NetCommWireless

3G38WV 3G WiFi Router with Voice

USER GUIDE

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Save Our Environment
When this equipment has reached the end of its useful life, it must be taken to a recycling centre and processed separately from domestic waste.

The cardboard box, the plastic contained in the packaging, and the parts that make up this device can be recycled in accordance with regionally established regulations. Never dispose of this electronic equipment along with your household waste. You may be subject to penalties or sanctions under the law. Instead, ask for disposal instructions from your municipal government.

Please be responsible and protect our environment.

This manual covers the following products:
NetComm Wireless 3G38WV

DOCUMENT VERSION	DATE
1.0 - Initial document release	04/02/2013

Table 1 - Document Revision History

NetCommWireless

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Overview

Introduction

This manual provides information related to the installation, operation, and utilisation of the NetComm Wireless 3G WiFi Router with Voice.

Target Users

The individual reading this manual is presumed to have a basic understanding of telecommunications terminology and concepts.

Prerequisites

Before continuing with the installation of your router, please confirm that you comply with the minimum system requirements below.

- An activated SIM card.
- Computer with Windows, Macintosh, or Linux-based operating systems with a working Ethernet adapter with TCP/IP Protocol installed.
- A Web Browser such as Internet Explorer, Mozilla Firefox, Google Chrome, Safari etc.
- Wireless Computer System Requirements:
    - Computer with a working 802.11b, 802.11g or 802.11n wireless adapter.

Notation

The following symbols are used in this manual:

Indicates a note requiring attention.

Indicates a note providing a warning.

Indicates a note providing useful information.

Product Introduction

Product Overview

- Quad-Band HSPA+ (where network is available)
- Up to 21Mbps downlink / 5.76Mbps uplink[1]
- 2 x Voice ports (circuit-switched)
- 1 x 10/100 LAN Ethernet port
- 802.11n/300Mbps Wireless[1] (Backward compatible with 802.11b/g)
- 1 x WAN Ethernet port for optional alternate Internet connectivity (ADSL/Cable/Satellite)
- Supports auto Internet fall back to WAN.
- 2 x Internal WiFi antennas
- WiFi Protected Setup (WPS) for wireless connectivity
- Browser based interface for configuration and management
- Wireless security options - WPA, WPA2

Package Contents

The NetComm Wireless 3G38WV package consists of:

- 3G38WV – NetComm Wireless 3G WiFi Router with Voice
- 12VDC~1.5A Power Adapter
- 1 x External Antenna
- 1 x RJ-45 LAN Cable
- 1 x RJ-11 phone cable
- Quick Setup Guide
- Wireless Security Card

If any of these items are missing or damaged, please contact NetComm Wireless Support immediately by visiting the NetComm Wireless Support website at: http://support.netcommwireless.com

Product Features

The NetComm Wireless 3G38WV creates a secure WiFi network, providing Internet access for up to 15 users and simultaneous phone service using a wireless 3G network. With quick and easy setup, the NetComm Wireless 3G38WV provides a landline experience without the need for fixed line connections. Simply plug the NetComm Wireless 3G WiFi Router with Voice into a power outlet then insert an active SIM card into the slot on the rear panel to access a 3G Internet connection within minutes.

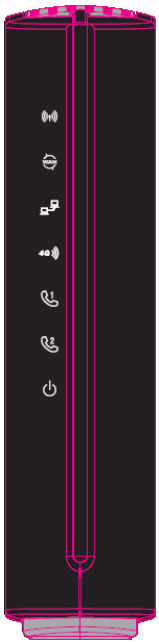
The NetComm Wireless 3G WiFi Router with Voice incorporates a WLAN 802.11b/g/n access point, one 10/100Mbps Ethernet port, one 10/100Mbps Ethernet WAN port and two phone ports for making and receiving telephone calls. It features the latest security options such as WPA and WPA2 data encryption, SPI (Stateful Packet Inspection) Firewall and VPN pass through.

1 Speeds are dependent on network coverage. See your mobile broadband provider coverage maps for more details. The total number of WiFi users can also affect data speeds. Maximum wireless signal rate and coverage values are derived from IEEE Standard 802.11g and 802.11n specifications. Actual wireless speed and coverage are dependent on network and environmental conditions included but not limited to volume of network traffic, building materials and construction/layout.

Physical Dimensions and Indicators

LED Indicators

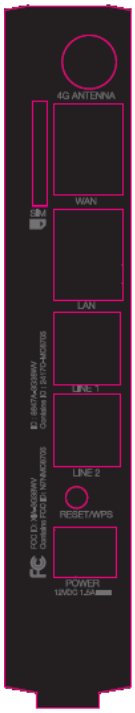
The 3G38WV has been designed to be placed on a desktop. All of the cables exit from the rear for better organization. The display is visible on the front of the 3G38WV to provide you with information about network activity and the device status. See below for an explanation of each of the indicator lights.



LED INDICATOR	ICON	DEFINITION
WiFi		Solid blue light when WLAN is enabled. Blinks on traffic (data transfer)
WAN	WAN	WAN mode: Lights up when the router is connected to the internet via a fixed line WAN connection
LAN		Solid blue light when specific LAN connection is established. Blinks on LAN port traffic
Mobile Broadband	4G	Solid blue light when the 3G38WV is connected via mobile broadband, blinks on traffic
Line 1	1	Solid blue light when the analog telephone connected to Line 1 is off-hook, blinks on incoming call
Line 2	2	Solid blue light when the analog telephone connected to Line 2 is off-hook, blinks on incoming call
Power		Solid amber light when device is powered on. Blinking during device start up.

Table 2 - LED Indicators

Integrated Interfaces



The following integrated interfaces are available on the rear of the 3G38WV:

INTERFACE	FUNCTION
SIM Slot	Insert your SIM card here (until you hear a click). Please be careful to insert the SIM in the correct orientation by viewing the printed icon.
3G Antenna	Attach in the 3G Antenna here in a clockwise direction.
WAN	WAN Ethernet port for Fixed Line (ADSL/Cable/Satellite) connection
LAN	LAN Port for wired Ethernet clients (Computers, Laptops, etc)
Line 1	Phone port to enable connection to a standard analog telephone
Line 2	Phone port to enable connection to a standard analog telephone
Reset/WPS	Hold this button down for over 10 seconds to reset to factory defaults. Hold and release this button for less than 10 seconds to enable the WPS push-button-connect function.
Power	Power connector, connects to a DC 12V 1.5A Power Adapter

Table 3 - Rear Panel Ports

Physical Dimensions

The following page lists the physical dimensions of the 3G38WV.

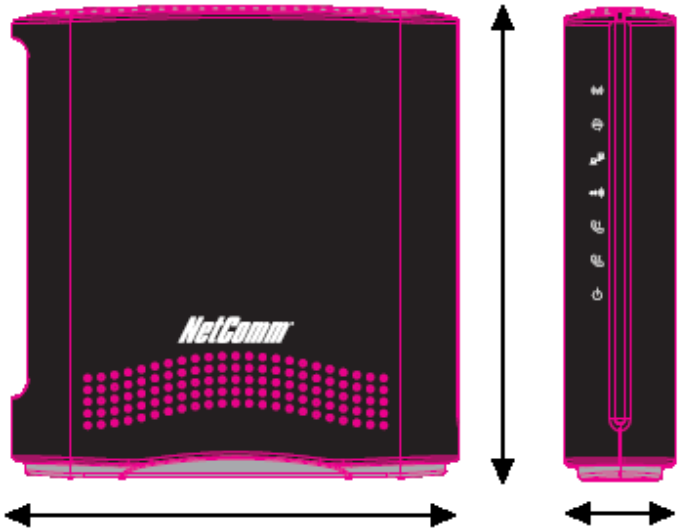


Figure 1 - 3G38WV Dimensions

3G38WV	
Length	133 mm
Height	137 mm
Width	34 mm
Weight	250 grams

Table 4 - Device Dimensions

Default Settings

The following tables list the default settings for the NetComm Wireless 3G WiFi Router with Voice.

LAN (MANAGEMENT)	
Static IP Address:	192.168.20.1
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.20.1

Table 5 - LAN Management Default Settings

WAN (INTERNET)	
WAN mode:	DHCP

Table 6 - WAN Port Default Settings

WIRELESS (WIFI)	
SSID	NetComm XXXX (Refer to the included wireless security card)
Security	WPA-PSK
Security Key	(Refer to the included wireless security card)

Table 7 – WiFi Default Settings

For security purposes, each NetComm Wireless 3G WiFi Router with Voice comes with a unique SSID that varies by a 4 digit number at the end. e.g. SSID: “NetComm 7559”

WEB INTERFACE ACCESS	
Username:	admin
Password:	admin

Table 8 - Web Interface Default Settings

Safety and Product Care

With reference to unpacking, installation, use and maintenance of your electronic device, the following basic guidelines are recommended:

- Do not use or install this product near water to avoid fire or shock hazard. Avoid exposing the equipment to rain or damp areas.
- Arrange power and Ethernet cables in a manner such that they are not likely to be stepped on or have items placed on them.
- To safeguard the equipment against overheating, do not use the device in an area where ventilation is restricted.
- Ensure that the voltage and rated current of the power source match the requirements of the device. Do not connect the device to an inappropriate power source.
- Do not attempt to disassemble your device or its accessories, only authorised personnel must do so.
- Always treat your device and its accessories with care and keep them in a clean and dust-free place.

WARNING
Disconnect the power source from the device before servicing.

Transport and Handling

When transporting the NetComm Wireless 3G38WV, it is recommended to return the product in the original packaging. This ensures the product will not be damaged.

In the event the product needs to be returned, ensure it is securely packaged with appropriate padding to prevent damage during courier transport.

Installation and Configuration of the NetComm Wireless 3G38WV

Placement of your Router

Just like your mobile phone, the router's location will affect its signal strength to the mobile base station (cell tower). The data speed achievable from the router is relative to this signal strength, which is affected by many environmental factors. Please keep in mind that the router will need adequate signal strength in order to provide Internet connectivity whilst choosing a location to place your NetComm Wireless 3G38WV.

Similarly, the wireless connection between your router and your WiFi devices will be stronger the closer your connected devices are to your NetComm Wireless 3G38WV. Your wireless connection and performance will degrade as the distance between your router and connected devices increases. This may or may not be directly noticeable, and is greatly affected by the individual installation environment.

If you have concerns about your network's performance that might be related to range or obstruction factors, try moving the wireless client to a position between three to five meters from the router in order to see if distance is the problem.

Note: While some of the items listed below can affect network performance, they will not prohibit your wireless network from functioning; if you are concerned that your network is not operating at its maximum effectiveness, this checklist may help. Please ensure that your router's external antenna is positioned vertically (toward the ceiling).

If you experience difficulties connecting wirelessly between your WiFi Devices and your NetComm Wireless 3G38WV, please try the following steps:

- In multi-storey homes, place the router on a floor that is as close to the centre of the home as possible. This may mean placing the router on an upper floor.
- Try not to place the NetComm Wireless 3G38WV near a cordless telephone that operates at the same radio frequency as the NetComm Wireless 3G38WV.

Avoid obstacles and interference

Avoid placing your NetComm Wireless 3G38WV near devices that may emit radio "noise", such as microwave ovens. Dense objects that can inhibit wireless communication include:

- Refrigerators
- Washers and/or dryers
- Metal cabinets
- Large aquariums
- Metallic-based, UV-tinted windows

If your wireless signal seems weak in some spots, make sure that objects such as those listed above are not blocking the signal's path (between your devices and the NetComm Wireless 3G38WV).

Cordless Phones

If the performance of your wireless network is impaired after considering the above issues, and you have a cordless phone:

- Try moving cordless phones away from your NetComm Wireless 3G38WV and your wireless-enabled computers.
- Unplug and remove the battery from any cordless phone that operates on the 2.4GHz band (check manufacturer's information). If this fixes the problem, your phone may be interfering with the NetComm Wireless 3G38WV.
- If your phone supports channel selection, change the channel on the phone to the farthest channel from your wireless network. For example, change the phone to channel 1 and move your NetComm Wireless 3G38WV to channel 11. See your phone's user manual for detailed instructions.
- If necessary, consider switching to a 900MHz or 5GHz cordless phone.

Choose the "Quietest" Channel for your Wireless Network

In locations where homes or offices are close together, such as apartment buildings or office complexes, there may be wireless networks nearby that can conflict with your wireless network. Use the Site Survey capabilities found in the Wireless Utility of your wireless adapter to locate any other wireless networks that are available (see your wireless adapter's user manual), and switch your router and computers to a channel as far away from other networks as possible.

Experiment with more than one of the available channels, in order to find the clearest connection and avoid interference from neighbouring cordless phones or other wireless devices.

Hardware installation

1. Attach the supplied antenna to the port marked Antenna. [This should be attached by turning the antenna in a clockwise direction.]
2. Insert your SIM card (until you hear a click) into the SIM slot.
3. For voice functionality, connect a standard analogue telephone to the port labelled Line 1 using the RJ-11 Cable provided.
4. Connect the power adapter to the Power socket on the back of the NetComm Wireless 3G38WV.
5. [If required] Connect an RJ-11 cable from the port labelled Line 2 to any wall jack to activate jacks in your home or office.
6. Plug the power adapter into the wall socket and switch on the power.
7. Wait approximately 60 seconds for the NetComm Wireless 3G38WV to power up.

Connecting via a cable

1. Connect the Ethernet cable provided to the port marked LAN at the back of the NetComm Wireless 3G38WV.
2. Connect the other end of the yellow Ethernet cable to your computer.
3. Wait approximately 30 seconds for the connection to establish.
4. Open your Web browser and type http://192.168.20.1 into the address bar and press enter.
5. Follow the steps to set up your NetComm Wireless 3G38WV.
6. After the setup process is completed, you will be connected to the Internet.

Connecting wirelessly

1. Ensure WiFi is enabled on your wireless device that will connect to the router (e.g. computer/laptop/smartphone).
2. Scan for wireless networks in your area and connect to the network name that matches the Wireless network name found on the Wireless Security Card (included in the box).

Figure 2 - Included Security Card

Note: For security purposes, each NetComm Wireless 3G38WV has a unique SSID (such as NetComm 7559) and Wireless Security Key. The above image is for illustration only and has had the SSID and Wireless Security Key obscured.

3. When prompted for your wireless security settings, enter the Wireless security key listed on your Wireless Security Card.
4. Wait approximately 30 seconds for the connection to establish.
5. Open your Web browser and type http://192.168.20.1 into the address bar and press enter.
6. Follow the steps to set up your NetComm Wireless 3G38WV.
7. After the setup process is complete, you will be connected to the Internet.
8. To connect additional devices via WiFi, repeat steps 1 through 4.

First-time Setup Wizard

When you log in to your NetComm Wireless 3G38WV for the first time, you will be presented with the NetComm Wireless 3G38WV Setup Wizard as shown in the screenshot below. This wizard can be skipped by clicking on the "No thanks, take me to the Basic Interface" button. You can re-run the Setup Wizard again after first use by selecting the Advanced View of the management console, then navigating to "Administration" and then selecting the "Startup Wizard" option.

