6. Detailed Motorola Cellular Gateway NC800 Configuration

This section provides a detailed description of each of the Motorola Cellular Gateway NC800 configuration pages accessible via the options on the left hand side of the main configuration screen.

> In the typical application only a few fields are user-specific and need to be set. The Setup Wizard can be used to ensure that you fill in all the required fields. If you have any further user-specific requirements, you may use the other configuration screens at any time to set the specific fields.

The first time the user accesses the configuration pages, the **Setup Wizard** is automatically started.

> If the **Setup Wizard** does not automatically start the first time you access the configuration pages, it can be manually invoked by clicking on the **Setup Wizard** button on the upper-left portion of the configuration screen. The **Setup Wizard** can be activated at any time by clicking this button.

Setup Wizard

The Setup Wizard has the following screens:

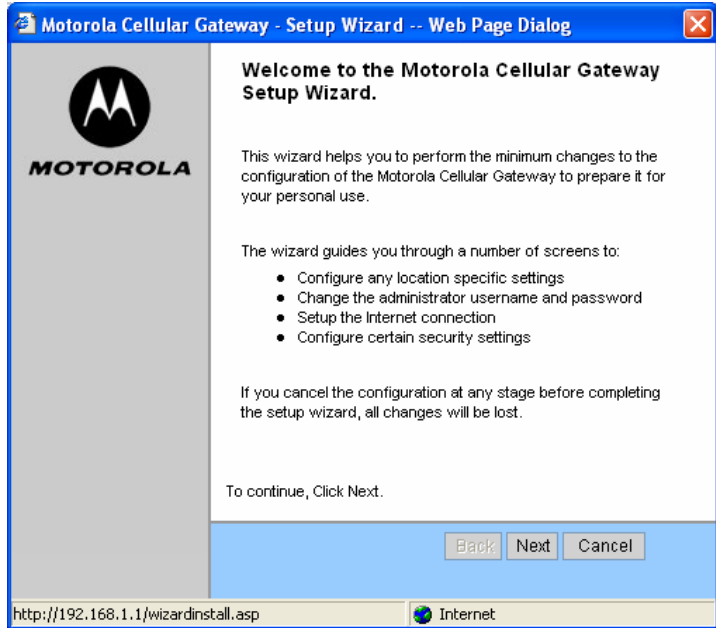|	
Wizard-> Welcome page	This page describes the purpose of the wizard and how to use it.
Wizard-> Location Specific Information	The Motorola Cellular Gateway NC800 location determines aspects such as the time zone and channels that may be used.
Wizard-> Gateway Administration	The username and password are used to access the Gateway's configuration screens. For security reasons, the default username and password should be changed.
Wizard-> Internet Account Information	The username and password to access the Internet are entered here if required by your ISP.
Wizard-> Internet Network Information	The IP address used to access the Motorola Cellular Gateway NC800 from the Internet is entered here, unless the Motorola Cellular Gateway NC800 obtains it automatically from the ISP.
Wizard-> Internet Security	Restrictions on external access from the Internet may be specified here.
Wizard-> Wireless LAN security	This page is used to specify whether the wireless LAN connections should be encrypted.
Wizard-> Summary	This page displays the values set by you for confirmation before the changes are applied.

Wizard-> Welcome page

Click **Next** on Setup Wizard's introduction page to proceed to the **Location Specific Information** page.

> **Motorola Cellular Gateway - Setup Wizard -- Web Page Dialog**
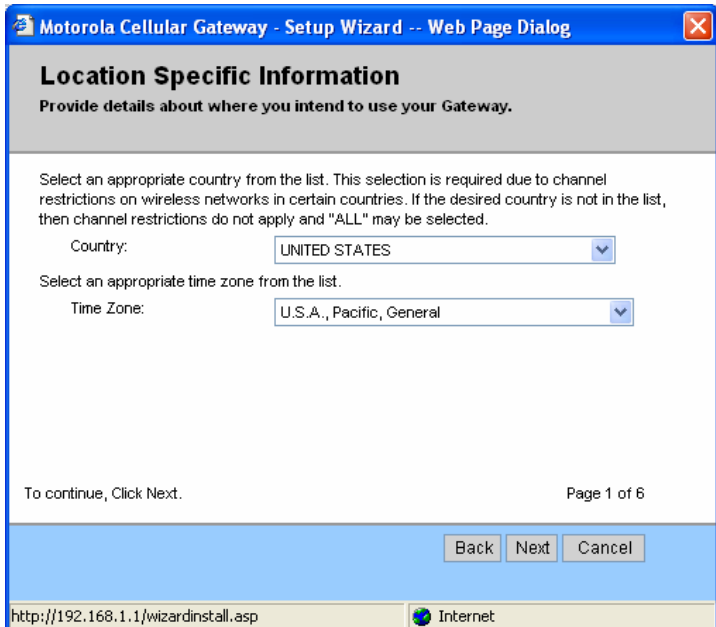>
> **Welcome to the Motorola Cellular Gateway Setup Wizard.**
>
> This wizard helps you to perform the minimum changes to the configuration of the Motorola Cellular Gateway to prepare it for your personal use.
>
> The wizard guides you through a number of screens to:
> - Configure any location specific settings
> - Change the administrator username and password
> - Setup the Internet connection
> - Configure certain security settings
>
> If you cancel the configuration at any stage before completing the setup wizard, all changes will be lost.
>
> To continue, Click Next.
>
> Back   Next   Cancel
>
> http://192.168.1.1/wizardinstall.asp   Internet

Wizard-> Location Specific Information

On this page select the country that you are operating the Motorola Cellular Gateway NC800 in and the time zone.

It is necessary to select the appropriate country due to channel restrictions on wireless networks in certain countries. If the desired country is not in the list, then channel restrictions do not apply and Worldwide may be selected.

The time zone needs to be selected in order to make sure that the logging information provided by the Motorola Cellular Gateway NC800 contains the correct date and time.

If there is daylight saving in the Time Zone specified, it will automatically be enabled. If daylight saving is not applicable to the selected Time Zone no time adjustment will be made throughout the year.
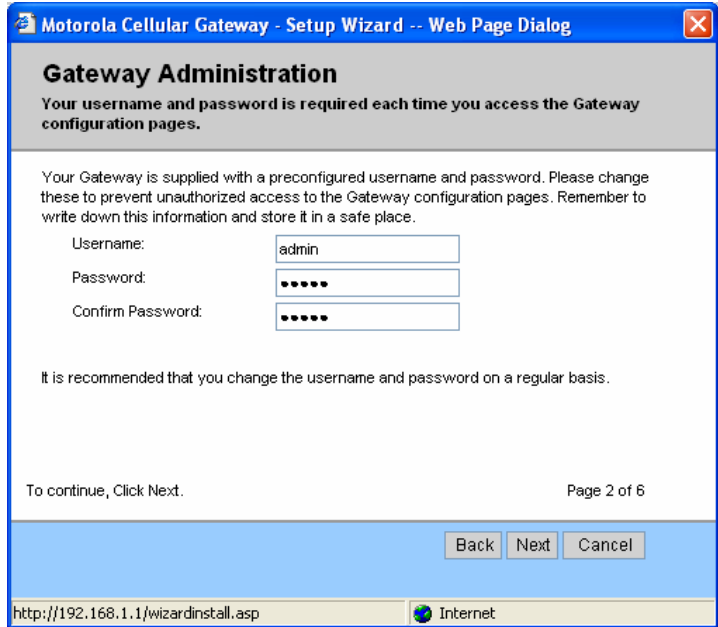
Click **Next** to continue.

> **Motorola Cellular Gateway - Setup Wizard -- Web Page Dialog**
>
> **Location Specific Information**
> Provide details about where you intend to use your Gateway.
>
> Select an appropriate country from the list. This selection is required due to channel restrictions on wireless networks in certain countries. If the desired country is not in the list, then channel restrictions do not apply and "ALL" may be selected.
>
> Country: UNITED STATES
>
> Select an appropriate time zone from the list.
>
> Time Zone: U.S.A., Pacific, General
>
> To continue, Click Next.   Page 1 of 6
>
> Back   Next   Cancel
>
> http://192.168.1.1/wizardinstall.asp   Internet

Wizard-> Gateway Administration

The **Gateway Administration** page allows you to set the username and password that is required to access the configuration utility. The default factory settings for username and password are *admin* and *admin* respectively. You should assign a different username and password to prevent unauthorized access to the Motorola Cellular Gateway NC800 configuration tool.
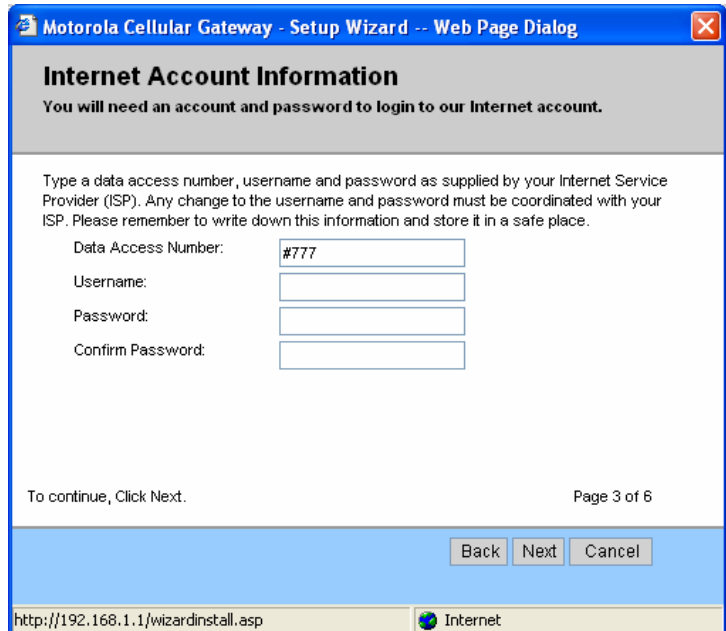
Click **Next** to continue.

Wizard-> Internet Account Information

The **Internet Account Information** allows you to configure your username and password to access your Internet account. You also need to enter the data access number that must be dialed to setup the cellular connection. Enter your account details as supplied by your ISP (Internet Service Provider), as well as the data access number. A maximum of 10 characters are allowed for the data access number.

Note: Some service providers do not require a username and password. In this case – leave the entries blank.
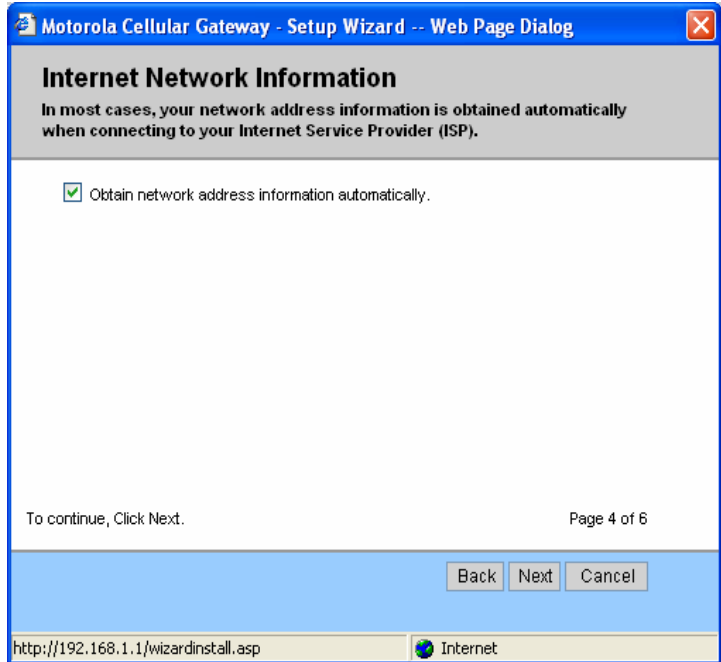
Click **Next** to continue.

Wizard-> Internet Network Information

The **Internet Network Information** screen appears. This is used to indicate how the Motorola Cellular Gateway NC800 obtains its IP address. The default is automatic, which means the Motorola Cellular Gateway NC800 automatically obtains its IP settings from the ISP (i.e. the check box is ticked).

