H1 Auto+ Web Interface

Teldat-Dm488-I

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Chapter 1 Introduction

1.1 Introduction

The **web configurator** is an H1 Auto+ router configuration tool allowing for a quick and efficient start up.

It is designed to automate many of the steps carried out to create the router configuration to match customer requirements. The configuration parameters that can be accessed through the web are those most frequently used in mobile router applications. The rest of the parameters, hidden from the user, contain values that are automatically adjusted for optimal operation. If needed, a network engineer can adjust the more advanced parameters from a command line interface.

Warning

If you modify the router configuration through CLI, then the web configurator may not operate correctly. If that happens, you must restore the default settings before creating a new configuration.

1.2 Router: Local Connection

The router has default factory settings installed that activate when the router is powered up. You can access the web configurator by connecting an Ethernet cable, supplied with the router, to any of the switch ports and to the PC being used for the configuration tasks.

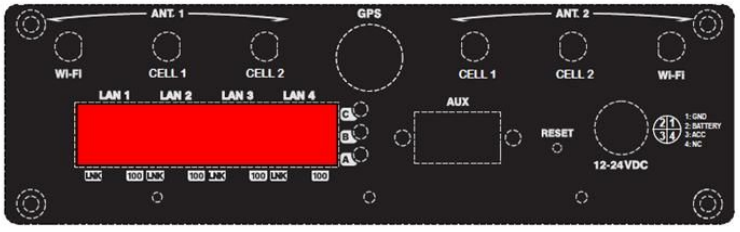


Fig. 1: Rear view of the H1 Auto+ router. Switch ports

The default IP address is 192.168.1.1/24: this is accessible from any switch port. You must configure your PC Ethernet IP address to match the H1 Auto+ subnet (e.g. 192.168.1.2 with mask 255.255.255.0 and default router 192.168.1.1).

Once the PC IP address has been set up, enter the following URL in your web browser:

http://192.168.1.1

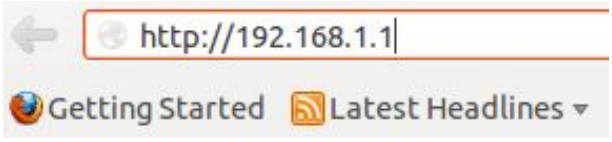


Fig. 2: Accessing the web configurator

If your PC network address is correctly set up, the web configurator home page appears.

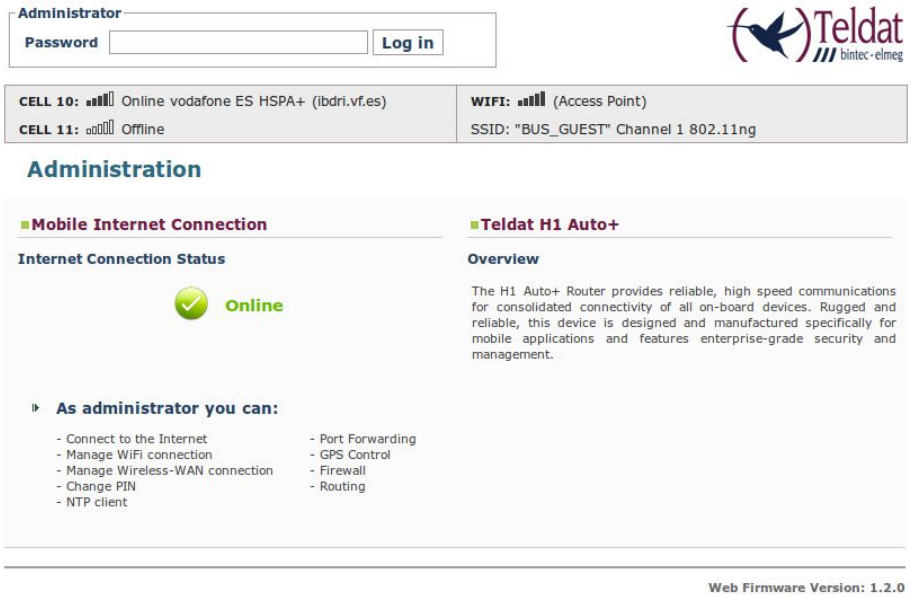


Fig. 3: H1 Auto+ Home page

The bar at the top of the home page provides current information on the cellular and Wifi connection status. When it comes to the cellular connections, the application shows the following information: *Signal + Status + Carrier + Technology + APN* and for the Wifi: *Signal + Mode + SSID + Channel + Kind of connection.*

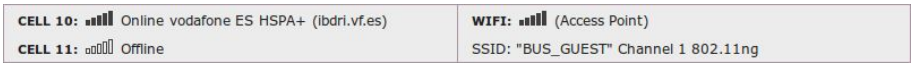


Fig. 4: Cellular and Wifi connection status

In the middle and lower part of the home page, a graphic shows the status of the mobile internet connection, text information on the web configurator and the H1 Auto+ features, as well as the version of the web firmware installed.

Fig. 5: Home Page information

To access the router configuration and monitoring, enter the administrator password and click on the *Log in* button. The default router configuration has no password. You can define one following the instructions set forth under the General Menu web page section.

Fig. 6: Accessing as Administrator

Chapter 2 Web Interface

2.1 Structure

The configuration and monitoring pages have a common structure, described below:

- **Information on the router, date and time** (shown in purple): displays the name of the router, the date, the time and the time elapsed since the last restart.
- **Main menu** (red): allows you to browse through the different configurator pages.
- **Save, Reboot and Restore default configuration buttons** (yellow):

  - **Save button:** saves any changes made to the configuration. For these changes to take effect, you must restart the router. If, however, you haven't saved the changes before restarting, they will be lost. When the user clicks on this button, he is automatically logged out and redirected to the application disconnection page.

  - **Reboot button:** allows you to reboot the router from the web. When the user clicks on this button, he is automatically logged out and redirected to the application disconnection page.

  Note

  For the changes entered in the router configuration via the web configurator to take effect, first save the changes through the "Save" button and then reboot the router using the "Reboot" button.

  - **Restore default configuration button:** allows you to reestablish the router's default configuration, which automatically restarts for changes to be effective. On reboot, the user's browser is redirected to the application disconnection page. The browser display must refresh when the router has finished rebooting.

  Note

  If you reestablish the default configuration, you will lose the current configuration.

- **Logout** (green): disconnects the user. The user's browser is redirected to the application disconnection page. Here, instructions are given on how to return to the configurator start page.
- **Configuration/monitoring page** (blue): this is the page the user is currently accessing. It allows him to configure or monitor the different router features.

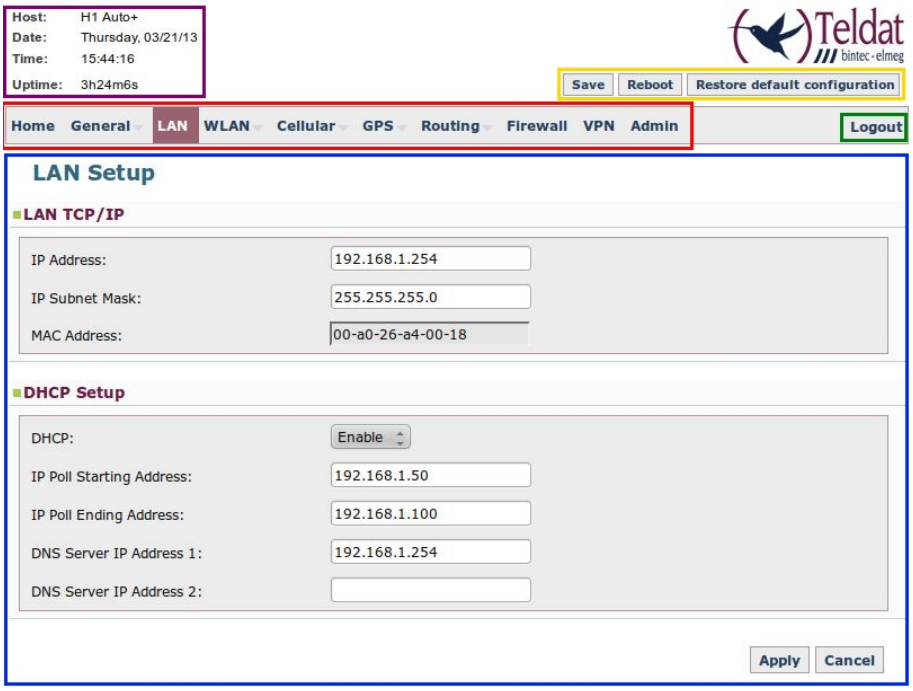


Fig. 7: Page structure

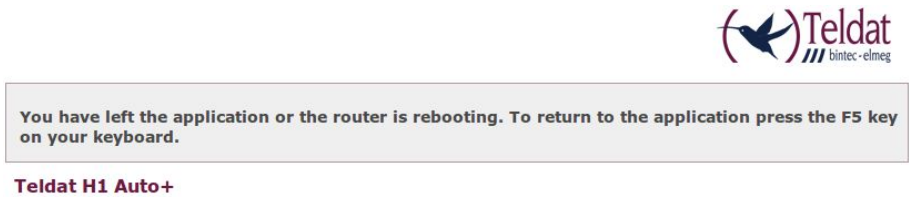
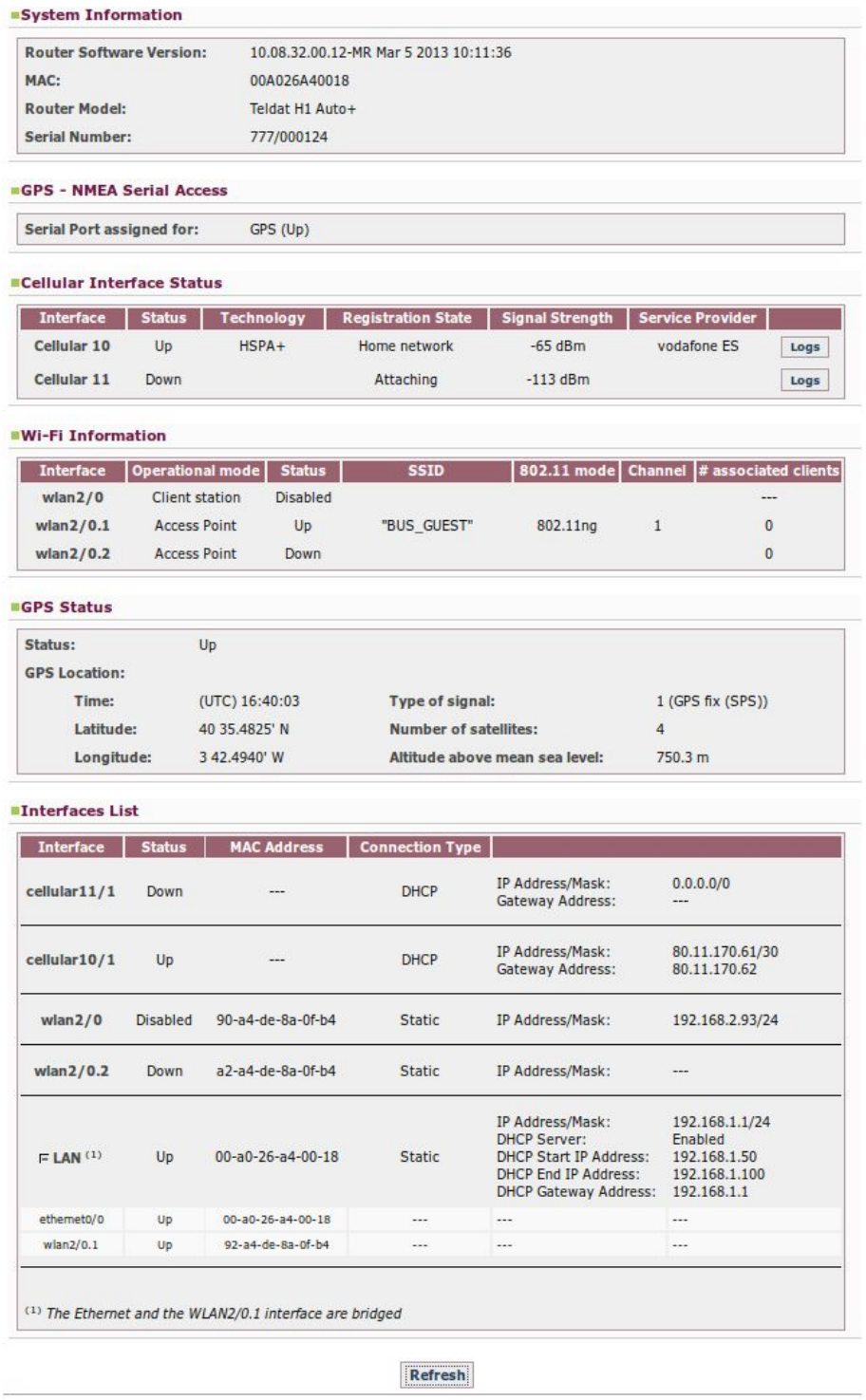


Fig. 8: Application disconnection page

Each page contains all the fields needed to review and modify the router configuration. The following sections describe the configuration/monitoring screens in the order in which they appear on the menu bar at the top of each web page (Home, General, WLAN, Cellular, GPS, Routing, Firewall, VPN and Admin).