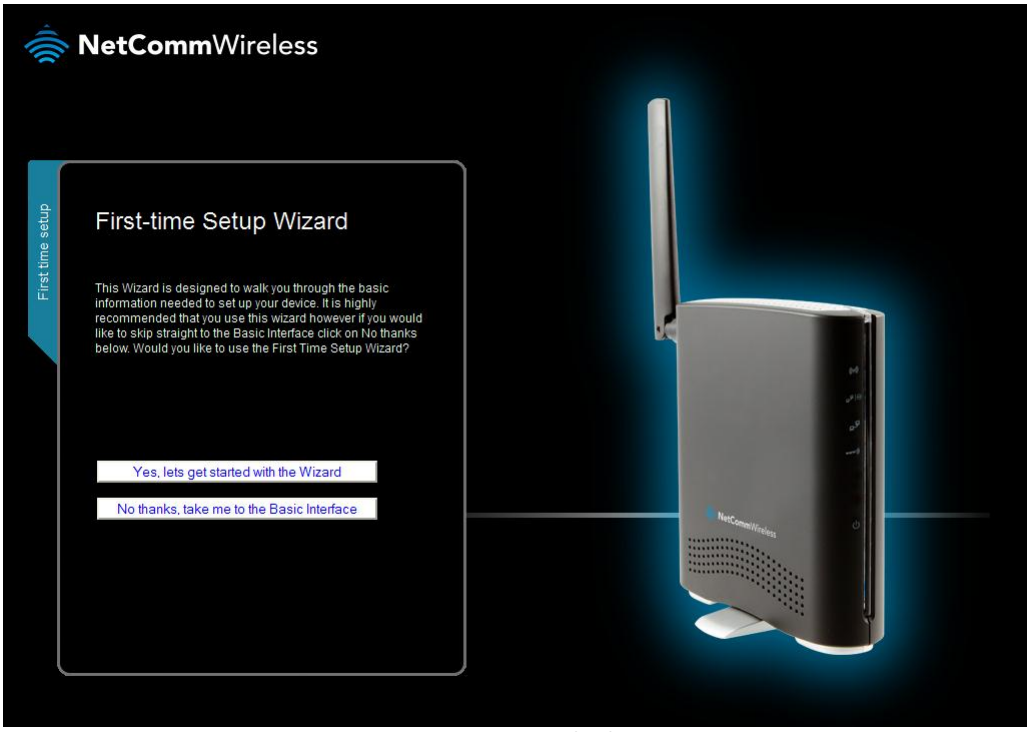


Figure 3 – First-time Setup Wizard Welcome Screen

To proceed with the setup wizard, click "Yes, lets get started with the Wizard".

Step 1: Use the time zone drop down list to select the time zone that represents the location of the router. In the SIM Security Settings section, enter the PIN for your SIM card in the **PIN** field and repeat it in the **Confirm PIN** field. If you do not want to have to enter the PIN each time the router starts, set **Remember PIN** to **Yes**. Click **Next**.

Figure 4 – First-time Setup Wizard –Step 1 of 5

Step 2: Enter an Administrator username and password that will be used to login and configure your NetComm Wireless 3G38WV. It is recommended that you choose a unique password to ensure the integrity of your network. Enter the username and password that you wish to use, or leave these fields unchanged to use the default username and password of admin. Click **Next** to continue.

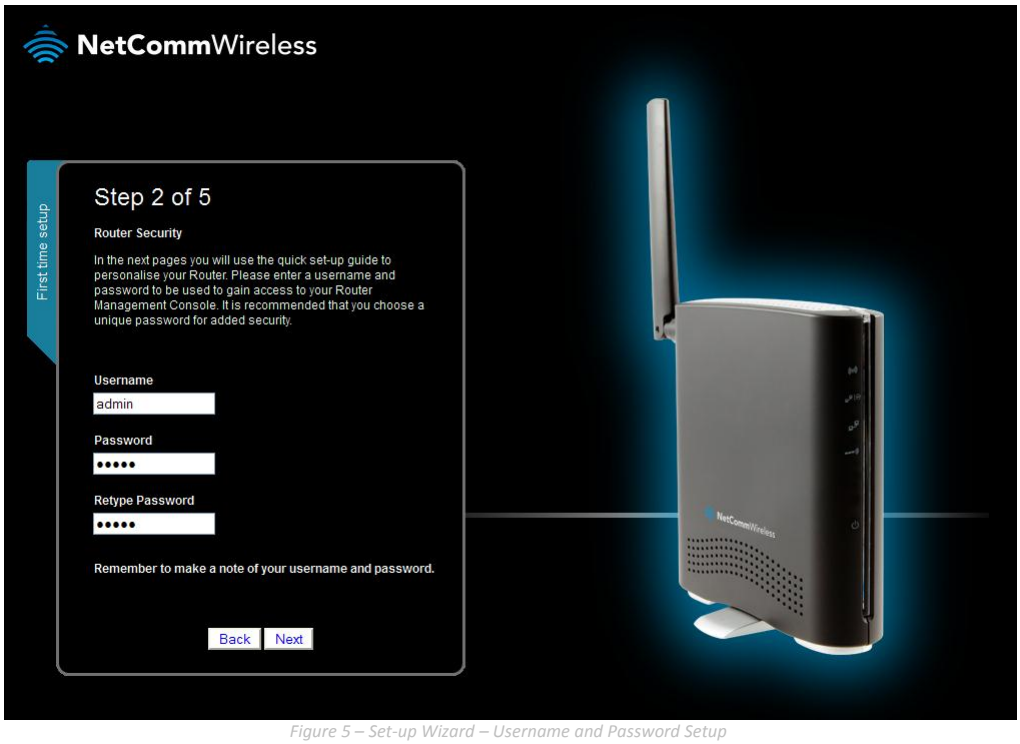


Figure 5 – Set-up Wizard – Username and Password Setup

Step 3: Configure the wireless settings. The options are described below.

Wireless (WiFi):
WiFi is set to "On" by default. Changing this option to "Off" will turn off the wireless feature and you will not be able to connect to your NetComm Wireless 3G38WV via WiFi.

SSID Broadcast:
Select the **Disable** option to hide the SSID of your NetComm Wireless 3G38WV. If the SSID Broadcast option is disabled, other people will not be able scan and detect your NetComm Wireless 3G38WV's SSID.

SSID Broadcast Name (Max 32 characters):
The SSID (Service Set Identifier) is the name of your wireless network. Use a unique name to identify your wireless network so that you can easily identify it when connecting from your wireless clients. This field is case sensitive and can be up to 32 characters in length. You should change the default SSID for added security.

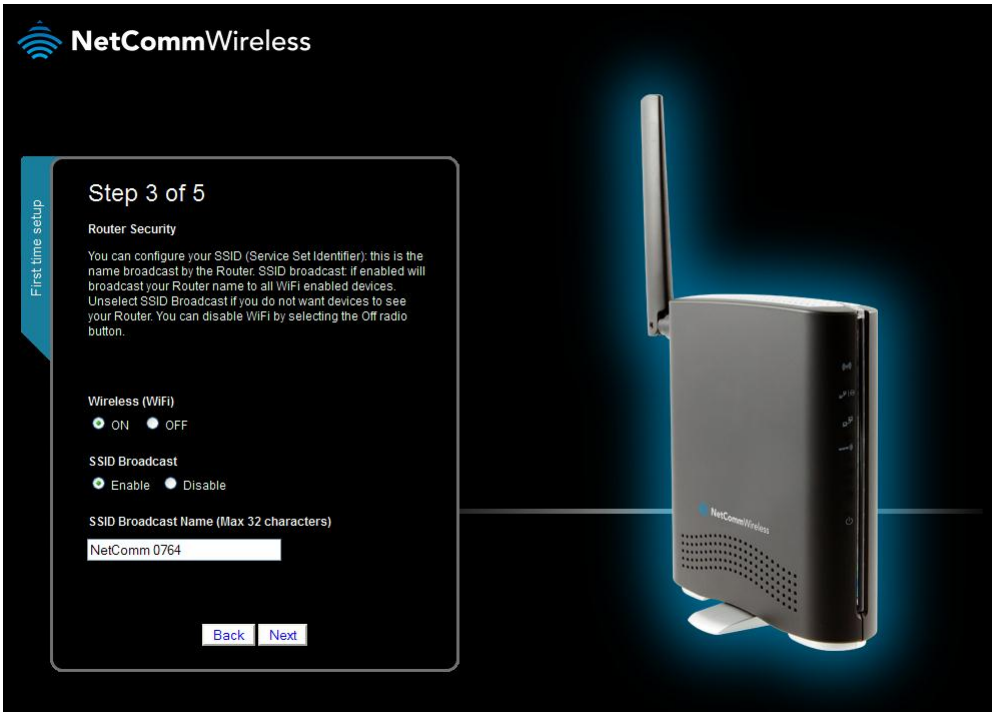


Figure 6 – Set-up Wizard - WiFi Security Settings

Click **Next** to continue.

Step 4: Configure WiFi security settings for your NetComm Wireless 3G38WV. Setting a strong wireless security level (such as WPA-PSK - AES) can prevent unauthorized access to your wireless network. Use the **Security Key Type** drop down list to select an encryption type. In the **Security Key** field, enter the security key that you wish to use or leave this field unchanged to use the default Security Key. Click **Next** to continue.

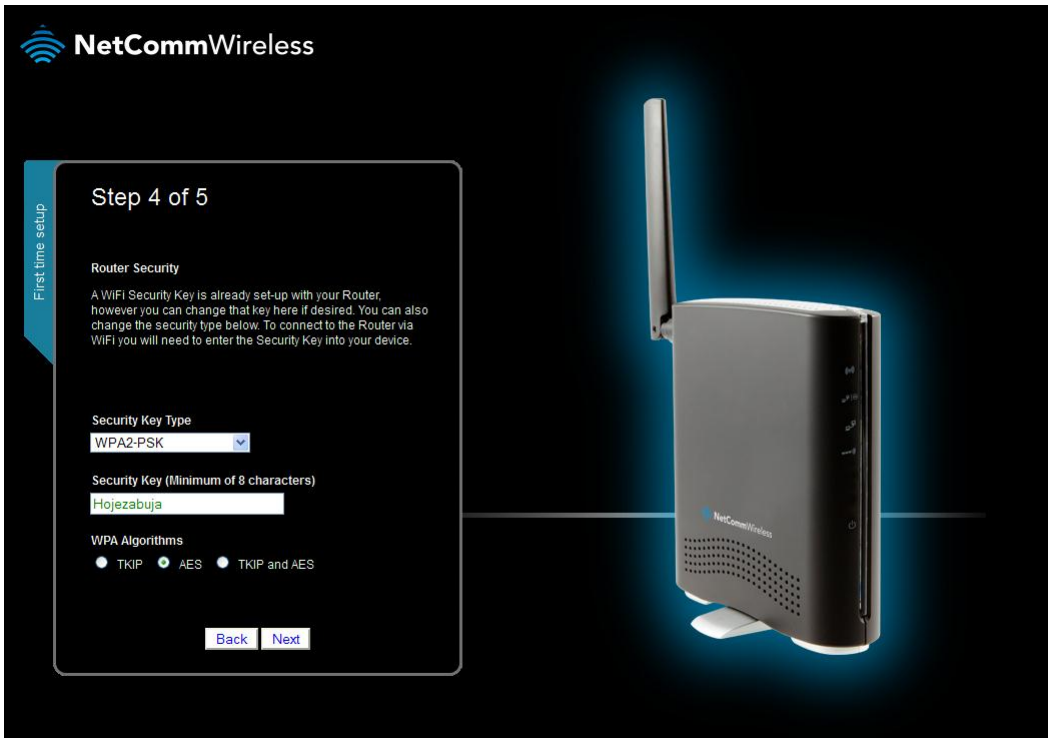


Figure 7 - Set-up Wizard - Router Security Settings

Step 5: A summary of the settings you selected are displayed for confirmation. If you need to make changes to the settings, click Back. Otherwise, click Finish to complete the setup wizard.

Figure 8 – Setup Wizard – Configuration Review

Management Console Login Procedure

After completing the first-time setup wizard, the management console will be password protected to prevent unauthorized access to the configuration settings of your NetComm Wireless 2G27WV.

To log in to the management console, view the status and make changes to your NetComm Wireless 3G38WV, please follow the steps below:

1. Open your web browser (e.g. Internet Explorer/Firefox/Safari) and navigate to http://192.168.20.1
2. Enter the username and password configured during the first time setup and click the submit button. Use the default username and password **admin** if the login details haven't been customized. Click Login to continue.

Note: If you forget the username and password you selected during the NetComm Wireless 3G38WV set-up process, hold the reset button for over 10 seconds to restart the unit with the original settings (username: admin password: admin).

Note: In the event that your Internet connection becomes unavailable and no fail over service has been configured, the NetComm Wireless 3G38WV Management console page will display when attempting to browse to an Internet site

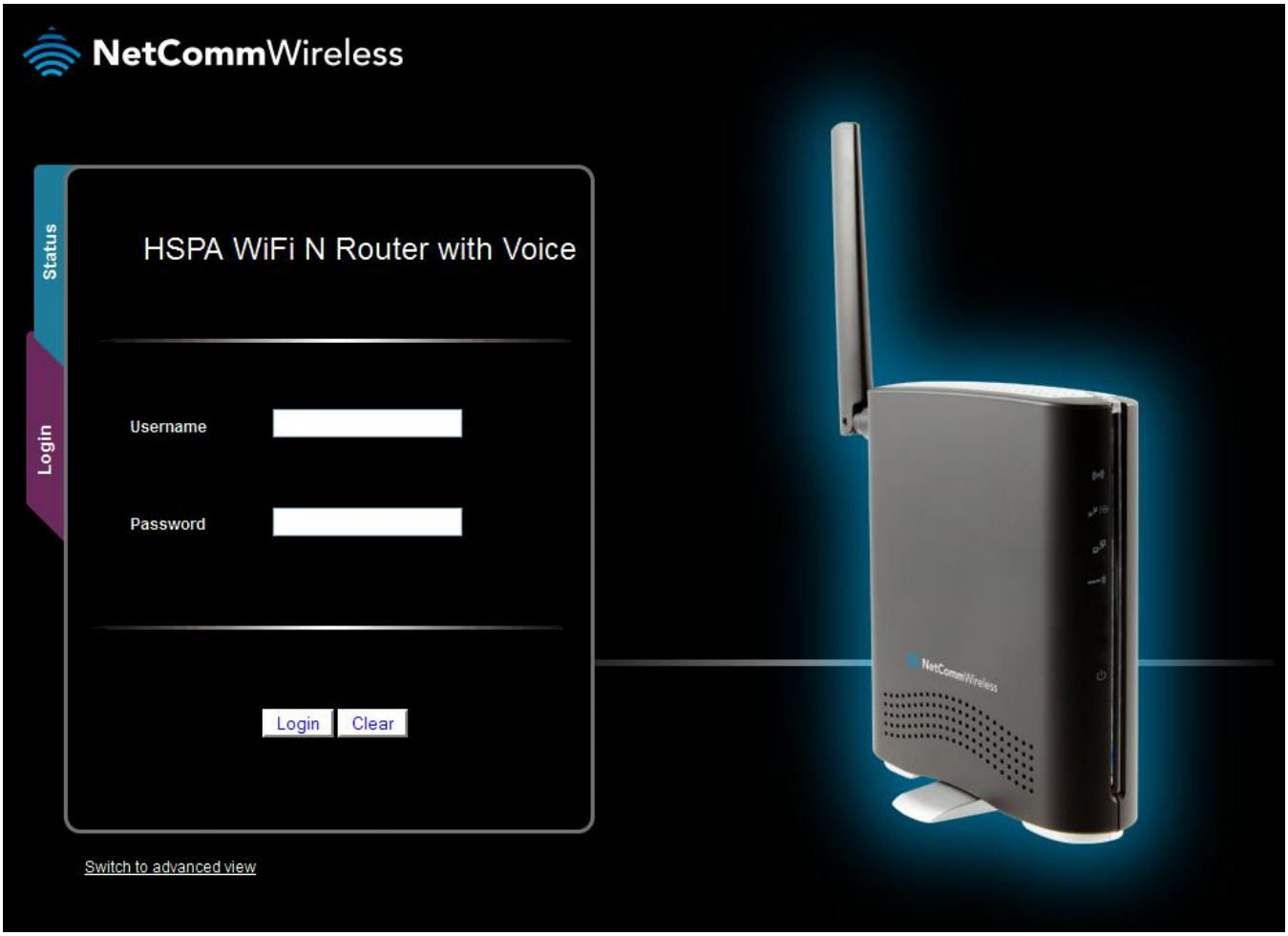


Figure 9 - Management Console Login

Basic Management Console

The basic configuration interface is intended to provide access to the settings that most people will want to use on their NetComm Wireless 3G38WV.