If however, your ISP provides specific IP information that is required to be configured, untick the **automatic** option and enter the details supplied by your ISP.

Click **Next** to continue.
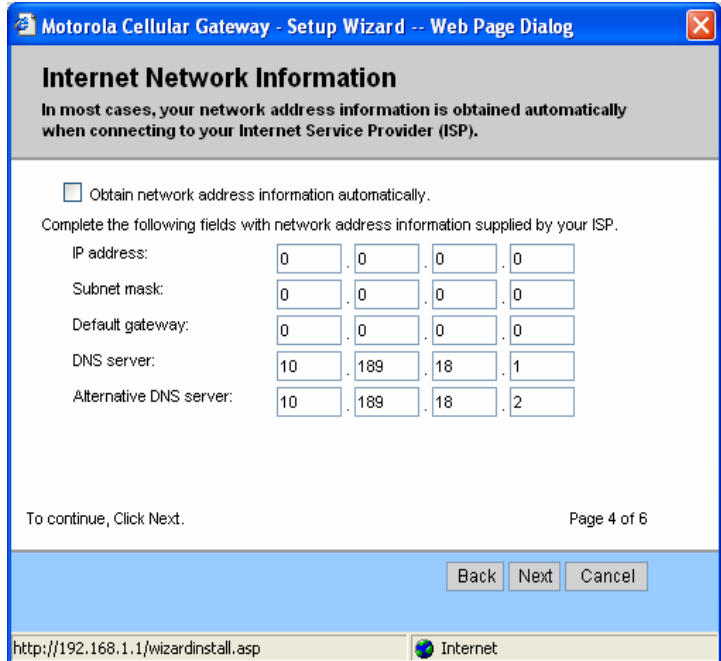
Wizard-> Internet Security

The **Internet Security** provides protection from unauthorized external internet access to your local network. The recommended setting is **High**. Select **High** to completely secure your network.

If you have applications such as games or MS NetMeeting, you will need to allow access to one of your specific computers from the outside the firewall.

Select the **Medium** setting and specify the IP address of the particular computer to which connections will be made. With the **Medium** setting, only FTP, HTTP and SMTP connections will be allowed through the firewall to the selected IP address. The computer at this address is regarded as a DMZ computer.
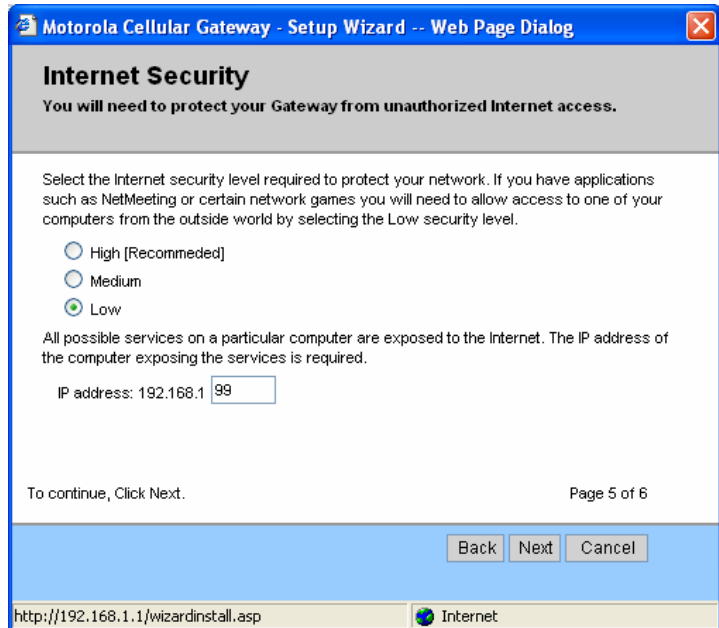
By selecting **Low**, all traffic is allowed to the selected IP address. Any computer at this point is completely open to the internet and is regarded as a DMZ computer

Click **Next** to continue.

Motorola Cellular Gateway - Setup Wizard -- Web Page Dialog

Internet Security
You will need to protect your Gateway from unauthorized Internet access.

Select the Internet security level required to protect your network. If you have applications such as NetMeeting or certain network games you will need to allow access to one of your computers from the outside world by selecting the Low security level.

- ○ High [Recommended]
- ○ Medium
- ⊙ Low

All possible services on a particular computer are exposed to the Internet. The IP address of the computer exposing the services is required.

IP address: 192.168.1 99

To continue, Click Next.   Page 5 of 6

Back   Next   Cancel

http://192.168.1.1/wizardinstall.asp   Internet

Wizard-> Wireless LAN Security

The Wireless LAN security options are presented. The default is no security between your wireless enabled computers and the Motorola Cellular Gateway NC800 (not recommended). This default is selected to reduce the risk of not being able to connect to the Motorola Cellular Gateway NC800 for the first time.

If security is required between your wireless enabled computers and the Motorola Cellular Gateway NC800, tick the option and then specify a 5 character security key. This security key should match that of your previously configured wireless enabled computers (all have to use the same key). Otherwise, generate a random one by clicking on the **Auto-generate** button.

Motorola Cellular Gateway - Setup Wizard -- Web Page Dialog

Wireless LAN Security
Unless certain security precautions are applied, any computer in the vicinity of your Gateway can intrude on your wireless LAN.

Wireless LAN security is achieved by encrypting the connections between wireless-enabled computers and the Gateway. The preconfigured setting is no security. It is recommended to enable WEP encryption.

☑ Enable WEP encryption

WEP encryption requires a security key to be configured on the Gateway. This key must match the keys used on each wireless-enabled computer. A random key can be generated by clicking on the Auto-generate button.

Security Key (5 Characters) MVWBM   Auto-generate

To continue, Click Next.   Page 6 of 6

Back   Next   Cancel

http://192.168.1.1/wizardinstall.asp   Internet

The WEP key entered on this page corresponds to Network Key 1 on the Wireless LAN->WEP Security web page.

If no security is required, then un-tick the encryption option.

Click **Next** to continue.

Warning: Ensure that all wireless enabled computers accessing the Motorola Cellular Gateway NC800 have the same WEP encryption key configured.

WEP encryption is not the most secure encryption method offered by the Motorola Cellular Gateway NC800, but not all wireless adapters support the more advanced encryption techniques. If you wish to use more secure encryption, please refer to the **Wireless LAN ->Security** section.

Wizard-> Summary

The initial configuration of your **Motorola Cellular Gateway NC800** is now complete. Review the summary of all the settings (possibly Print the settings for future reference) and then click on **Finish** to finalize the settings.

If you don't click **Finish** you will lose all changes. If you **Cancel**, you can restart the wizard by selecting **Setup Wizard** again from the list of options on the left hand side of the main configuration screen.
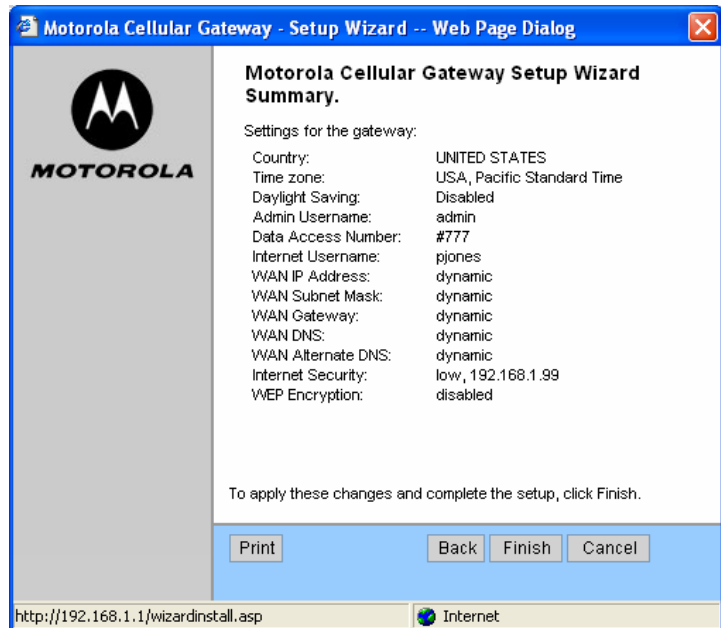
Signal Strength

You can use this screen as an aid to find the optimal position for the CDMA antenna and to check the current CDMA signal strength. The signal strength is shown on a scale from Poor to Excellent.
To stop monitoring the signal strength, click on the Quit button.
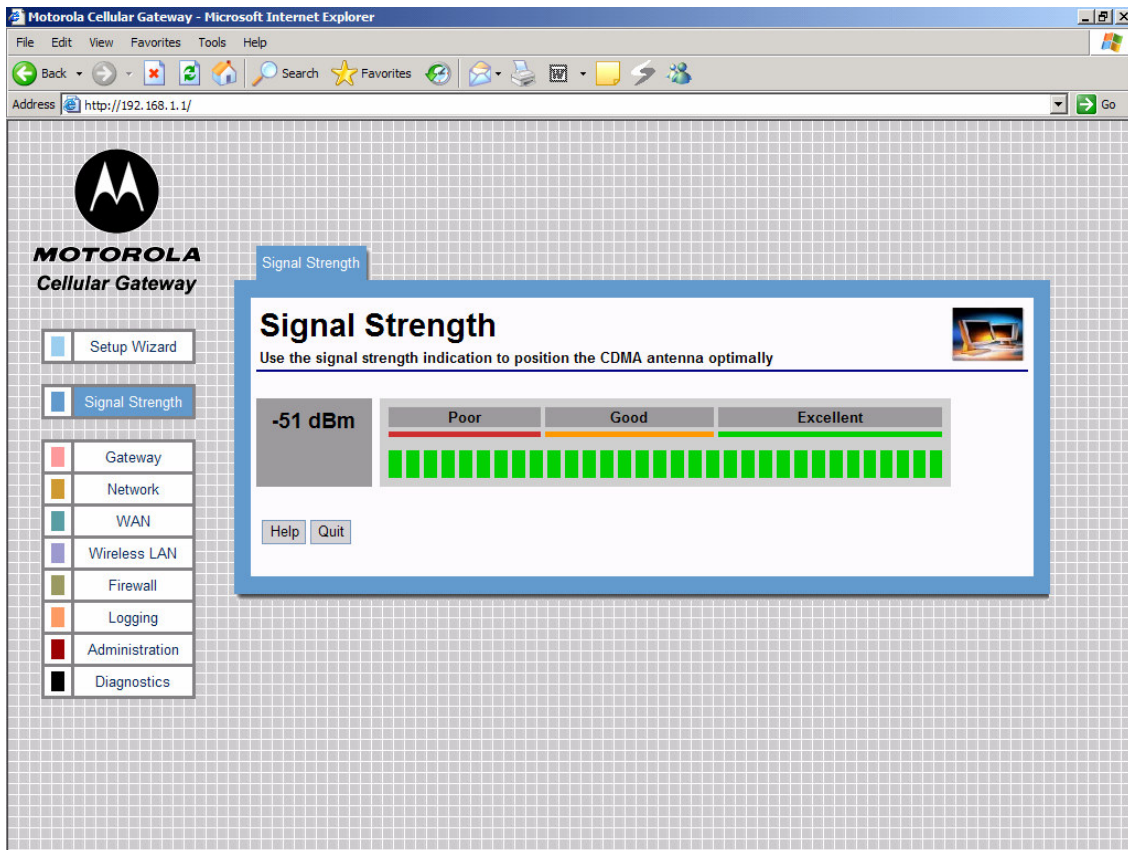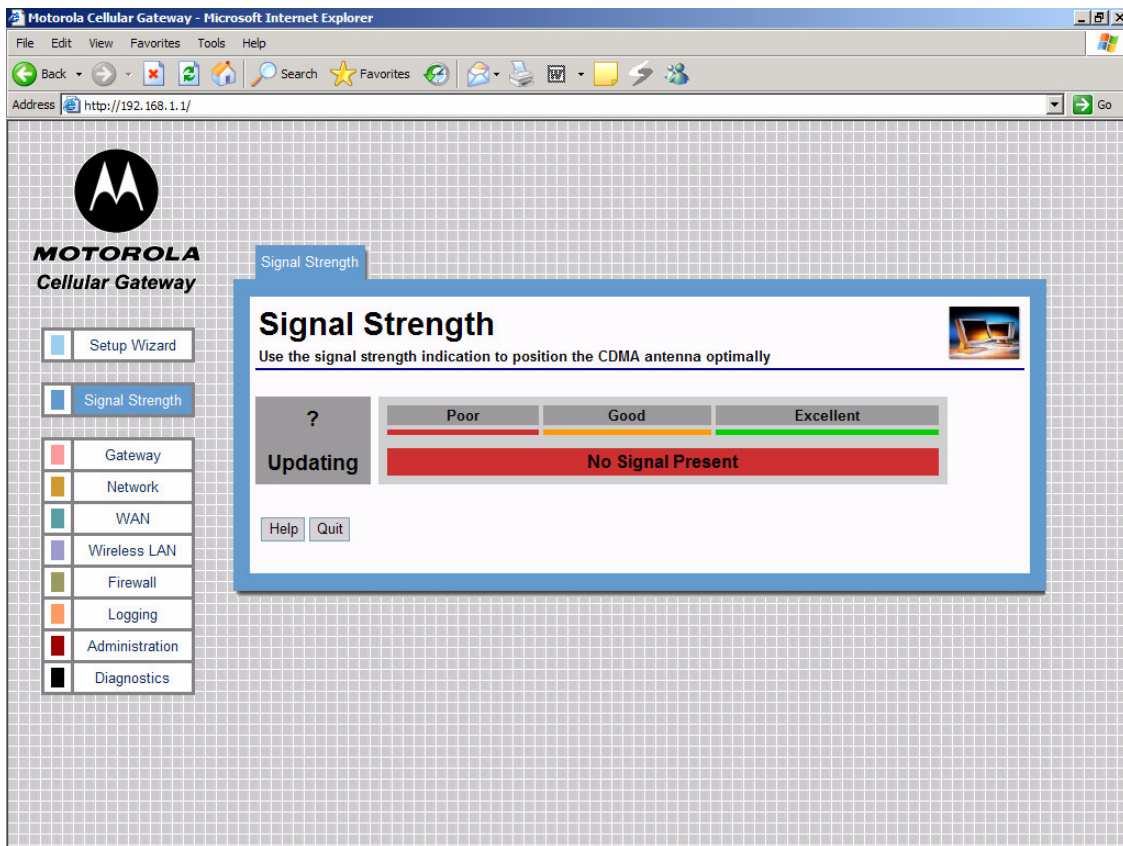