2.2 Home Menu

Once you have entered the password (if one has been previously set), the first page to appear is the Home page. This provides a quick overview of the operating parameters and is divided into six sections.



System Information

Router Software Version:	10.08.32.00.12-MR Mar 5 2013 10:11:36
MAC:	00A026A40018
Router Model:	Teldat H1 Auto+
Serial Number:	777/000124

GPS - NMEA Serial Access

Serial Port assigned for:	GPS (Up)

Cellular Interface Status

Interface	Status	Technology	Registration State	Signal Strength	Service Provider	
Cellular 10	Up	HSPA+	Home network	-65 dBm	vodafone ES	Logs
Cellular 11	Down		Attaching	-113 dBm		Logs

Wi-Fi Information

Interface	Operational mode	Status	SSID	802.11 mode	Channel	# associated clients
wlan2/0	Client station	Disabled				---
wlan2/0.1	Access Point	Up	"BUS_GUEST"	802.11ng	1	0
wlan2/0.2	Access Point	Down				0

GPS Status

Status:	Up		
GPS Location:			
Time:	(UTC) 16:40:03	Type of signal:	1 (GPS fix (SPS))
Latitude:	40 35.4825' N	Number of satellites:	4
Longitude:	3 42.4940' W	Altitude above mean sea level:	750.3 m

Interfaces List

Interface	Status	MAC Address	Connection Type		
cellular11/1	Down	---	DHCP	IP Address/Mask: Gateway Address:	0.0.0.0/0 ---
cellular10/1	Up	---	DHCP	IP Address/Mask: Gateway Address:	80.11.170.61/30 80.11.170.62
wlan2/0	Disabled	90-a4-de-8a-0f-b4	Static	IP Address/Mask:	192.168.2.93/24
wlan2/0.2	Down	a2-a4-de-8a-0f-b4	Static	IP Address/Mask:	---
LAN (1)	Up	00-a0-26-a4-00-18	Static	IP Address/Mask: DHCP Server: DHCP Start IP Address: DHCP End IP Address: DHCP Gateway Address:	192.168.1.1/24 Enabled 192.168.1.50 192.168.1.100 192.168.1.1
ethernet0/0	Up	00-a0-26-a4-00-18	---	---	---
wlan2/0.1	Up	92-a4-de-8a-0f-b4	---	---	---

(1) *The Ethernet and the WLAN2/0.1 interface are bridged*

Refresh

Fig. 9: Home Menu

2.2.1 System Information

In this section, the application provides general information on the router:

- **Router Software Version:** Router software version.
- **MAC:** Physical Ethernet address.
- **Router Model:** Product model name.
- **Serial Number:** Router serial number.

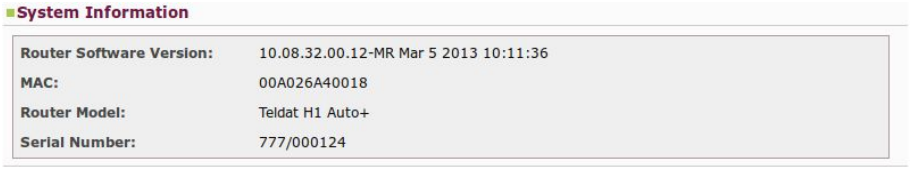


Fig. 10: Home Menu – System Information

2.2.2 GPS - NMEA Serial Access

Shows if the serial port is configured for a) GPS or, b) is available for a serial command line session.

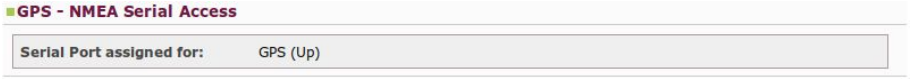


Fig. 11: Home Menu – GPS - NMEA Serial Access

2.2.3 Cellular Interface Status

Displays a summary on the radio link status, as well as the registration in the network for each router cellular module.

- **Interface:** Interface name.
- **Status:** Status of cellular interface.
- **Technology:** Type of connection used by the module.
- **Registration State:** Module network registration status.
- **Signal Strength:** Signal reception level measured by the module.
- **Service Provider:** Mobile cellular carrier.

Fig. 12: Home Menu – Cellular Interface Status

You can also see the router cellular modules activity and status by clicking on the *Logs* button. Once clicked, you are redirected to a new configurator page.

Fig. 13: Home Menu – Cellular Interface Status – Logs Cellular 10

Here, the application displays information on the module type and version and the firmware installed in the router. You also can view the commands sent to the module, together with the results, by clicking on the *Modem Status* button.

2.2.4 Wi-Fi Information

Displays the status of the wireless networks operating through the router. The following information is displayed for each wireless network:

- **Interface:** Interface name.
- **Operational Mode:** Interface operating mode: *Access Point* or *Client station*.
- **Status:** Interface status.
- **SSID:** *Service Set Identifier*, name identifying the wireless network.
- **802.11 Mode:** Type of Wifi.
- **Channel:** Channel used by the wireless network.
- **# associated clients:** Number of connected users.

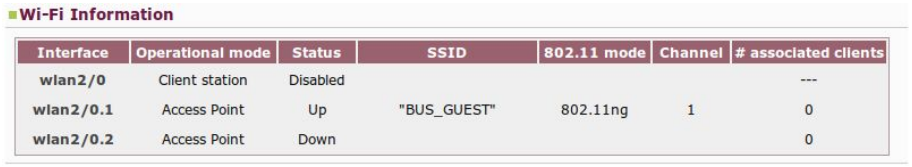


Fig. 14: Home Menu – WI-FI Information

2.2.5 GPS Status

Here, the application displays the status of GPS interface and the current positioning data.

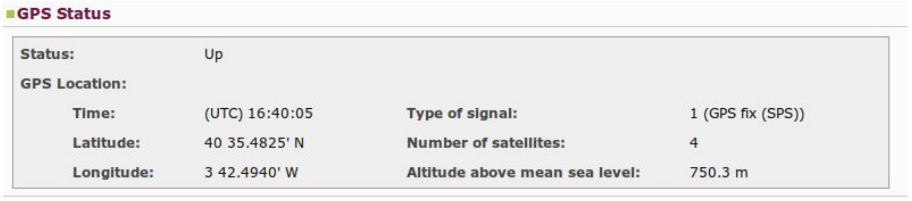
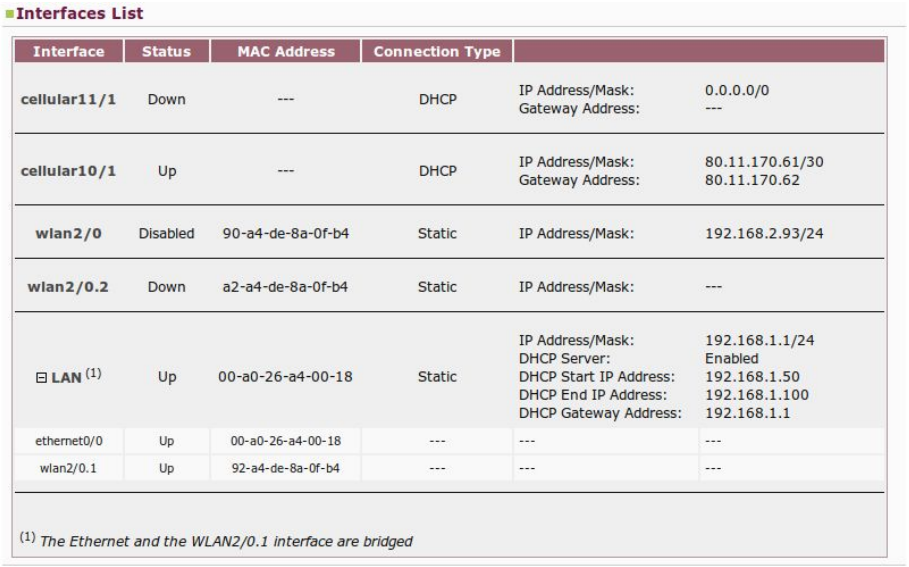


Fig. 15: Home Menu – GPS Status

2.2.6 Interfaces List

Displays information on the interfaces the router is equipped with. The data shown depends on the type of interface and on the configuration.



Interfaces List

Interface	Status	MAC Address	Connection Type		
cellular11/1	Down	---	DHCP	IP Address/Mask: Gateway Address:	0.0.0.0/0 ---
cellular10/1	Up	---	DHCP	IP Address/Mask: Gateway Address:	80.11.170.61/30 80.11.170.62
wlan2/0	Disabled	90-a4-de-8a-0f-b4	Static	IP Address/Mask:	192.168.2.93/24
wlan2/0.2	Down	a2-a4-de-8a-0f-b4	Static	IP Address/Mask:	---
⊟ LAN (1)	Up	00-a0-26-a4-00-18	Static	IP Address/Mask: DHCP Server: DHCP Start IP Address: DHCP End IP Address: DHCP Gateway Address:	192.168.1.1/24 Enabled 192.168.1.50 192.168.1.100 192.168.1.1
ethernet0/0	Up	00-a0-26-a4-00-18	---	---	---
wlan2/0.1	Up	92-a4-de-8a-0f-b4	---	---	---

(1) *The Ethernet and the WLAN2/0.1 interface are bridged*

Fig. 16: Home Menu – Interfaces List

2.2.6.1 Cellular11/1 and Cellular10/1

Status	Interface status.
MAC Address	Interface physical address.
Connection Type	Current connection type. For these interfaces, the value is always *DHCP*.
IP Address/Mask	Assigned IP address and mask.
Gateway Address	Default gateway IP address.

2.2.6.2 Wlan2/0 (Client Station)

Status	Interface status.
MAC Address	Interface physical address.
Connection Type	Current connection type: *Static* or *DHCP*.

If the connection is *Static*:

IP Address/Mask	IP address and mask.

If the connection is *DHCP*:

IP Address/Mask	Assigned IP address and mask.
Gateway Address	IP address of the default gateway.

2.2.6.3 Wlan2/0.1[1] and Wlan2/0.2 (Access Points)

Status	Interface status.
MAC Address	Interface physical address.
Connection Type	Current connection type. For these interfaces, the value is always *Static*.
IP Address/Mask	IP address and mask.
DHCP Server	DHCP server enabled or disabled.
DHCP Start IP Address	DHCP Start IP address.
DHCP End IP Address	DHCP End IP address.
DHCP Gateway Address	DHCP Gateway router IP address.

[1] This interface only is shown with this information when it isn't bridged with the Ethernet interface.

2.2.6.4 LAN

Status	Interface status.
MAC Address	Interface physical address.
Connection Type	Current connection type. For these interfaces, the value is always *Static*.
IP Address/Mask	IP address and mask.
DHCP Server	DHCP server enabled or disabled.
DHCP Start IP Address	DHCP Start IP address.
DHCP End IP Address	DHCP End IP address.
DHCP Gateway Address	DHCP Gateway router IP address.

Through this table, the application allows for information on the bridged interfaces to be shown. To view or hide this information, click on the **+/-** icon (next to the name field).

2.2.7 Refresh button

This button allows you to update (refresh) the information shown in the sections on this page.

Fig. 17: Home Menu – Refresh button

2.3 General Menu

Allows you to configure the router general parameters.

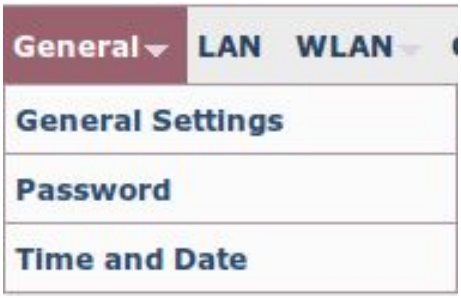


Fig. 18: General Menu

2.3.1 General Settings

Here, you can configure various general system parameters.

- **Host Name:** the router's name.
- **Ignition OFF Delay:** length of time the router remains active after the vehicle ignition is switched off.
- **DNS Server IP Address:** IP address to which DNS server requests are sent to.

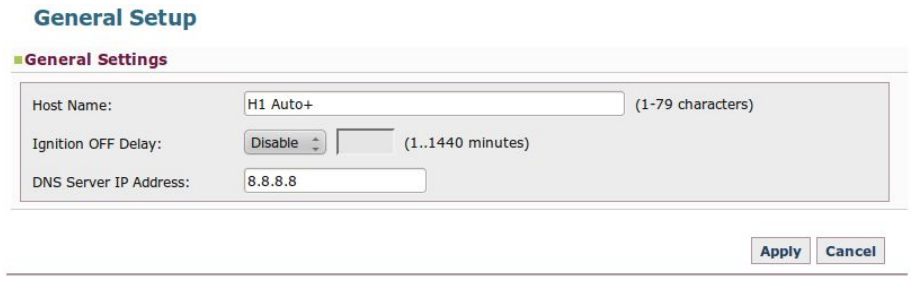


Fig. 19: General Menu – General Settings

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the configuration has

changed.

