network here, to prevent unsolicited client accessing your network.

WPA

It is pre-sharing key, supports 64 bit and 128 bit WEP key.

WPA1WPA2

WPA-PSK supports 8 to 64 bytes shared key, supports TKIP and AES two encryption methods. WPA encryption is divided into WPA and WPA2 authentication. So far, WPA2 is the most secure authentication, it can effectively protect your wireless network from

You can choose the security mode here. You can either use

- OPENWep OR
- WPA with Radius Server OR
- WPA-PSK/ WPA2-PSK

It is not recommended to DISABLE the security mode.

If the Security mode is OPENWep then provide

- Default key (Key 1/ Key 2/ Key 3/Key 4) and
- WEP Key 1/2/3/4 which can be ASCII or HEX.

If the security Mode is WPA with Radius server then provide

- WPA Algorithms (TKIP / AES / TKIPAES)
- Key Renewal interval in seconds (0 to 4194303)
- Radius Server IP
- Radius Server port
- Shared secret
- Session Time out (in seconds)
- Idle time out (in seconds)

If the security Mode is WPA-PSK / WPA2-PSK then provide

- WPA Algorithms (TKIP / AES / TKIPAES)
- Pass Phrase
- Key Renewal interval in seconds (0 to 4194303)

In each of these Security Modes, you can choose to make the Access Policy Disable / Allow / Reject. If the policy is allow / reject then you should add a station MAC, which is to be allowed / rejected.

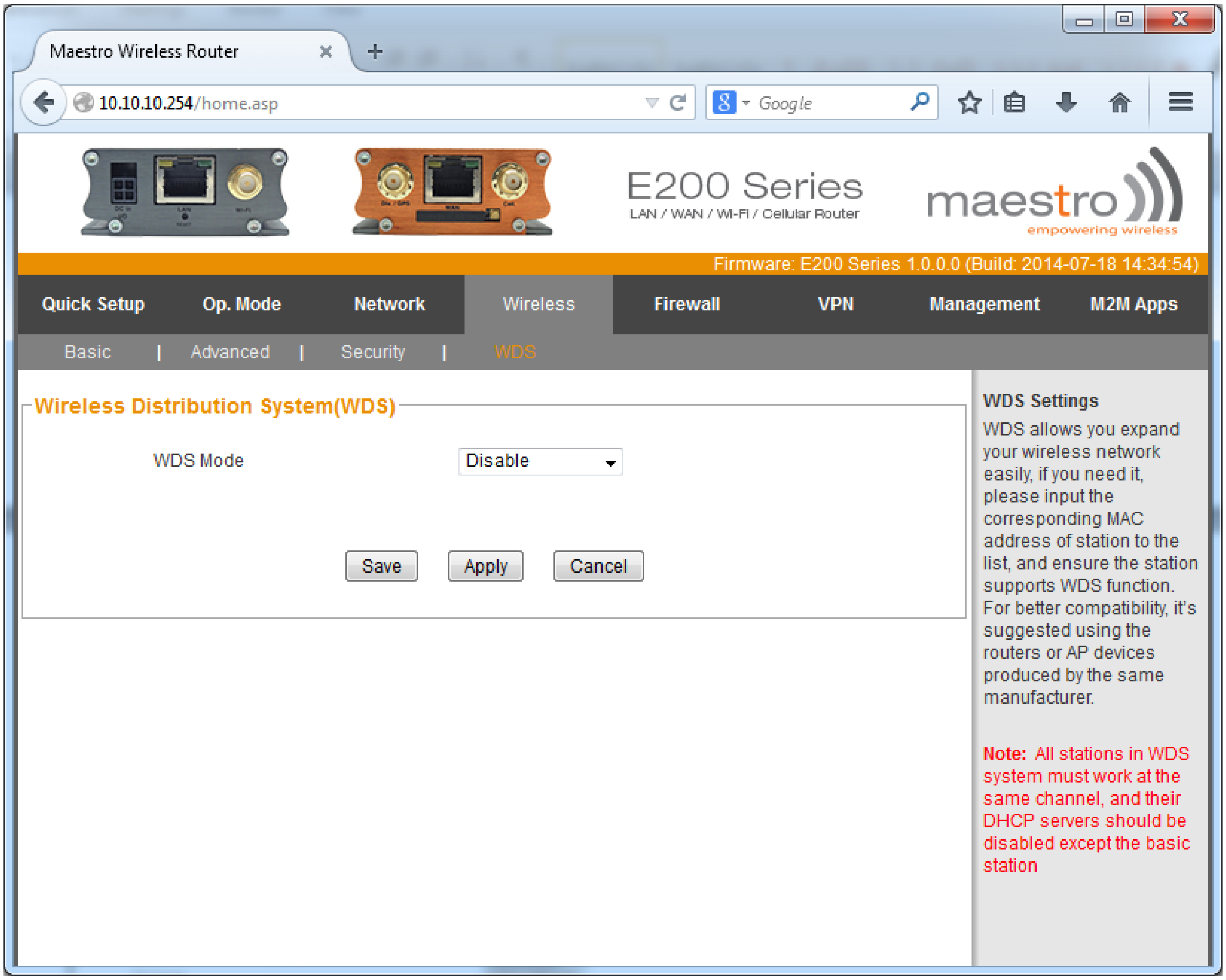
You can choose between SAVE, APPLY and CANCEL.

SAVE button is used to save the setting but not immediately APPLY it. The APPLY button would apply the change and reboot the router immediately. The CANCEL button negates any change you made to the setting.

On any screen, choosing the APPLY button will apply the saved and current settings and re-boot the router. If you do not press APPLY button, then the SAVED settings will not be effective.

7.4.4 WDS

When you click on the WDS sub-tab, the following page is displayed:



Wireless Distribution System(WDS)

WDS Mode: Disable

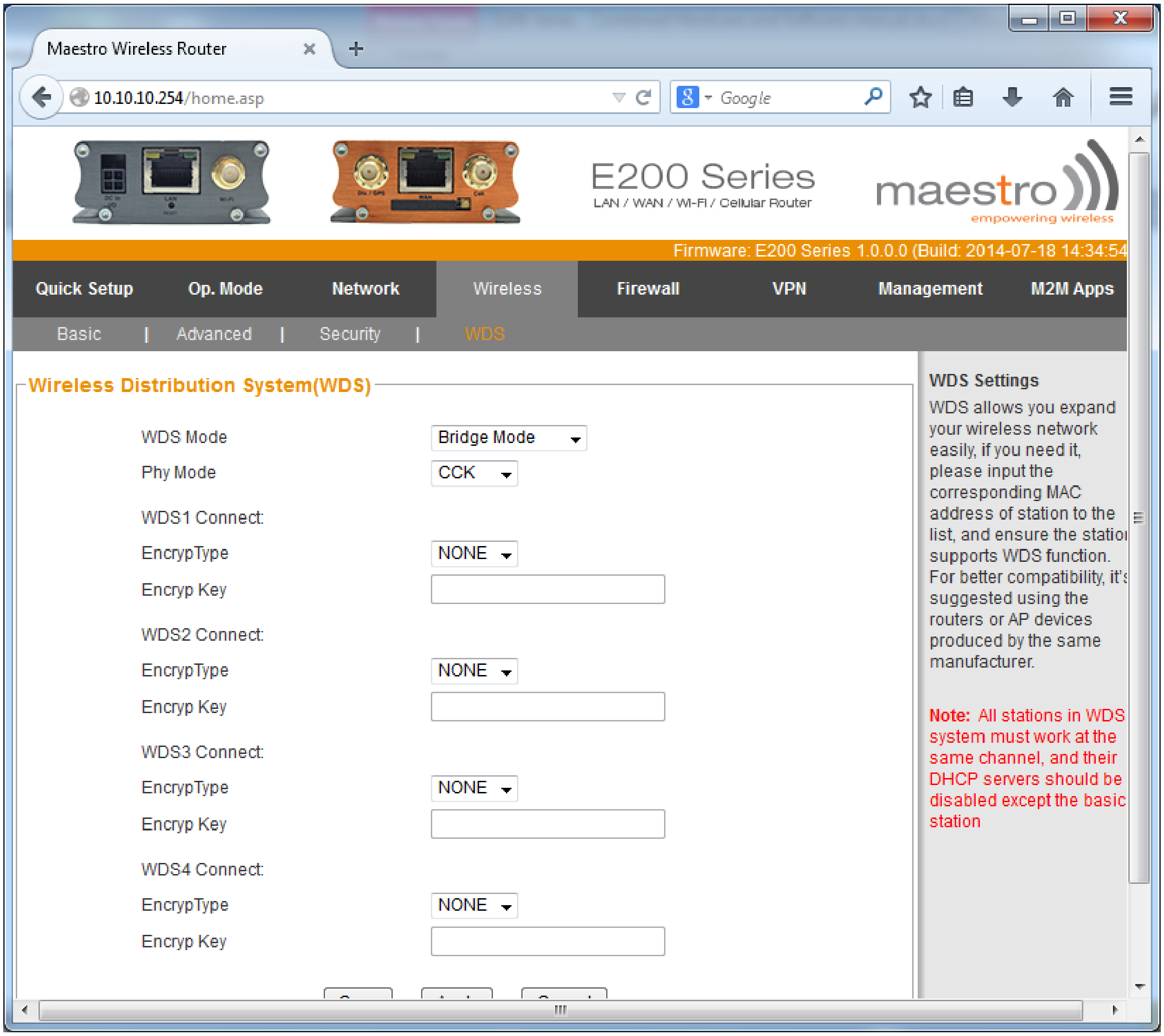
WDS Settings

WDS allows you expand your wireless network easily, if you need it, please input the corresponding MAC address of station to the list, and ensure the station supports WDS function. For better compatibility, it's suggested using the routers or AP devices produced by the same manufacturer.

Note: All stations in WDS system must work at the same channel, and their DHCP servers should be disabled except the basic station

You can choose to disable WDS or choose between Bridge mode and Repeater Mode.

If you choose Bridge mode, following sub-screen is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54

Wireless Distribution System(WDS)

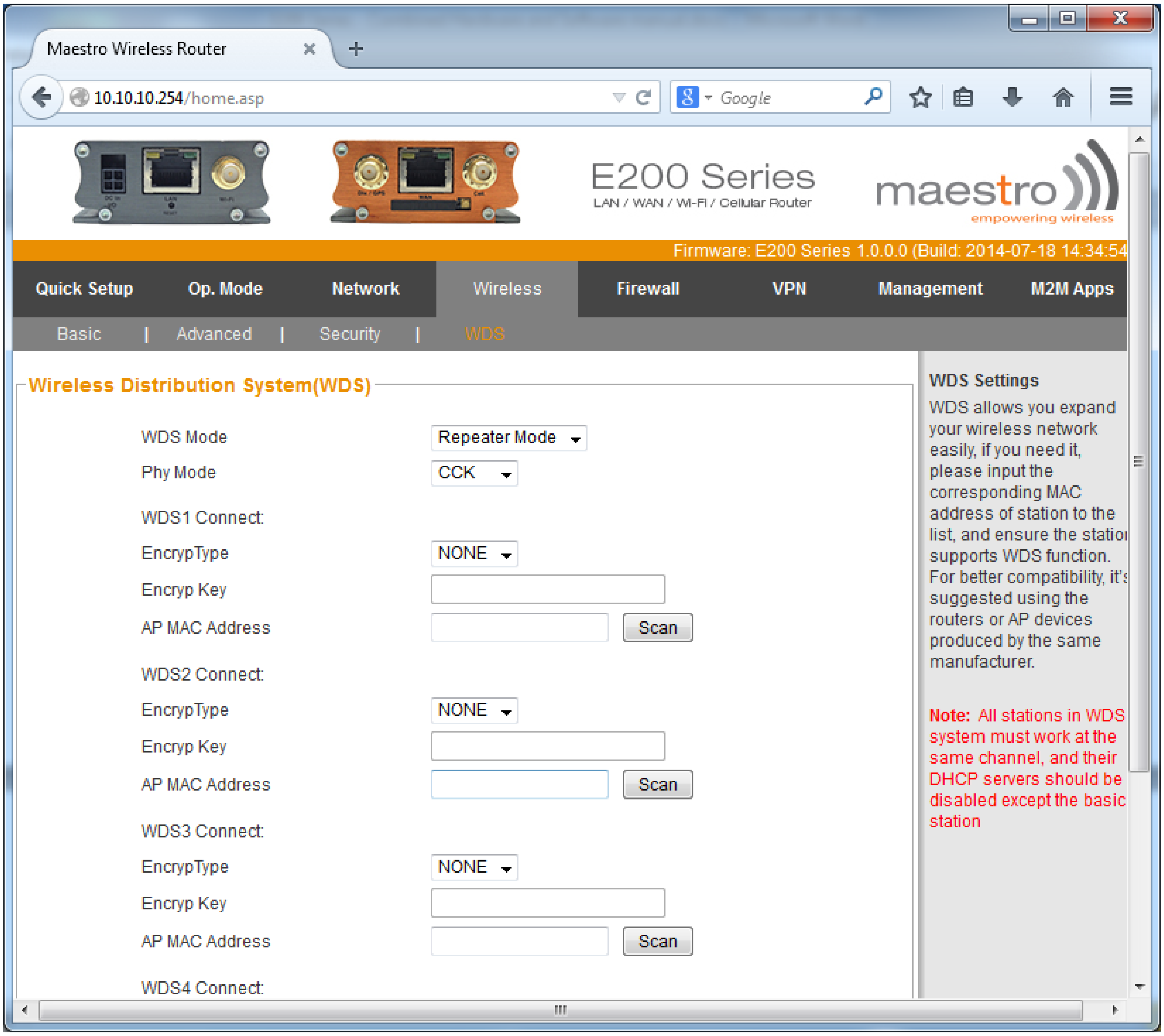
WDS Mode	Bridge Mode
Phy Mode	CCK
WDS1 Connect:	
EncrypType	NONE
Encryp Key	
WDS2 Connect:	
EncrypType	NONE
Encryp Key	
WDS3 Connect:	
EncrypType	NONE
Encryp Key	
WDS4 Connect:	
EncrypType	NONE
Encryp Key	

WDS Settings

WDS allows you expand your wireless network easily, if you need it, please input the corresponding MAC address of station to the list, and ensure the statio supports WDS function. For better compatibility, it's suggested using the routers or AP devices produced by the same manufacturer.