Figure 7. Excellent CDMA signal strength

Figure 8. No CDMA signal

Gateway

The Gateway category of screens allows you to specify the general settings of the Motorola Cellular Gateway NC800.

Gateway-> Basic Settings The various interfaces are enabled/disabled on this page. This affects the availability of options on pages in the other main categories.

Gateway-> LAN Interface The Motorola Cellular Gateway NC800's LAN-specific properties, e.g. its IP address as seen by the other devices on the LAN, are specified here.

Gateway-> DHCP leases This page displays the status of the current DHCP leases.

Gateway-> UPnP Universal Plug and Play capabilities are enabled on this page.

Gateway-> LAN STP The various settings to do with LAN Spanning Tree Protocol.

Gateway-> Login Settings This page allows the user login and password to be changed

Gateway-> Basic Gateway Settings

This is the very first page that you see when the Motorola Cellular Gateway NC800's configuration utility opens. The settings on this page determine whether certain options on subsequent pages will be available. These dependencies are highlighted on the relevant pages.

The default values displayed on this page will generally be sufficient. The purpose of each field is described below in order to assist you to fill in appropriate values if you have more advanced requirements.
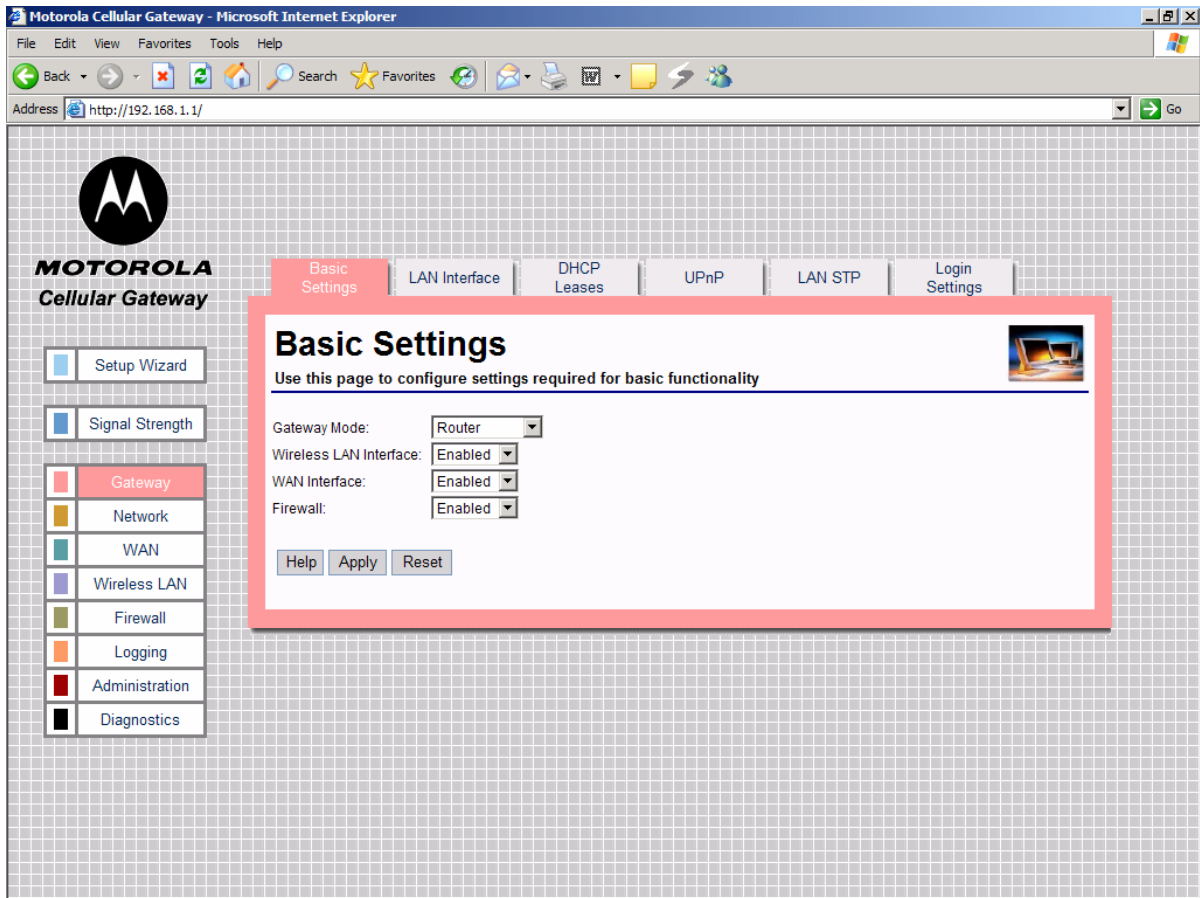
- **Gateway Mode** – If the device operates in router mode, the WAN interface is enabled and the DHCP Server and Spanning Tree protocols can be enabled. If the device acts as an access point, it offers only wireless and wired LAN connectivity to clients (stations). The WAN interface, the LAN DHCP Server and the Spanning Tree Protocol are automatically disabled.
- **Wireless LAN Interface** – In order to utilize the Motorola Cellular Gateway NC800 wireless functions, select **Enabled**. If you do not wish to utilize any wireless functions, make sure **Disabled** is selected. (*Note: No other wireless functions will be available unless you enable this setting.*) .
- **WAN Interface** – The WAN interface can be enabled or disabled. If the WAN interface is disabled, there is no access to the Internet via the cellular network. *(****Note:*** *No other WAN functions on subsequent pages will be available unless you enable this setting.)*
- **Firewall** – If you do not want the Motorola Cellular Gateway NC800 to filter any packets you can disable the Firewall feature entirely. The Motorola Cellular Gateway NC800 will then **allow all packets** to travel through it. If the Firewall is enabled you will not be able to ping the Motorola Cellular Gateway NC800's WAN interface from the Internet – see the note below. You will, however still be able to ping Internet addresses from the LAN or WLAN.

It's a good idea to **keep the firewall enabled** if you are connecting to the Internet. The firewall makes it difficult for outsiders to detect your network. It prevents outsiders from "ping-ing" your network by blocking all ping requests originating from *outside* your network. Only those IP addresses and ports that you specify are opened to traffic originating from the Internet.

Gateway-> LAN Interface

This page is used to configure the LAN settings of the Motorola Cellular Gateway NC800.

The default values displayed on this page will generally be sufficient. The purpose of each field is described below to assist you to fill in appropriate values if you have more advanced requirements.
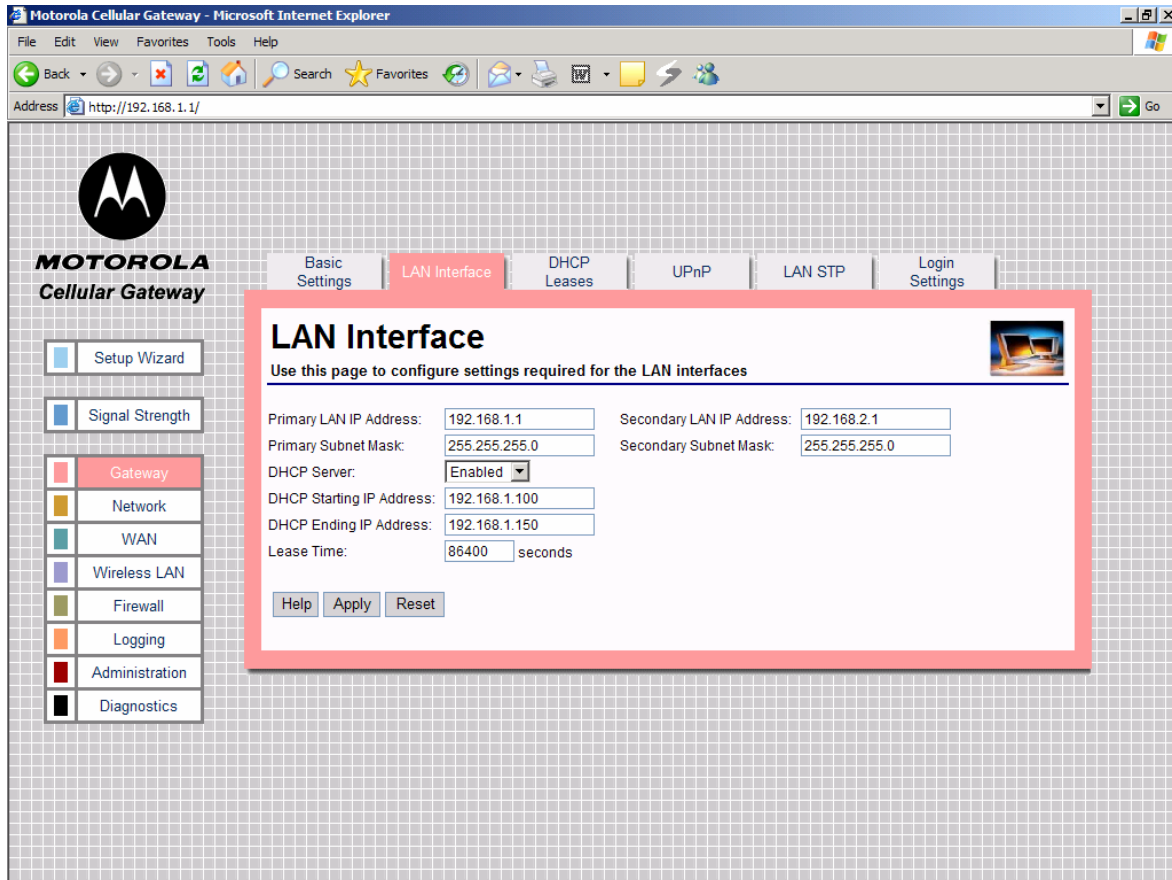
- **Primary LAN IP Address** – You have to assign a unique static IP address to the Motorola Cellular Gateway NC800's LAN 1 local interface. Being static, this IP address will not dynamically change and will be the default Motorola Cellular Gateway NC800 address for all computers connecting to this Motorola Cellular Gateway NC800 on the LAN 1 interface or WLAN interface. The default IP address for this Motorola Cellular Gateway NC800 is **192.168.1.1**. The dotted-decimal notation must be used. The interested reader is referred to the glossary for more detailed information on IP addressing and subnet masks. The LAN 1 interface is the wired Ethernet port on the back panel labeled LAN 1 and is bridged together with the WLAN interface.
- **Primary LAN Subnet Mask** – IP network mask of the Motorola Cellular Gateway NC800 on the LAN 1 interface, e.g. 255.255.255.0**.** If you are intentionally using a different subnet mask on your local network, enter the appropriate subnet mask. The dotted-decimal notation must be used. The interested reader is referred to the glossary for more detailed information on IP addressing and subnet masks.
- **DHCP Server**
  - o **Enable** – The Motorola Cellular Gateway NC800 acts as a DHCP server by assigning IP addresses to computers on the local area network.