If you don't wish to apply the changes, click on the *Cancel* button. This then shows you the latest information the router has stored.

2.3.2 Password

Allows you to set the router access password. To change it, enter a string of characters (between 1 and 39) twice and subsequently click on the *Apply* button (to apply said changes).

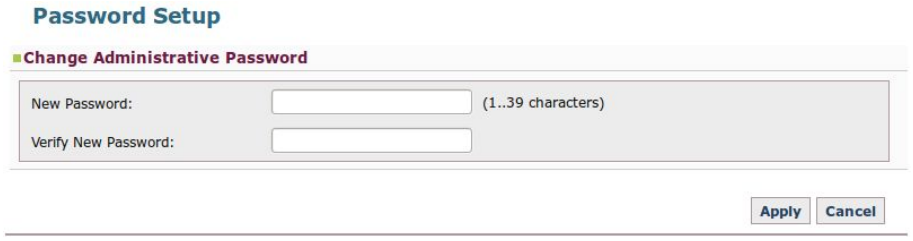


Fig. 20: General Menu – Password

2.3.3 Time and Date

Displays router time and date settings and allows you to change them.

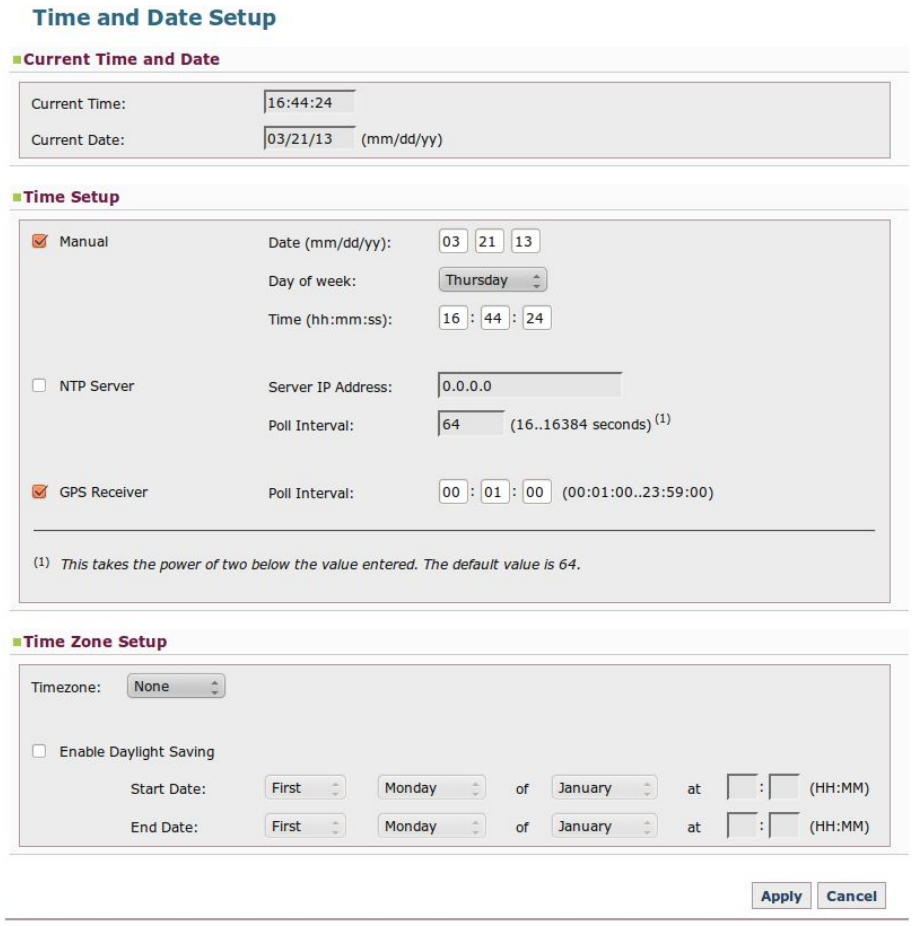


Fig. 21: General Menu – Time and Date

2.3.3.1 Current Time and Date

Displays the system's current time and date.

Fig. 22: General Menu – Time and Date – Current Time and Date

2.3.3.2 Time Setup

There are three ways in which we you can configure the router's time and date:

- **Manually.** *If you select the manual option, enter:*

  - Date.

  - Day of the week.

  - Time.

- **Through NTP. Automatic.** *If you want to synchronize the router through NTP, enter the IP address for the server and the polling interval.*
- **Through GPS. Automatic.** *If you want to synchronize the system clock with the clock received by GPS, enter a synchronization period with format HH:MM:SS.*

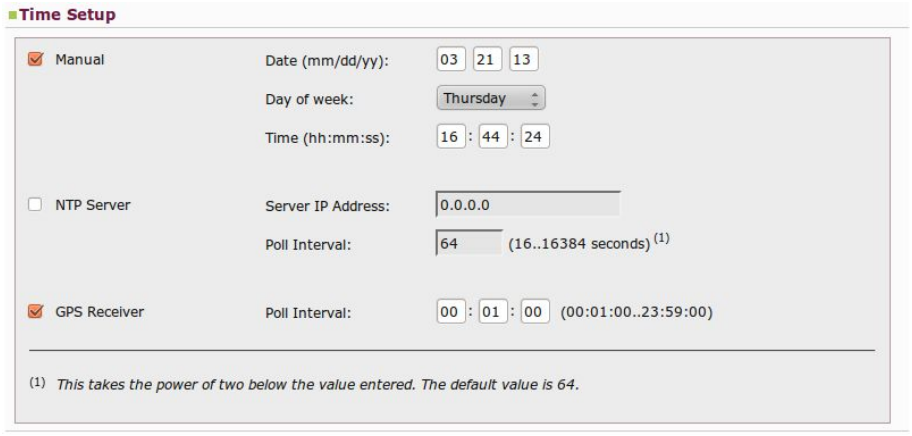


Fig. 23: General Menu – Time and Date – Time Setup

If more than one selection is made for setting the date and time, then all selections are applied as specified:

- **Manually:** *The router's day time clock is set to this value each time the router reboots.*
- **NTP Server:** *The router's day time clock is set to the value provided by the NTP server after each poll interval (provided that the NTP server can be reached through a network connection).*
- **GPS Receiver:** *The router's day time clock is set to the value provided by the GPS after each poll interval (provided that the GPS interface has been activated and a GPS satellite is* **visible** *to the GPS antenna).*

2.3.3.3 Time Zone Setup

Allows you to configure the time zone corresponding to the place where the router is located, indicating the difference in hours with respect to UTC time and the Daylight Saving start and end times.

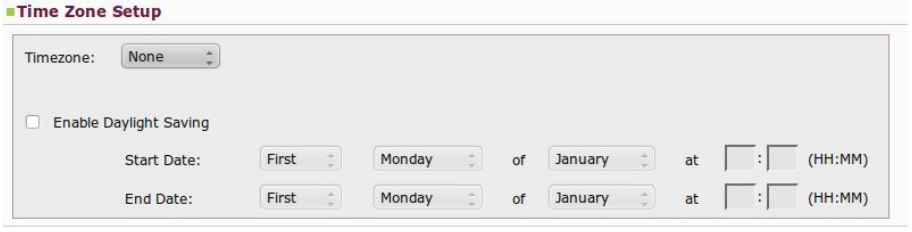


Fig. 24: General Menu – Time and Date – Time Zone Setup

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the changes made.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.4 LAN Menu

Allows you to set the router LAN IP address and to assign specific configuration options relative to the DHCP server.

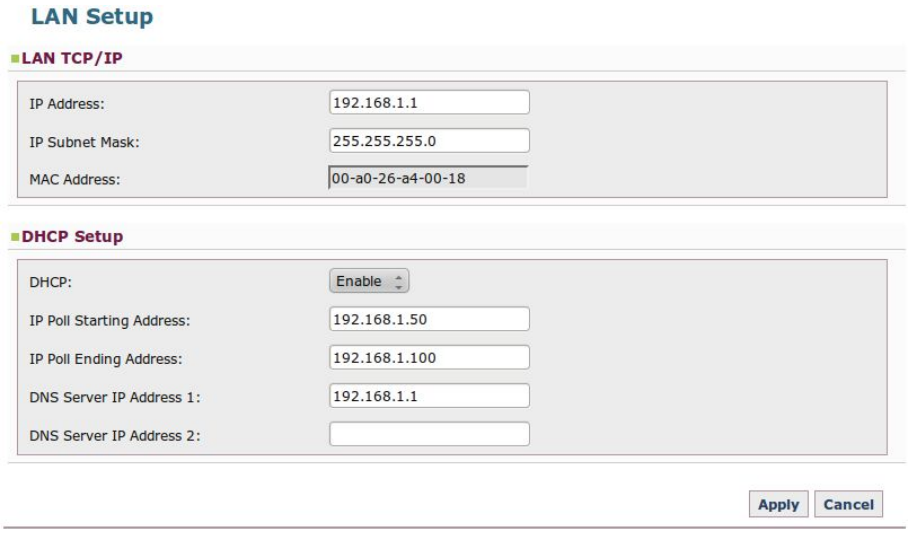


Fig. 25: LAN Menu

This page is divided into the following sections:

2.4.1 LAN TCP/IP

Here you can change the LAN subnet (by default: 192.168.1.1/255.255.255.0). To do this, enter the IP address and the subnet mask to be assigned to the LAN.

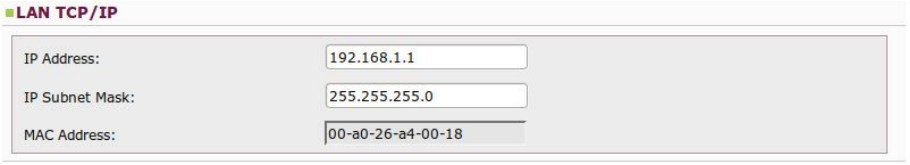


Fig. 26: LAN Menu – LAN TCP/IP

2.4.2 DHCP Setup

Allows you to enable/disable the DHCP server on the LAN interface. The following parameters can be configured:

- **DHCP:** Select Enable/Disable to enable/disable the DHCP server.
- **IP Poll Starting Address and IP Poll Ending Address:** The range of IP addresses assigned to the DHCP clients. This range is specified through an initial and final IP address.
- **DNS Server IP Address 1 and DNS Server IP Address 2:** The DNS servers list available IP addresses for clients. These fields are optional.

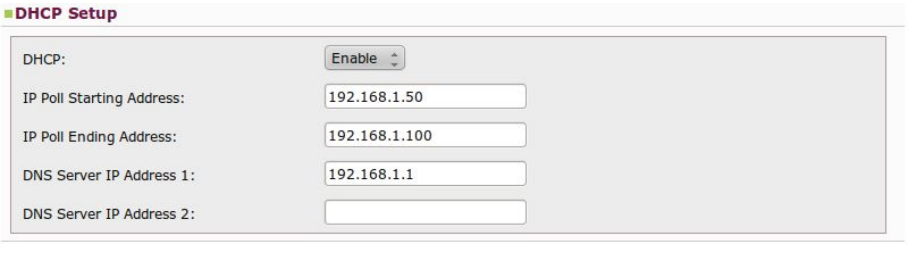


Fig. 27: LAN Menu – DHCP Setup

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the LAN configuration has been changed.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.5 WLAN Menu

Allows you to create and configure a wireless network on each WLAN interface on the router.

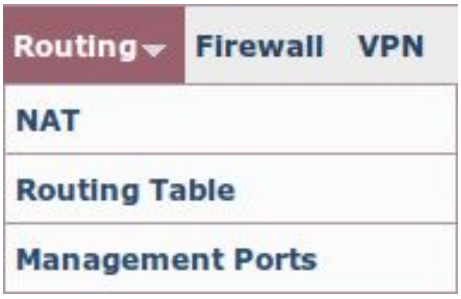


Fig. 28: WLAN Menu

2.5.1 Global Settings

Allows you to configure the following parameters common to all the WLAN BSSs (basic service sets):

- **Country Code:** The country where the router located.
- **802.11 mode:** The WiFi interface operating mode.
- **Choose Channel ID:** The channel the wireless networks are going to use. You can select a specific channel or select *Automatic*. For the latter, the router automatically selects a channel on startup, depending on the characteristics of the wireless medium detected (interferences, if other networks exist, etc.).
- **Choose Channel Bandwidth:** The channel bandwidth.