Status Overview

The basic status page provides basic system related information. It is displayed upon logging into the router and can be accessed by clicking on the “Switch to Basic view” button from the top of the status page in the advanced view.

Figure 10 - Basic View – Status

The status page shows the frequency band, current Signal Strength (dBm), AutoAPN Progress, 3G connection status, the SIM Status along with the Provider name and current APN.

ITEM	DEFINITION
Coverage	Displays the current frequency band in use.
3G Signal Strength (dBm)	The current signal strength of the mobile broadband connection.
AutoAPN Progress	Displays the progress of automatic APN detection
3G Connection Status	The current status of the 3G based Internet connection.
Provider	The current mobile broadband service provider the connection is using.
APN	The current APN that the router is using.
SIM Status	The current status of your inserted SIM card.

Table 9 - Basic View – Status

Wireless Overview

The Basic Wireless page lets you turn WiFi on or off, configure the SSID and configure the security key. If you make changes on this page, make sure you click **Save and apply changes** before you navigate away from this page.

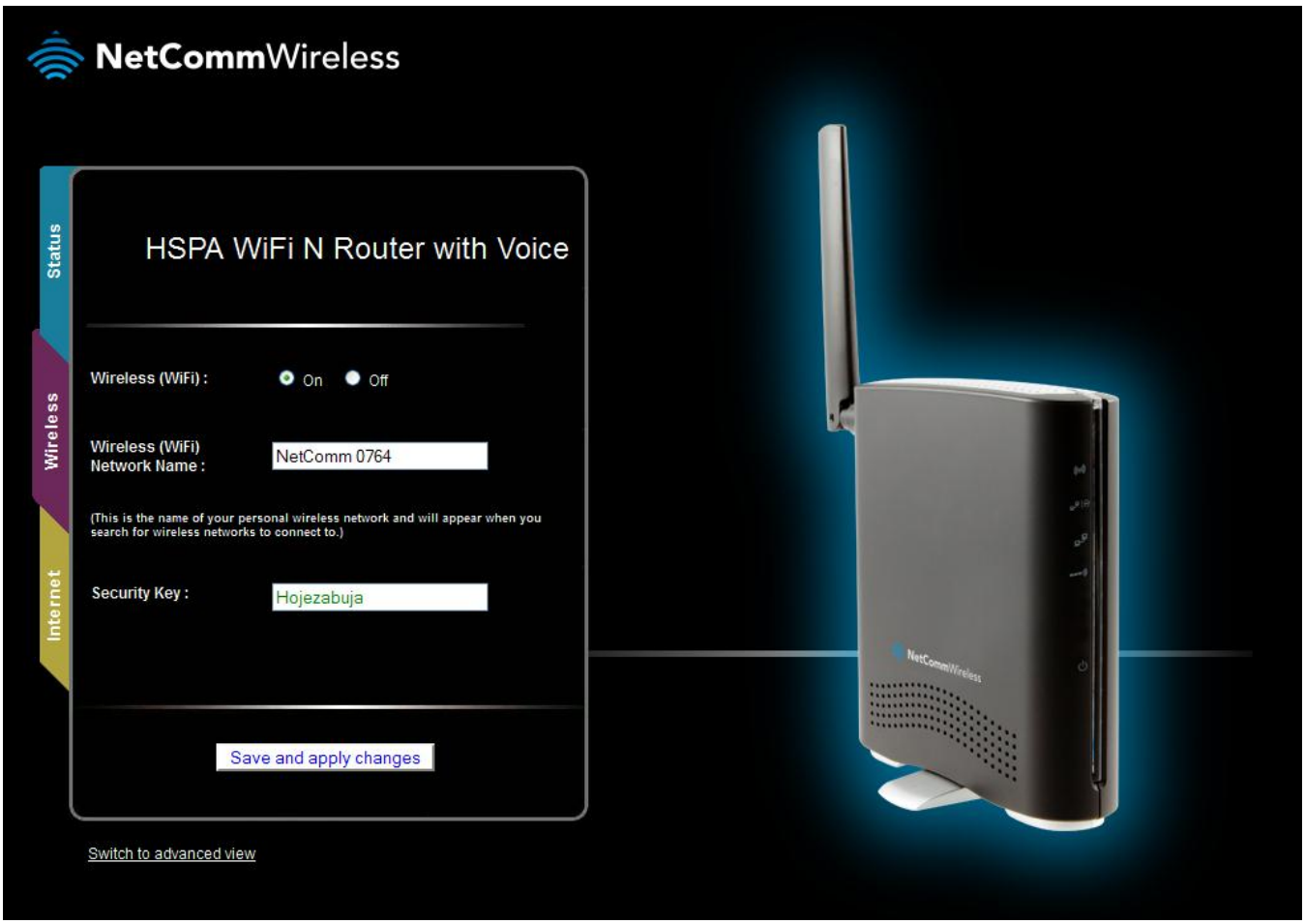


Figure 11 - Basic View – Wireless Settings

Internet Overview

The Basic Internet page allows you to configure the failover operation of the mobile broadband connection, connect to a custom APN and displays the SIM Status.

Figure 12 - Basic View - Internet Overview

.

Advanced Features

The Advanced Settings provide access to all functions of the router. To get to the Advanced Settings, click **Switch to Advanced View** button while in Basic View.

Status

The status page provides system related information and is displayed when you login to the NetComm Wireless 3G38WV management console and switch to Advanced View. The status page shows System Information, Local Network, WWAN (3G), Connection Status, Usage Monitor and Ethernet Port Status.

To view WAN, AutoAPN, PPPoE, PPTP, or Call-Forwarding rules, click on the respective links below the green menu bar. To view all of the sections, click on the **All Status** link. Each section contains a breakdown of information relevant to the connection type or function.

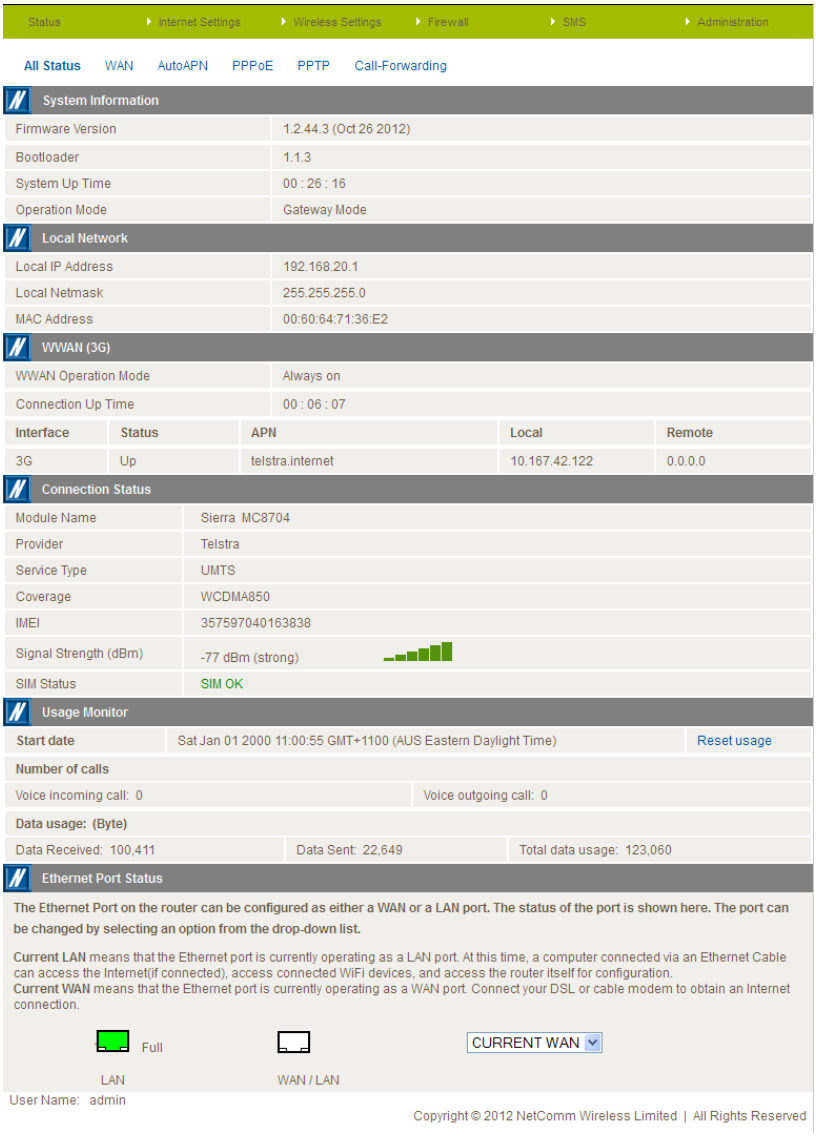


Figure 13 - Advanced View – Status

Usage Monitor

The Usage Monitor shows your current Internet usage and the number of incoming and outgoing telephone calls. You can utilise the Usage Monitor to keep track the amount of data sent and received or call allowances. To ensure the statistics are still correct in the event of an interruption to the power supply, rebooting or resetting your NetComm Wireless 3G38WV will not clear the usage statistics. To clear the usage statistics click the **Reset Usage** link.

Ethernet Port Status

The Ethernet Port on the router can be configured as either a WAN or a LAN port. The status of the port is shown here. The port can be changed by selecting an option from the drop-down list.

Current LAN means that the Ethernet port is currently operating as a LAN port. At this time, a computer connected via an Ethernet Cable can access the Internet (if connected), access connected WiFi devices, and access the router itself for configuration.

Current WAN means that the Ethernet port is currently operating as a WAN port. Connect your DSL or cable modem to obtain an Internet connection.

WAN

The WAN section displays the WAN Port details.

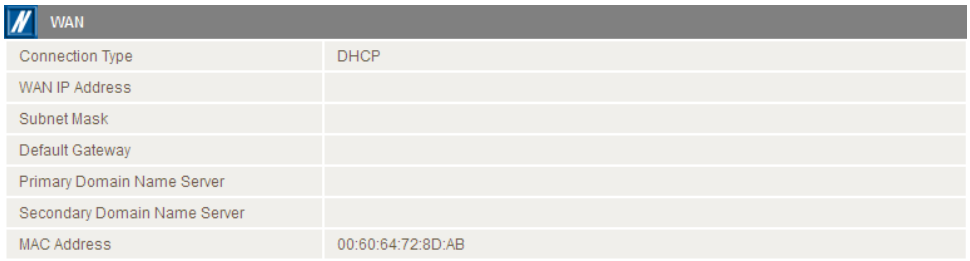


Figure 14 - Advanced View - WAN Port details

ITEM	DEFINITION
Connection Type	The method of assigning network addresses, typically either DHCP or Static.
WAN IP Address	The current WAN IP Address.
Subnet Mask	The current Subnet Mask.
Default Gateway	The default gateway for the WAN.
Primary Domain Name Server	The primary domain name server to use for IP address look up.
Secondary Domain Name Server	The secondary domain name server to use for IP address look up.
MAC Address	The MAC Address of the router's WAN port.

Table 10 - WAN Item details

AutoAPN

The AutoAPN section displays the results of the automatic APN detection of the inserted SIM.

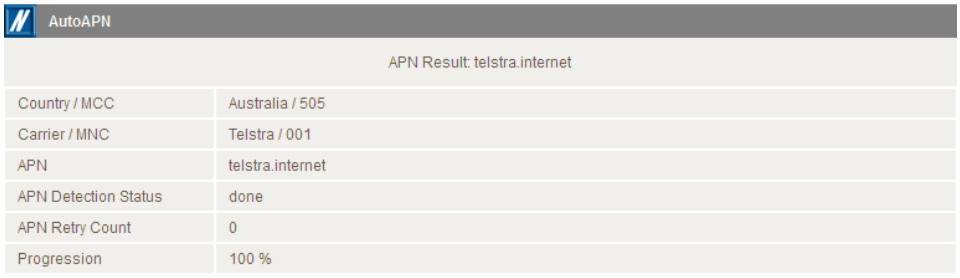


Figure 15 - Advanced View - AutoAPN

ITEM	DEFINITION
Country / MCC	The country and the mobile country code detected.
Carrier / MNC	The carrier and the mobile network code detected.
APN	The Access Point Name detected.
APN Detection Status	The status of the AutoAPN detection.
APN Retry Count	The number of times the AutoAPN service had to retry to detect the APN.
Progression	The current progression level of the detection.

PPPoE

The PPPoE section shows the current status of the PPPoE connection.

Figure 16 - Advanced View - PPPoE section

PPTP

The PPTP section displays the details of a PPTP connection.

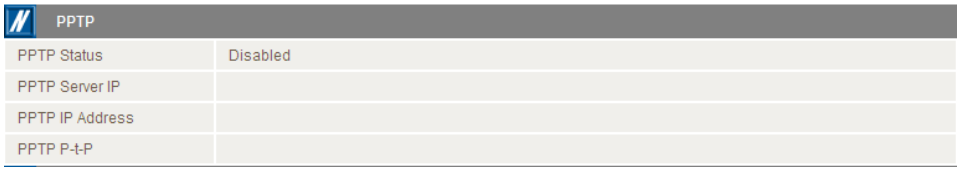


Figure 17 - Advanced View - PPTP details

ITEM	DEFINITION
PPTP Status	The current status of the PPTP connection.
PPTP Server IP	The current PPTP Server IP Address.
PPTP IP Address	The current PPTP connection IP Address.
PPTP P-t-P	The current PPTP Remote Gateway Address.

Table 11 - PPTP Details

Call Forwarding

The Call Forward section displays any active call forwarding rules you have in place.