    Important: The DHCP server setting should not be enabled if any other DHCP servers have been setup on the LAN network**.**

o **Disable** – The Motorola Cellular Gateway NC800 does not assign IP addresses to computers on the LAN. Select this setting if another DHCP server already exists on the network or if static IP addresses are assigned. Please note that the Motorola Cellular Gateway NC800 itself must have a statically assigned IP address because it is acting as a gateway to the LAN network, so its IP address must be known and not change.

- **LAN DHCP** (only available if LAN DHCP Server is set to Enabled)
  o **DHCP Starting IP Address** – Specifies the start of the address range that the DHCP server will use, e.g. 192.168.1.100. The DHCP server will only assign IP addresses within the Start - End range. IP addresses outside the range are assumed to be static IP addresses and can be used by computers on the network that have a reserved IP address. The maximum number of IP addresses that can be issued is 253. These addresses should fall within the address ranges reserved for private Internets, unless the address range specified here has been assigned to you by IANA. Please refer to the IP address structure entry in the glossary for more detail regarding the allowable ranges.
  o **DHCP Ending IP Address** – Specifies the end of the address range that the DHCP server will use, e.g. 192.168.1.150.
  o **Lease Time** – Specifies the number of seconds DHCP leases should be valid for. The maximum lease time can be set to 86400 seconds. A short duration (e.g. 1 hour) is recommended if there are more users than addresses. If users need to keep their addresses while the DHCP Server is unavailable, then the duration should be set to longer than a possible DHCP Server outage. If it is desirable to retain IP addresses even when devices are powered down, then the duration should be set longer than any likely period of inactivity. See also the discussion in the section describing the **Gateway-> DHCP Leases** screen.
- **Secondary LAN IP Address** – You have to assign a unique static IP address to the Motorola Cellular Gateway NC800's LAN 2 local interface. Being static, this IP address will not change and will be the default Motorola Cellular Gateway NC800 address for all computers connecting to this Motorola Cellular Gateway NC800 on the LAN 2 interface. The default IP address for this Motorola Cellular Gateway NC800 is **192.168.2.1**. The dotted-decimal notation must be used. The interested reader is referred to the glossary for more detailed information on IP addressing and subnet masks. The LAN 2 interface is the wired Ethernet port on the back panel labeled LAN 2.
- **Secondary LAN Subnet Mask** – IP network mask of the Motorola Cellular Gateway NC800 on the LAN 2 interface, e.g. 255.255.255.0**.** If you are intentionally using a different subnet mask on your local network, enter the appropriate subnet mask. The dotted-decimal notation must be used. The interested reader is referred to the glossary for more detailed information on IP addressing and subnet masks.
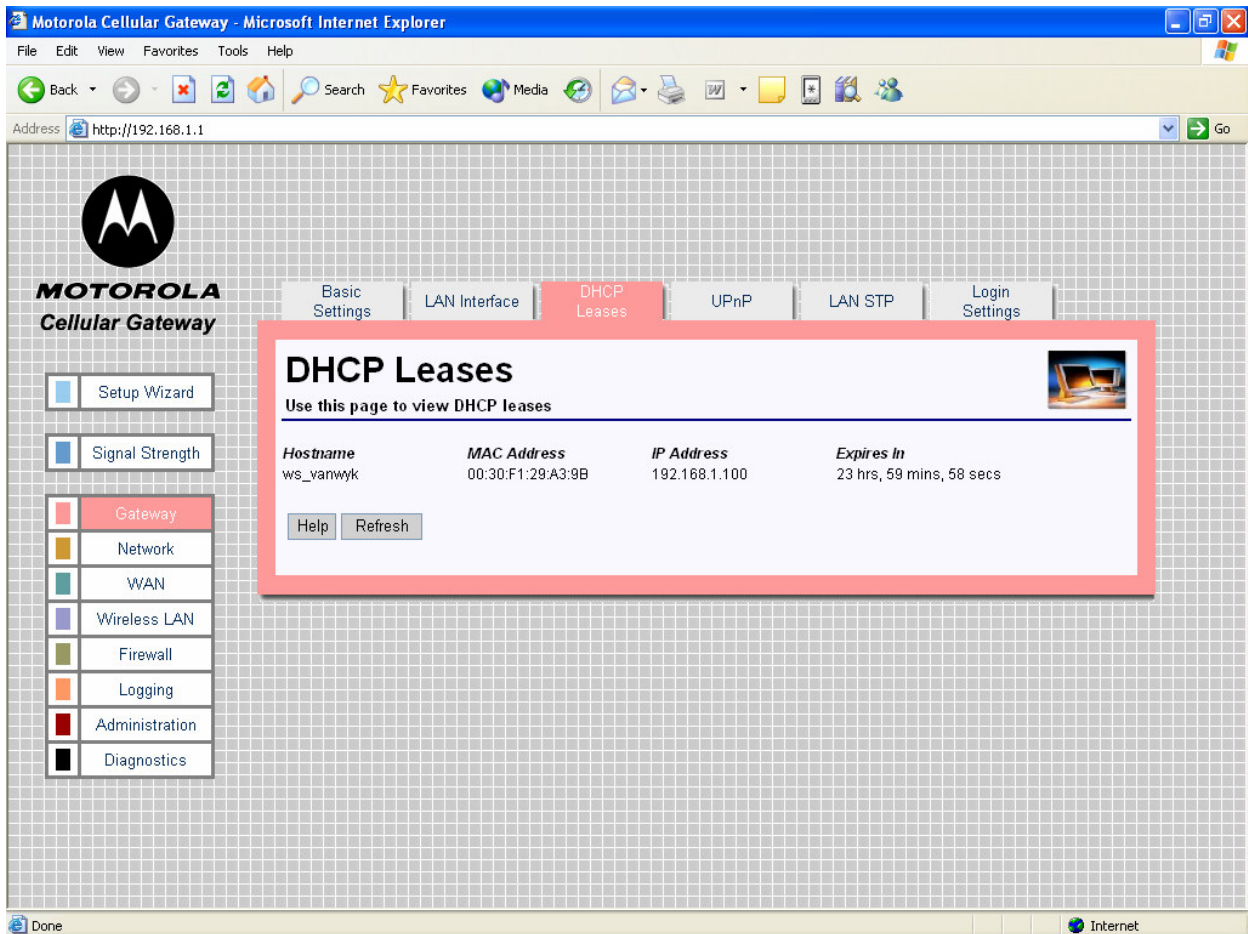
Gateway-> DHCP Leases

The Motorola Cellular Gateway NC800 is acting as a DHCP server if it automatically assigns IP addresses to the computers connecting to it. The Motorola Cellular Gateway NC800 builds up a table of MAC addresses and the IP address assigned to it. In a sense, a MAC address is "leasing" an IP address for a period of time. The computer requesting an IP address from the Motorola Cellular Gateway NC800 will periodically "renew" the IP address. The Motorola Cellular Gateway NC800 will then re-assign an IP address to it – in most cases this will be the same address that was assigned to the computer previously.

If the computer does not renew its IP lease then the DHCP lease will expire. The Motorola Cellular Gateway NC800 is then free to re-assign the IP address to the next computer requesting an IP address.

The DHCP leases page displays the current DHCP leases table. This page is for information only. No values can be set on this page. In order to change DHCP related fields you need to go to the **Gateway -> LAN Interface** page.
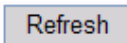
- **Host Name** – The name of the computer that requested the IP address.
- **MAC Address** – The MAC address of the computer that requested an IP address.
- **IP Address** – The IP address that was assigned to the requesting MAC address.
- **Expires In** – The remaining period that the IP address is reserved for the specific MAC address.

Special Buttons:

Refresh   Refreshes the list to the most recently assigned IP addresses
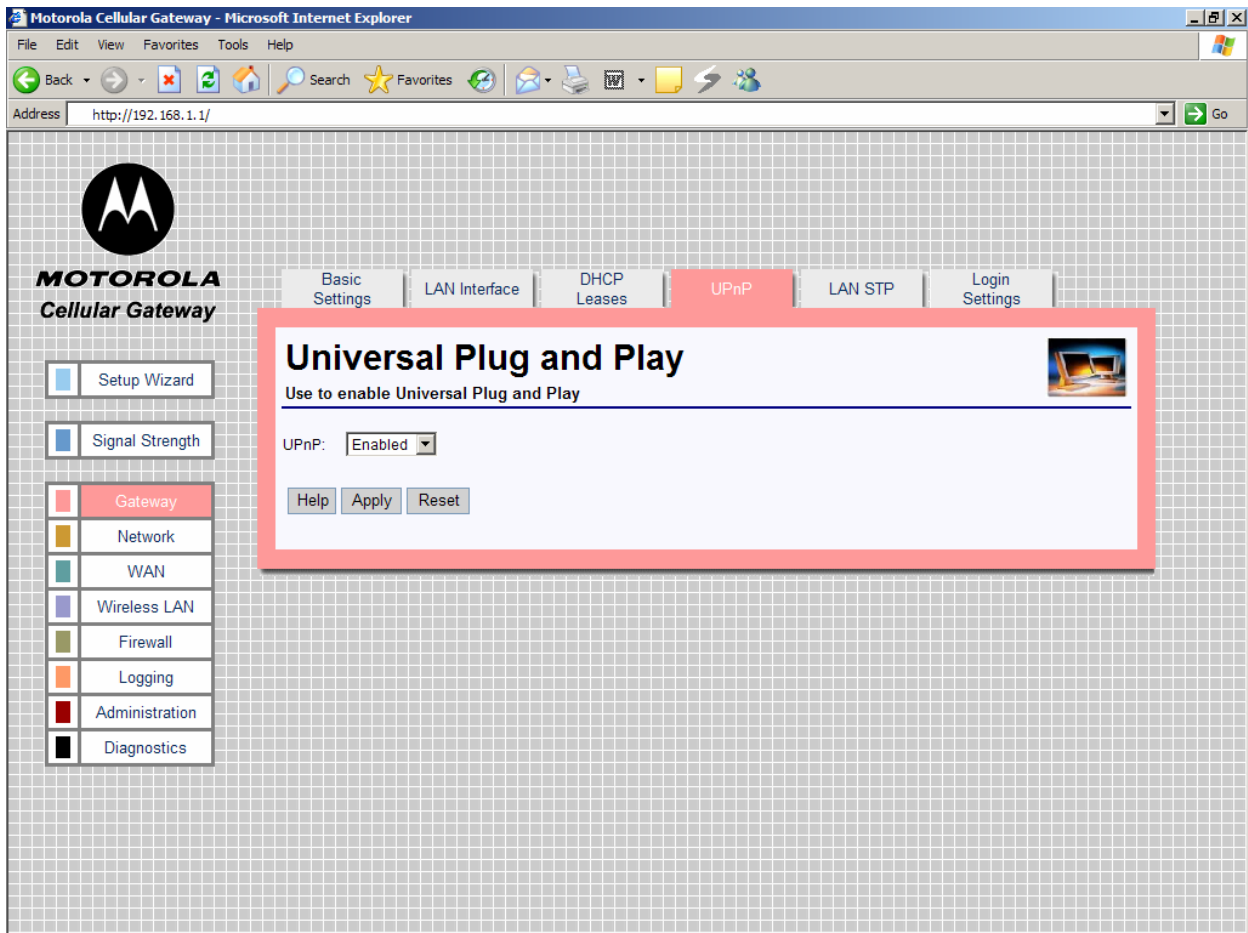
Gateway-> Universal Plug and Play

The Motorola Cellular Gateway NC800 supports the UPnP Internet Gateway Device (IGD) 1.0 specification.