Note: All stations in WDS system must work at the same channel, and their DHCP servers should be disabled except the basic station

If you choose Repeater mode, following sub-screen is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54

Wireless Distribution System(WDS)

WDS Mode	Repeater Mode
Phy Mode	CCK
WDS1 Connect:	
EncrypType	NONE
Encryp Key	
AP MAC Address	
WDS2 Connect:	
EncrypType	NONE
Encryp Key	
AP MAC Address	
WDS3 Connect:	
EncrypType	NONE
Encryp Key	
AP MAC Address	
WDS4 Connect:	

WDS Settings

WDS allows you expand your wireless network easily, if you need it, please input the corresponding MAC address of station to the list, and ensure the statio supports WDS function. For better compatibility, it's suggested using the routers or AP devices produced by the same manufacturer.

Note: All stations in WDS system must work at the same channel, and their DHCP servers should be disabled except the basic station

A brief explanation follows:

Bridge mode:

Wireless Bridging is used to connect two LAN segments via a wireless link. The two segments will be in the same subnet and look like two Ethernet switches connected by a cable to all computers on the subnet. Since the computers are on the same subnet, broadcasts will reach all machines, allowing DHCP clients in one segment to get their addresses from a DHCP server in a different segment. You could use a Wireless Bridge to transparently connect computer(s) in one room to computer(s) in a different room when you could not, or did not want to run an Ethernet cable between the rooms.

Repeater mode:

Repeater mode can be used, to take an existing signal from a wireless router or access point and rebroadcasts it to create a second network. When two or more hosts have to be connected with one another over Wi-Fi, and the distance is too long for a direct connection to be established, a wireless repeater is used to bridge the gap.

You can choose between SAVE, APPLY and CANCEL after you make your choices.

SAVE button is used to save the setting but not immediately APPLY it. The APPLY button would apply the change and reboot the router immediately. The CANCEL button negates any change you made to the setting.

7.5 Firewall

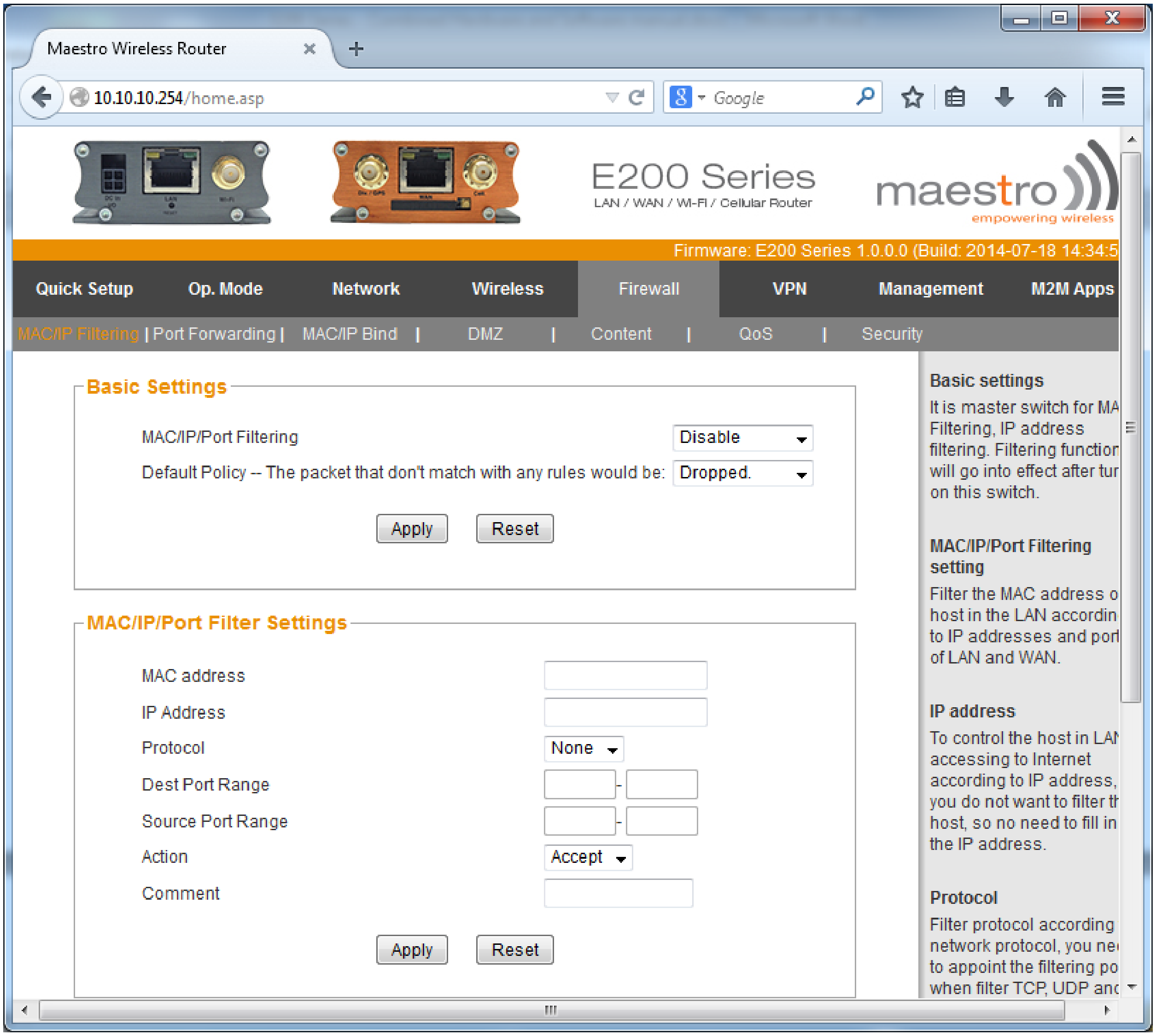
When you click on the Firewall tab, the following page is displayed.

It has sub-tabs

- MAC/IP Filtering
- Port Forwarding
- MAC/IP Bind
- DMZ
- Content
- QoS
- Security

By default, the MAC/IP Filtering sub-tab is displayed.

7.5.1 MAC/IP Filtering


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:5
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
MAC/IP Filtering | Port Forwarding | MAC/IP Bind | DMZ | Content | QoS | Security
Apply
Reset
Apply
Reset

Basic Settings

MAC/IP/Port Filtering: Disable

Default Policy -- The packet that don't match with any rules would be: Dropped.

MAC/IP/Port Filter Settings

MAC address:

IP Address:

Protocol: None

Dest Port Range: -

Source Port Range: -

Action: Accept

Comment:

Basic settings

It is master switch for MA Filtering, IP address filtering. Filtering function will go into effect after tur on this switch.

MAC/IP/Port Filtering setting

Filter the MAC address o host in the LAN accordin to IP addresses and port of LAN and WAN.

IP address

To control the host in LAN accessing to Internet according to IP address, you do not want to filter th host, so no need to fill in the IP address.

Protocol

Filter protocol according network protocol, you ne to appoint the filtering po when filter TCP, UDP anc

You can ENABLE or DISABLE MAC or IP or Port based filtering here. You can select the policy; you can either drop the packet of data which satisfies the filter or accept it.

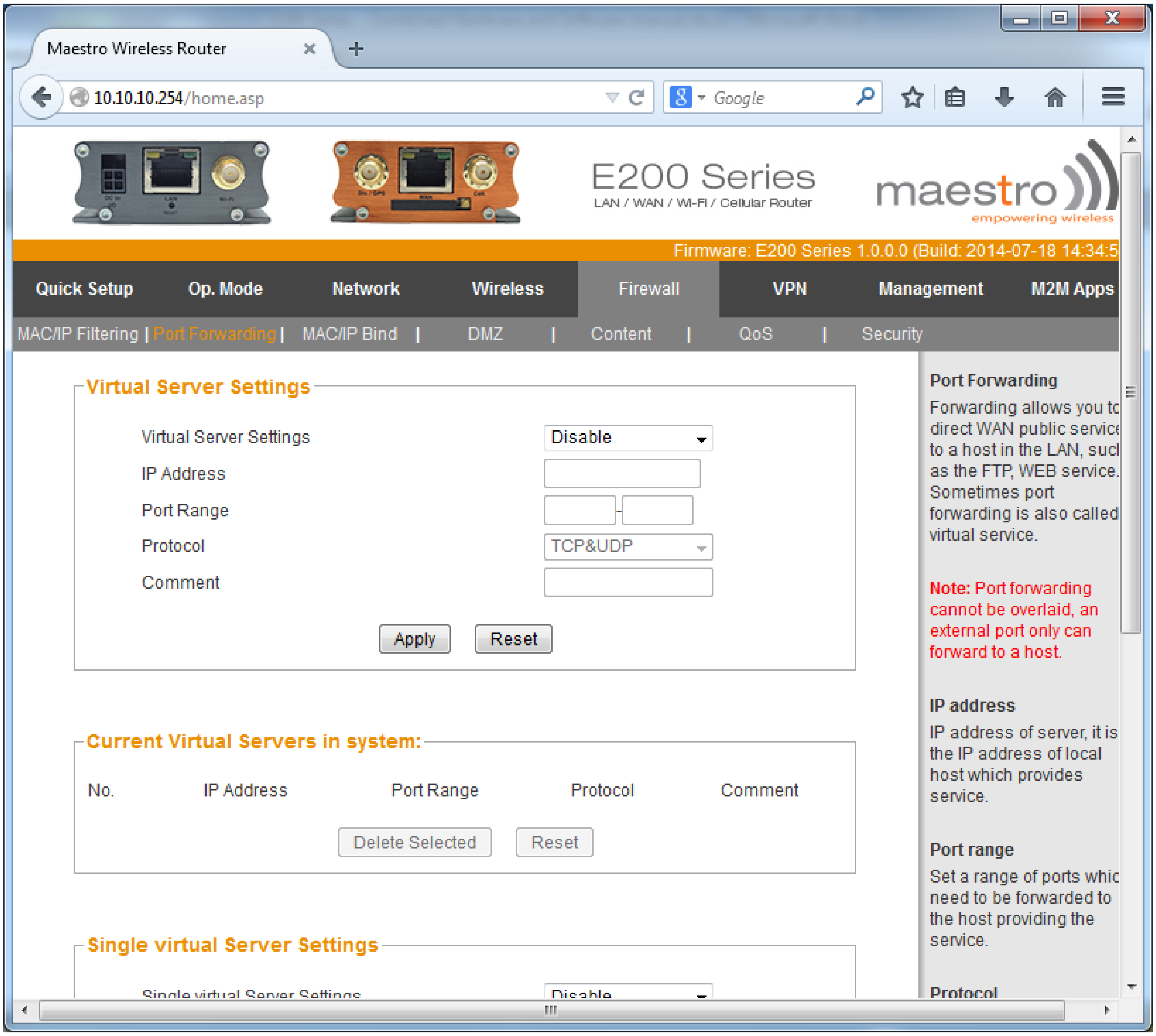
You can choose to APPLY or RESET the changes you made here.

Having ENABLED the basic settings, you can further refine filtering. You can provide the MAC and IP address of the incoming WAN request to be filtered. You can also select the protocol (TCP / UDP / ICMP) and corresponding range of ports to be filtered. Filtering means that you can either accept the data packets in this port range or drop it. If you choose to accept the data packets in the given port range, then the data packets not falling in the port range would be dropped. Similarly, if you choose to drop the data packets in the given port range, the data packets not falling in the port range would be accepted.

The screen also shows you the Current MAC/IP/Port filtering rules in the system at the bottom. If you decide to change the filtering rules, you can delete corresponding rule by selecting it and then pressing 'DELETE SELECTED' button.

7.5.2 Port Forwarding

When you click on the Port Forwarding sub-tab, the following page is displayed:



Virtual Server Settings

Virtual Server Settings	Disable
IP Address	
Port Range	-
Protocol	TCP&UDP
Comment	

Current Virtual Servers in system:

No.	IP Address	Port Range	Protocol	Comment

Single virtual Server Settings

Single virtual Server Settings Disable

Port Forwarding

Forwarding allows you tc direct WAN public servic to a host in the LAN, sucl as the FTP, WEB service. Sometimes port forwarding is also called virtual service.

Note: Port forwarding cannot be overlaid, an external port only can forward to a host.

IP address

IP address of server, it is the IP address of local host which provides service.

Port range

Set a range of ports whic need to be forwarded to the host providing the service.

Protocol

By default, the Virtual server setting is DISABLE. When you want a particular machine on the client (LAN) side to be exposed to WAN side for a certain services, you can ENABLE the Virtual server settings.

You need to provide the IP address of the machine to be exposed, the port range to be exposed and the corresponding protocol (TCP / UDP/ICMP).

When you APPLY these settings, the current virtual servers in system are displayed below.