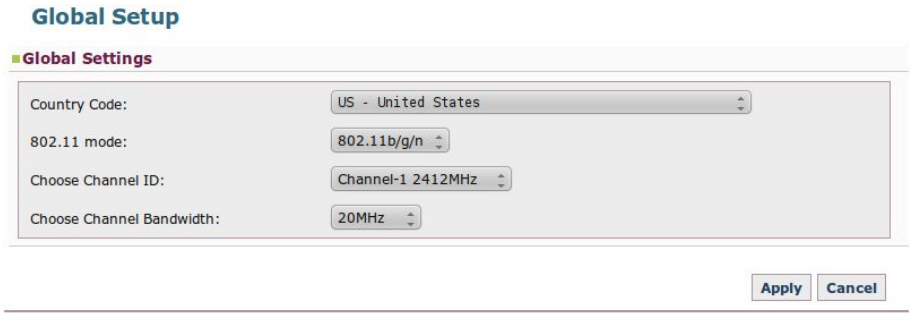


Fig. 29: WLAN Menu – Global Setup

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the new values applied to the router.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.5.2 WLAN Interfaces

On this page, you can assign specific configuration options to each wireless router network through a drop-down list.

The information on each network is shown in three sections. These sections are enabled or disabled, depending on the interface selected.

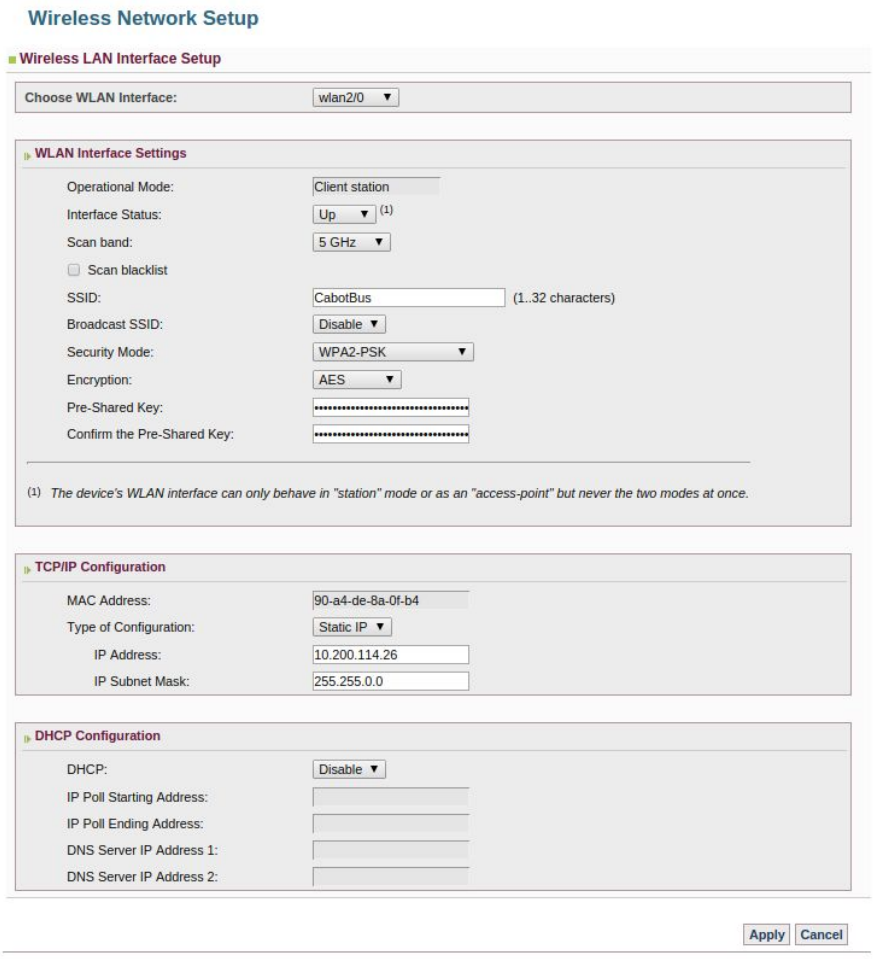


Fig. 30: WLAN Menu – WLAN Interfaces

2.5.2.1 WLAN Interface Settings

Allows you to configure various parameters associated to the BSS for the selected WLAN interface. These parameters are as follows:

- **Operational Mode:** This is an information field indicating the operational mode in the selected interface BSS: *Client station*/*Access Point*.
- **Bridge with Ethernet interface:** *This option is only displayed when the wlan2/0.1 interface is selected.* Through this option, you indicate if the interface is bridged (or not) with the Ethernet interface. Depending on the chosen value, some fields may be disabled.
- **Interface Status:** Through a drop-down list, you can enable or disable the interface: *Up*/*Down.*

Note

You cannot have a WLAN interface/subinterface in active access point mode and another in active station mode simultaneously. If you enable an interface to operate in station mode, the application automatically disables the access points, and vice versa.

- **Scan band:** Select the bands to run through when searching for networks to connect to: *2.4 GHz*/*5 GHz*/*both*.
- **Scan blacklist:** *Enables*/*Disables* blacklisting.

Note

Scan band and Scan blacklist parameters are only available on web firmware version 10.1.0 and above.

- **SSID:** Name you want to assign to the wireless network.
- **Broadcast SSID:** A) When the interface is in access point mode, you can broadcast the wireless network name. If

it is enabled, the network name is broadcast so any wireless network can detect it. Otherwise, the network name isn't broadcast. Only those routers with a matching wireless network name can connect to it. B) When the interface is in client mode, the SSID identifies the access point the client should connect to.

- **Security Mode:** The security mode for this SSID.
- **Encryption:** The type of encryption used where WPA or WPA2 security is used.
- **Pre-Shared Key and Confirm the Pre-Shared Key:** The key used for the encryption. You must enter it twice to verify it's entered correctly.

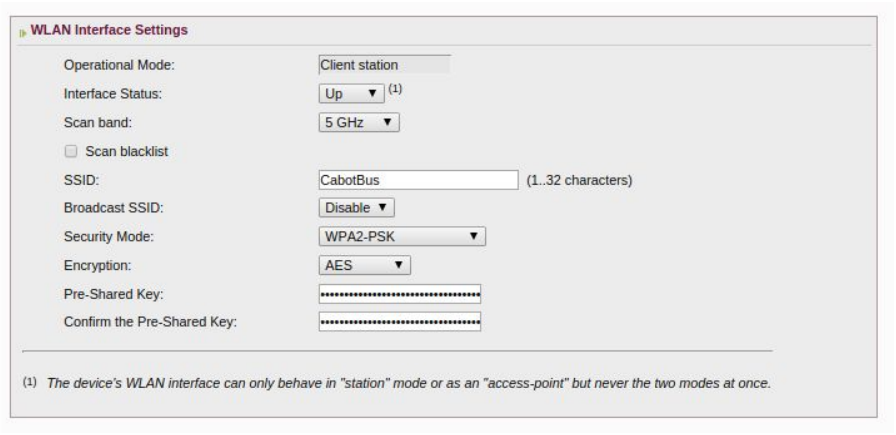


Fig. 31: WLAN Menu – WLAN Interfaces – WLAN Interface Settings

2.5.2.2 TCP/IP Configuration

Here, you can assign an IP address and subnet mask to the selected interface.

When the interface is being configured to operate in station mode (*wlan2/0)*, the application offers the option to assign a static IP or an IP address through DHCP. For the rest of the interfaces, the only available option is static IP. The *wlan2/0.1* interface field is disabled if bridged with the Ethernet interface. In this case, the IP address for *wlan2/0.1* is set to the bridged value entered in the Ethernet interface configuration.

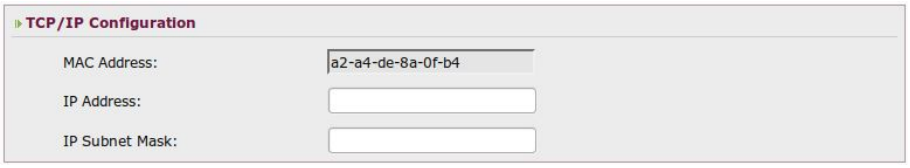


Fig. 32: WLAN Menu – WLAN Interfaces – TCP/IP Configuration – Access Points

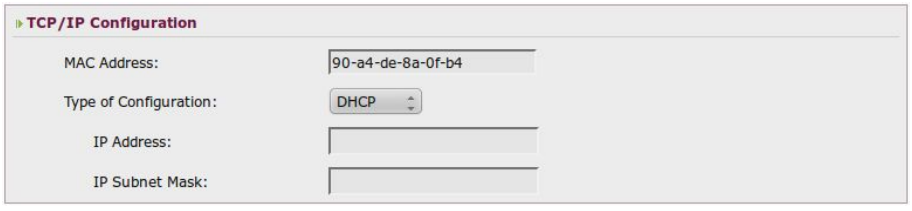


Fig. 33: WLAN Menu – WLAN Interfaces – TCP/IP Configuration – Station. DHCP

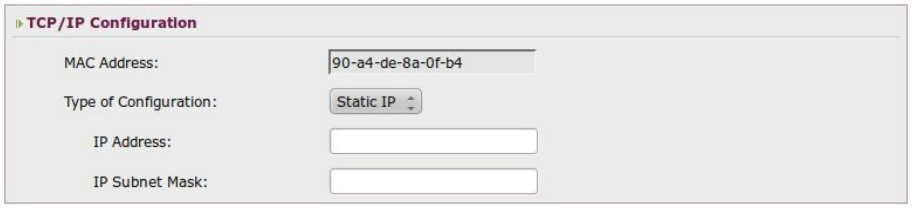


Fig. 34: WLAN Menu – WLAN Interfaces – TCP/IP Configuration – Station. Static

2.5.2.3 DHCP Server Configuration

Allows you to enable/disable the DHCP server, on the selected interface, for the interfaces *wlan2/0.1* (if it isn't bridged) and *wlan2/0.2*.

The configurable parameters are as follows:

- **DHCP:** Select Enable/Disable to enable/disable DHCP server.
- **IP Poll Starting Address and IP Poll Ending Address:** Range of IP addresses assigned to the DHCP clients. This range is specified through an initial and final IP address.
- **DNS Server IP Address 1 and DNS Server IP Address 2:** The DNS servers list available for the clients. These fields are optional.

Fig. 35: WLAN Menu – WLAN Interfaces – DHCP Configuration

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the configuration for the selected interface has changed.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.6 Cellular Menu

Allows you to configure the connection parameters for each cellular module on the router through a pull-down menu.

Fig. 36: Cellular Menu

2.6.1 Modules and Connectivity

Allows you to assign a profile, previously created on the *Profiles* page, to each cellular module on the router. It also allows you to configure an Echo IP/ICMP NSM operation to prevent the cellular connection from disconnecting due to idle time.

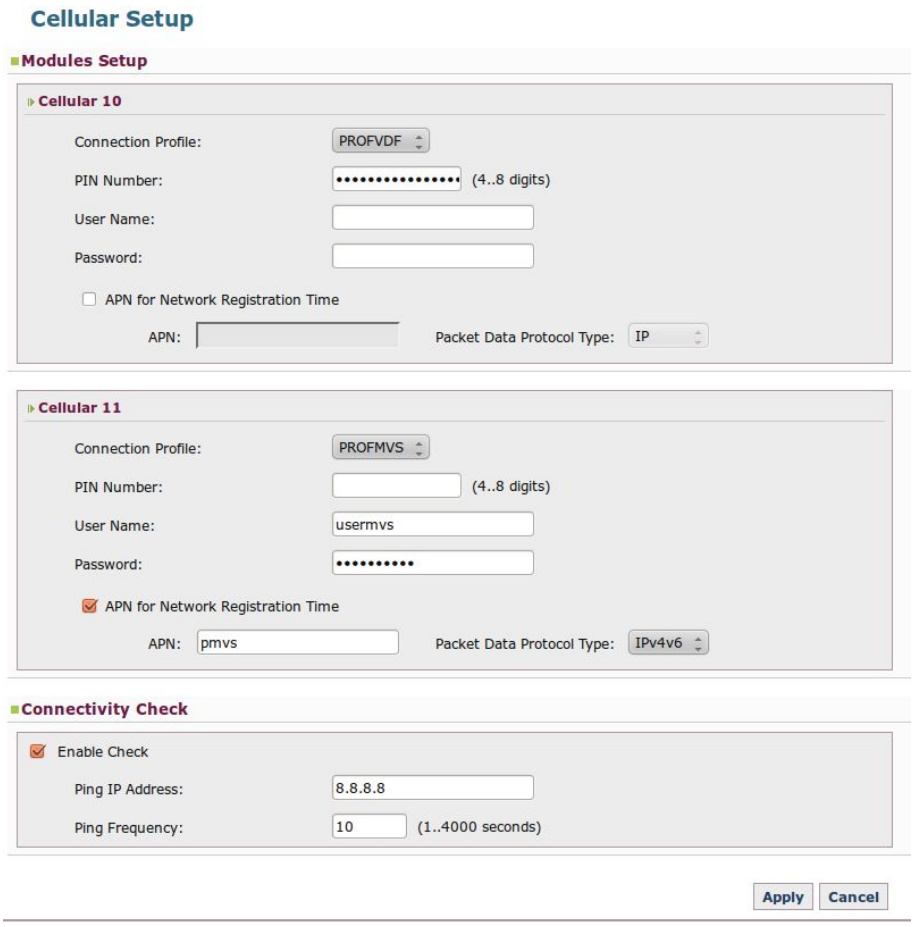


Fig. 37: Cellular Menu – Modules and Connectivity

2.6.1.1 Modules Setup

In this section you can configure the router cellular modules, defining the following connection parameters for the network:

Connection Profile: Select, from the drop-down list, the connection profile to use in the base interface.