UPnP defines a set of common services (protocols) that devices can use to join a network and describe themselves and their capabilities, enabling other devices to use them without a complicated set-up or configuration.

> The default values displayed on this page will generally be sufficient. The purpose of each field is described below in order to assist you to fill in appropriate values if you have more advanced requirements.
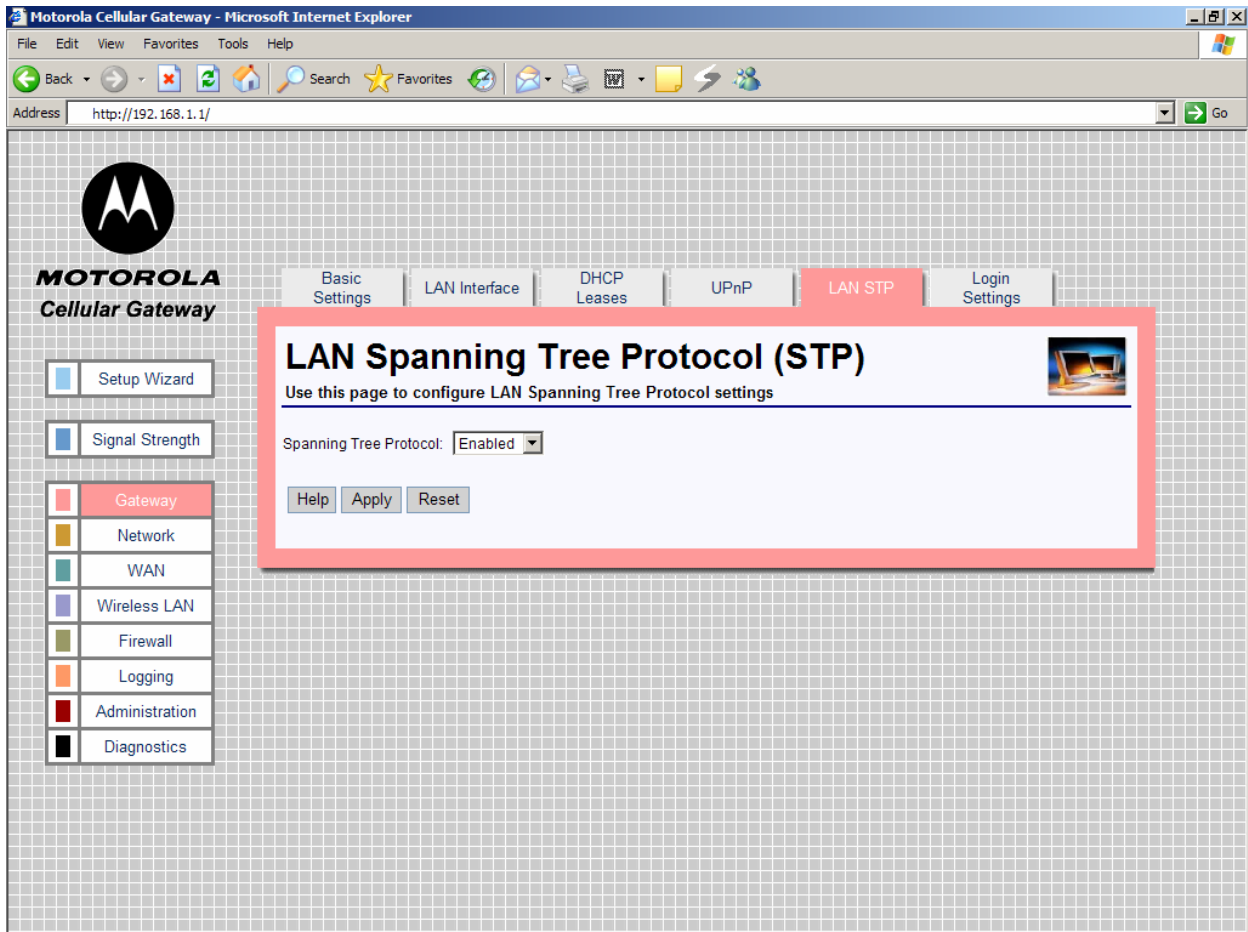

- **UPnP** (Enabled / Disabled) – Enable or disable Universal Plug and Play on the Motorola Cellular Gateway NC800. Disabling UPnP does not cause additional configuration to be required on the Motorola Cellular Gateway NC800. Enabling UPnP merely has the advantage that a UPnP enabled machine will be able to detect the Motorola Cellular Gateway NC800 on the LAN.

The Motorola Cellular Gateway NC800 supports LAN Spanning Tree 802.1d specification.

The default values displayed on this page will generally be sufficient. The purpose of each field is described below in order to assist you to fill in appropriate values if you have more advanced requirements.

- **Spanning Tree Protocol** (Enabled / Disabled) – Spanning Tree Protocol, supported on most bridges and switches, is the tried and tested method for providing path redundancy while eliminating loops in bridged networks. Loops create never-ending data paths, resulting in excessive system overhead. Select Enabled if you want to enable this protocol.

Gateway-> Login Settings

This page is used to configure the Login settings of the Motorola Cellular Gateway NC800.
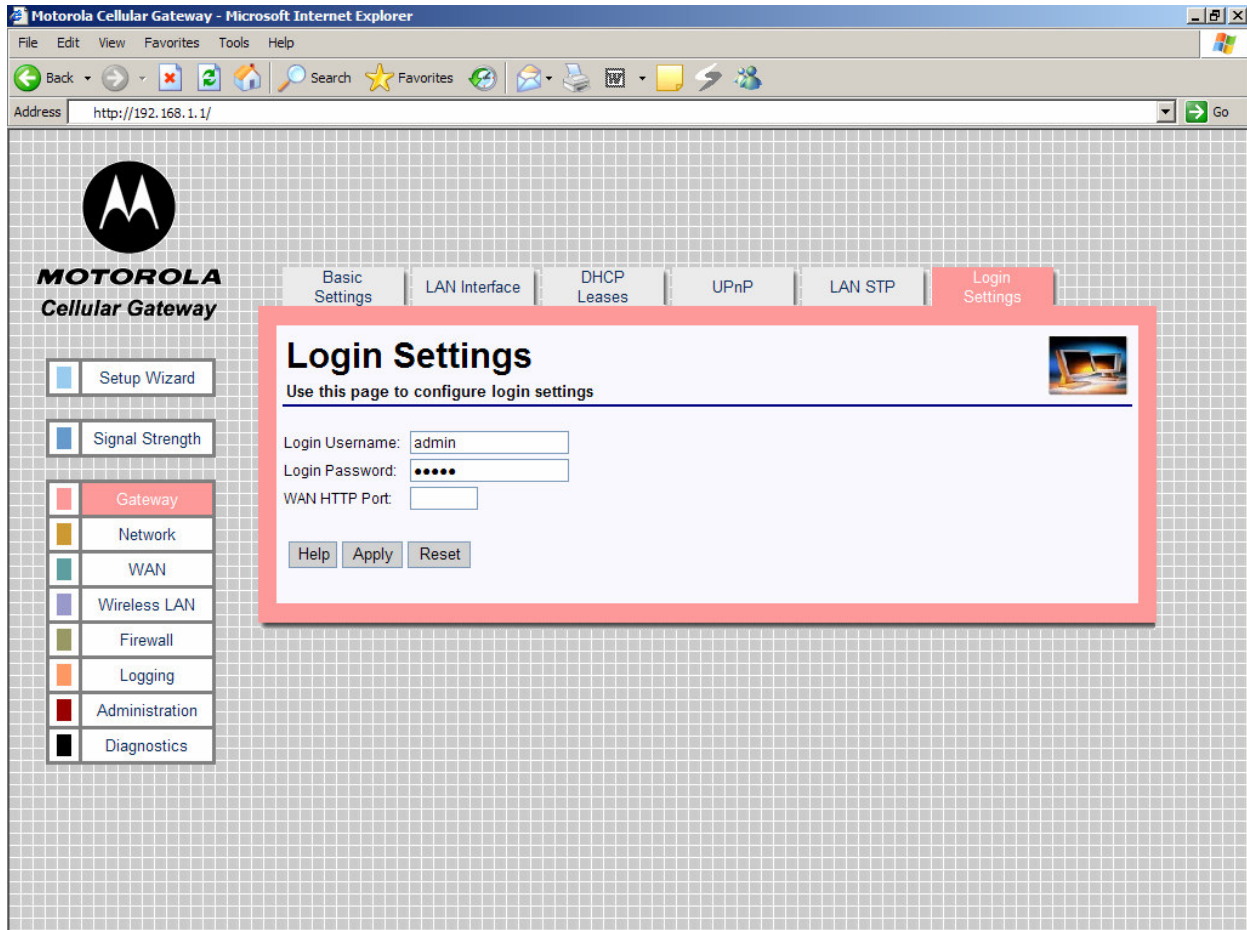
The HTTP server allows you to configure the Motorola Cellular Gateway NC800 via a web browser. Access to the Motorola Cellular Gateway NC800 configuration is controlled via the following parameters:

- **Login Username** – Enter the username required to access configuration web pages. The maximum length of the username that you can enter is 63 characters.
- **Login Password –** Enter the password required to access the configuration pages. The password can be up to 63 characters in length
- **Gateway WAN Port –** The port number required to access the configuration pages remotely via the WAN interface. This can be a number between 0 and 65535. **Leave this field empty** if you do not want the Motorola Cellular Gateway NC800 to be configurable via the WAN interface. The default is <blank>.

If you specify a port number (for example 8080) in the **Gateway WAN Port** field you can access the Motorola Cellular Gateway NC800 configuration pages from the Internet by specifying the port number when typing the Motorola Cellular Gateway NC800's address. For example, if your Motorola Cellular Gateway NC800's WAN IP address is 192.168.10.50 then the URL that you should use to open the configuration pages is **http://192.168.10.50:8080**.

It is recommended to change the default username and default password for security reasons

Warning: If you specify a Motorola Cellular Gateway NC800 WAN HTTP Port anyone who knows the Motorola Cellular Gateway NC800's Internet IP address and password will be able to alter the Motorola Cellular Gateway NC800's settings.

Network

There are four pages in the Routing category:

Network-> Dynamic Routing   This page contains enables and disables the RIP protocol.
Network-> Static Routing   This page contains parameters that can be set to have static routing between networks.
**Network-> System Time**   This page allows the system time and date to be set as well as the country settings.
Network-> VLAN   This page sets the VLAN parameters which logically groups stations on different LAN ports together.

The two screens in the routing category are mutually exclusive. If the Motorola Cellular Gateway NC800 Ethernet LAN interface is connected to a device that supports RIP, dynamic routing can be enabled on the **Network-> Dynamic Routing** page. Otherwise static routes should be defined for devices on a LAN segment that are different to the one served by the Motorola Cellular Gateway NC800 (if there is such a remote LAN segment). This is done on the **Network-> Static Routing** page.