When you want to expose a single virtual server with a specific port to be exposed, you can do that by providing the IP address of the server and the port to be exposed. This port may be mapped to a different port number in the server, which may be given as the private port number. For example, a public port HTTP (8080) may be declared as port number 5000 in the virtual server. Then put 8080 as public port and 5000 as private port entries.

The corresponding protocol needs to be chosen from the drop down box.

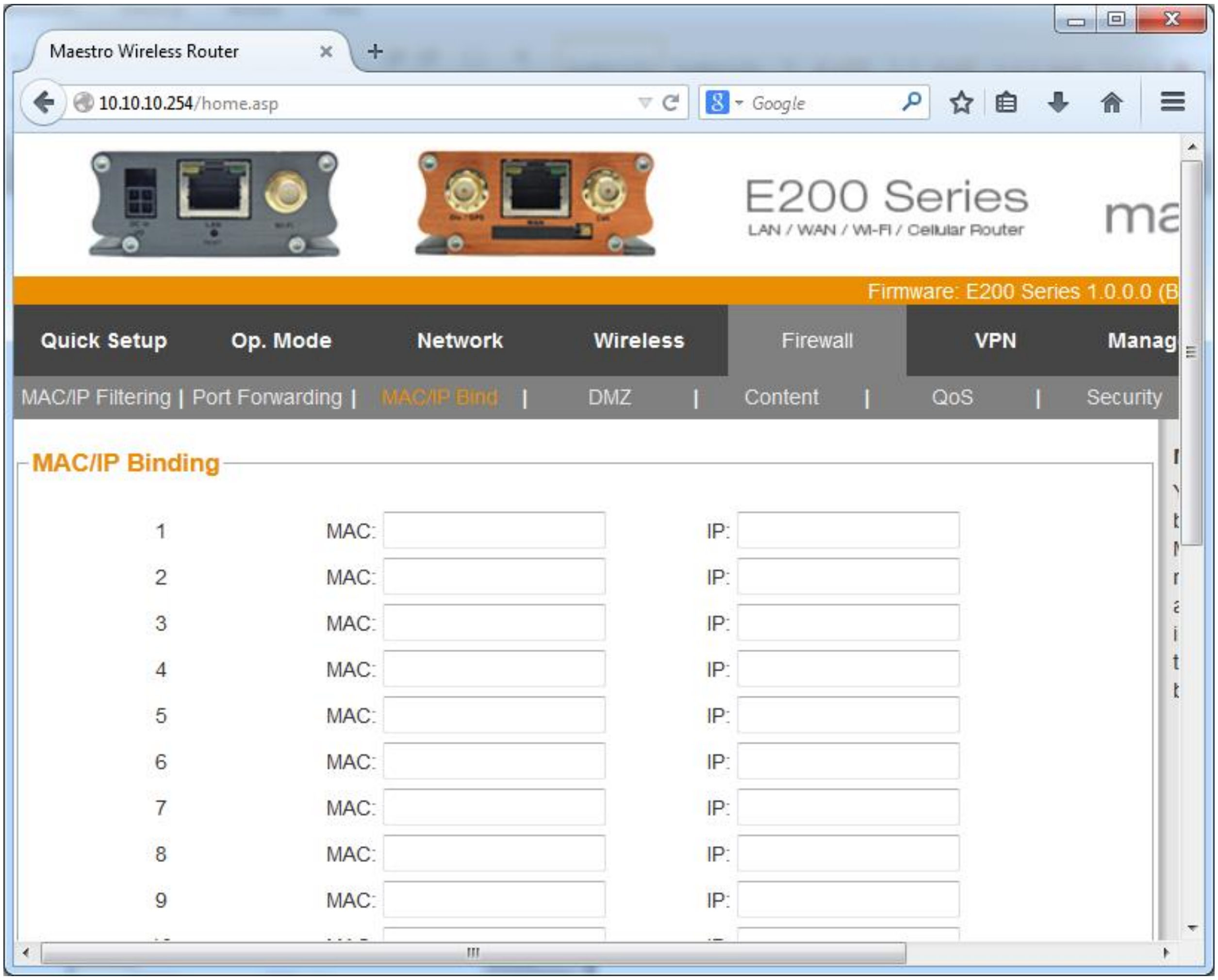
Press APPLY button to effect the change.

The resulting settings will be displayed in a window below.

These settings can be deleted by selecting the setting with a tick mark and then pressing DELETE button.

7.5.3 MAC/IP bind

When you click on the MAC/IP bind sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
Firmware: E200 Series 1.0.0.0 (B
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Manag
MAC/IP Filtering | Port Forwarding | MAC/IP Bind | DMZ | Content | QoS | Security

MAC/IP Binding

1	MAC:	IP:
2	MAC:	IP:
3	MAC:	IP:
4	MAC:	IP:
5	MAC:	IP:
6	MAC:	IP:
7	MAC:	IP:
8	MAC:	IP:
9	MAC:	IP:

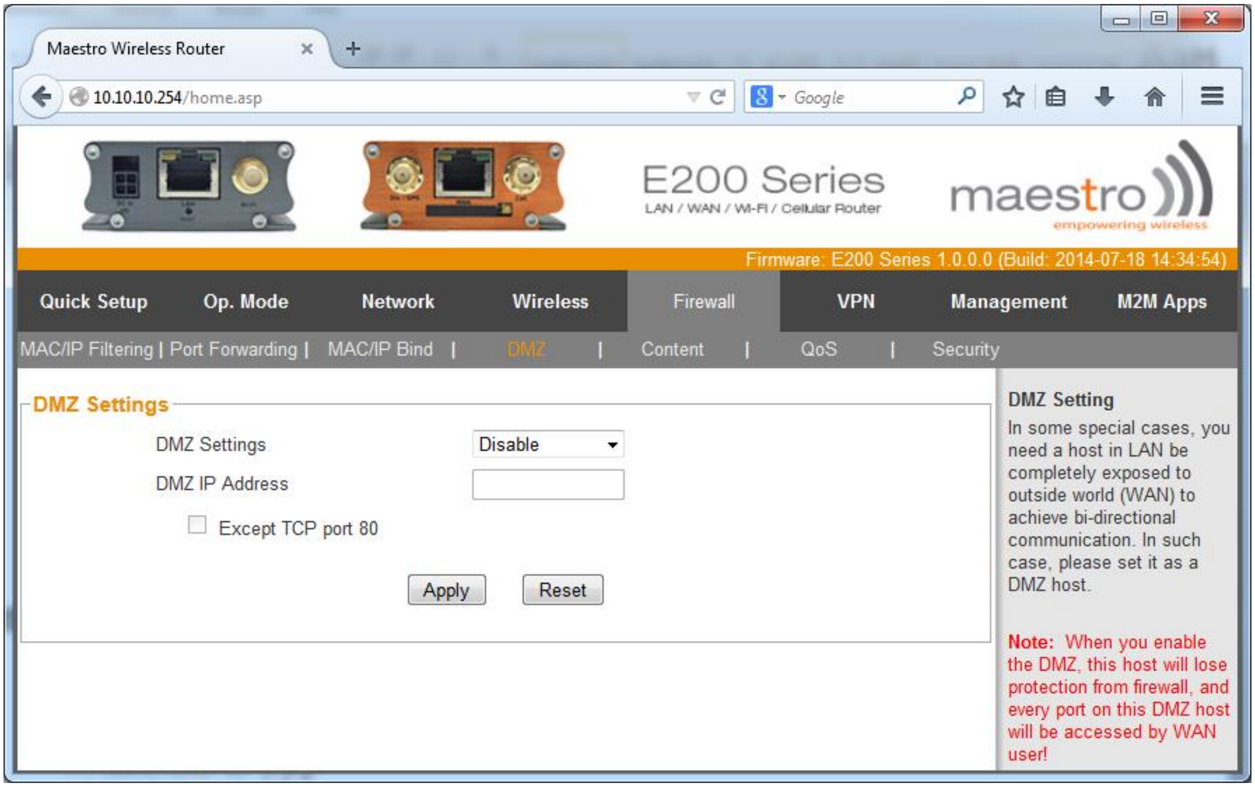
You can set binding between MAC address and IP address here. You can fix the IP addresses assigned by your router to your client devices on LAN side. This way, you can assign static IP addresses to your client devices.

Press APPLY button to save the bindings.

7.5.4 DMZ

When you click on the DMZ sub-tab, the following page is displayed:

You can set up DMZ settings here.


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
MAC/IP Filtering | Port Forwarding | MAC/IP Bind | DMZ | Content | QoS | Security
Apply
Reset

DMZ Settings

DMZ Settings: Disable

DMZ IP Address:

□ Except TCP port 80

DMZ Setting

In some special cases, you need a host in LAN be completely exposed to outside world (WAN) to achieve bi-directional communication. In such case, please set it as a DMZ host.

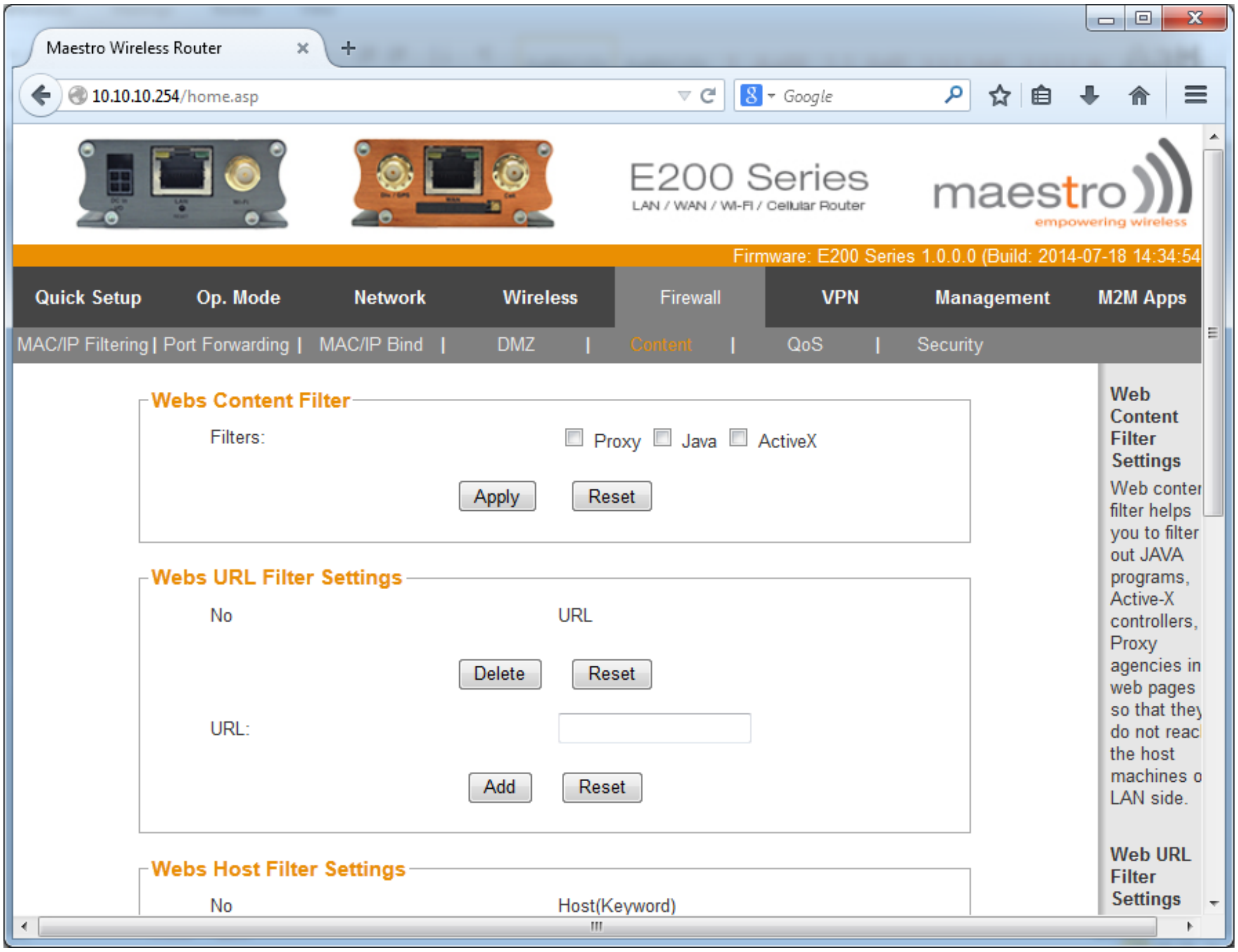
Note: When you enable the DMZ, this host will lose protection from firewall, and every port on this DMZ host will be accessed by WAN user!

In some special cases, it is required that a machine on the LAN side be completely exposed to WAN side, for 2-way communication. This machine would be in so called De Militarized Zone.

You need to ENABLE the DMZ settings and provide the IP address of this machine. You can choose to disable Port 80 (HTTP) as an exception to DMZ.

7.5.5 Content

When you click on the Content sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54

Webs Content Filter

Filters: □ Proxy □ Java □ ActiveX

Webs URL Filter Settings

No URL

URL:

Webs Host Filter Settings

No Host(Keyword)

Web Content Filter Settings

Web conter filter helps you to filter out JAVA programs, Active-X controllers, Proxy agencies in web pages so that they do not reac the host machines o LAN side.

Web URL Filter Settings

You can filter the content based on filters like Java programs / ActiveX controls or proxy agencies in web pages.

You can also decide to filter out some URLs (like www.gmail.com). The devices on the LAN side of the router will not be able to access these URLs. Such URLs are shown in the same window.