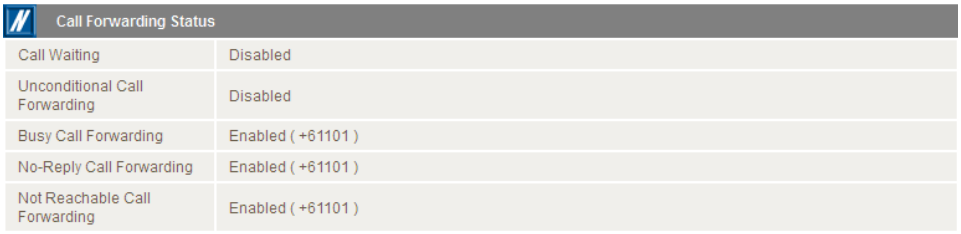


Figure 18 - Advanced View - Call Forwarding details

ITEM	DEFINITION
Call Waiting	Displays the status of the call waiting function.
Unconditional Call Forwarding	Displays the status of unconditional call forwarding. Unconditional call forwarding is a forward placed on all calls as soon as they reach the phone, regardless of the status of the handset.
Busy Call Forwarding	Displays the status of the busy call forwarding function and the destination calls are forwarded to in the case where the phone is busy and an incoming call is received.
No-Reply Call Forwarding	Displays the status of the no-reply call forwarding function and the destination calls are forwarded to in the case that a call is received and goes unanswered.
Not Reachable Call Forwarding	Displays the status of the not reachable call forwarding function and the destination calls are forwarded to in the case that a call can't be routed to a handset.

Internet

WWAN

This page allows you to setup your WWAN (Wireless Wide Area Network) connection.

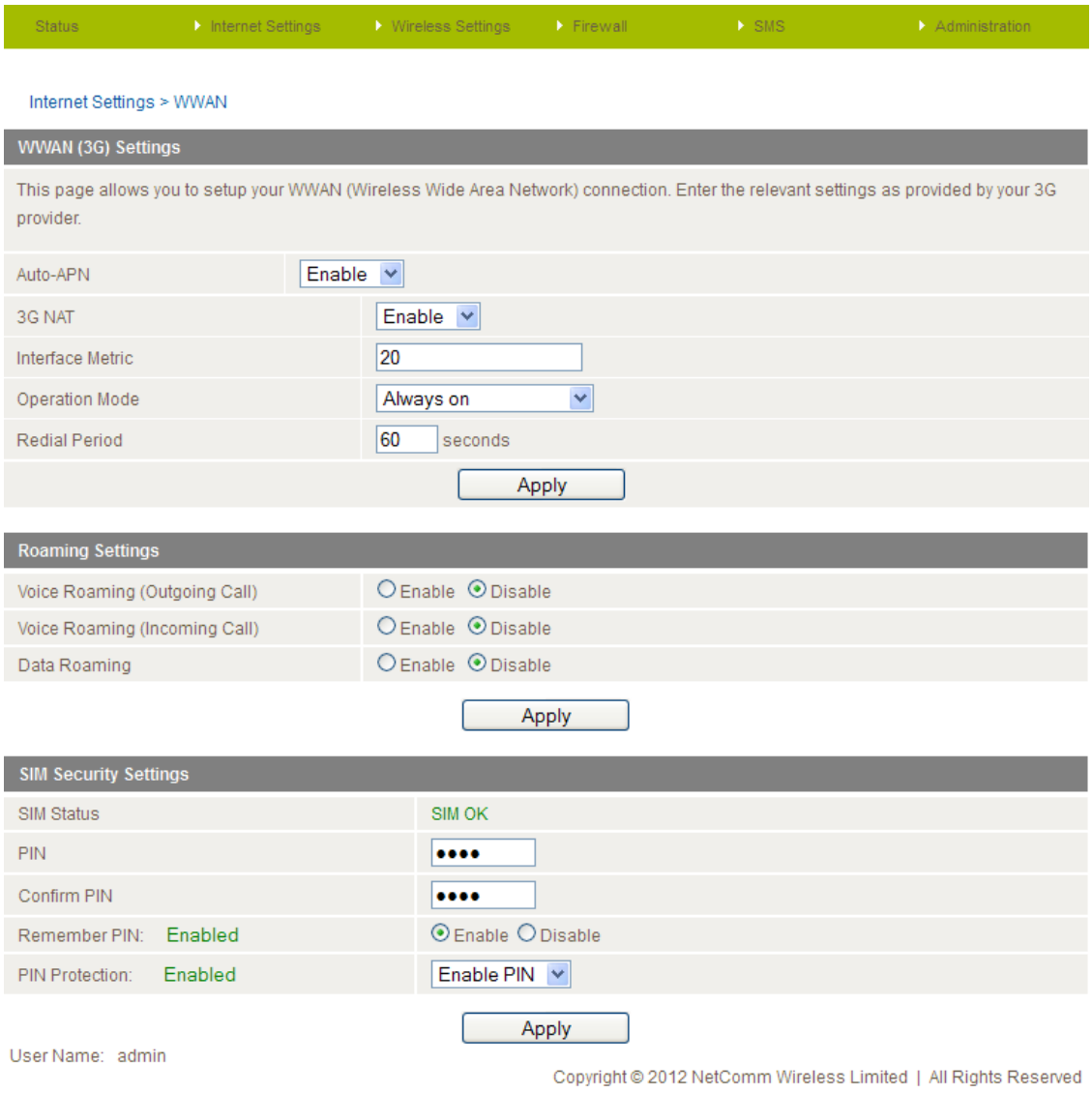


Figure 19 - Advanced View – WWAN Settings

OPTION	DEFINITION
Auto-APN	Use this drop down list to Enable or Disable the automatic detection of an APN.
3G NAT	Enabled by Default, this option allows you to switch NAT (Network Address Translation) over the Mobile Broadband connection on or off.
Interface Metric	The metric value helps the router to prioritise routes. Only change this value if you are aware of the effect your changes will have.
Operation Mode	
'Always ON'	Keeps the Internet connection alive, does not disconnect
'OFF'	Does not connect to the Internet
'Automatic 3G Backup'	The Automatic 3G Backup feature of the NetComm Wireless 3G38WV is designed to provide a backup 3G Internet connection when you use the WAN connection as your primary connection type. When the primary connection fails, the Internet connection will automatically switch to your 3G WAN connection. When your WAN Internet connection is back online, the NetComm Wireless 3G38WV will reconnect to your wired WAN service. To use this feature, you will need both an Ethernet WAN connection (from an xDSL modem/ISDN/Satellite etc.) and your 3G connection.
Roaming Settings	
Voice Roaming (Outgoing)	Enable outgoing voice calls when utilising a different 3G provider with Voice Roaming.
Voice Roaming (Incoming)	Enable incoming voice calls when utilising a different 3G provider with Voice Roaming.
Data Roaming	Select to enable or disable data roaming with your 3G connection
SIM Security Settings	
SIM Status	The current status of the SIM card inserted into the router.
PIN	If the router is configured to use a PIN number with the SIM card as a means of security, the correct 4 number PIN will need to be entered here before the SIM card can be used with the router.
Confirm PIN	Retype the correct PIN number into this field if PIN number security is enabled for use with the SIM card.
Remember PIN	Encrypts the PIN and stores it locally on the router so that in the event that the router is restarted and is unattended, a mobile broadband connection can be re-established without user interaction.
PIN Protection	The status of the PIN protection on the router. Options include Disable PIN, Enable PIN and Change PIN.

Table 12 - Advanced View - Internet Settings

Note: Voice and Data Roaming are disabled by default. The Management Console page will display a message advising that Roaming is disabled if you attempt to use a Roaming service.

Band Settings

The band settings page enables you to select which frequency band the router will use for your 3G connection and enable you to scan for available network operators in your area.

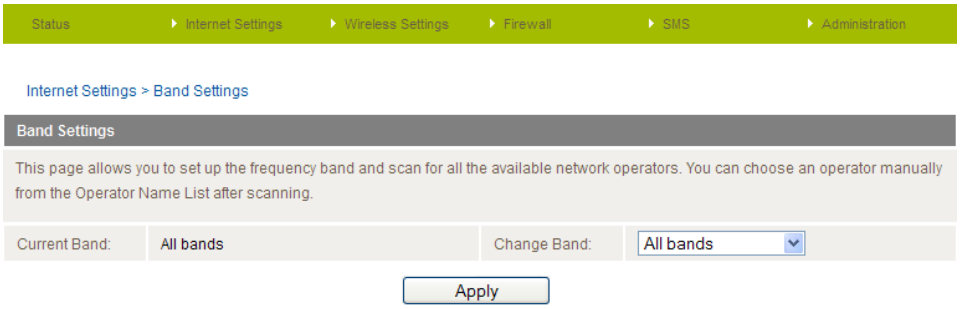


Figure 20 - Advanced View – Band Selection

You may want to do this if you're using the router in a country with multiple frequency networks that may not all support HSPA. You can select the router to only connect on the network frequencies that suit your requirements.
Select a band from the "Change Band" drop down list.

The following band settings options are available:

- WCDMA All
- GSM ALL
- 2G 850/1900
- WCDMA 850/1900
- All Bands

In most cases it is not necessary to change the default setting of "All bands". When "All bands" is selected, the router attempts to find the most suitable band based on the inserted SIM card.

You can also scan for available mobile broadband service providers in your area by selecting "Manual" for the "Current Operator Selection Mode" and then clicking the scan button.

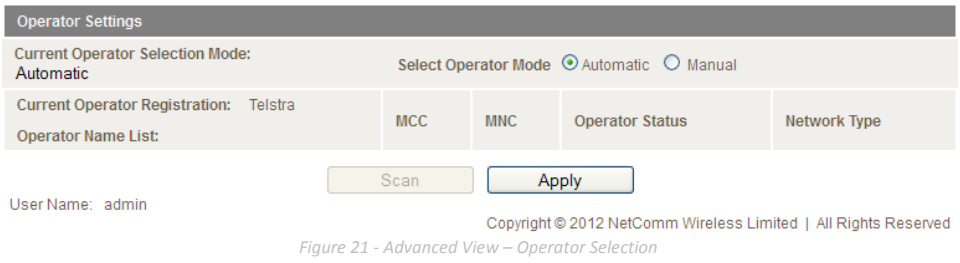


Figure 21 - Advanced View – Operator Selection

A list of the detected mobile broadband service carriers in your area will be displayed. Select the most appropriate mobile broadband service from the list shown and click **Apply**.

The "Automatic" option is sufficient for most users. It will choose the most appropriate operator based on the inserted SIM card.

WAN

The WAN page allows you to configure the optional WAN Ethernet port. Select the WAN connection type suitable for your environment and configure parameters according to the selected connection type.

STATIC (fixed IP)

If your WAN connection uses a static IP address, please select "STATIC (fixed IP)" and fill in the required information in the fields provided.

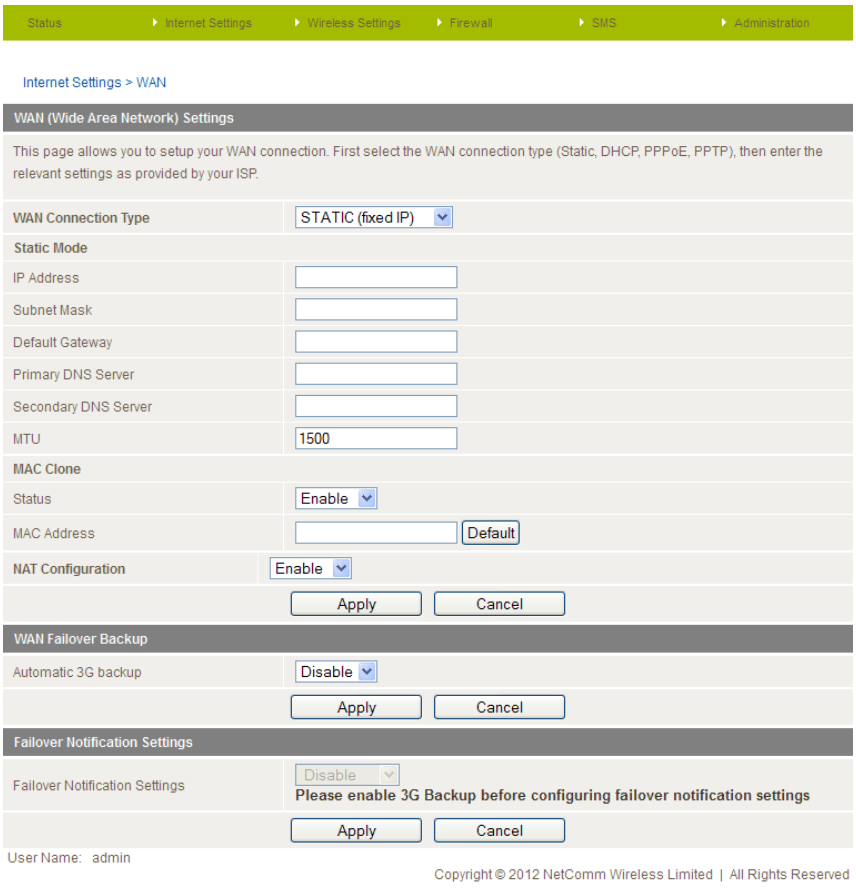


Figure 22 - Advanced View - WAN - Static IP Settings

OPTION	DESCRIPTION
IP Address	Enter the static IP address that has been assigned to your connection by your Internet Service Provider.
Subnet Mask	Enter the Subnet mask to be used with the IP address by your Internet Service Provider.
Default Gateway	Enter the WAN Gateway assigned to you by your Internet Service Provider.
Primary/ Secondary DNS Server	Enter the DNS addresses assigned to you by your Internet Service Provider.
MTU	Enter the Maximum Transmission Unit which is the size of the largest data packet that can be transmitted. In most cases the default unit of 1500 will suffice.
MAC Clone	
Status	Use the drop down list to enable or disable the MAC Clone function.
MAC Address	Input the MAC address of your computer here if your service provider only permits computers with a certain MAC address to access the Internet. If you are using the computer which was used to connect to the Internet via a cable modem, you can simply press the 'Default' button. The router will then automatically detect the MAC address of your computer and populate the MAC address field with it.
NAT Configuration	Enable or disable Network Address Translation for this connection type.

Table 13 - Advanced View - WAN Settings - Static IP

Please refer to the WAN Failover Backup section on page 30 for information on configuring the WAN failover feature and enabling the Failover notification function.

Click **Apply** to save any changes you make to the settings.

WAN - DHCP

This connection receives the IP address from the Internet service provider. Use this default WAN Connection Type setting unless instructed otherwise by your Internet Service Provider.