The diagram below shows an example topology where a static route would need to be defined if RIP was **not** supported on the router.
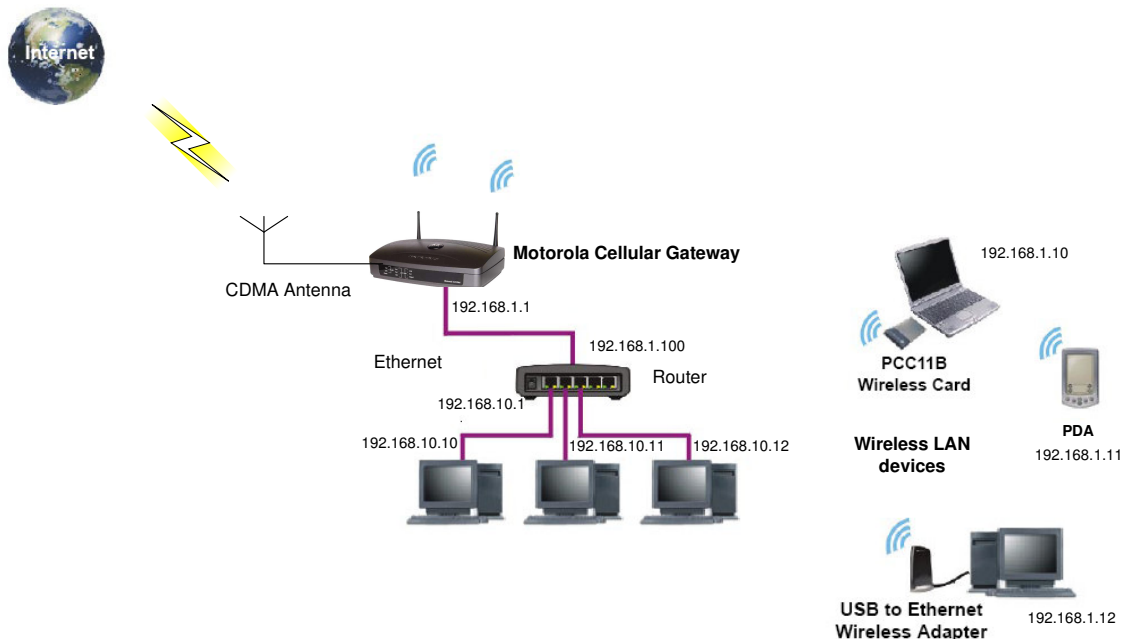
In the diagram the three PCs connected to the router are located in the LAN segment with the address range 192.168.10.0 thru 192.168.10.255. The LAN segment between the Motorola Cellular Gateway NC800 and the switch has the address range 192.168.1.0 thru 192.168.1.255. In order to route packets from the WLAN laptop to the PC with IP address 192.168.10.10, a route to 192.168.10.0 must be defined in the Motorola Cellular

Gateway NC800. The router is a device on the Ethernet LAN of the Motorola Cellular Gateway NC800 and in this example its address is 192.168.1.100. The following routing entry is therefore specified (refer to the next section for a description of each field):

IP address	Subnet Mask	Gateway	Metric	Interface
192.168.10.0	255.255.255.0	192.168.1.100	1	LAN 1

If a user on the Internet wants to access the PC at 192.168.10.10, that user needs to specify the WAN IP address of the Motorola Cellular Gateway NC800 in order to reach the PC. When the packet arrives at the Motorola Cellular Gateway NC800, it routes it to the router which in turn routes it to the PC. The Motorola Cellular Gateway NC800 uses its port forwarding tables to determine where to route the packet. Port forwarding is described in the Firewall section of this document. If access from the Internet is a requirement, then the WAN IP address of the Motorola Cellular Gateway NC800 would have to be made known to the user requiring such access. A static IP address would therefore be preferable in such a situation.

Network-> Dynamic Routing

This page provides detailed settings for Dynamic Routing.

Dynamic Routing allows the Motorola Cellular Gateway NC800 to automatically adjust to physical changes in the network's layout. The Motorola Cellular Gateway NC800, using the RIP v1 and v2 protocol, determines the network packets' route based on the fewest number of hops between the source and the destination. The RIP protocol regularly broadcasts routing information to other routers on the network.
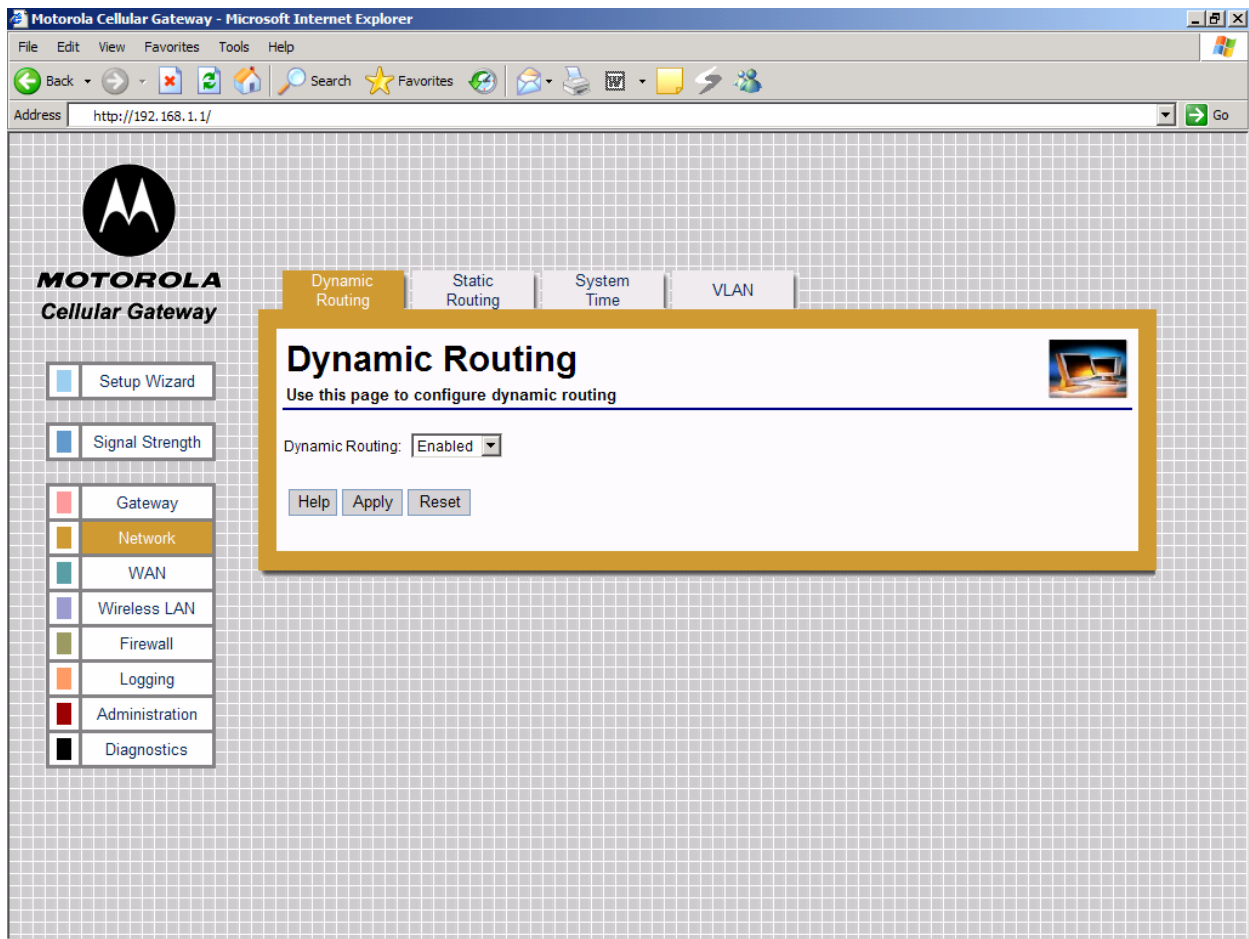
- **Dynamic IP Routing** – Enabled / Disabled dynamic routing of data between networks connected to the Motorola Cellular Gateway NC800. If Disabled, no routing updates (RIP) are sent to or received from other networks.

Network-> Static Routing

This page provides detailed settings for Static Routing.

If the Motorola Cellular Gateway NC800 is connected to more than one network, it may be necessary to set up a static route between them. A static route is a pre-determined pathway that the IP packet must travel to reach a specific host or network.
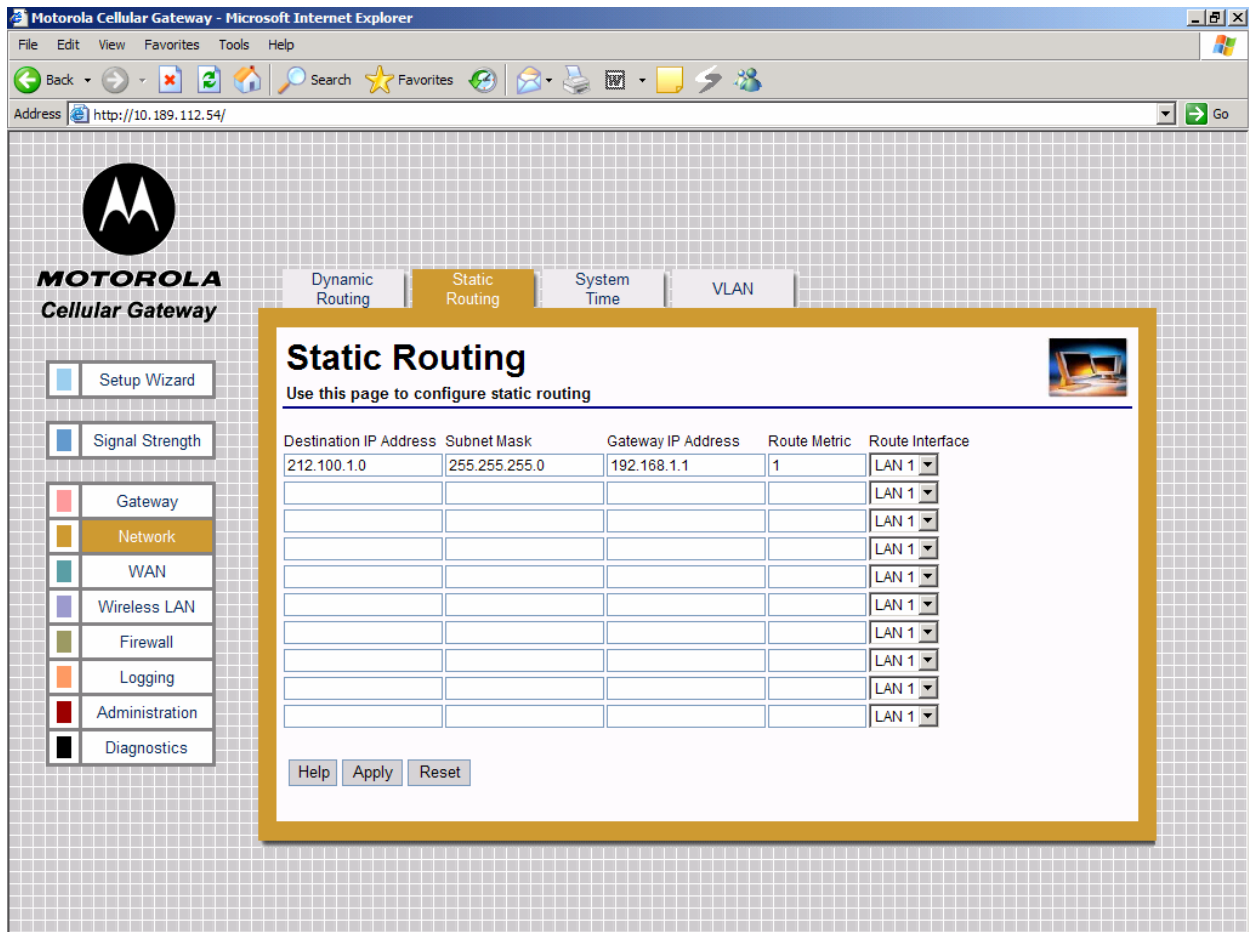
The Motorola Cellular Gateway NC800 supports up to 10 static routes. For every route that you want to define you must supply the following information:

- **Destination IP address** – The destination IP address of the remote network or host to which to assign a static route. If you are building a route to an entire network, be sure that the host portion of the IP address is set to zero. For example, if the router on the remote network has an IP address of 212.100.1.1 and if you wanted to route to the entire network, rather than just to the router, you would you would enter the IP address 212.100.1.0 as the destination IP address.
- **Subnet Mask** – The subnet mask indicates which portion of the destination IP Address is the network portion and which is the host portion. If, for instance, you use a Subnet Mask of 255.255.255.0 (Class C network) with the example shown above for destination IP, then this would indicate that the first three numbers of a network IP address identifies this particular network, while the last number in the network address (from 1 to 254) would identify the specific host.