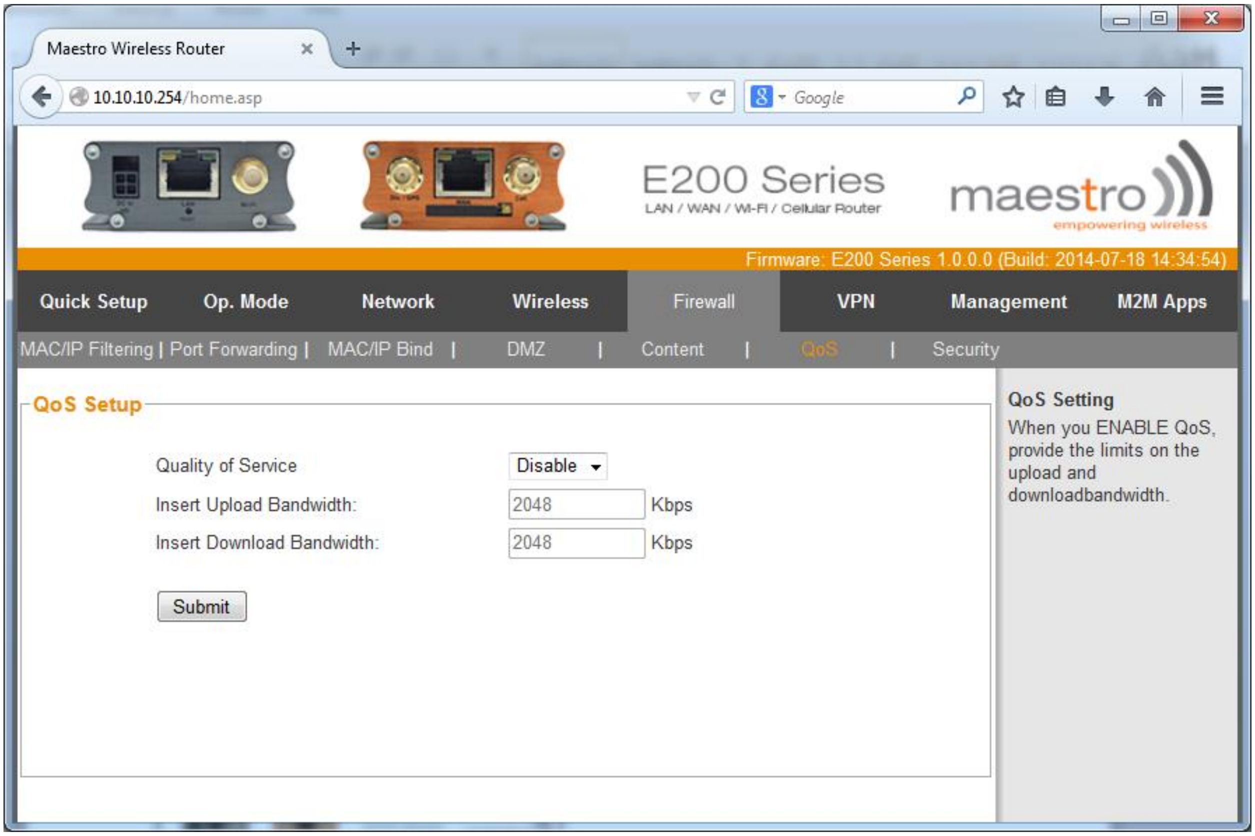
If you change your policy, you can select that particular URL and DELETE it. Your LAN side devices would be able to access the deleted URL again.

It is also possible to filter out certain key words (like ‘Sports’, ‘Adult’). The devices on the LAN side of the router will not be able to access data containing these keywords. Such key words are shown in the same window.

If you change your policy, you can select that key word and DELETE it. Your LAN side devices would be able to access the data containing deleted keywords again.

7.5.6 QoS

When you click on the QoS sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
MAC/IP Filtering | Port Forwarding | MAC/IP Bind | DMZ | Content | QoS | Security

QoS Setup

Quality of Service: Disable

Insert Upload Bandwidth: 2048 Kbps

Insert Download Bandwidth: 2048 Kbps

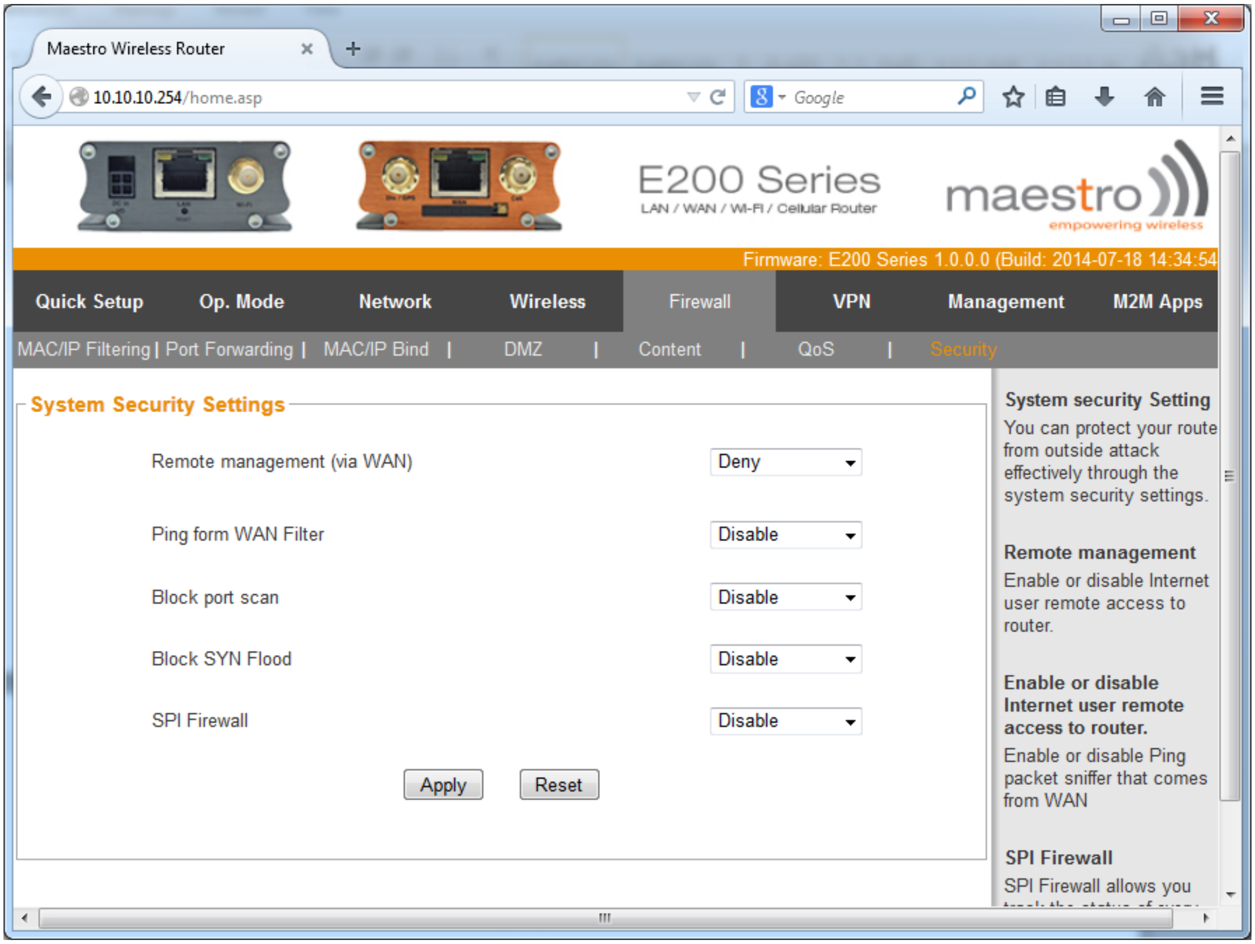
QoS Setting

When you ENABLE QoS, provide the limits on the upload and downloadbandwidth.

When you ENABLE Quality of Service, you can limit the bandwidth available for uploading data and downloading data though actual available bandwidth may be much more. Press SUBMIT button to save your settings.

7.5.7 Security

When you click on the Security sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
MAC/IP Filtering | Port Forwarding | MAC/IP Bind | DMZ | Content | QoS | Security
Apply
Reset

System Security Settings

Remote management (via WAN)	Deny
Ping form WAN Filter	Disable
Block port scan	Disable
Block SYN Flood	Disable
SPI Firewall	Disable

System security Setting
You can protect your route from outside attack effectively through the system security settings.

Remote management
Enable or disable Internet user remote access to router.

Enable or disable Internet user remote access to router.
Enable or disable Ping packet sniffer that comes from WAN

SPI Firewall
SPI Firewall allows you

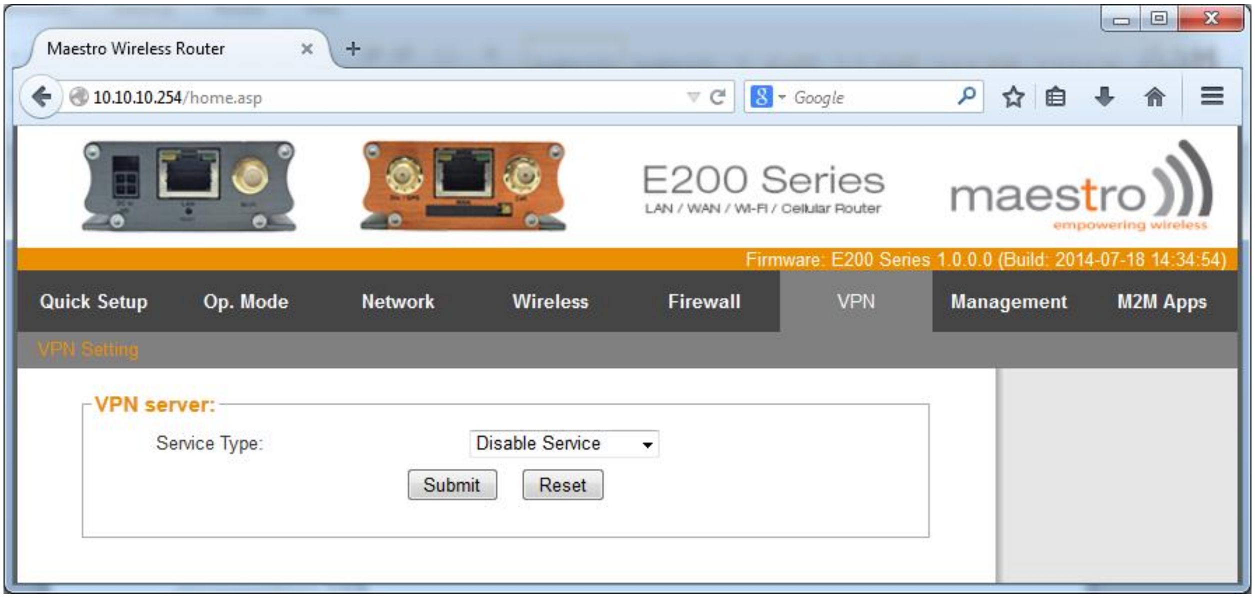
You can protect your router from outside attack effectively through the system security settings.

You can:

- Deny or Allow Remotely accessing the router management (through these web pages) from WAN side
- Enable or disable Ping packet sniffer that comes from WAN
- Enable or Disable Port scan of LAN devices
- Enable or disable SYN Flood
- Enable or Disable SPI firewall

7.6 VPN

When you click on the VPN tab, the following page is displayed.



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

VPN server:

Service Type: Disable Service

Submit Reset

You can either disable or enable VPN Mode. By default it will be disabled.

If you want to enable it, your router can be either server or a client. You can choose which protocol to follow, whether it is configured to be a server or a client.

You can choose between PPTP, L2TP/IPSEC or OpenVPN protocols.

If you choose the router to be in server mode, you have to provide the local IP address of the server (assigned by the router), address range, server name, user name and password. Press SUBMIT button to save the parameters or RESET button to blank the changes you have made.

If you choose the router to be in client mode, you need to provide the IP address of the corresponding VPN server, the username and password. The address mode can be 'static' or 'dynamic'. The operation mode can be 'Manual' or 'Keep Alive'. Select 'Manual', to manually reconnect, if there is a loss in VPN connection, or 'Keep Alive', to automatically reconnect after a set period of time.

7.7 Management

When you click on Management tab, the status sub tab is displayed. This has been discussed at the start of section 8.