- **PIN Number:** The PIN code (when required). Leave it blank if a PIN code has not been assigned.
- **User Name and Password:** The user/password to access the *Access Point Name* when required. Leave it blank if there is no authentication.
- **APN for Network Registration Time:** This field only affects LTE configurations: APN registration is not required for older technologies. If you want to configure this functionality, enter the *Access Point Name* and select the type of packet data protocol.

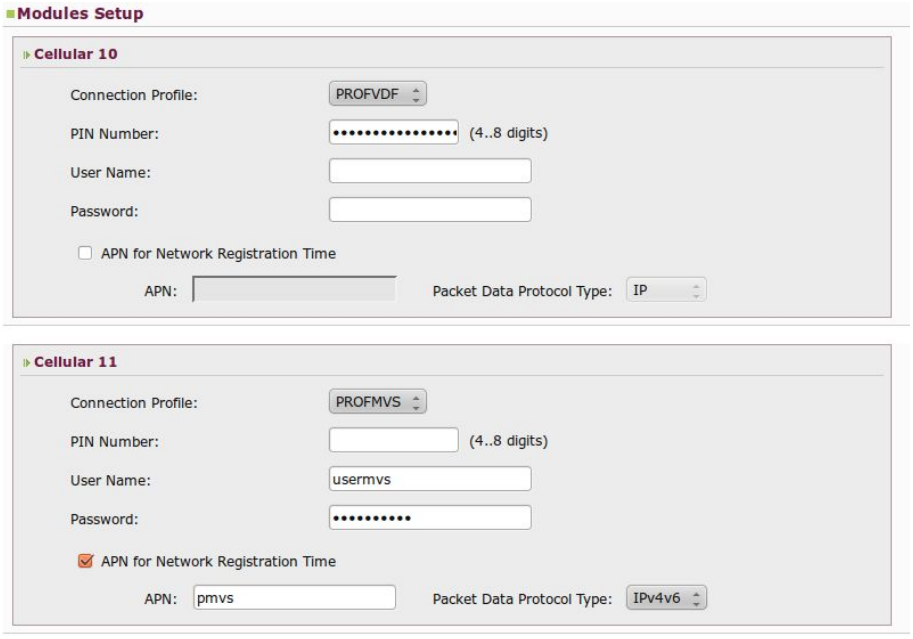


Fig. 38: Cellular Menu – Modules and Connectivity – Modules Setup

2.6.1.2 Connectivity Check

Allows you to configure an NSM operation to keep the cellular interface connectivity alive. Enter the remote router IP address and ping frequency.

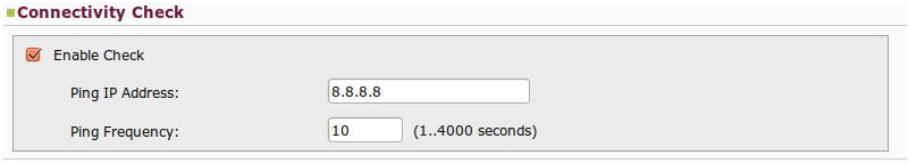


Fig. 39: Cellular Menu – Modules and Connectivity – Connectivity Check

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the new values have been applied to the router.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.6.2 Profiles

In this page, you can create, modify and delete connection profiles.

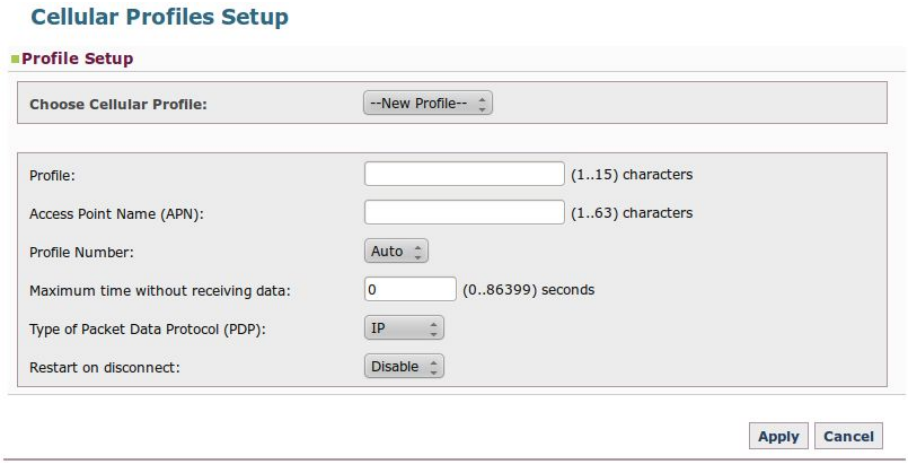


Fig. 40: Cellular Menu – Profiles

By default, the option *--New Profile--* is displayed in the drop-down list. If you select a profile that had already been

created, the configuration is shown and you can edit it.

The application allows you to edit all profile data, including the profile name. When the profile name is modified, the application automatically updates the configuration for those modules associated to the profile, so they use the new profile name.

The parameters defining each profile are as follows:

- **Profile:** The profile identifier.
- **APN:** The *Access Point Name* used in the connection. Mandatory field.
- **Maximum time without receiving data:** A period of time where the router remains active without receiving incoming data and, consequently, without starting the disconnection process.
- **Type of Packet Data Protocol (PDP):** The type of PDP in the connection.
- **Restart on disconnect:** Enable/disable the restart module on disconnecting a data context.

To create or edit a profile, click on the *Apply* button. This causes the page to refresh, showing the new values have been applied to the router.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information stored by the router.

The application also offers you the option to delete profiles. To delete a profile, select it from the list and click on *Delete Profile*. If the deleted profile is assigned to a module, this assignment is automatically deleted by the application.

Fig. 41: Cellular Menu – Profiles – Delete a profile

2.7 GPS Menu

Allows you to access the GPS configuration.

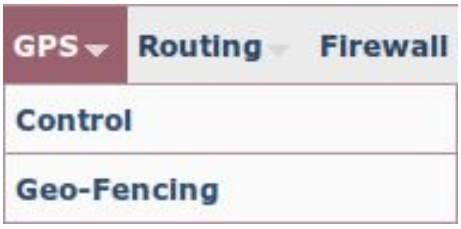


Fig. 42: GPS Menu

2.7.1 Control

Allows you to define various parameters to obtain real time GPS information. This is carried out via Telnet to the router GPS port, and through the asynchronous serial port.

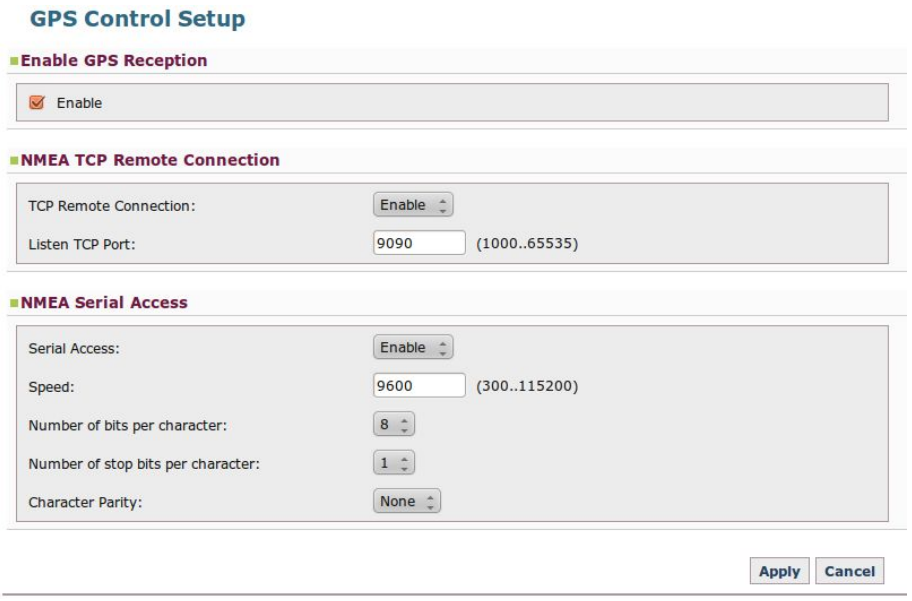


Fig. 43: GPS Menu – Control

This page is divided into the following sections:

2.7.1.1 Enable GPS Reception

The NMEA message reception in the GPS interface is enabled (or disabled) through the checkbox.

Fig. 44: GPS Menu – Control – Enable GPS Reception

2.7.1.2 NMEA TCP Remote Connection

This section allows TCP connections to remotely obtain GPS data. Enter the following information:

- **TCP Remote Connection:** Enable/disable TCP connections.
- **Listen TCP Port:** The TCP port to use for remote connections to obtain GPS data in NMEA format.

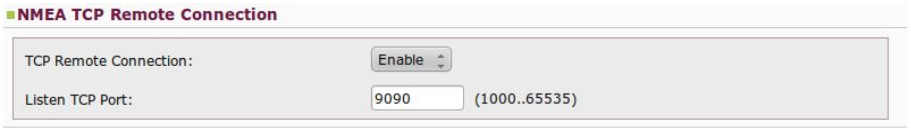


Fig. 45: GPS Menu – Control – NMEA TCP Remote Connection

2.7.1.3 NMEA Serial Access

In this section you can configure the asynchronous serial port to provide GPS positioning information. To do this, enter the following information:

- **Serial Access:** Enable/disable this functionality.
- **Speed:** The baud speed (bps) for the serial interface.
- **Number of bits per character:** The number of data bits per asynchronous character.
- **Number of stop bits per character:** The number of stop bits per asynchronous character.
- **Character Parity:** The type of parity to use in the serial interface.

Fig. 46: GPS Menu – Control – NMEA Serial Access

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the new values have been applied to the router.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.7.2 Geo-Fencing

Allows you to create a **box**, or geographical zone, to define the behavior of the wireless networks, depending on its position: inside or outside the defined zone.

Points **A** and **B** define the top-left and bottom-right corners of the geographical fenced area.

Fig. 47: GPS Menu – Geo-Fencing

The zone is defined as follows:

- **Latitude and Longitude:** Coordinates defining the zone limits.
- **HDOP:** Limiting value to take the GPS information as valid. This parameter is used to evaluate the locking accuracy over the earth's surface. When the HDOP, calculated by the GPS receiver, surpasses the value configured with this parameter, the locking information is discarded, i.e. NO SIGNAL is indicated.

- **WLAN Interfaces:** Enable/disable the participation of the wireless networks in this functionality. If you choose the option *GPS Controlled*:

  - The interface operating as station (*wlan2/0*) activates when the router is inside the geo-fenced area.

  - The interfaces operating as access point (*wlan2/0.1* and *wlan2/0.2*) activates when the router is outside the geo-fenced area.

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the configuration has changed.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.8 Routing Menu

Accesses the options to configure traffic through the router.

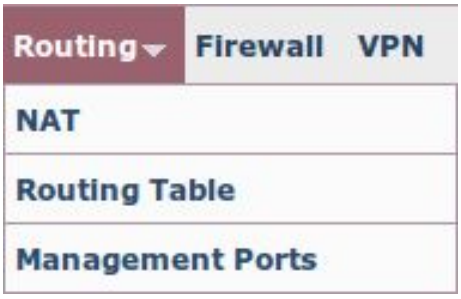


Fig. 48: Routing Menu

2.8.1 NAT

The router can provide *Network Address Translation (NAT)* services. On this page, you can configure NAT/PAT rules for each interface in the drop down list.