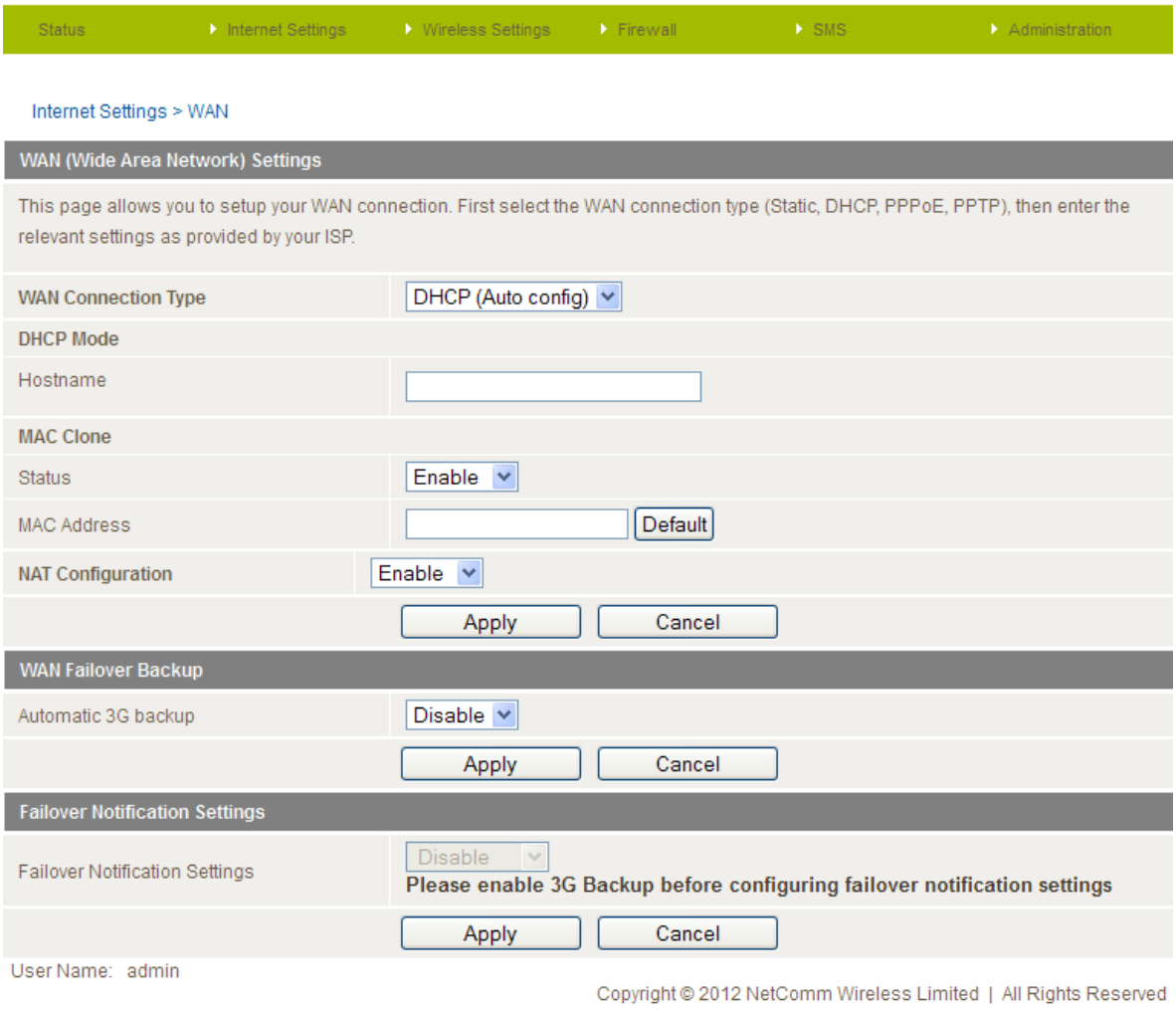


Figure 23 - Advanced View - WAN - DHCP Settings

OPTION	DESCRIPTION
DHCP Mode	
Hostname	Input the host name of your computer. This is optional, and is usually only required if your service provider asks you to do so.
MAC Clone	
Status	Use the drop down list to enable or disable the MAC Clone function.
MAC Address	Input the MAC address of your computer here if your service provider only permits computers with a certain MAC address to access the Internet. If you are using the computer which was used to connect to the Internet via a cable modem, you can simply press the 'Default' button. The router will then automatically detect the MAC address of your computer and populate the MAC address field with it.
NAT Configuration	Enable or disable Network Address Translation for this connection type.

Table 14 - Advanced View - WAN Settings - DHCP

Please refer to the WAN Failover Backup section on page 30 for information on configuring the WAN failover feature and enabling the Failover notification function.

Click **Apply** to save any changes you make to the settings.

WAN - PPPoE (ADSL)

Most ADSL/ADSL2+ services use the PPP over Ethernet protocol. Use this setting on the router if you are utilising a fixed line broadband service with a modem in bridge mode.

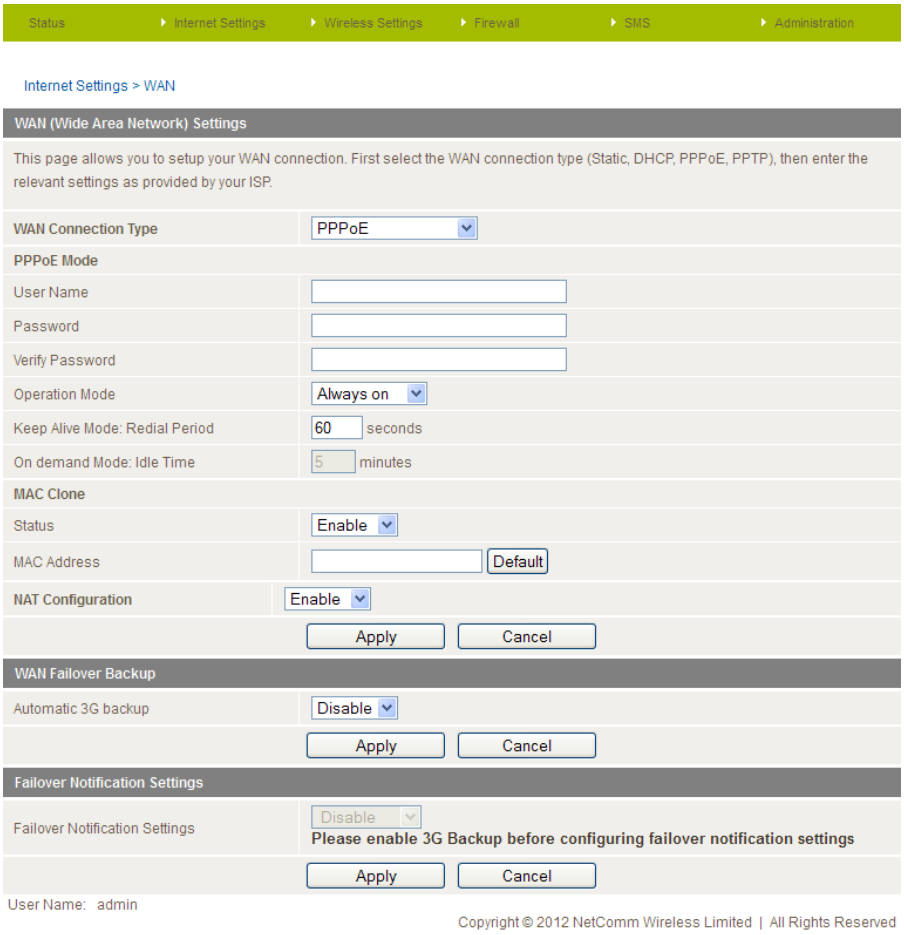


Figure 24 - Advanced View - WAN - PPPoE Settings

OPTION	DESCRIPTION
PPPoE Mode	
User Name/Password	Enter your PPPoE account username and password. This is your broadband username and password that your Internet Service Provider assigned to you.
Operation Mode	
'Always on'	Keeps the Internet connection alive, does not disconnect.
'On Demand'	Only connects to the Internet when there is a connection attempt.
'OFF'	Only connects to the Internet when the 'Connect' button on this page is pressed, and disconnects when the 'Disconnect' button is pressed.
Keep Alive Mode: Redial Period	The time in seconds before the connection will attempt to be re-established when the Operation Mode is set to Always On.
On Demand Mode: Idle Time	The time in minutes between internet connection attempts when the operation mode is set to "On Demand".
MAC Clone	
Status	Use the drop down list to enable or disable the MAC Clone function.
MAC Address	Input the MAC address of your computer here if your service provider only permits computers with a certain MAC address to access the Internet. If you are using the computer which was used to connect to the Internet via a cable modem, you can simply press the 'Default' button. The router will then automatically detect the MAC address of your computer and populate the MAC address field with it.
NAT Configuration	Enable or disable Network Address Translation for this connection type.

Table 15 - Advanced View - WAN Settings - PPPoE

Please refer to the WAN Failover Backup section on page 30 for information on configuring the WAN failover feature and enabling the Failover notification function.

Click **Apply** to save the settings.

WAN - PPTP

The PPTP connection type enables the NetComm Wireless 3G38WV to connect to a VPN server via a bridged WAN device. Any device connected to the NetComm Wireless 3G38WV can then access the VPN based resources available.

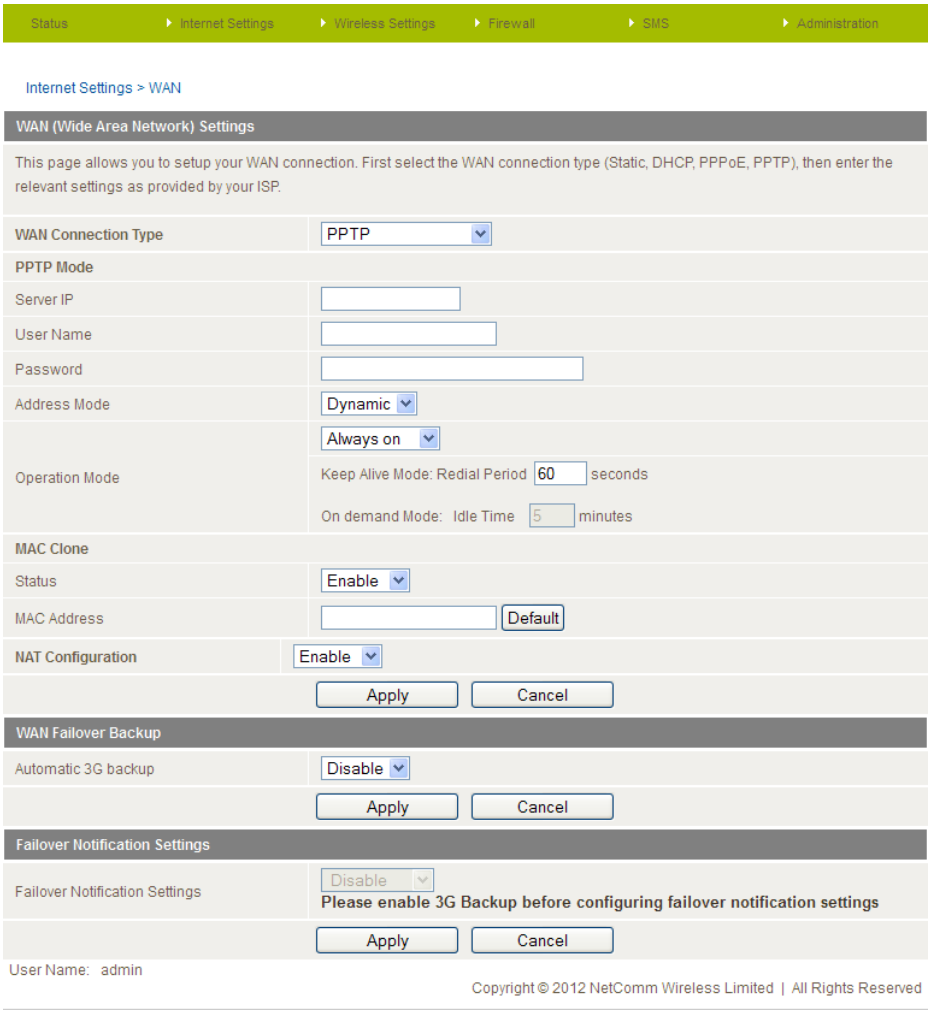


Figure 25 - Advanced View - WAN - PPTP Settings

OPTION	DESCRIPTION
PPTP Mode	
Server IP	Enter the server IP address of the VPN server assigned to you by your Internet Service Provider or network administrator.
User Name/Password	Type in the VPN username and password assigned to you by your Internet Service Provider or network administrator.
Address Mode	Select Dynamic if your service uses a DHCP server, or if you have been assigned a static IP address select Static and type in the IP address, Subnet Mask and Default Gateway assigned by your Internet Service Provider.
Operation Mode	
'Always On'	Keeps the Internet connection alive, does not disconnect.
'On Demand'	Only connects to the Internet when there is a connection attempt
'OFF'	The Internet connection is off.
MAC Clone	
Status	Use the drop down list to enable or disable the MAC Clone function.
MAC Address	Input the MAC address of your computer here if your service provider only permits computers with a certain MAC address to access the Internet. If you are using the computer which was used to connect to the Internet via a cable modem, you can simply press the 'Default' button. The router will then automatically detect the MAC address of your computer and populate the MAC address field with it.
NAT Configuration	Enable or disable Network Address Translation for this connection type.

Table 16 - Advanced View - WAN Settings - PPTP

Please refer to the WAN Failover Backup section on page 30 for information on configuring the WAN failover feature and enabling the Failover notification function.

Click **Apply** to save any changes you make to the settings.

WAN Failover Backup

The WAN Failover Backup feature of NetComm Wireless 3G38WV is designed to provide a backup mobile broadband Internet connection in the event that your primary Ethernet WAN connection should fail.

To use this feature, you will need both an Ethernet WAN connection (from an xDSL modem/ISDN/Satellite etc.) and a mobile broadband WAN connection.

To set up WAN failover on your NetComm Wireless 3G38WV, first set the "Automatic 3G Backup" to **Enable** and complete the fields that are required for the Mobile Broadband service you intend to use.

Figure 26 - Advanced View - WAN Failover Settings

OPTION	DESCRIPTION
Automatic 3G Backup	The default setting is "Disable". Select "Enable" if you intend to utilise the Automatic 3G Backup function.
Auto-APN	Enables or disables the router from automatically detecting the most appropriate Access Point Name to use for the mobile broadband connection.
3G NAT	Enable NAT on the 3G connection.
Interface Metric	The metric value helps the router to prioritise routes. Only change this value if you are aware of the effect your changes will have.
Internet Host	The internet host to ping in order to test the status of the connection.
Second Address	An alternative address to ping in order to test the status of the connection.
Periodic PING Timer	The number of seconds between ping attempts to the Internet Host address.
Periodic PING Accelerated Timer	The number of seconds between ping attempts to the Internet Host address when 3 consecutive pings to Internet Host fail.
Fail Count	The number of times that 3 consecutive accelerated pings must fail before the router reboots. Set this to 0 to disable the reboot function.

Table 17 - Advanced View - WAN Failover Settings

The Periodic Ping Reset Monitor configures the router to transmit controlled ping packets to 2 specified hostnames or IP addresses. Should the router not receive responses to the pings, the router will reboot.

This works as follows:

1. After every "Periodic Ping Timer" configured interval, the router sends 3 consecutive pings to the "Internet Host".
2. If all 3 pings fail the router sends 3 consecutive pings to the "Second Address".
3. The router then sends 3 consecutive pings to the "Internet Host" and 3 consecutive pings to the "Second Address" every "Periodic Ping Accelerated Timer" configured interval.
4. If all accelerated pings in step 3 above fail the number of times configured in "Fail Count", the router reboots.
5. If any ping succeeds the router returns to step 1 and does not reboot.