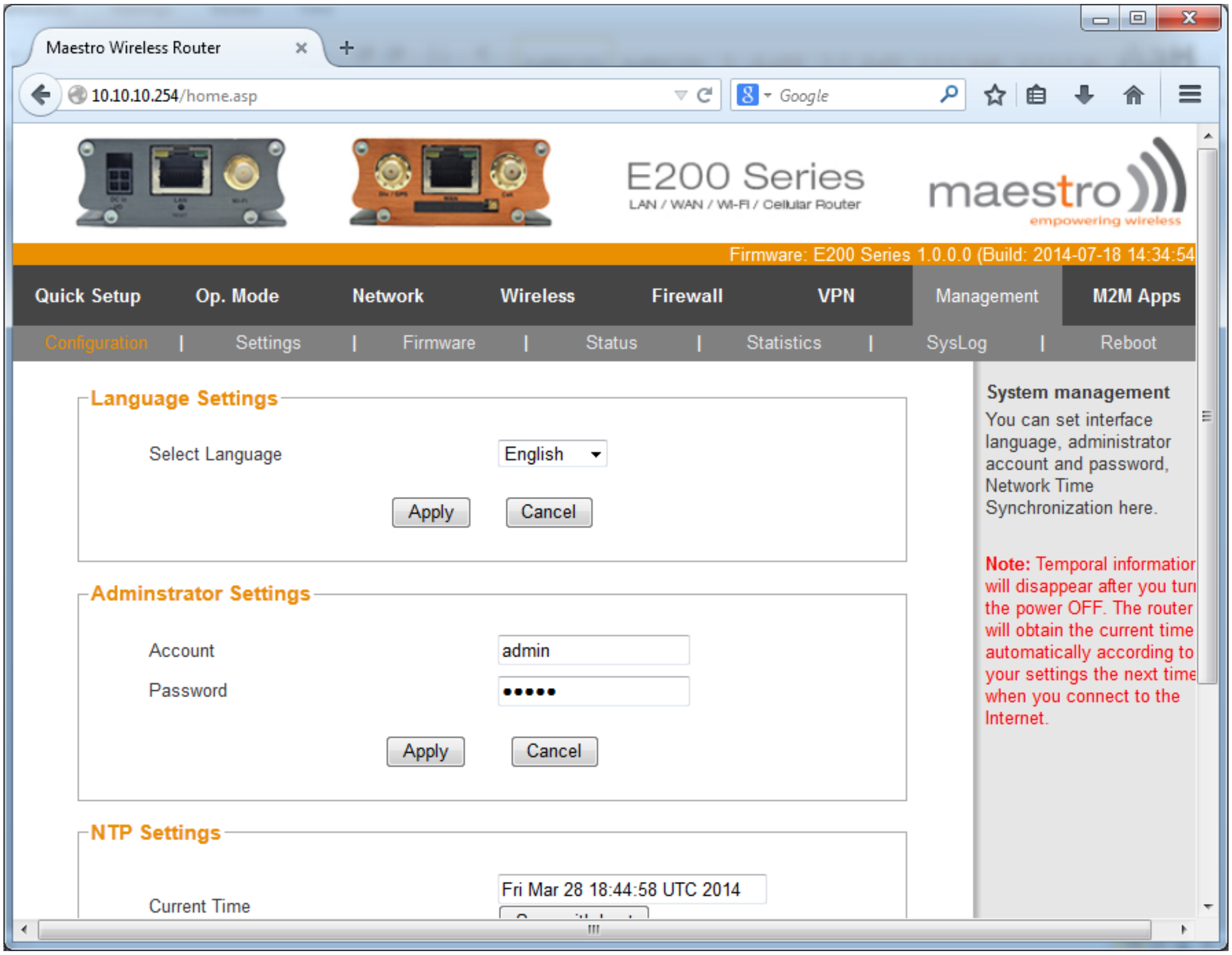
The other sub-tabs on the Management tab are:

- Configuration
- Settings
- Firmware
- Status
- Statistics

- Syslog
- Reboot

7.7.1 Configuration

When you click on Configuration sub-tab, the following page is displayed:



Language Settings

Select Language: English

Adminstrator Settings

Account: admin

Password: •••••

NTP Settings

Current Time: Fri Mar 28 18:44:58 UTC 2014

System management
You can set interface language, administrator account and password, Network Time Synchronization here.

Note: Temporal information will disappear after you turn the power OFF. The router will obtain the current time automatically according to your settings the next time when you connect to the Internet.

You can set your language using the drop down menu. You can set your administrative account and corresponding password and also set up NTP settings in this sub-tab.

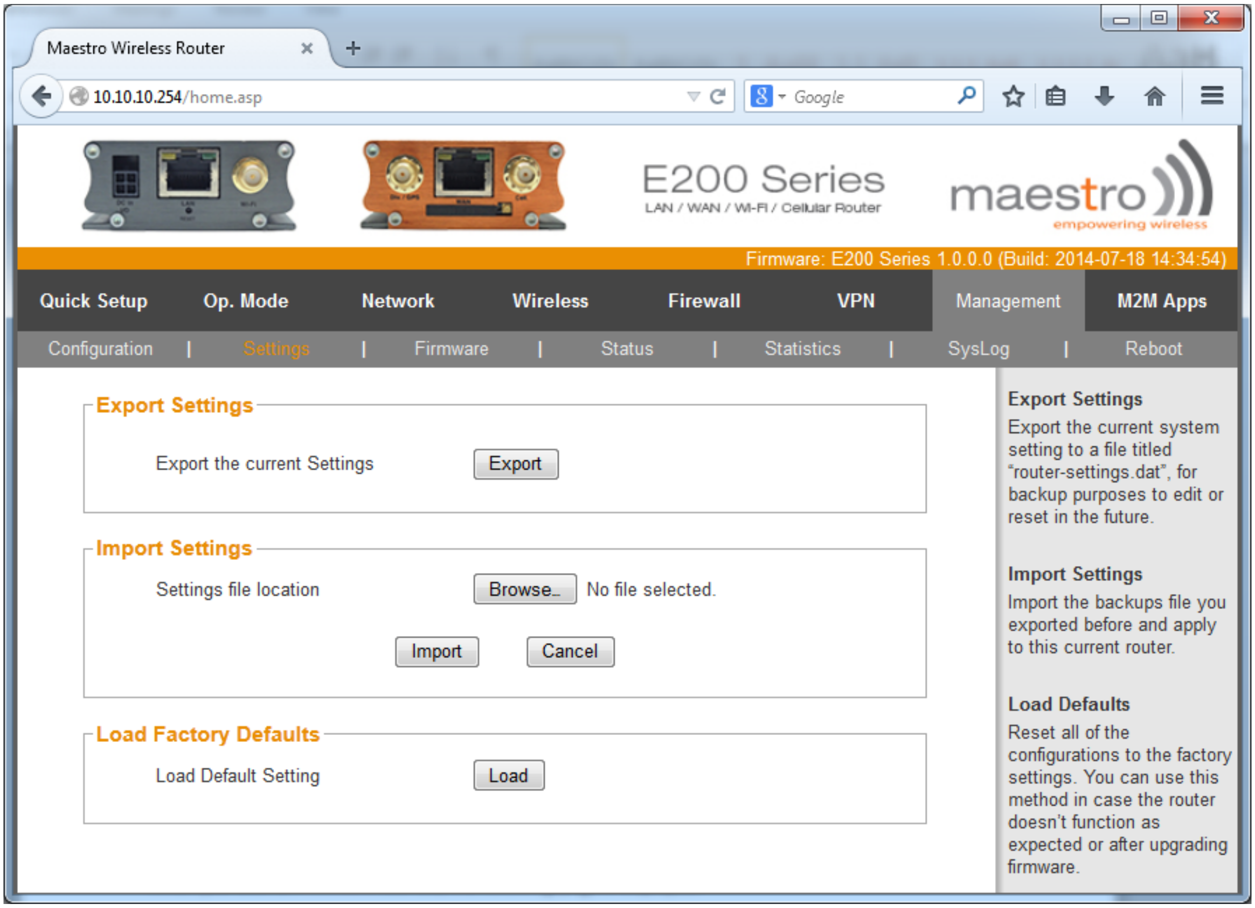
NTP settings will help the Router maintain time. You can either

- SYNC with Host (Your Computer) OR
- SYNC with any time server by inputting the URL of that server

The time will be synchronized with the given NTP server with the frequency given in the field ‘NTP synchronization (Hours)’.

7.7.2 Settings

When you click on Settings sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

Export Settings

Export the current Settings

Import Settings

Settings file location: No file selected.

Load Factory Defaults

Load Default Setting

Export Settings
Export the current system setting to a file titled "router-settings.dat", for backup purposes to edit or reset in the future.

Import Settings
Import the backups file you exported before and apply to this current router.

Load Defaults
Reset all of the configurations to the factory settings. You can use this method in case the router doesn't function as expected or after upgrading firmware.

You can export the current setting to a file titled “router-settings.dat”.

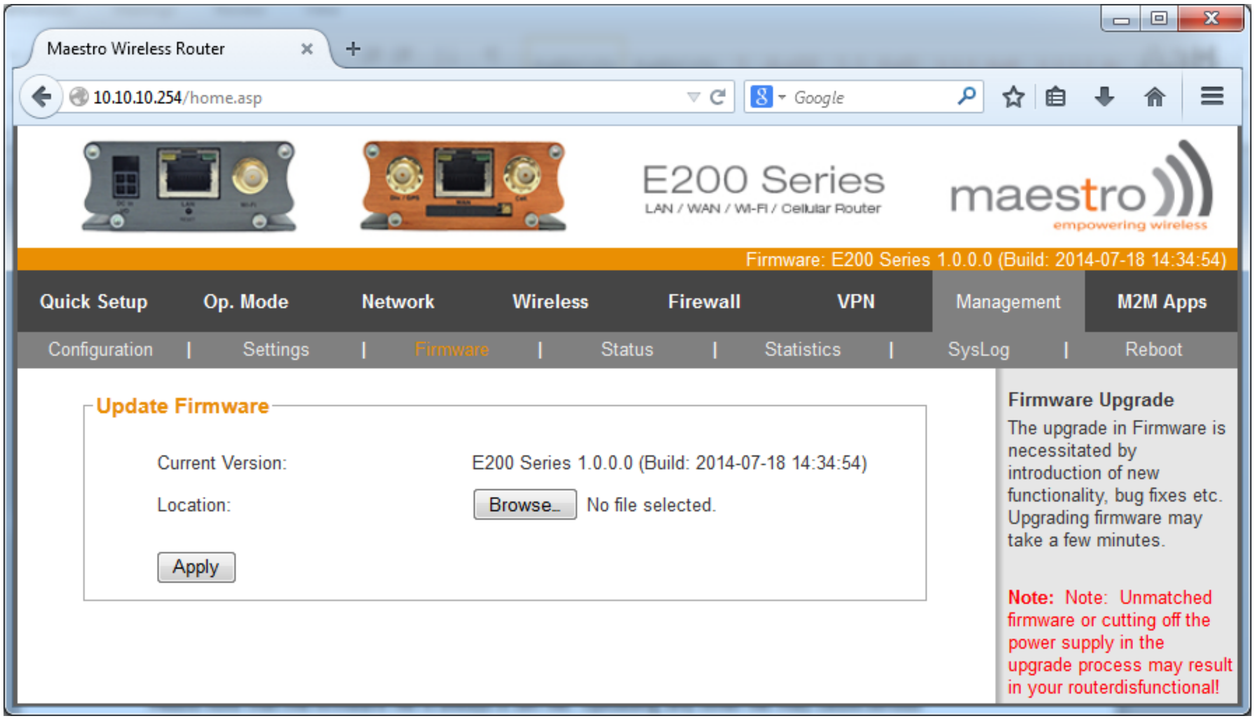
You can import router settings from a file, which you can browse and select.

NOTE: the file from which settings are imported should be a valid E200 settings file, which is either previously exported or provided by Maestro as default settings.

You can also load default factory settings.

7.7.3 Firmware

When you click on Firmware sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

Update Firmware

Current Version: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)

Location: Browse... No file selected.

Apply

Firmware Upgrade

The upgrade in Firmware is necessitated by introduction of new functionality, bug fixes etc. Upgrading firmware may take a few minutes.

Note: Note: Unmatched firmware or cutting off the power supply in the upgrade process may result in your routerdisfunctional!

It shows you the current version of the firmware. You can upgrade your firmware by browsing and selecting the new firmware file provided to you. Please ensure the correctness of the file. If a wrong data is uploaded, the router may not function as desired.

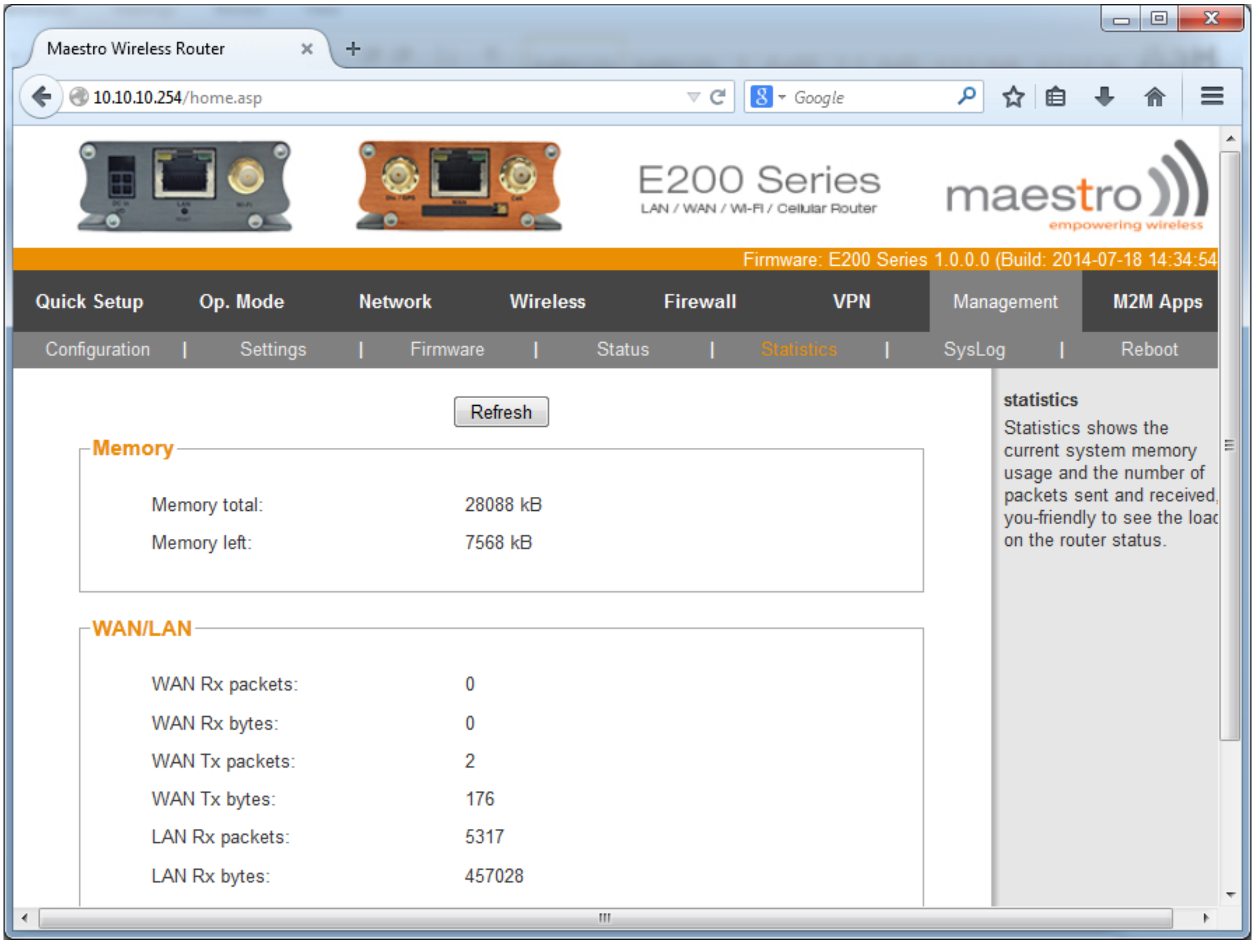
Please note that the firmware file is always a .bin file. Uploading any other file may cause serious implication including permanent damage to the router. Please consult Maestro wireless technical t support before any firmware upgrade / downgrade.