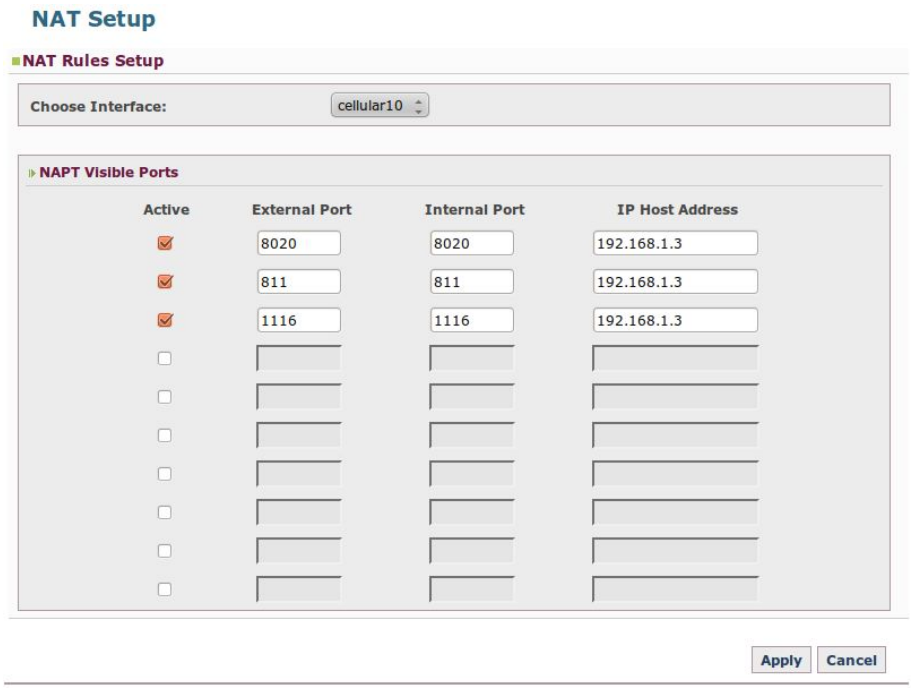


Fig. 49: Routing Menu – NAT

For each interface, you can define multiple visible ports up to a maximum of ten. For each port, you need to enter the following information:

- **Active:** To enable/disable a visible port.

- **External Port:** This is the visible connection port from the external domain (e.g. the Internet or private network when using a cellular interface) to access the service in the host, specified by the address and internal port.
- **Internal Port:** This is the internal host destination port.
- **IP Host Address:** This is the internal domain host IP address.

To apply the changes, click on the *Apply* button: this causes the page to refresh, showing the configuration for the selected router has changed.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.8.2 Routing Table

This page is divided into two sections or tabs. The first tab lists the router's IP active route table. Each entry in the routing table shows the following information:

- **Type:** Indicates how to create the route. For example:

  dflt: default route.

  dir: directly connected net or subnet.

  del: route has been deleted.

  stat: statically configured route.

  sbnt: the network is divided into subnets.

  ...

- **Dest net/Mask:** IP destination net or subnet and destination IP network mask.
- **Cost:** Cost of the route.
- **Age:** In RIP routes, it refers to the time lapsed since the routing table was last refreshed.
- **Next hop(s):** IP address of the next hop router towards the destination (or of the outbound interface) that the router uses to forward the packet.

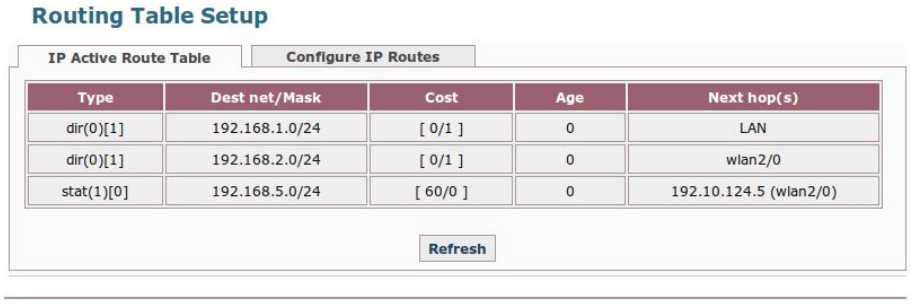


Fig. 50: Routing Menu – Routing Table – IP Active Route Table

The second tab allows you to add, modify and delete static network/subnet IP routes to the routing table.

The parameters that define each route are as follows:

- **Destination Address and Subnet Mask:** The destination is specified by an IP address together with a mask.
- **Next Hop:** The outgoing interface.
- **Gateway Address:** The IP address for the next hop through the assigned interface. This field is optional.
- **Cost:** The cost of routing the packet to the destination.

To add a route, click on the *Apply* button. This causes the page to refresh, showing the new route has been added.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

To modify a route, click on the icon. This shows you a form with the selected route configuration. You can modify

all route data. To apply the changes, click on the *Apply* button or, if you don't want to apply them, click on the *Cancel* button. Both return you to the tab.

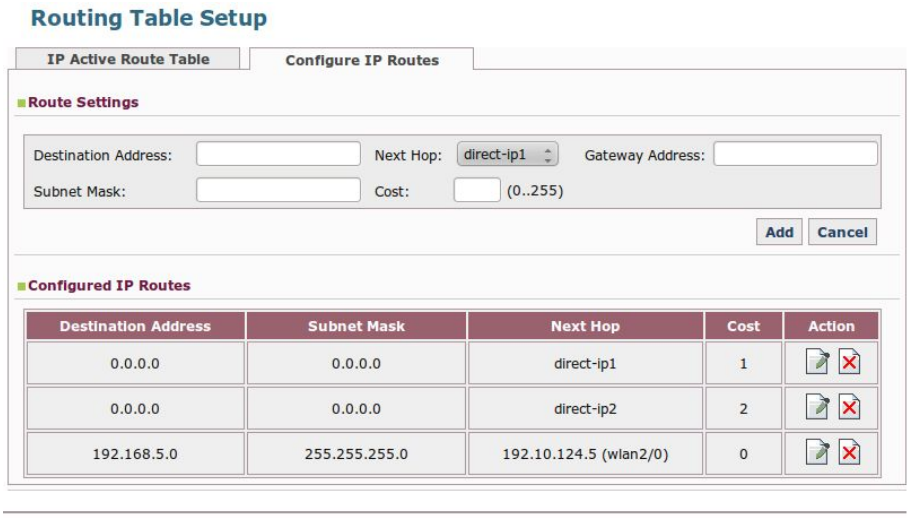


Fig. 51: Routing Menu – Routing Table – Configure IP Routes

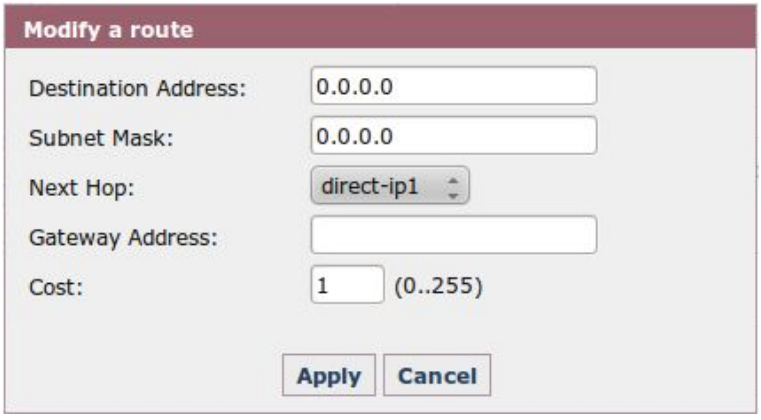


Fig. 52: Routing Menu – Routing Table – Configure IP Routes – Modify a route

To delete a route, click on the icon: this causes the page to refresh, showing the new route has been removed.

2.8.3 Management Ports

Enables or disables administrative access (SSH, Telnet, HTTP) by interface type depending on the check boxes marked. In this form, *wlan2/0.1* will only appear when it isn't bridged.

Note

The application doesn't allow you to disable all interfaces (i.e., at least one of them must be enabled). If you disable the HTTP access in all interfaces, a warning message saying that the web configurator will be no longer available will appear.

Fig. 53: Routing Menu – Management Ports

To apply the changes, click on the *Apply* button. This causes the page to refresh, showing the new values have been applied.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.9 Firewall Menu

Allows you to configure a firewall on the router based on custom *Access Control Lists (ACLs)* the router uses to determine if a packet must be routed or not.

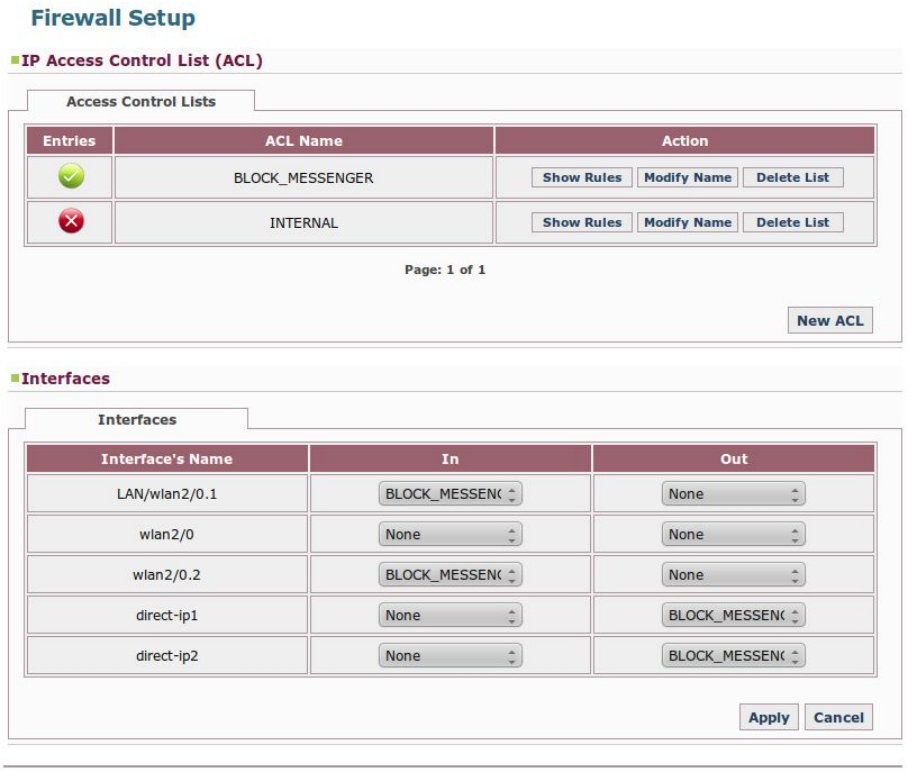


Fig. 54: Firewall Menu

This is divided into two sections or tabs:

2.9.1 IP Access Control List (ACL)

Displays the access control lists configured on the router. For each of them, the application shows the following information:

- **Entries:** This icon shows if the list has any rules established (or not).
- **ACL Name:** This field displays the access control list name.
- **Show Rules:** By clicking on this button, you access a new page where you can add, edit, and delete rules.
- **Edit Name:** By clicking on this button, you can edit the name of the list.

Firewall Menu – Edit the ACL name

- **Delete List:** By clicking on this button, you delete the associated list. If the list is assigned to any interfaces, the application asks you if you want to continue. If you accept, the assignments are deleted.

Show Rules **button**

This button displays a new page where you can configure rules for a selected list.

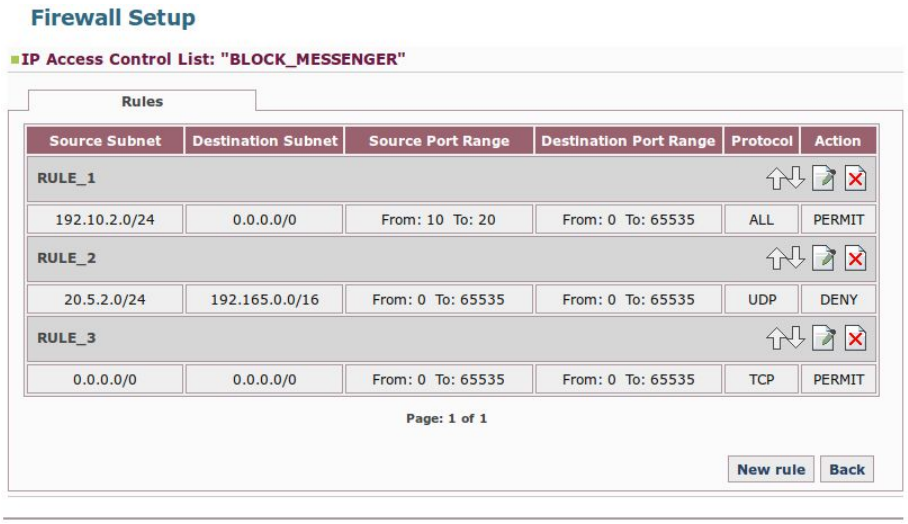


Fig. 56: Firewall Menu – ACL rules

To add (click on the *New Rule* button) or edit a rule (click on the icon), you need to enter the following information:

- **Name:** ACL rule name.
- **Source Subnet IP and Subnet Mask:** Establishes the source IP address sentence. The selected range of addresses is indicated through a mask.
- **Destination Subnet IP and Subnet Mask:** Establishes the destination IP address sentence. The selected range of addresses is indicated through a mask.
- **Source Port Range:** Sets up the source port range.
- **Destination Port Range:** Sets up the destination port range.
- **Protocol:** Sets up the protocol (TCP, UDP, ICMP or ALL) for the rule to be enabled.
- **Action:** Selects whether the router should PERMIT/DENY packets, which match this rule.