How to disable the Periodic Ping Monitor

To disable the Periodic Ping Reset Monitor simply set to "Fail Count" 0.

Note: The traffic generated by the periodic ping feature is counted as chargeable usage, please keep this in mind when selecting how often to ping.

Click **Apply** to save any changes you make to the settings.

Failover Notifications

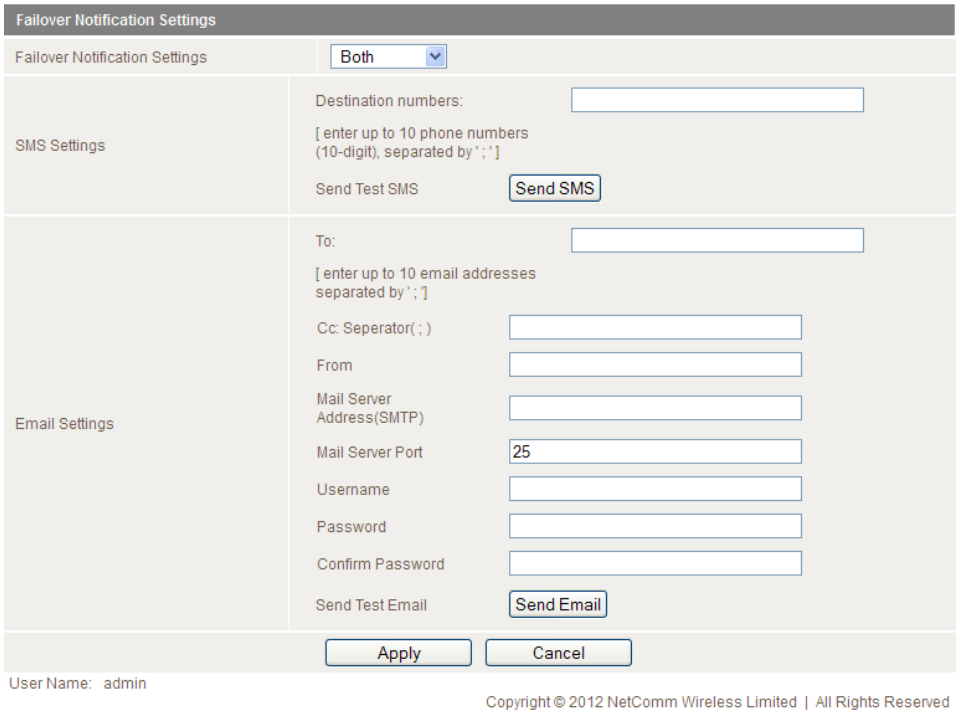


Figure 27 - Advanced View - Failover Notification Settings

Failover notifications enable you to send an email or SMS to the nominated email address and/or mobile telephone number in the event that the primary Ethernet WAN connection becomes unavailable. A message will also be sent when the primary Ethernet WAN connection becomes available again.

To configure the failover notification methods enter the appropriate configuration information and then enter the email addresses for each of the failover notification recipients and/or enter up to 10 destination phone numbers for the SMS message to be sent to and click **Apply** to save the settings.

You can also test these settings by clicking the **Send SMS** or **Send Email** button.

OPTION	DESCRIPTION
Failover Notification Settings	Select how you would like to be notified of the failover – via SMS, email, both or Disable.
SMS Settings	
Destination Numbers	Enter up to 10 mobile phone numbers to whom the failover notification message will be sent. Use a semi-colon (;) to separate each phone number.
Email Settings	
To	Enter up to 10 email addresses to be notified of a failover. Use a semi-colon (;) between each email address.
Cc	Enter up to 10 email addresses to be sent a copy of a failover notification. Use a semi-colon (;) between each email address.
From	Enter the name that the failover notification email will appear to come from
Mail Server (SMTP)	The outgoing mail server (SMTP) address of the mail server to use for sending the notification emails.
Mail Server Port	The outgoing mail server (SMTP) port. The default port for outgoing mail servers is 25.
Username	The username of the mail server account used to send the notifications.
Password / Confirm Password	The password of the mail server account used to send the notifications.

Table 18 - Advanced View - WAN Failover Notification Settings

Click **Apply** to save any changes you make to the settings.

LAN

The LAN functionality of the NetComm Wireless 3G38WV can be configured from this page. Using this page, an administrator can change the LAN Subnet, IP address of the router, DHCP settings, Static DHCP Lease settings, and more. See the table on the next page for a description of each field.

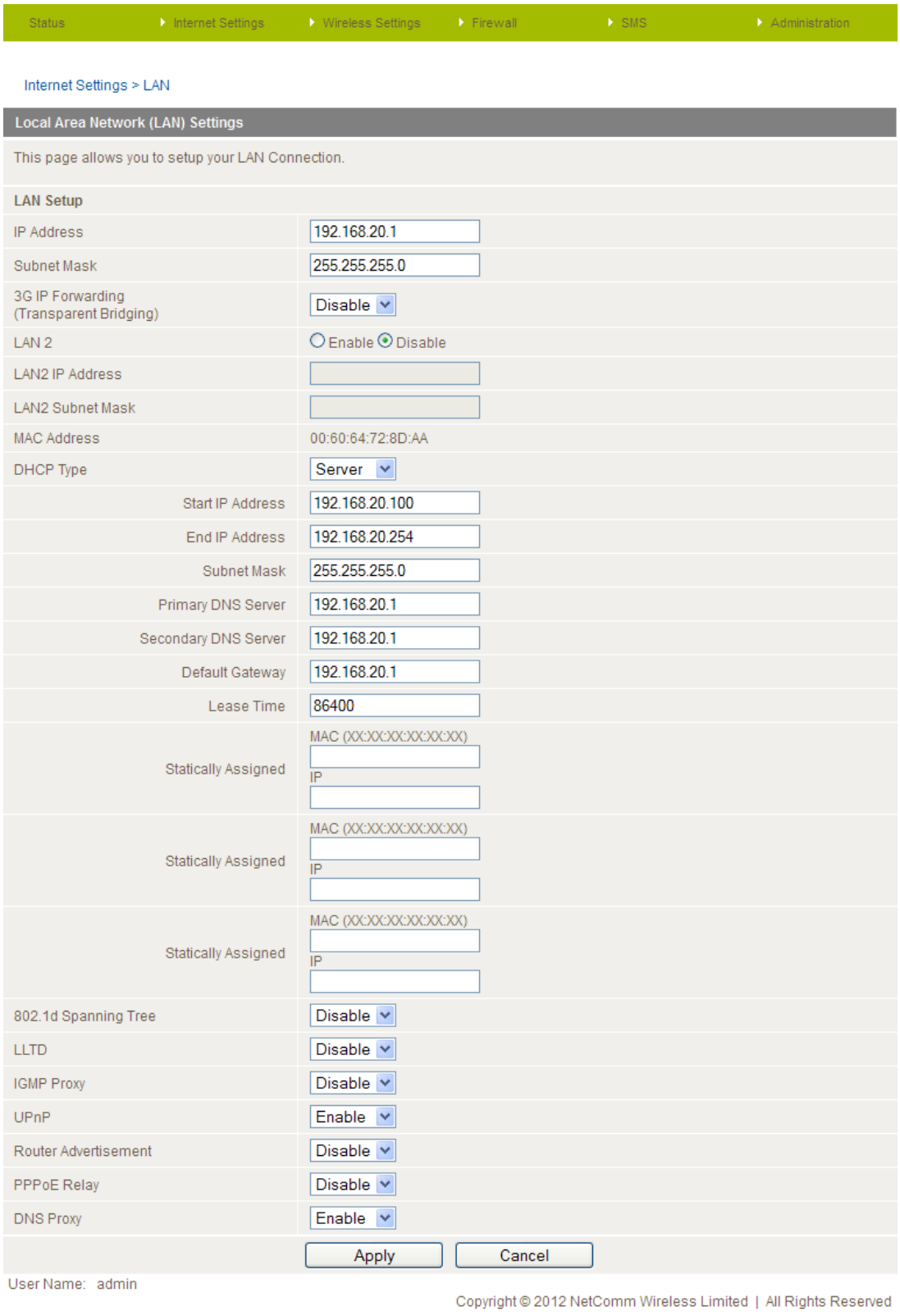


Figure 28 - Advanced View - LAN Settings

OPTION	DESCRIPTION
IP Address	The local IP address of the NetComm Wireless 3G38WV.
Subnet Mask	The subnet mask for the local network.
3G IP Forwarding (Transparent Bridging)	This option when enabled bridges the WAN port to the LAN port. The connected LAN device is then live on the Internet.
LAN 2	This field can be used to configure a secondary LAN IP Address (optional).
LAN 2 IP Address	The local IP address of the secondary LAN IP Address (optional).
LAN2 Subnet Mask	The subnet mask of the secondary IP Address (optional).
MAC Address	The MAC address of the LAN port on the router.
DHCP Type	The default "Server" option sets the NetComm Wireless 3G38WV to assign dynamic IP addresses for LAN devices. This option is usually only disabled if there is another DHCP server on the same network.
Start IP Address	The Start IP address of your DHCP IP Address Pool.
End IP Address	The End IP address of your DHCP IP Address Pool.
Subnet mask	The subnet mask of the IP Address.
Primary DNS Server/ Secondary DNS Server	This option allows you to manually assign DNS Servers.
Default Gateway	The default gateway IP address is the IP address of your NetComm Wireless 3G38WV.
Lease Time	The DHCP Lease time of the DHCP Client connected to the NetComm Wireless 3G38WV.
Statically Assigned	This feature allows you to statically assign an IP address to the MAC Address of a LAN device. The Format of MAC address is XX:XX:XX:XX:XX:XX .
802.11d Spanning Tree	The default is "Disable", select "Enable" to enable this option. The Spanning Tree protocol is used to stop loops when using wireless distribution system (WDS) links as redundant links in a distribution system.
LLTD	Link Layer Topology Discovery (LLTD). The default setting is "Disable". Select "Enable" to enable this option.
IGMP Proxy	Internet Group Management Protocol (IGMP), The default setting is "Disable". Select "Enable" to utilise this feature.
UPnP	The default option Universal Plug and Play (UPnP) is "Enabled" and is used by a network device to be automatically identified by other UPnP devices. Select "Disable" to disable this option.
Router Advertisement	The default option is "Disable". Select "Enable" to enable it.
PPPoE relay	The default option is "Disable". Select "Enable" to enable it.
DNS Proxy	The default option is "Disable". Select "Enable" to enable it.

Table 19 - Advanced View - LAN Settings

Click **Apply** to save any changes you make to the settings.

Advanced Routing

This page allows you to configure static and dynamic routing rules for your NetComm Wireless 3G38WV.

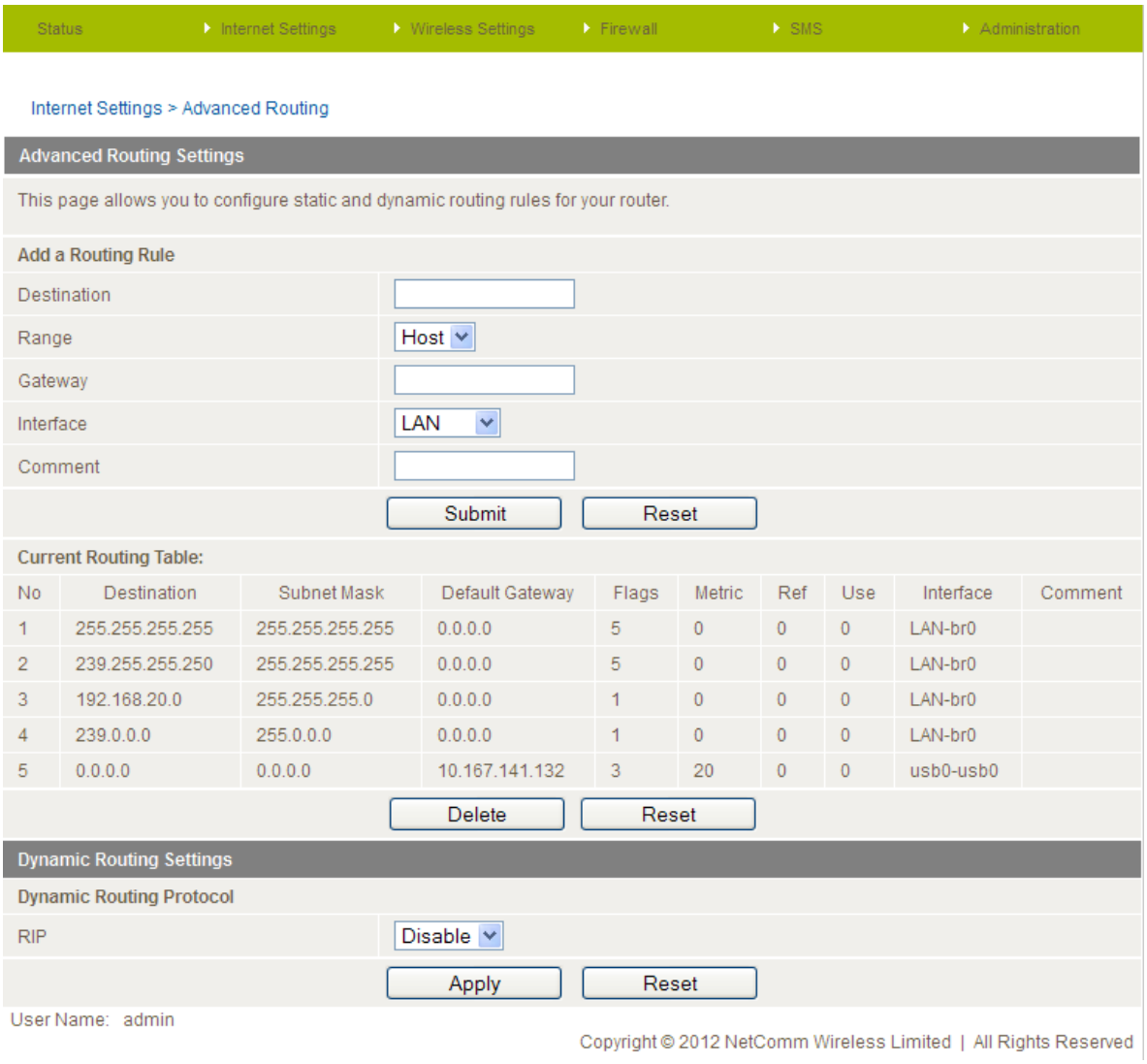


Figure 29 - Advanced View - Advanced Routing Settings

Advanced Routing Settings

Static Routing allows computers that are connected to your NetComm Wireless 3G38WV to communicate with computers on another LAN segment which are connected to it via another router. To set a rule, you need to specify the following:

- Destination
- Range – Select from Host (255.255.255.255) or Net (and then enter the appropriate subnet mask)
- Gateway
- Interface
- Comment to identify the route entered (optional)

Dynamic Routing Settings

Dynamic Routing uses the RIP protocol to allow the NetComm Wireless 3G38WV to adapt to changes in the network. RIP enables the device to determine the best route for each packet based on the “hop count” or number of hops between Source and Destination. To enable Dynamic Routing, select Enable from the drop box and click **Apply**.