Please note that after updating the firmware version, the router continues to operate with the same parameter settings of the previous firmware version. Should you need the router to take new settings of the new firmware, you will need to factory reset the router.

Alternately, you can reset the Router to factory default by using hardware reset button.Please refer to section 4.6 for details.

7.7.4 Statistics

When you click on Statistics sub-tab, the following page is displayed:



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54

Memory total: 28088 kB
Memory left: 7568 kB

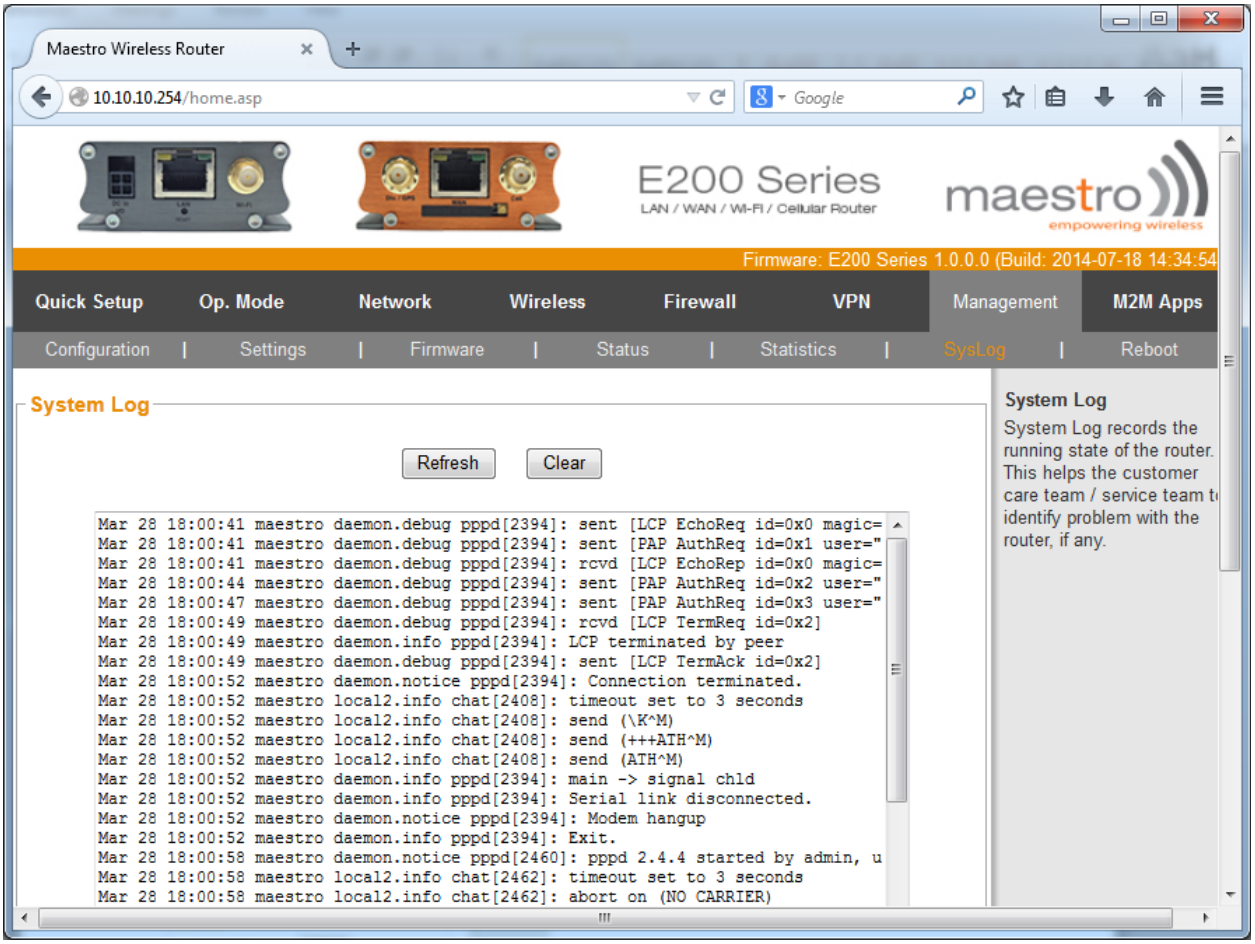
WAN Rx packets: 0
WAN Rx bytes: 0
WAN Tx packets: 2
WAN Tx bytes: 176
LAN Rx packets: 5317
LAN Rx bytes: 457028

statistics
Statistics shows the current system memory usage and the number of packets sent and received, you-friendly to see the loac on the router status.

This provides a snapshot of the statistics related to the performance of your router. You can refresh the statistics as and when you want to.

7.7.5 Syslog

When you click on Syslog sub-tab, the following page is displayed:



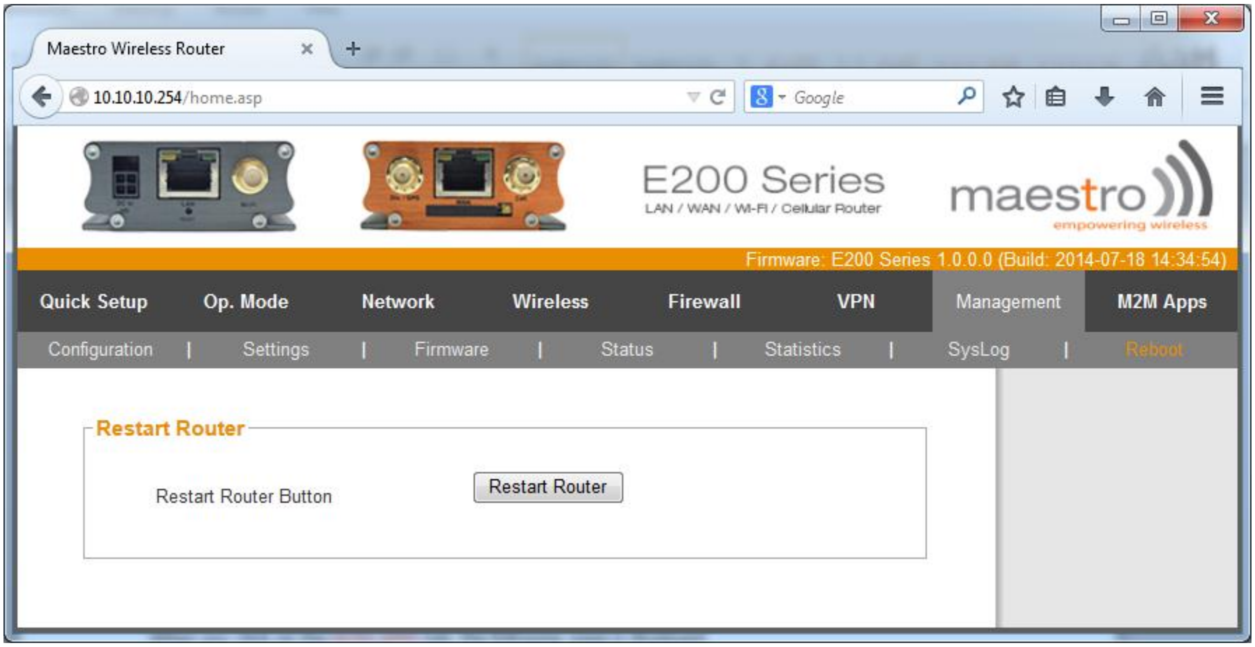
```
Mar 28 18:00:41 maestro daemon.debug pppd[2394]: sent [LCP EchoReq id=0x0 magic=
Mar 28 18:00:41 maestro daemon.debug pppd[2394]: sent [PAP AuthReq id=0x1 user="
Mar 28 18:00:41 maestro daemon.debug pppd[2394]: rcvd [LCP EchoRep id=0x0 magic=
Mar 28 18:00:44 maestro daemon.debug pppd[2394]: sent [PAP AuthReq id=0x2 user="
Mar 28 18:00:47 maestro daemon.debug pppd[2394]: sent [PAP AuthReq id=0x3 user="
Mar 28 18:00:49 maestro daemon.debug pppd[2394]: rcvd [LCP TermReq id=0x2]
Mar 28 18:00:49 maestro daemon.info pppd[2394]: LCP terminated by peer
Mar 28 18:00:49 maestro daemon.debug pppd[2394]: sent [LCP TermAck id=0x2]
Mar 28 18:00:52 maestro daemon.notice pppd[2394]: Connection terminated.
Mar 28 18:00:52 maestro local2.info chat[2408]: timeout set to 3 seconds
Mar 28 18:00:52 maestro local2.info chat[2408]: send (\K^M)
Mar 28 18:00:52 maestro local2.info chat[2408]: send (+++ATH^M)
Mar 28 18:00:52 maestro local2.info chat[2408]: send (ATH^M)
Mar 28 18:00:52 maestro daemon.info pppd[2394]: main -> signal chld
Mar 28 18:00:52 maestro daemon.info pppd[2394]: Serial link disconnected.
Mar 28 18:00:52 maestro daemon.notice pppd[2394]: Modem hangup
Mar 28 18:00:52 maestro daemon.info pppd[2394]: Exit.
Mar 28 18:00:58 maestro daemon.notice pppd[2460]: pppd 2.4.4 started by admin, u
Mar 28 18:00:58 maestro local2.info chat[2462]: timeout set to 3 seconds
Mar 28 18:00:58 maestro local2.info chat[2462]: abort on (NO CARRIER)
```

System Log
System Log records the running state of the router. This helps the customer care team / service team t identify problem with the router, if any.

This screen provides the system log for debugging purposes. The same log is emailed when “Mail to support” option is selected on Management / Status page.

7.7.6 Reboot

When you click on Reboot sub-tab, the following page is displayed:


Maestro Wireless Router
10.10.10.254/home.asp
Google
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-18 14:34:54)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
Configuration | Settings | Firmware | Status | Statistics | SysLog | Reboot

Restart Router

Restart Router Button [Restart Router]

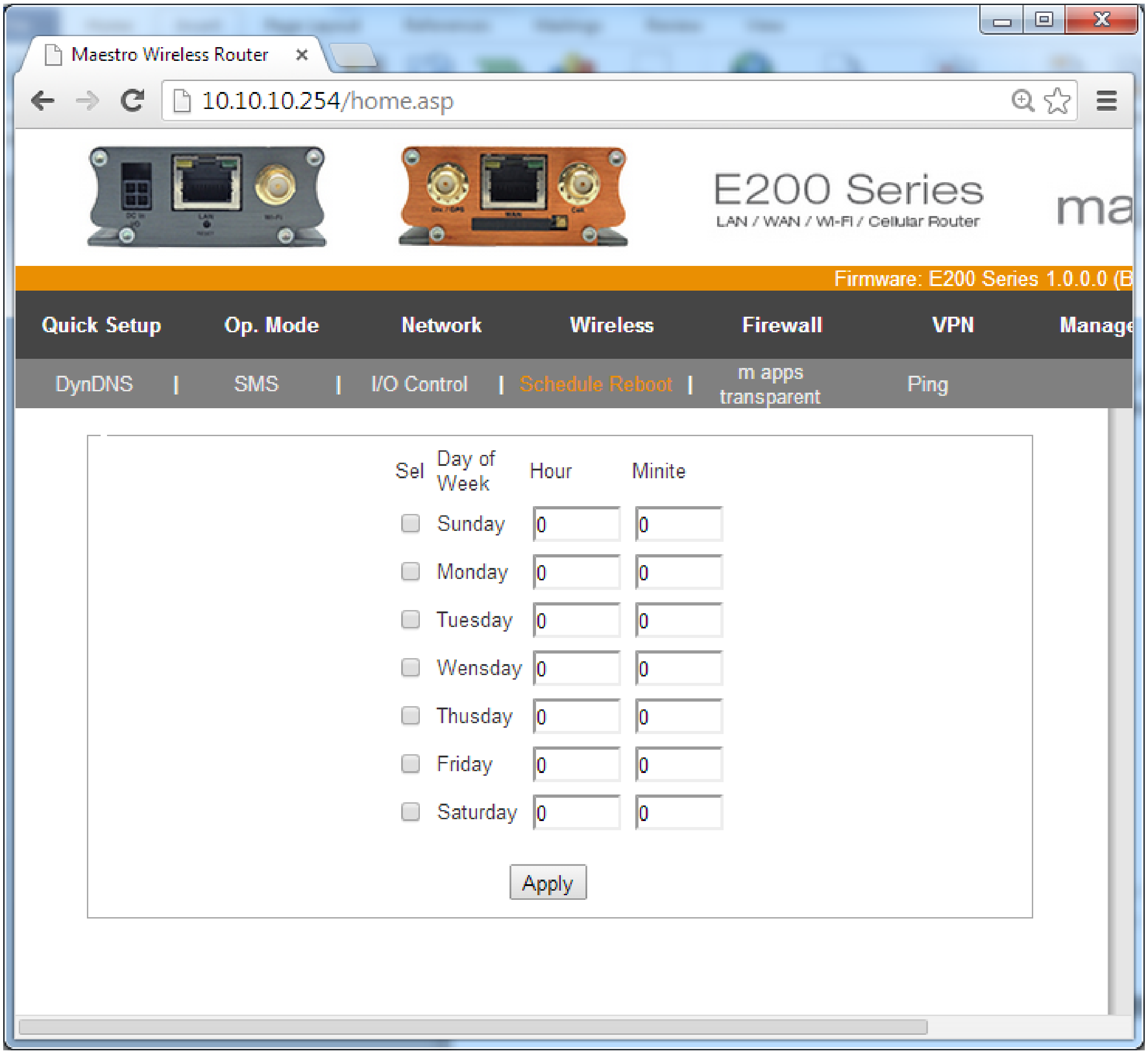
You can re-start your router here.