- **Gateway IP address** – IP address of the Motorola Cellular Gateway NC800 on the local network segment to which packets destined for the remote network should be forwarded.
- **Route Metric:** The number of nodes that a data packet passes through before reaching its destination. A node is any device on a network, such as switches, PCs, etc. Enter a decimal number between 0 and 15. The default value is 1.
- **Route Interface** – Select the appropriate interface to use when forwarding packets destined for the remote network. Valid values are:
  o LAN 1 - Destination is on the Primary LAN network.
  o LAN 2 - Destination is on the Secondary LAN network.
  o WAN - Destination is on another IP network. In most cases it will not be necessary to enter a routing entry for WAN access.

It is usually not necessary to create a routing entry manually for WAN access to the Internet. WAN routing information is obtained automatically by the Motorola Cellular Gateway NC800 when it communicates with the ISP.

Network-> System Time

This page provides detailed settings for Time and Date settings.

This function synchronizes the Motorola Cellular Gateway NC800's date and time with a Network Time Protocol (NTP) server or date and time supplied by the CDMA module. This functionality is necessary to time stamp logging information.
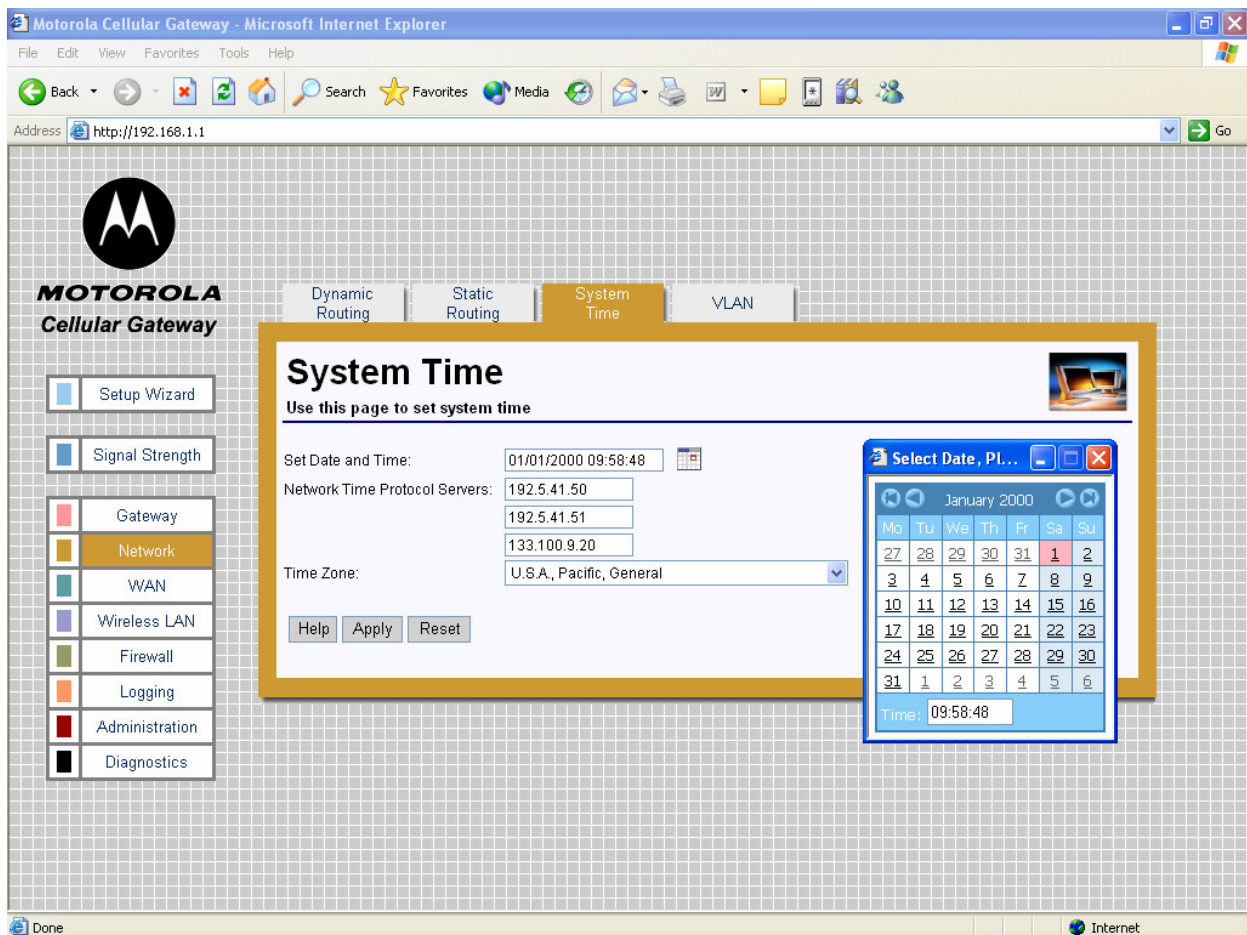
- **Set Date and Time** – Manually set date and time or click the calendar icon to choose date and time. When pressing the calendar icon, a pop-up appears as shown

- **Network Time Protocol Server** – The IP address of the NTP server (3 can be specified) that the NTP client connects to. Decimal number specified in dotted notation.
- **Time Zone** – Select the time-zone closest to you. The Motorola Cellular Gateway NC800 uses this information to format the current time as returned by the Network Time Protocol Server. If there is daylight saving in the time zone specified, it will automatically be enabled. If daylight saving is not applicable to the selected Time Zone no time adjustment will be made throughout the year.

Network-> VLAN

This page provides detailed settings for VLAN settings.

The VLAN concept logically groups stations on different LAN ports together (i.e. stations can see each other even though they are on physically different LANs). All stations with the same VLAN identifier can "see" each other.

⚠ **Warning:** The packets sent between the two PC's are sent as VLAN **tagged** packets, therefore the stations communicating over the VLAN must be able to handle VLAN **tagged** packets.
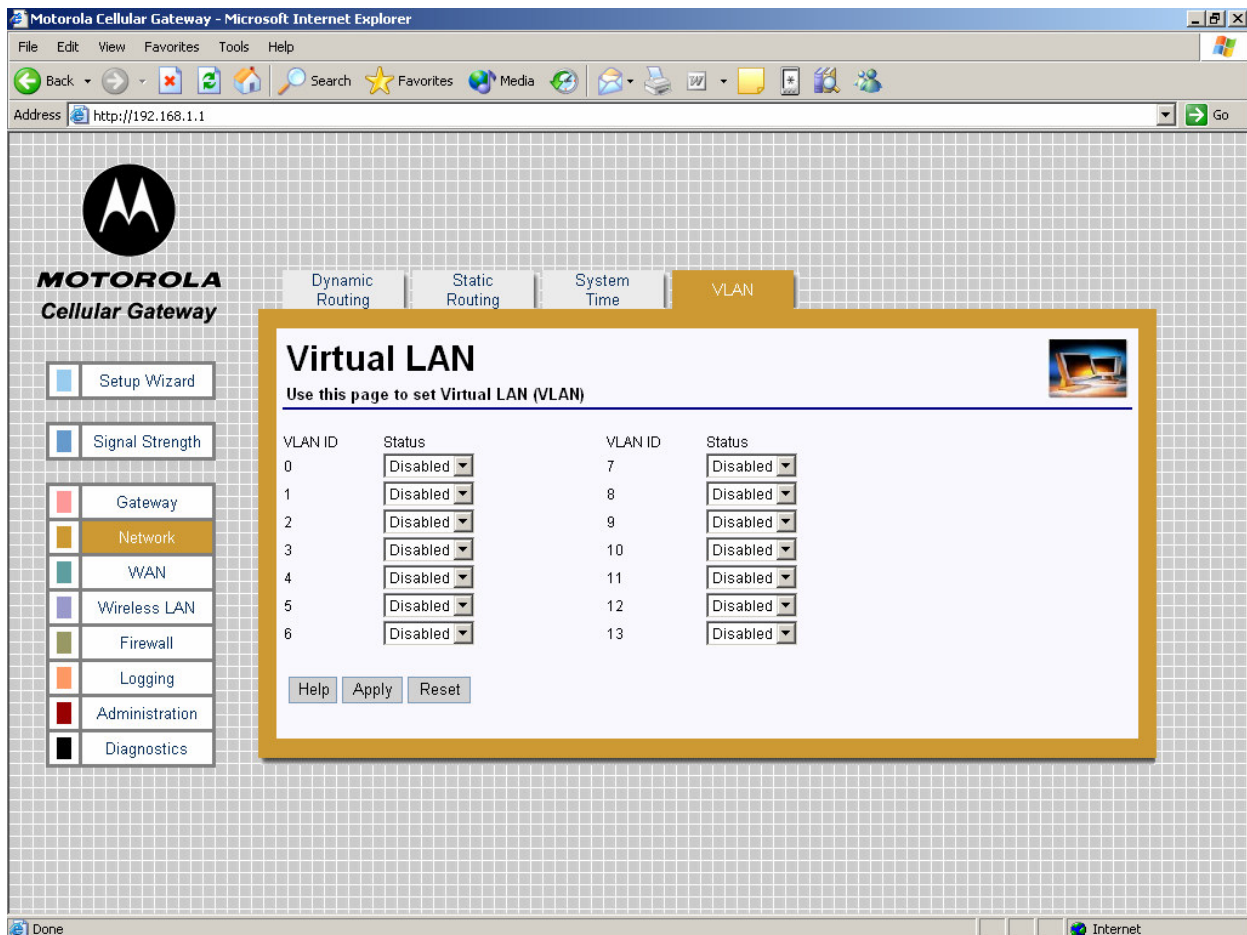
- **VLAN ID** – ID of the VLAN to enable or disable on the gateway. If enabled, the gateway will retransmit all received tagged packets (with corresponding VLAN IDs) on both LAN1 and LAN2. If disabled, the tagged packet will be dropped by the gateway.

WAN

There are two pages that affect the setup of the WAN interface of the Motorola Cellular Gateway NC800:

WAN-> IP Settings   If the ISP specifies a static IP address for the Motorola Cellular Gateway NC800, then that address and other related information provided by the ISP must be filled in on this page.

WAN-> PPP Settings   The ISP account information is filled in on this page.

WAN-> IP Settings

Use this page to configure the WAN interface if your ISP has assigned a static IP address to you. They will provide most if not all information. For those fields that they do not provide information, leave the default values in place.

Warning: The settings on this page become effective only if the **WAN Interface** is set to **Enable** on the **Gateway-> Basic Settings** page.

The default values displayed on this page will be sufficient if the ISP assigns the IP address automatically to the Motorola Cellular Gateway NC800. (A default value of 0.0.0.0 means that no IP address is configured.) The purpose of each field is described below in order to assist you to fill in appropriate values if the ISP specifies a static IP address for the Motorola Cellular Gateway NC800.

- **WAN IP Address** – This is the Motorola Cellular Gateway NC800's IP Address as seen by external users on the Internet (including your ISP). The default is 0.0.0.0 (i.e. dynamically assigned).
- **WAN Subnet Mask –** This is the Motorola Cellular Gateway NC800's subnet mask on the WAN interface. The default is 0.0.0.0 (i.e. dynamically assigned).
- **Default Gateway –** You should enter your ISP server's IP address here. The Motorola Cellular Gateway NC800 will route all packets bound for the Internet to this address. Your ISP will then route the packets onto the Internet. Please check with your ISP for the address to use here. The default is 0.0.0.0 (ie dynamically assigned).
- **DNS Servers –** You only need to enter one DNS server address here. If your ISP has supplied you with more than one DNS server address you can enter them in here. The first DNS server is the preferred DNS server meaning that DNS lookups will first be sent to this address before the alternate DNS servers are used as backups. The default is a blank field. Up to three DNS servers can be entered.