SNMP Settings

SNMP is used to display or collect data from the NetComm Wireless 3G38WV. Various system information including interface statistics, uptime, and memory usage are available when viewed with an appropriate SNMP trap monitor.

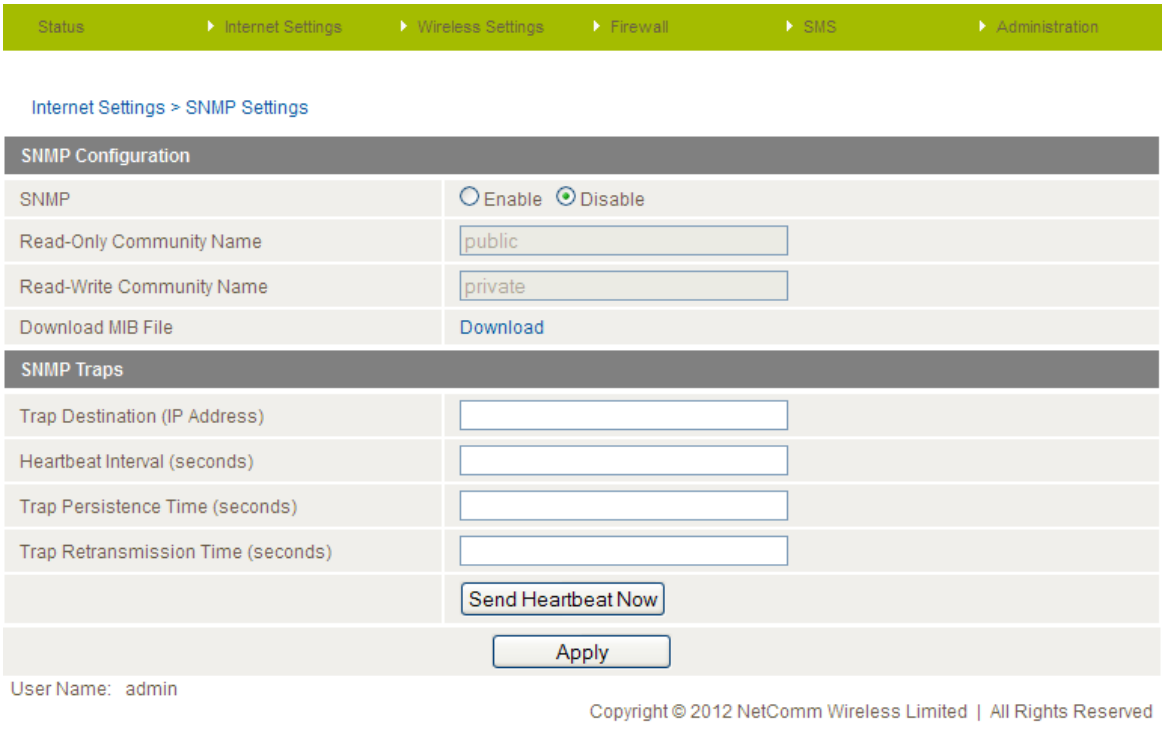


Figure 30 - Advanced View - SNMP Settings

SNMP (Simple Network Management Protocol) is used to remotely monitor the router for conditions that may warrant administrative attention. It can be used to retrieve information from the router such as the signal strength, the system time, the interface status, etc.

To configure SNMP:

1. Select the "Enable" option for the Enable SNMP field.
2. Enter the Community Names or leave them as default.

Community names are used as a type of security to prevent access to reading and/or writing to the routers configuration. It is recommended to change the Community names to something other than the default when using this feature.

3. Click the "Save" button to save the new settings.

OPTION	DEFINITION
Trap Destination	The IP address of the computer or device running the SNMP Trap monitor application.
Heartbeat Interval	The amount of time in seconds between updates to the SNMP data shown.
Trap Persistence	The length of time the trap will retain its data
Trap Retransmission Time	The length of time between an SNMP Trap resending its data

Table 20 - Advanced View - SNMP Settings

DHCP Client List

This page allows you to view the current DHCP clients that have obtained IP leases from your NetComm Wireless 3G38WV. The MAC address, assigned IP address and the expiry period is shown for all computers who have automatically obtained addresses from the NetComm Wireless 3G38WV. Note that this list is stored in the device's volatile memory, and is therefore cleared if the device is reset or if any changes are applied to configuration.

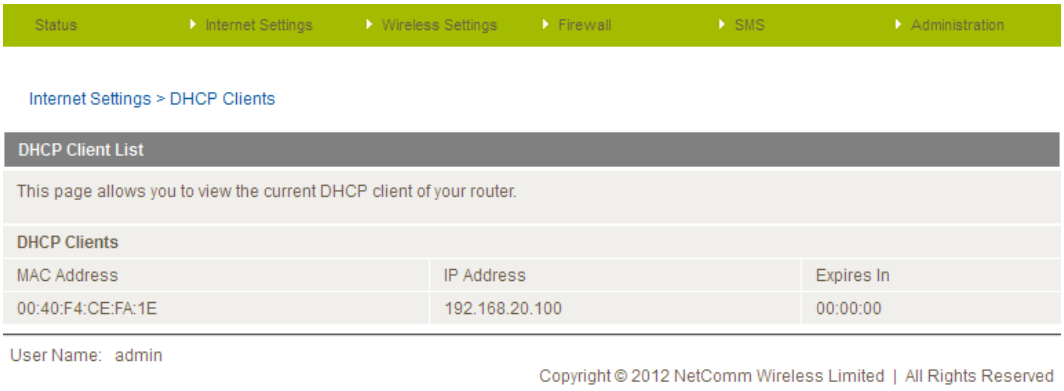


Figure 31 - Advanced View – DHCP Client List

Wireless Settings

Basic

This page allows you to define the basic wireless settings for the NetComm Wireless 3G38WV.

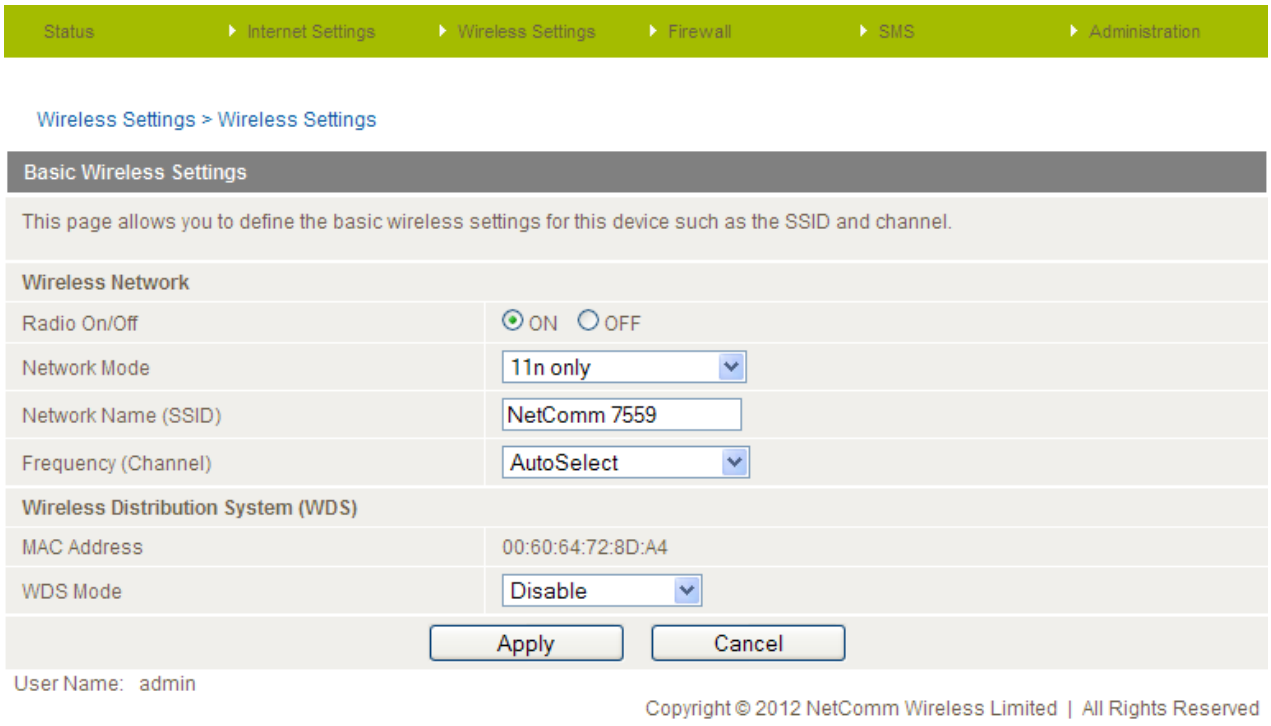


Figure 32 - Advanced View – WiFi Settings

Radio On/Off:
WiFi is turned on by default. Changing this option to OFF disables the wireless functionality on the NetComm Wireless 3G38WV and you will not be able to connect to your NetComm Wireless 3G38WV wirelessly.

OPTION	DEFINITION
Network Mode	11b/g mixed mode: Both 802.11b and 802.11g wireless devices are allowed to connect to your NetComm Wireless 3G38WV 11b only: Select this if all of your wireless clients are 802.11b 11g only: Select this if all of your wireless clients are 802.11g 11n only: Select this if all of your wireless clients are 802.11n 11/b/g/n Mixed mode: Select this if 802.11b and 802.11g and 802.11n wireless devices are in your network
Network Name (SSID):	The SSID (Service Set Identifier) is the name of your wireless network. Use a unique name to identify your wireless device so that your wireless clients can easily connect to it. This field is case sensitive and can be up to 32 characters long. It is recommended the default SSID be changed for added security.
Frequency (Channel):	This setting configures the frequency that the Wireless Radio uses for wireless connectivity. Select one channel that you wish to use from the drop down list.
WDS Mode:	WDS (Wireless Distribution System) is a function that enables the wireless interconnection of access points, and allows a wireless network to be expanded using multiple access points without a wired backbone to link them. Each WDS Access Point needs to be set with the same channel and encryption type. For further information please see the following page.

Table 21 - Advanced View - WiFi Settings

Click **Apply** to save any changes you make to the settings.

WDS (Wireless Distribution System)

The Wireless Distribution system allows the router's network to be expanded, using connecting access points that are capable of using WDS mode. There are two methods of WDS that can be employed; WDS Bridge mode or WDS Repeater mode. In both WDS Bridge and Repeater modes the router and all associated access points must use the same Encryption type and encryption key as well as wireless channel (frequency).

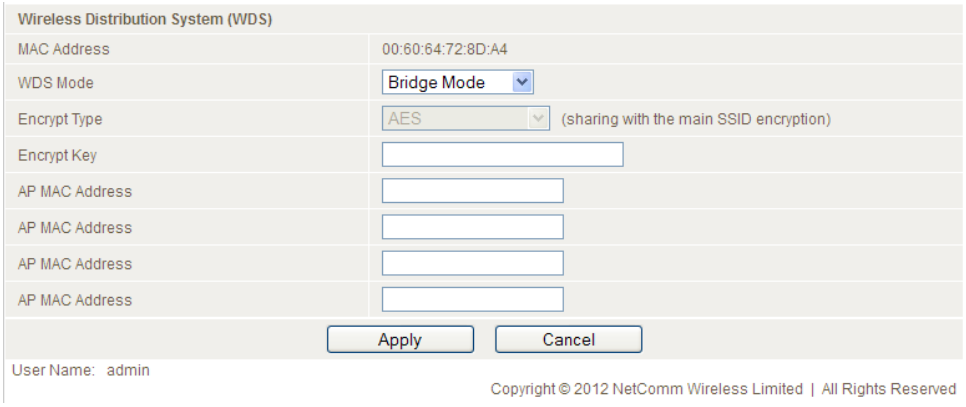


Figure 33 - Advanced View - WDS Settings

In WDS Bridge mode the wireless signal of the router and each access point is used as a bridge with 100% of the wireless signal used to link the router and access points. This means network access can only be made through Ethernet cable connections. Wireless clients will not be able to connect to either the router or access points.

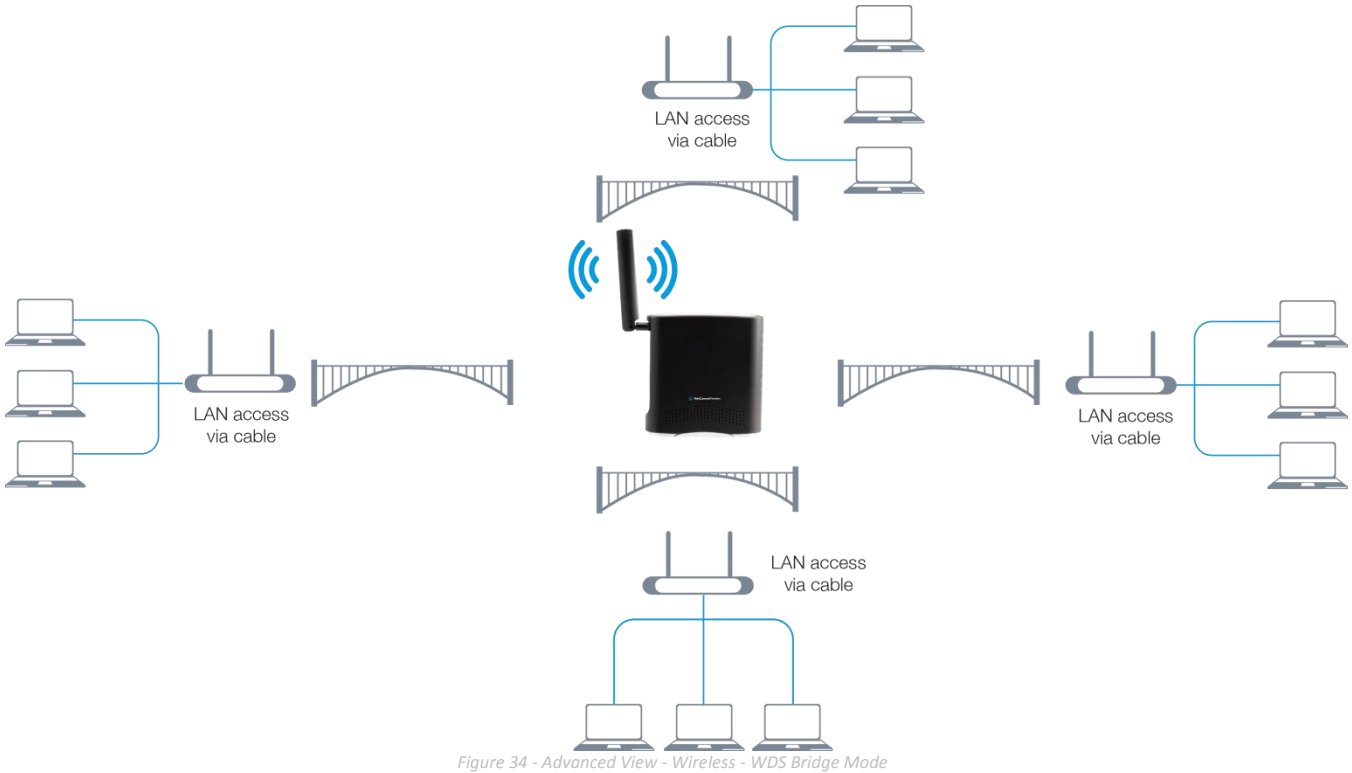


Figure 34 - Advanced View - Wireless - WDS Bridge Mode

In WDS repeater mode, access points connect to the router and repeat the wireless signal of the router and also allow connections to wireless clients. The wireless signal is divided between linking the router and access points and also between access points and wireless clients. The distance possible between the router and access points is approximately halved when compared with WDS bridge mode

Figure 35 - Advanced View - Wireless - WDS Repeater Mode

Advanced

This page allows you to modify the advanced wireless settings for your NetComm Wireless 3G38WV. These settings should not be changed unless you are aware of what effect they will have.