7.8 M2M Apps

M2M Apps are application running in the Router designed to provide added functionality to various M2M generic application. The primary aim of M2M applications is to add a level of accessibility, remote management capability, and remote monitoring function and considerably ease the debugging process should there be any unwanted behavior in the system.

When you click on the M2M APPS tab, the following page is displayed.

7.8.1 Scheduled reboot

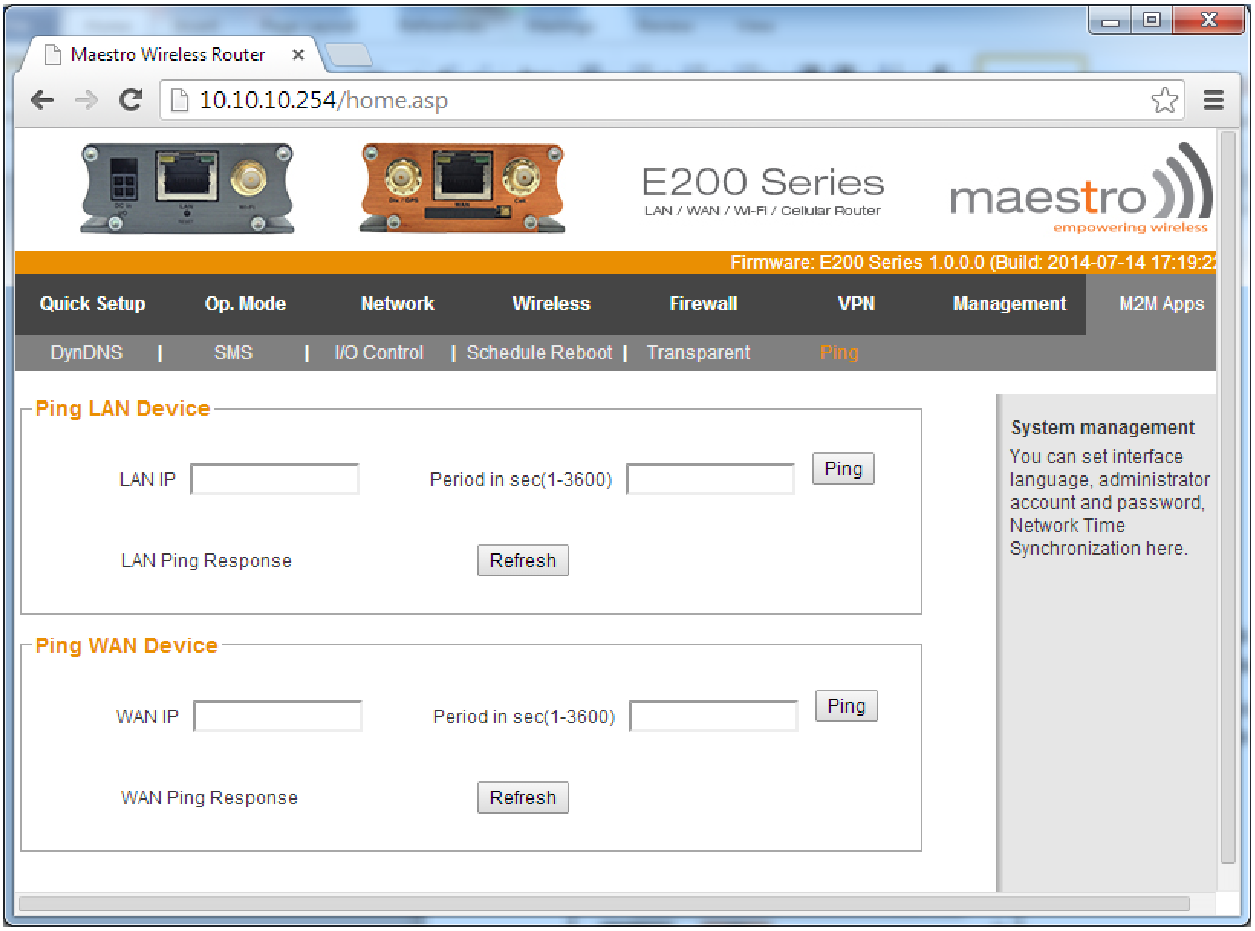


Sel	Day of Week	Hour	Minite
☐	Sunday	0	0
☐	Monday	0	0
☐	Tuesday	0	0
☐	Wensday	0	0
☐	Thusday	0	0
☐	Friday	0	0
☐	Saturday	0	0

You can schedule a re-boot of the router on any of the week days. You need to select the day by checking the check box against the day and providing the time in Hours and Minutes. You can schedule a re-boot on any or all of the days in a week. Press APPLY button to schedule a re-boot.

If you do not select any day and still provide time, the entry will not be accepted even if you press the APPLY button.

7.8.2 Ping



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-14 17:19:2

System management

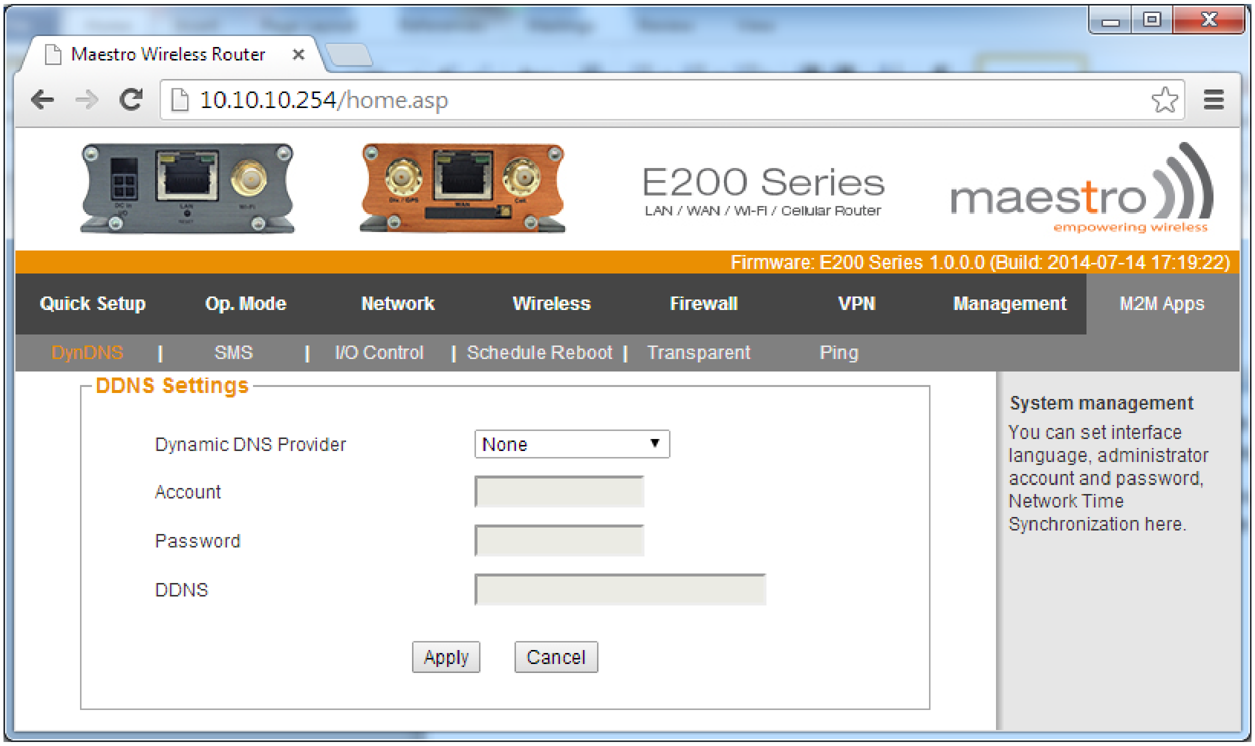
You can set interface language, administrator account and password, Network Time Synchronization here.

The basic purpose of this application is to check the LAN side as well as WAN side connectivity for fault analysis.

You can PING your LAN Device connected to your router here. Please provide the LAN IP address of the device and the time period and press PING button. The response will be displayed in the same window. You can press REFRESH to refresh this response.

Similarly, you can PING your WAN Device connected to your route. Please provide the WAN IP address of the device and the time period and press PING button. The response will be displayed in the same window. You can press REFRESH to refresh this response.

7.8.3 DynDNS


Maestro Wireless Router
10.10.10.254/home.asp
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro
empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-14 17:19:22)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
DynDNS | SMS | I/O Control | Schedule Reboot | Transparent Ping
Apply
Cancel

DDNS Settings

Dynamic DNS Provider: None

Account

Password

DDNS

System management

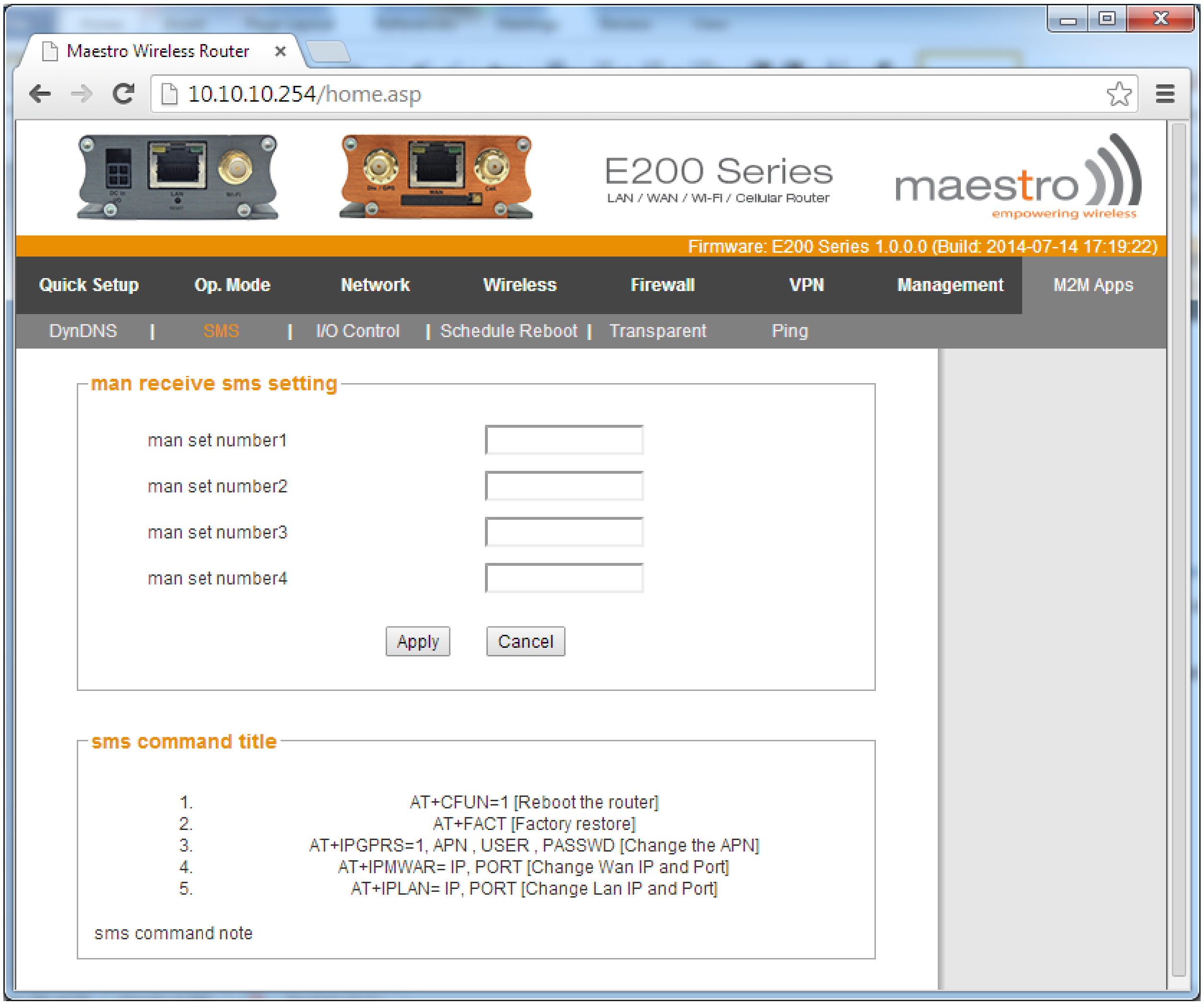
You can set interface language, administrator account and password, Network Time Synchronization here.