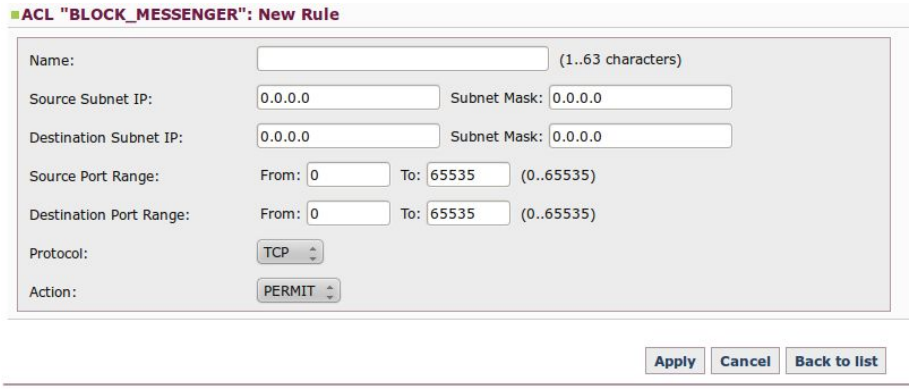


Fig. 57: Firewall Menu – New rule

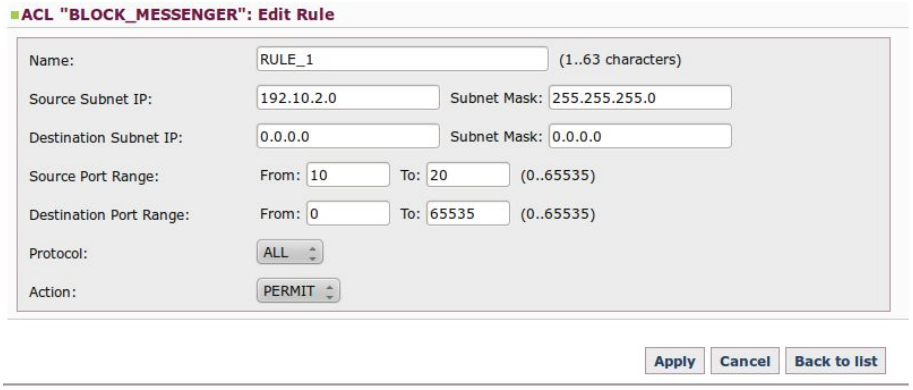


Fig. 58: Firewall Menu – Edit a rule

To apply the changes, click on the *Apply* button. This returns you to the page displaying all the rules created, where you can also view the changes made.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

To delete a rule, click on the icon. This causes the page to refresh, showing the rule has been removed. When a list has more than one created rule, the application offers you the option to edit the priority of an entry by clicking on the icon. This displays a new form with three options:

- **Set the first:** Allows you to place the entry at the top of the list.
- **Set the last:** Allows you to place the entry at the end of the list.
- **Set before entry:** Allows you to place the entry in front of another (indicated) entry within the list.

Fig. 59: Firewall Menu – Modify the priority of a rule

To apply the changes, click on the *Apply* button. If you don't wish to apply the changes, click on the *Cancel* button. This returns you to the page displaying all the rules on the list.

2.9.2 Interfaces

In this section, you can configure the IP protocol access control system per interface. The *wlan2/0.1* interface only appears in this table when it isn't bridged to the Ethernet interface.

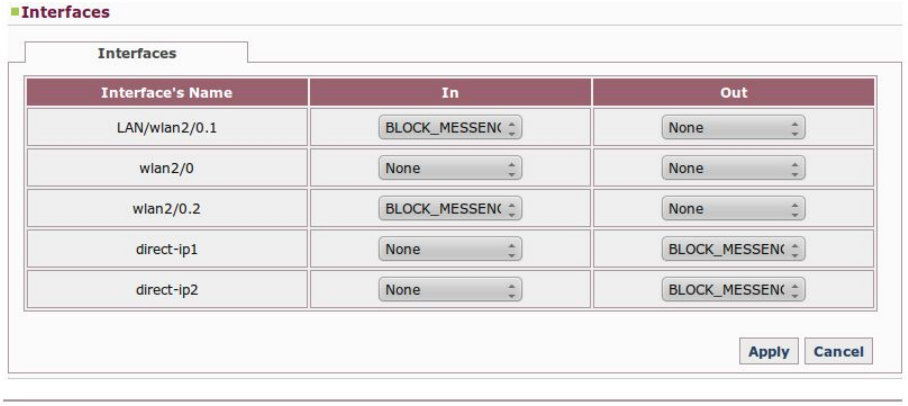


Fig. 60: Firewall Menu – Interfaces

For each interface, you can select a list for incoming traffic and another one for outgoing traffic. In the pull-down menus, the application only displays the lists where rules have been created.

To apply the changes, click on the *Apply* button. This causes the page to refresh, showing the new values have been applied.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.10 VPN Menu

Allows you to configure VPN/IPSec connections.

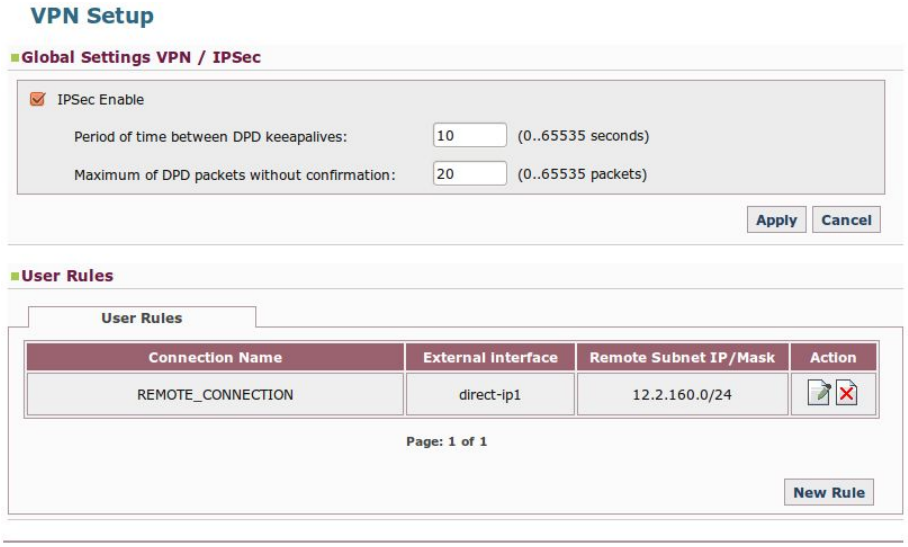


Fig. 61: VPN Menu

This is divided into two sections:

2.10.1 Global Settings VPN /IPSec

Displays the IPSec global configuration. You can enable (or disable) this protocol using the checkbox. You can also define the parameters relative to the DPD service (*Dead Peer Detection)*:

- **IPSec Enable:** Enables or disables this protocol.
- **Period of time between DPD keepalives:** Establishes the wait interval (in seconds) between DPD petition transmissions when a response has not been received.
- **Maximum DPD packets without confirmation:** Establishes the maximum number of DPD petitions without receiving a response.

Fig. 62: VPN Menu – Global Settings VPN / IPSec

To apply the changes, click on the *Apply* button. This causes the page to refresh, showing the new values have been applied.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

2.10.2 User Rules

Displays the VPN/IPSec user rules configured in the router. For each of them, the application shows the following information:

- **Connection Name:** Name of the IPSec rule.
- **External Interface:** Interface associated to the IPSec rule.
- **Remote Subnet IP/Mask:** Remote subnet IP address and netmask.

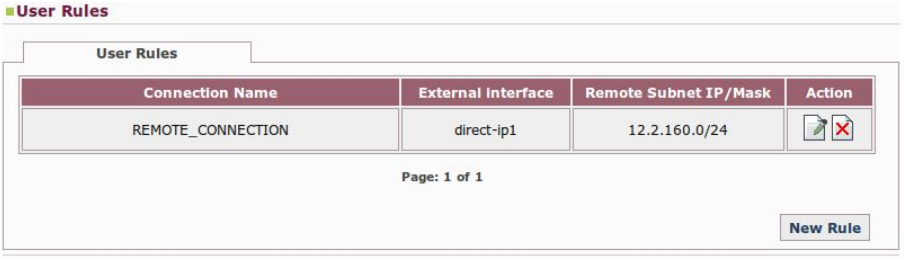


Fig. 63: VPN Menu – User Rules

To add (click on the *New Rule* button) or edit a rule (click on the icon), enter the following information:

- **Connection Name:** Defines the name of the IPSec rule.
- **Local External Interface:** Choose the interface for the IPSec rule to use.
- **Local Subnet IP and Local Subnet Mask:** Establish the local subnet IP address and netmask.
- **Remote Subnet IP and Remote Subnet Mask:** Establish the remote subnet IP address and netmask.
- **IKE Key Mode:** Currently, only Pre-Shared Key (PSK) is supported.
- **Pre-Shared Key and Confirm the Pre-Shared Key:** Enter the Preshared-Key. You must enter it twice to verify you entered it correctly.
- **DPD Enable:** Enable/Disable the DPD service for the IPSec rule.
- **NAT:** This parameter tells the remote side that NAT-Traversal is supported.
- **Phase 1:**

  - Mode: Select *Main* or *Aggressive* mode for the exchange.

  - Local ID: Enter the local IP address.

  - Remote ID: Enter the remote IP address.

  - Lifetime (seconds): Enter the negotiation lifetime. This value is between 120 and 2147040000 seconds.

  - Authentication: Select authentication: MD5 or SHA1.

  - Encryption: Select encryption: DES, 3DES or AES.

  - Group Key Management: Select group key management: 1, 2, 5 or 15.

- **Phase 2:**

  - **Lifetime (seconds):** Enter the negotiation lifetime. This value is between 120 and 2147040000 seconds.

  - Authentication: Select authentication: MD5, SHA1 or None.

  - **Encryption:** Select authentication: DES, 3DES or AES.

  - Group Key Management: Select group key management: 1, 2, 5 or 15.