You can test your ability to access the Internet by connecting to a well-known Internet web site such as www.motorola.com.

WAN-> PPP Settings

Point to Point Protocol (PPP) is used by ISPs to establish Internet connections. In order to activate the Motorola Cellular Gateway NC800's WAN interface you have to:
- Select **Enable** for the **WAN Interface** on the **Gateway-> Basic Settings** page.
- Fill in the entries on the **WAN-> IP Settings** page.
- Configure the Internet account information using the **WAN->PPP Settings** (this) page.

⚠️ **Warning:** The settings on this page become effective only if the **WAN Interface** is set to **Enable** on the **Gateway-> Basic Settings** page.

💡 Apart from the **Data Access Number**, **PPP Username** and **PPP Password** fields, the default values displayed on this page will generally be sufficient. The purpose of each field is described below in order to assist you to fill in appropriate values if you have more advanced requirements.


- **Data Access Number** – The data access number supplied by your ISP that must be dialed to setup the cellular connection. Maximum of 10 characters.
- **PPP Username** – Your ISP will provide you with a user name to use. Maximum of 255 characters per field. This field can be left blank if you did not receive a username from your ISP.
- **PPP Password** – Your ISP will provide you with a password to use. Maximum of 255 characters per field. This field can be left blank if you did not receive a password from your ISP.
- **PPP MRU – Maximum Receive Unit (MRU)** is the maximum size in bytes of the PPP receive packet. It is a number between 128 and 16384. Default is 1500.

- **PPP MTU – Maximum Transmission Unit (MTU)** is the maximum size in bytes of the PPP transmit packet. It is a number between 128 and 16384. Default is 1500.

WAN-> OTA Provisioning

The user can provision the WAN module by requesting provisioning information from the network via the Over-the-Air (OTA) provisioning facility. The OTA provisioning number is specified by the user, and once the provisioning process is initiated, the WAN module uses this dial number to request provisioning information from the network.
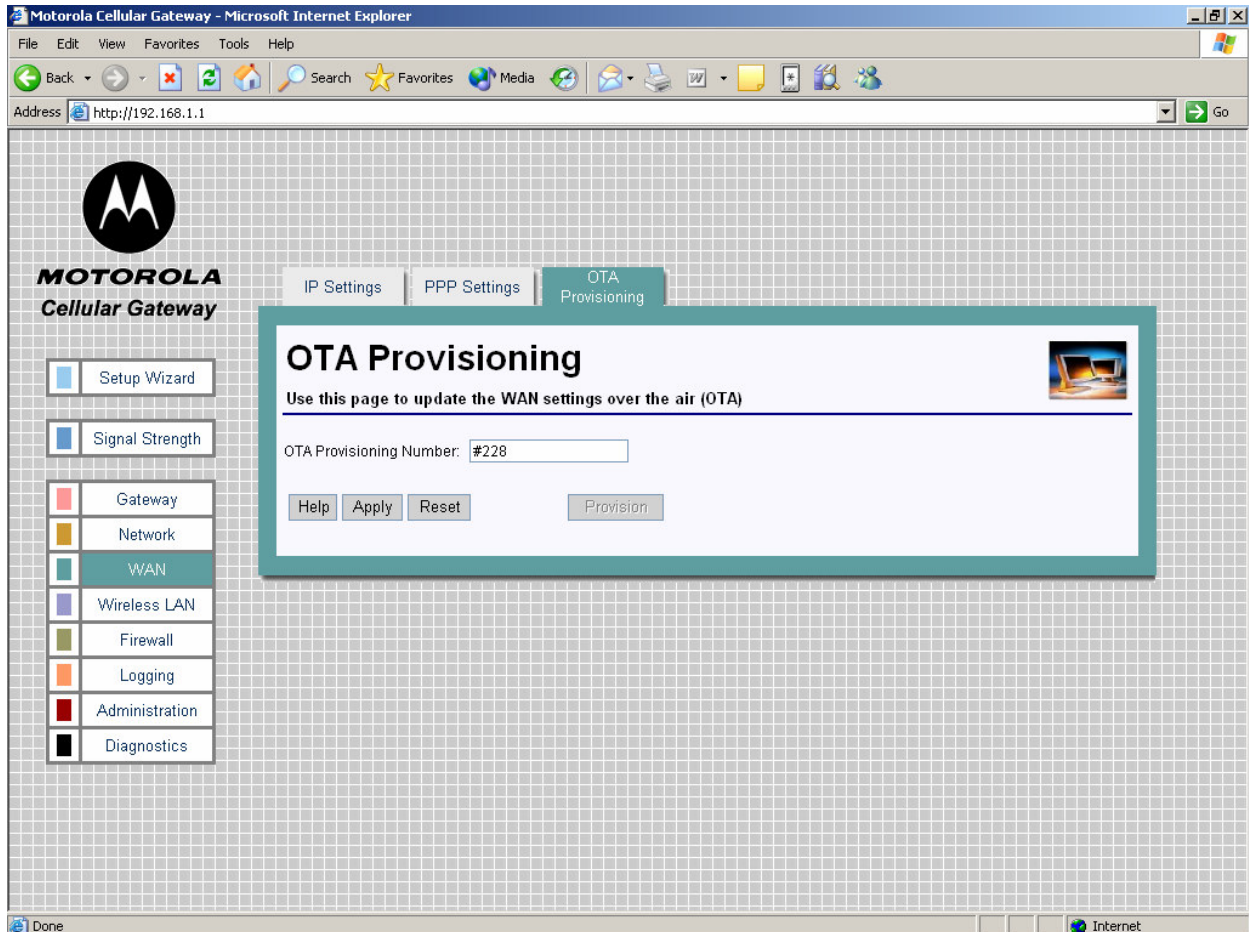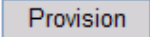

- **OTA Provisioning Number** – The access number that must be dialed for the WAN module to perform OTA provisioning. The number has a maximum length of 10 characters and is provided by the ISP. **Apply** must be used to set the number as the provisioning number.

> ⚠️ **Important:** Do not interrupt the provisioning process in any way or power down the Motorola Cellular Gateway NC800 while the provisioning process is in progress as this could damage the Motorola Cellular Gateway NC800.

Special Buttons:

Provision   Starts the OTA provisioning process.

Wireless LAN

The Wireless LAN category contains the following pages:

Wireless LAN-> WLAN Basic   This page is used to set the basic WLAN settings.
Wireless LAN-> WLAN Advanced   This page is used to set the advanced WLAN settings.
Wireless LAN-> MAC Restriction   This page is used to control wireless access to the Motorola
                                       Cellular Gateway NC800.
Wireless LAN-> WEP Security   This page is used to set the WEP configuration settings of the
                                       Motorola Cellular Gateway NC800.
Wireless LAN-> WPA Security   This page is used to set the WPA configuration settings of the
                                       Motorola Cellular Gateway NC800.
Wireless LAN-> Radius Server   This page sets the RADIUS server settings.
Wireless LAN-> Authenticated Stations   This page displays the authenticated WLAN stations.

Wireless LAN-> WLAN Basic

This page provides detailed settings for the Wireless Interface.

⚠ **Warning:** The settings on this page become effective only if the **Wireless LAN Interface** is set to **Enable** on the **Gateway-> Basic Settings** page.

💡 The default values displayed on this page will generally be sufficient. The purpose of each field is described below in order to assist you to fill in appropriate values if you have more advanced requirements.
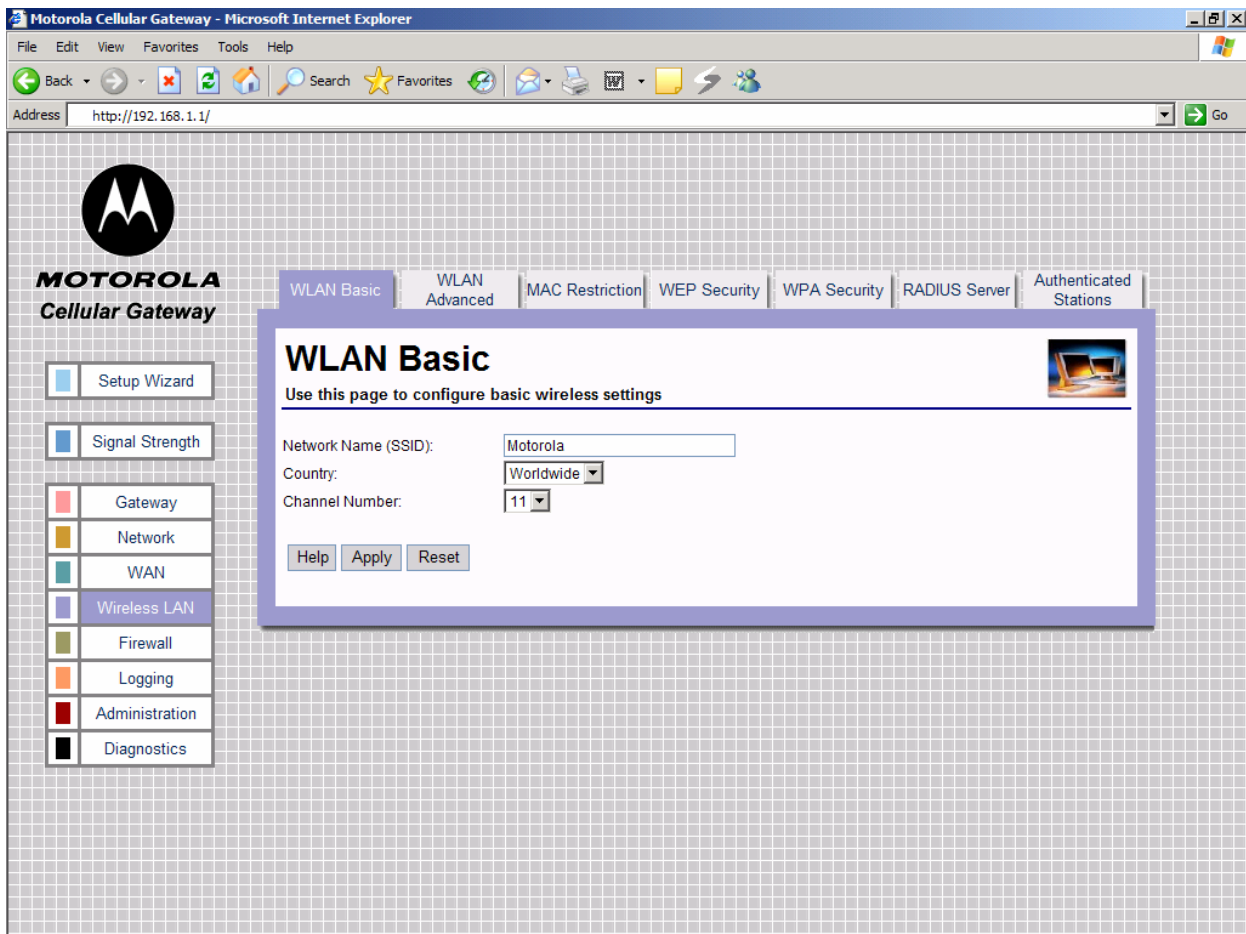
- **Network Name (SSID)** – The SSID is a unique name for your wireless network. It is case sensitive and must not exceed 32 characters. The default SSID is **"Motorola"** but you should change this to a personal wireless network name. It is recommended that you change the SSID for security reasons. **All wireless points in your network must use the same SSID.** Verify that you are using the correct SSID and click the **Apply** button to set it.
- **Country** – Select your country from the drop-down list. This will influence the number of channels that are available to you due to regulatory restrictions in some countries. If your country is not present in the list, select "All".
- **Channel Number** – Select the appropriate channel for your network from the list provided. All wireless points (PC's with wireless LAN, wireless routers and hubs) in your network must use the same channel in order to function properly. If you have multiple Motorola Cellular Gateway NC800s in your network, then each Motorola Cellular Gateway NC800 must use a different channel. The channel number can be Auto, or a decimal number between 1 and 14 (depending on the Country setting, the range may from 1 to 11, 1 to 13 or 1 to 14). Set this after selecting the country.