You can choose from the list of dynamic DNS servers from the drop down menu or 'NONE' to disable the DDNS service.

If you choose to use DDNS provider, you need to enter the corresponding account and password from the provider. In the DDNS box, enter URL provided by DDNS provider.

Press APPLY button to apply the change.

7.8.4 SMS


Maestro Wireless Router
10.10.10.254/home.asp
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-14 17:19:22)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
DynDNS | SMS | I/O Control | Schedule Reboot | Transparent Ping
Apply
Cancel

man receive sms setting

man set number1

man set number2

man set number3

man set number4

sms command title

1. AT+CFUN=1 [Reboot the router]
2. AT+FACT [Factory restore]
3. AT+IPGPRS=1, APN , USER , PASSWD [Change the APN]
4. AT+IPMWAR= IP, PORT [Change Wan IP and Port]
5. AT+IPLAN= IP, PORT [Change Lan IP and Port]

sms command note

You can provide up to 4 numbers on this page. If a SMS is received by the router comprising of any of the commands given in the window below, that command will be executed by the router.

If the SMS is not from the listed numbers or if it does not contain a command in the given format, such message will be ignored.

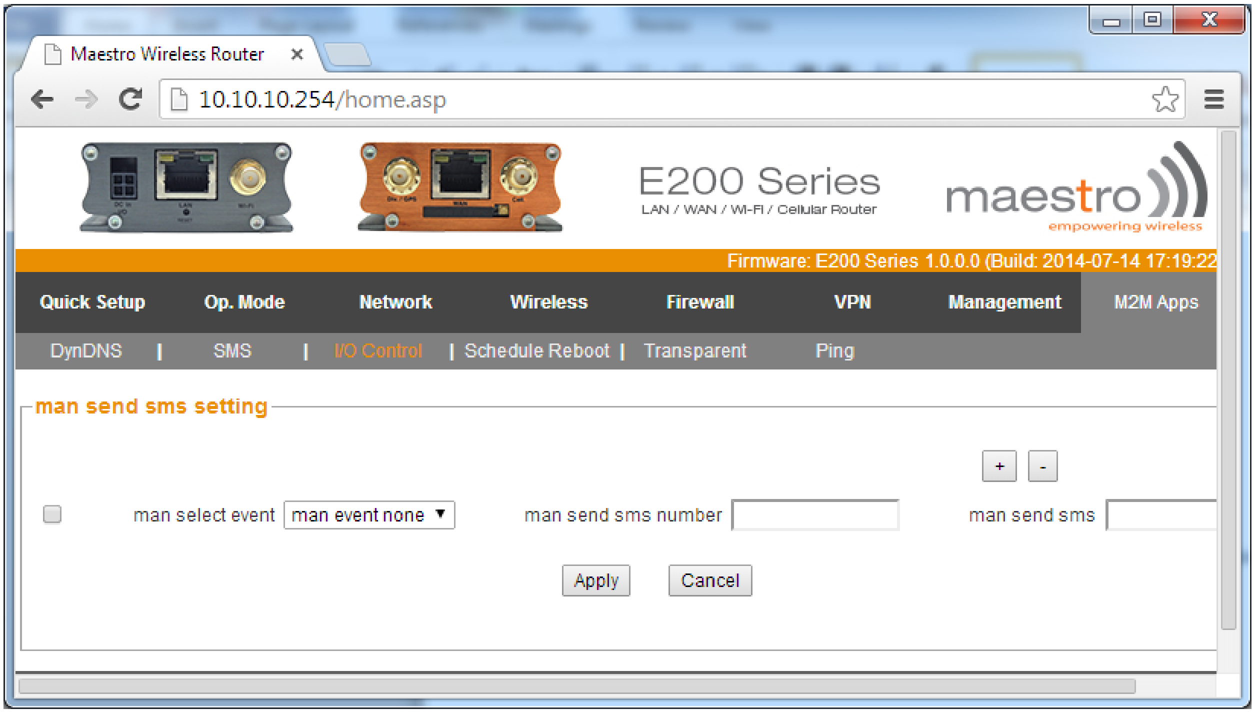
SMS AT+IPMWAR and AT+IPLAN are to be used only in MWAS mode along with Maestro MWAS server. For more information on MWAS please contact your local Maestro Wireless representative.

7.8.5 Events/ I/O Control

SMS will be sent by the router to a defined number with a defined text when a particular event takes place (GPIO 1, GPIO 2, SIM change).

You can select the event from the drop down, provide the number to which an SMS must be sent and define the text that is to be sent as the SMS.

Press '+' button to add an event. Similarly select the event and press '-'button to delete the event. Press APPLY to effect the change.



Firmware: E200 Series 1.0.0.0 (Build: 2014-07-14 17:19:22

man send sms setting

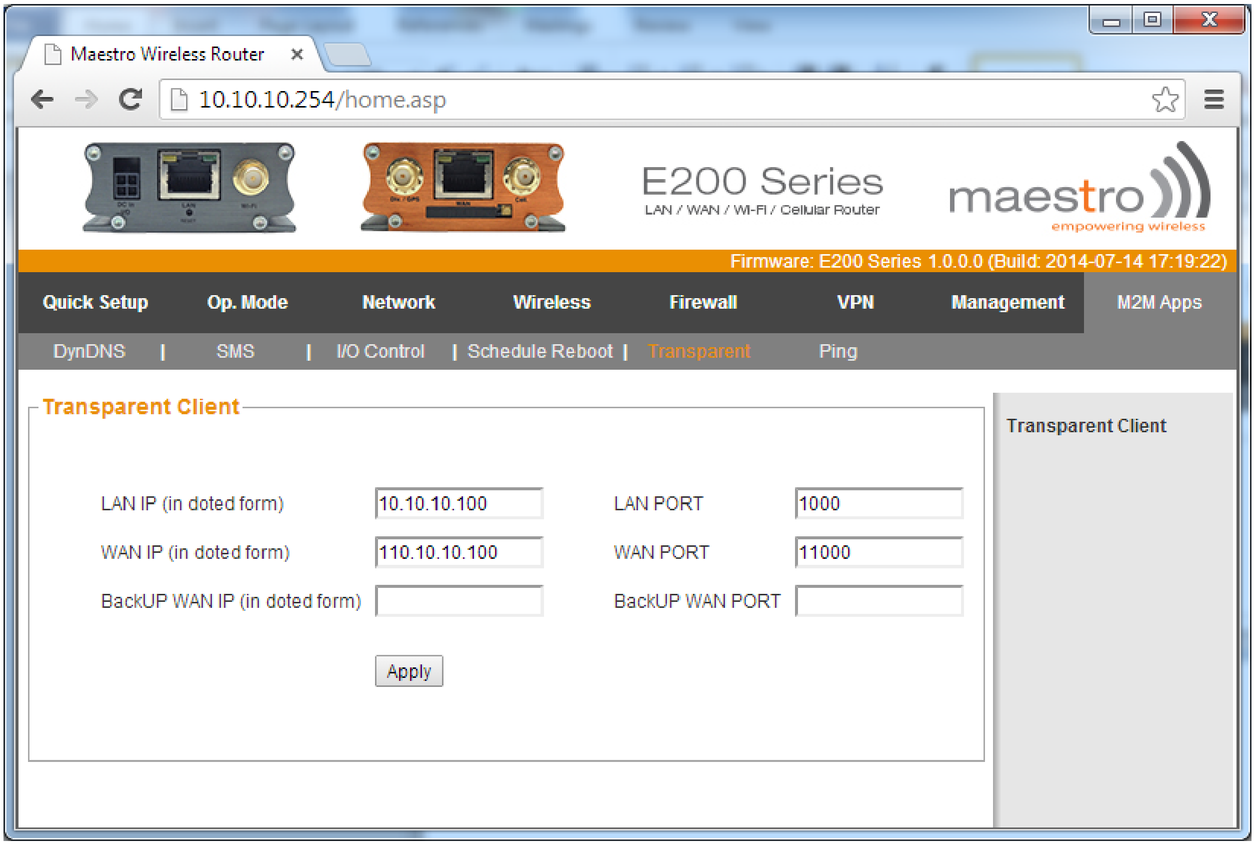
□ man select event: man event none ▼ man send sms number: man send sms:

7.8.6 Transparent

This application creates a direct communication channel between a given port on a given Host on the LAN side and that on the WAN side of the router. In case the host on the WAN side fails to communicate, a backup WAN IP and port can be given.

Please do note that this application as of now is limited to communicate only with Maestro MWAS server. For more information on Maestro MWAS server, please contact your local Maestro representative.

(However in the subsequent release, the Transparent Mode application will be generic and will work across any custom designed gateway server)


Maestro Wireless Router
10.10.10.254/home.asp
E200 Series
LAN / WAN / Wi-Fi / Cellular Router
maestro empowering wireless
Firmware: E200 Series 1.0.0.0 (Build: 2014-07-14 17:19:22)
Quick Setup
Op. Mode
Network
Wireless
Firewall
VPN
Management
M2M Apps
DynDNS | SMS | I/O Control | Schedule Reboot | Transparent Ping
Transparent Client
Apply

Transparent Client

LAN IP (in doted form) 10.10.10.100 LAN PORT 1000

WAN IP (in doted form) 110.10.10.100 WAN PORT 11000

BackUP WAN IP (in doted form) BackUP WAN PORT

7.8.7 GPS

Under construction

8 Appendix A: List OF abbreviations

Acronym	Expansion / Meaning
2G	2nd generation
3G	3rd Generation
ADSL	Asymmetric digital subscriber line, *ADSL* is a type of DSL broadband communications technology used for connecting to the Internet
AES	Advanced Encryption Standard
AP Client	Access Point Client
CSQ	
DHCP	Dynamic Host Configuration Protocol (DHCP) is a standardized networking protocol used on Internet Protocol (IP) networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services.
DIN	DIN connector is an electrical connector that was originally standardized by the Deutsches Institut für Normung (DIN)
DMZ	In computer security, a DMZ or Demilitarized Zone is a physical or logical sub network that contains and exposes an organization's external-facing services to a larger and un-trusted network, usually the Internet.
DNS	Domain Name System (DNS) is a hierarchical distributed naming system for computers, services, or any resource connected to the Internet or a private network
DynDNS, DDNS	Dynamic DNS (DDNS) is a method of automatically updating a name server in the Domain Name System (DNS), often in real time, with the active DNS configuration of its configured hostnames, addresses or other information.
EDGE	Enhanced Data rates for GSM Evolution (EDGE) is a digital mobile phone technology that allows improved data transmission rates as a backward-compatible extension of GSM.
GPRS	General packet radio service (GPRS) is a packet oriented mobile data service on the 2G and 3G cellular communication system's global system for mobile communications
GSM	Global system for mobile communications
HT Physical mode	High Throughput Physical Mode
ICMP	Internet Control Message Protocol (ICMP) is one of the main protocols of the Internet Protocol Suite. It is used by network devices, like routers, to send error messages
IGMP	Internet Group Management Protocol is a communications protocol used by hosts and adjacent routers on IP networks to establish multicast group memberships
IP Sec	Internet Protocol Security is a protocol suite for securing Internet Protocol (IP) communications by authenticating and encrypting each IP packet of a communication session
ISP	Internet service provider
L2TP	Layer 2 Tunneling Protocol is a tunneling protocol used to support virtual private networks
LAN	Local Area Network

Acronym	Expansion / Meaning
LLTD	Link Layer Topology Discovery is a proprietary Link Layer protocol for network topology discovery and quality of service diagnostics
M2M	Machine to machine
MAC address	Media access control address is a unique identifier assigned to network interfaces for communications on the physical network segment
MTU	Maximum transmission unit of a communications protocol of a layer is the size (in bytes) of the largest protocol data unit that the layer can pass onwards
NAT	Network address translation is a methodology of modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device for the purpose of remapping one IP address space into another.
NTP	Network Time Protocol is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks
PPPoE	Point-to-Point Protocol over Ethernet
PPTP	Point-to-Point Tunneling Protocol
PSK	Pre-shared key
QoS	Quality of Service
RF	Radio Frequency
Rx	Reception
SIM	Subscriber identity module
SMA	SMA (Sub Miniature version A) connectors are semi-precision coaxial RF connectors
SMS	Short Message Service
SPI	Serial Peripheral Interface
SSID	Service set identification
TCP	Transmission Control Protocol
TKIP	Transmission Control Protocol
Tx	Transmission
UDP	User Datagram Protocol
UPnP	Universal Plug and Play
VPN	Virtual private network
WAN	Wide Area network
WCDMA	Wideband Code Division Multiple Access
WDS	Wireless distribution system
WEP	Wired Equivalent Privacy, is a wireless network security standard
Wi-Fi	Local area wireless technology that allows an electronic device to exchange data or connect to the internet using 2.4 GHz UHF and 5 GHz SHF radio waves
WPA	Wi-Fi Protected Access
WPA2	Wi-Fi Protected Access II

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