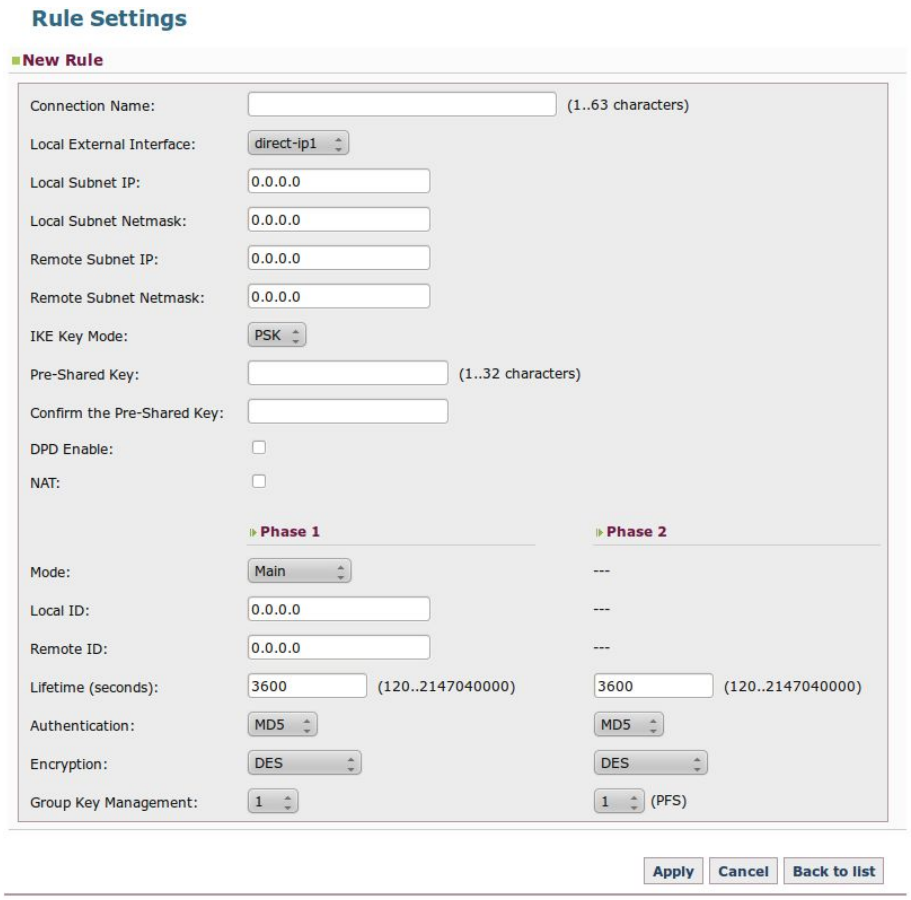


Fig. 64: VPN Menu – User Rules – New Rule

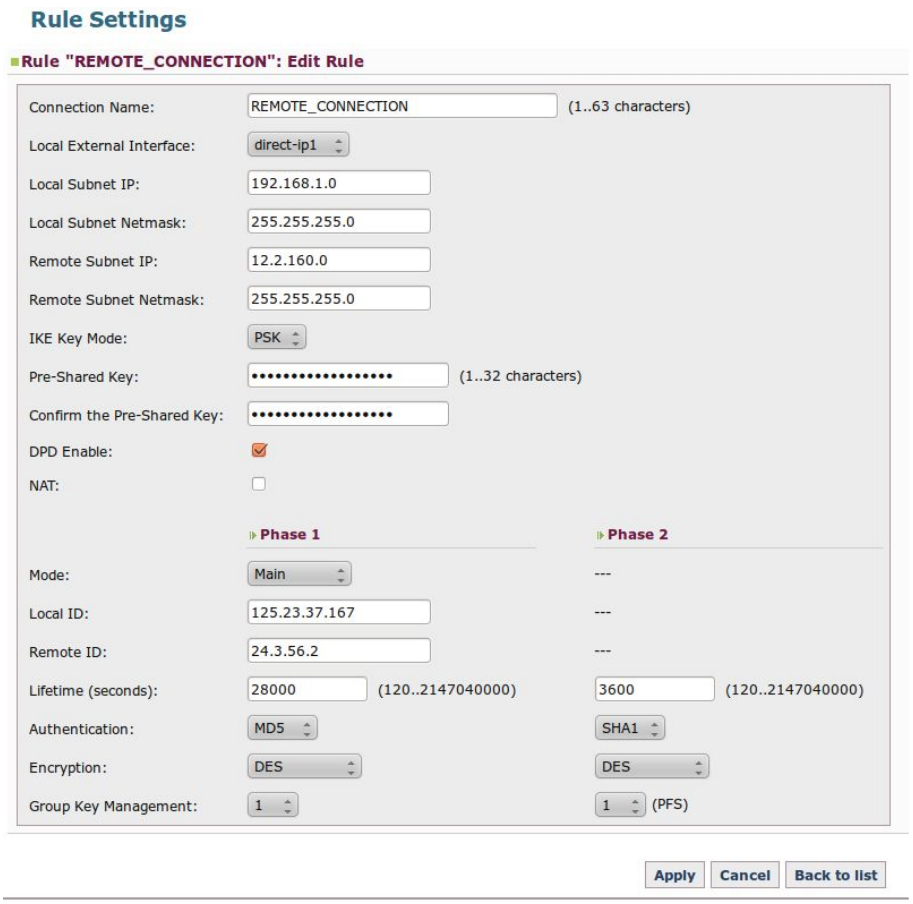


Fig. 65: VPN Menu – User Rules – Edit a rule

To apply the changes, click on the *Apply* button. This returns you to the page displaying all the created rules, where you can view the changes made.

If, for any reason, you don't want to apply the changes, click on the *Cancel* button. This displays the latest information the router has stored.

To delete a rule, click on the icon: this causes the page to refresh, showing the rule has been deleted from the router.

2.11 Admin Menu

Perform various administrative tasks such as upgrades, importing configurations and exporting the current configuration file.

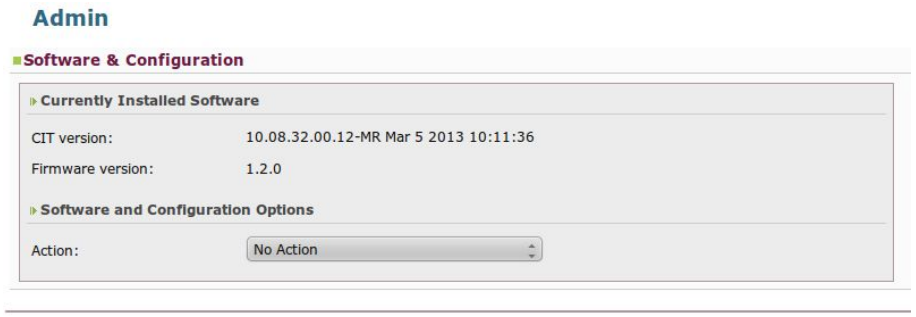


Fig. 66: Admin Menu

The available options can be selected through the drop-down list and are as follows:

- **No Action:** Does nothing.

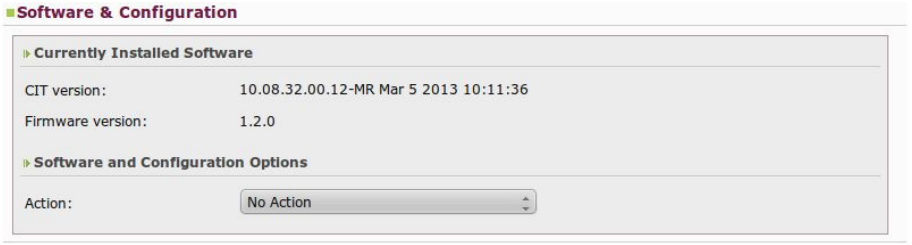


Fig. 67: Admin Menu – No Action

- **Export configuration:** Click on *Export* to save the current configuration file to a file on your computer.

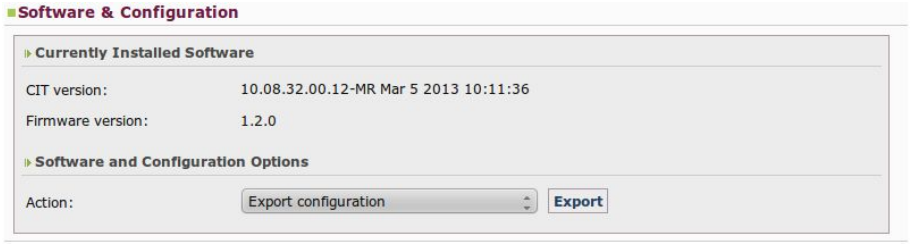


Fig. 68: Admin Menu – Export configuration

- **Import to the current configuration file:** Click *Browse* and *Import/Upgrade* to load a previously saved configuration to the current configuration file on the router.

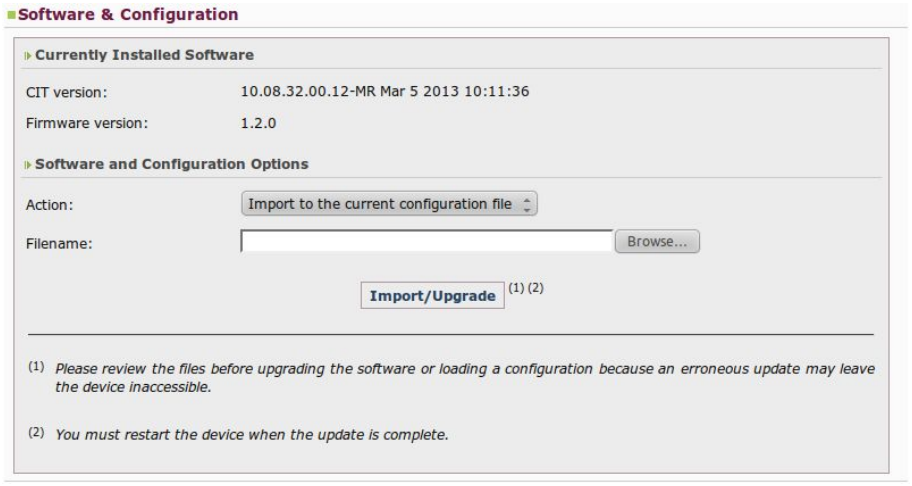


Fig. 69: Admin Menu – Import to the current configuration file

- **Import default configuration file:** Click on *Browse* and *Import/Upgrade* to load a previously saved configuration as the router default configuration.

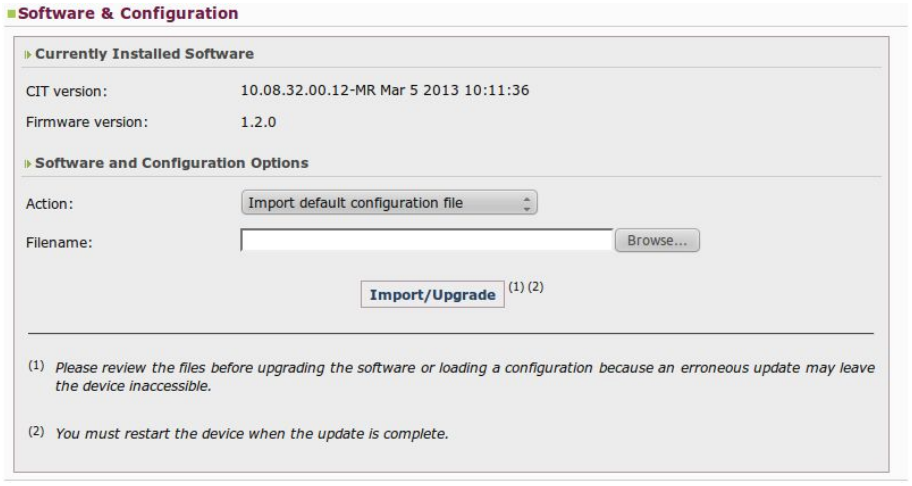


Fig. 70: Admin Menu – Import default configuration file

- **Update CIT:** Click on *Browse* and *Import/Upgrade* to upgrade the router's Internetworking Software (located in a **.bin** file) on your computer.

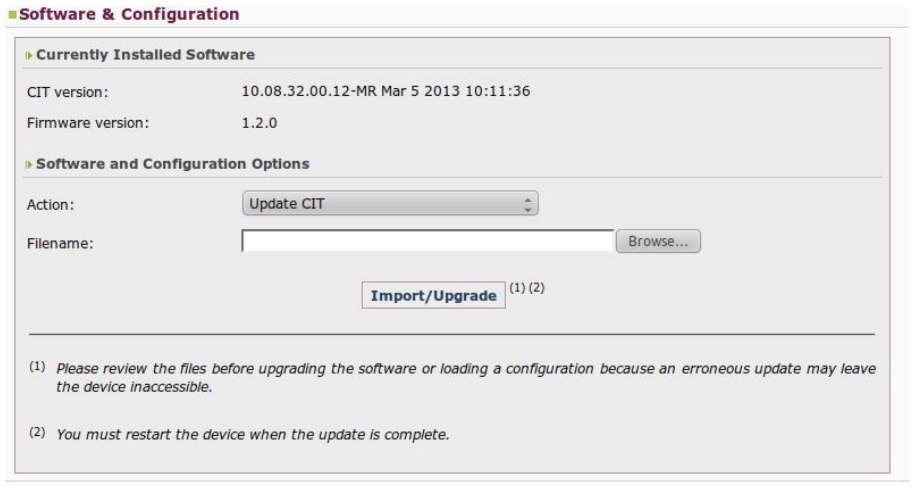


Fig. 71: Admin Menu – Update CIT

- **Update Web Firmware:** Click on *Browse* and *Import/Upgrade* to upgrade the Web firmware (located in a **.bfw** file) on your computer.

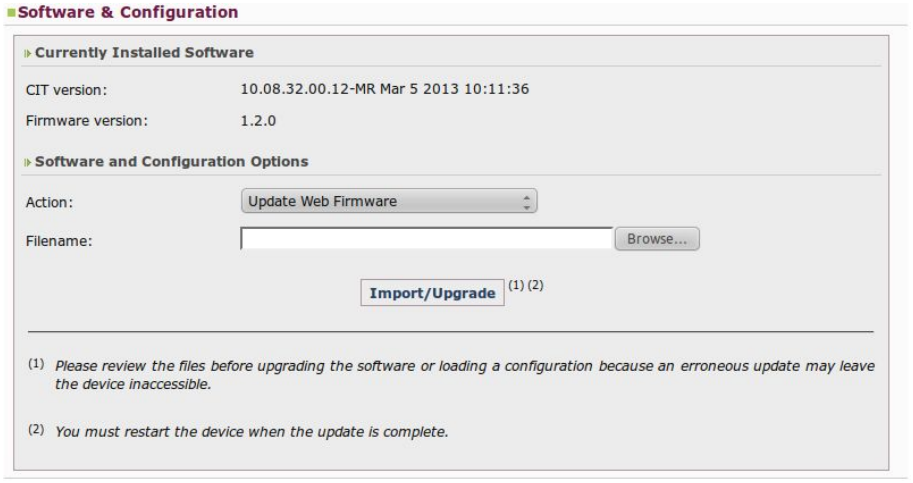


Fig. 72: Admin Menu – Update Web Firmware

Note

You must restart the router once you have completed an update or an import. To do this, click on the Reboot button.