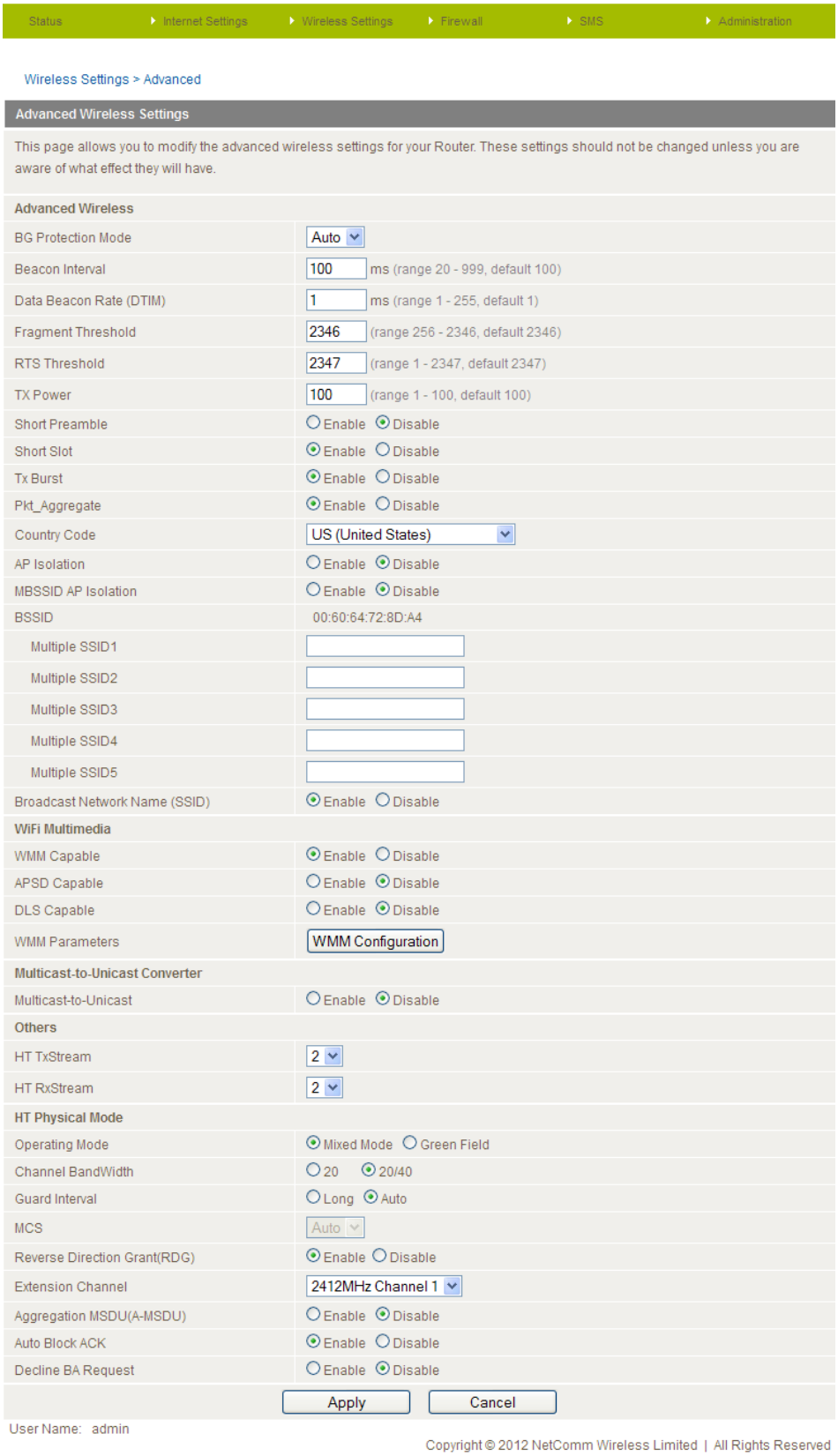


Figure 36 -- Advanced View - Advanced WiFi Settings

For details of the Advanced Wireless Settings please see the table on the following page.

OPTION	DEFINITION
BG Protection Mode	A mechanism to enable the router to communicate with older legacy wireless network adapters that use 802.11b and 802.11g wireless protocols.
Beacon Interval:	The interval of time in which the wireless router broadcasts a beacon which is used to synchronize the wireless network.
Data Beacon Rate (DTIM):	Enter a value between 1 and 255 for the Delivery Traffic Indication Message (DTIM). A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.
Fragment Threshold:	This specifies the maximum size of a packet during the fragmentation of data to be transmitted. If you set this value too low, it will result in bad performance.
RTS Threshold:	When the packet size is smaller than the RTS threshold, the wireless router will not use the RTS/CTS mechanism to send this packet.
TX Power:	This determines the transmit or output power of the broadcast wireless signal.
Short Preamble	A radio preamble is a part of a datagram packet at the head of the Physical Layer Convergence Protocol (PLCP) to increase throughput. Shortening the preamble reduces the size of the data packet increasing throughput. However not all wireless network adapters are able to use this setting.
Short Slot	The amount of time the router waits after a packet collision before retransmitting the data packet. Enabling the short slot reduces this time from 20ms to 9ms, therefore increasing overall throughput.
Tx Burst	The Transmission Burst boosts the WLAN data packet throughput to maximise transmission rates according to the wireless protocol being used. However this may increase the rate of dropped packets due to environmental factors such as radio interference which can make the optimal wireless data packet transmission rate less than the maximum possible transmission rate.
Pkt_Aggregate	Packet Aggregation in IP networking is a function that concatenates multiple data packets into a single Transmission Unit to reduce redundancy and network traffic overhead.
Country Code	The Country Code option controls the wireless channels that the router can broadcast on, defined by each countries wireless regulations.
AP Isolation:	This feature allows you to isolate clients on your wireless network. To enable communication between the wireless clients connected to your NetComm Wireless 3G38WV set this option to Disabled. To terminate the communication between the wireless clients set this option to enabled.
MBSSID AP Isolation	The MBSSID AP Isolation function provides isolation among different SSIDs. When enabled this function prevents wireless client terminals with different SSIDs from communicating with each other.
BSSID	The Broadcast Service Set Identifier. Select 'Disabled' to hide the SSID of your NetComm Wireless 3G38WV. If disabled, other people will not be able scan and detect this product's SSID.
WiFi Multimedia	
WMM Capable:	The WMM (WiFi MultiMedia) option if enabled, supports QoS for experiencing better audio, video and voice in applications.
APSD Capable	The Automatic Power Save Delivery (APSD) is the foundation function for WMM Power Save technology and allows wireless clients to request queued traffic any time instead of having to wait for the next wireless beacon frame. It may have greater efficiency with lighter traffic loads such as voice. The feature is disabled by default and should only be used by experienced administrators.
DLS Capable	The Direct Link Setting (DLS) function allows all wireless client's data to be transmitted effectively. If DSL is enabled, the wireless LAN router attempts to optimise the connection quality and data transmission rates of all connected wireless clients. The feature is disabled by default and should only be used by experienced administrators.
WMM Parameters:	Click on the WMM Configuration button to configure the WMM parameters.
Multicast-to-Unicast Converter	
Multicast-to-Unicast	This function converts multicast data to unicast data and is disabled by default.
Others	
HT TxStream	This option sets the stream number that wireless antenna transmits.
HT RxStream	This option sets the stream number that wireless antenna receives.
HT Physical Mode	
Operating Mode	The options available for this field are Mixed Mode or Green Field. The default operation mode is Mixed Mode.
Channel Bandwidth	The channel bandwidth can be set to a mixed 20/40 MHz (the default value) giving an 802.11g connection speed of up to 150 Mbps and an 802.11n connection speed of up to 300 Mbps. For legacy wireless adapters the Channel Bandwidth can be set to 20 MHz slowing the connection speed for 802.11g and 802.11n to 54 Mbps and 74 Mbps respectively as well as providing backward compatibility for older, slower 802.11b/g devices.
Guard Interval	The guard interval is designed to help wireless clients minimise the effects of multipath delays. When you add a guard time the back portion of useful signal time is copied and appended to the front. The options available for this field are Long or Auto. The default setting is Auto.
MCS	The Modulation and Coding Scheme (MCS) function sets the modulation, coding and number of spatial channels. The default MCS value is Auto.
Reverse Direction Grant (RDG)	The Reverse Direction Grant (RDG) function reduces the transmitted data packet collision rate by using the reverse direction protocol. The RDG improves transmission performance and scalability in a wireless environment. By default the RDG setting is enabled.
Aggregation MSDU (A-MSDU)	The MAC Service Data Unit (MSDU) Aggregation function wraps multiple ethernet frames bound for a common destination in a single 802.11 frame. This reduces the number of required packet headers making the transmission more efficient.
Auto Block ACK	The 802.11n protocol uses the Auto Block ACK function for security of the data transmission. If a wireless client receives a unicast A-MPDU (Aggregated MAC Packet Data Unit) frame, it should respond by sending back an ACK frame without delay. A Block Acknowledgement reduces the number of the ACK frames while providing an individual acknowledgement of each aggregated data frame.
Decline BA Request	The Decline BA Request function can be set to refuse block acknowledgement requests from wireless clients. Bydefault this function is disabled.

Table 22 - Advanced View - Advanced WiFi Settings

Click **Apply** to save any changes you make to the settings.

Security

This page allows you to configure the wireless security for your NetComm Wireless 3G38WV. Setting up sufficient wireless security can prevent unauthorized access to your wireless network.

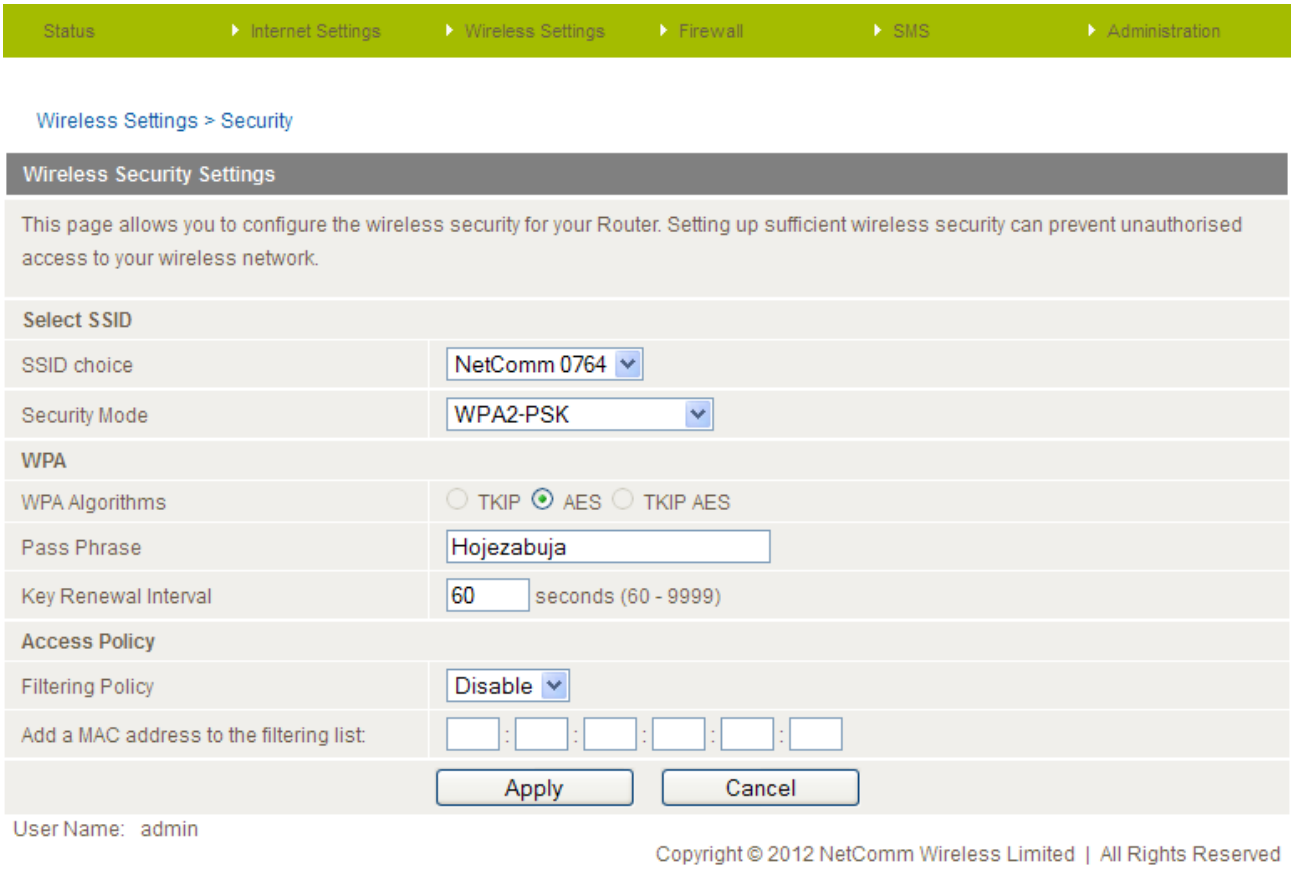


Figure 37 - Advanced View - WiFi Security Settings

OPTION	DEFINITION
SSID Choice	Select the SSID profile that you wish to configure the security settings for.
Security Mode	Select the security mode for the wireless network. See below for more information
Access Policy	This feature allows you to restrict network access based on the MAC Address of a device which prevents unauthorized clients from accessing your wireless network. Select whether to allow/block users on the policy list, and add their MAC addresses to the list on the format XX:XX:XX:XX:XX:XX

Table 23 - Advanced View - WiFi Security Settings

Security Mode

You may choose from the following wireless security options:

- Disabled
- WPA
- WPA-PSK
- WPA2
- WPA2- PSK
- WPA-PSK-WPA2-PSK
- WPA1-WPA2
- 802.1x.

Refer to the instructions on the following pages to configure the different Wireless Security types.

WPA1/WPA2

WPA (WiFi Protected Access) authentication is suitable for enterprise applications. It must be used in conjunction with an authentication server such as RADIUS to provide centralized access control and management. It provides a strong encryption and authentication solution.

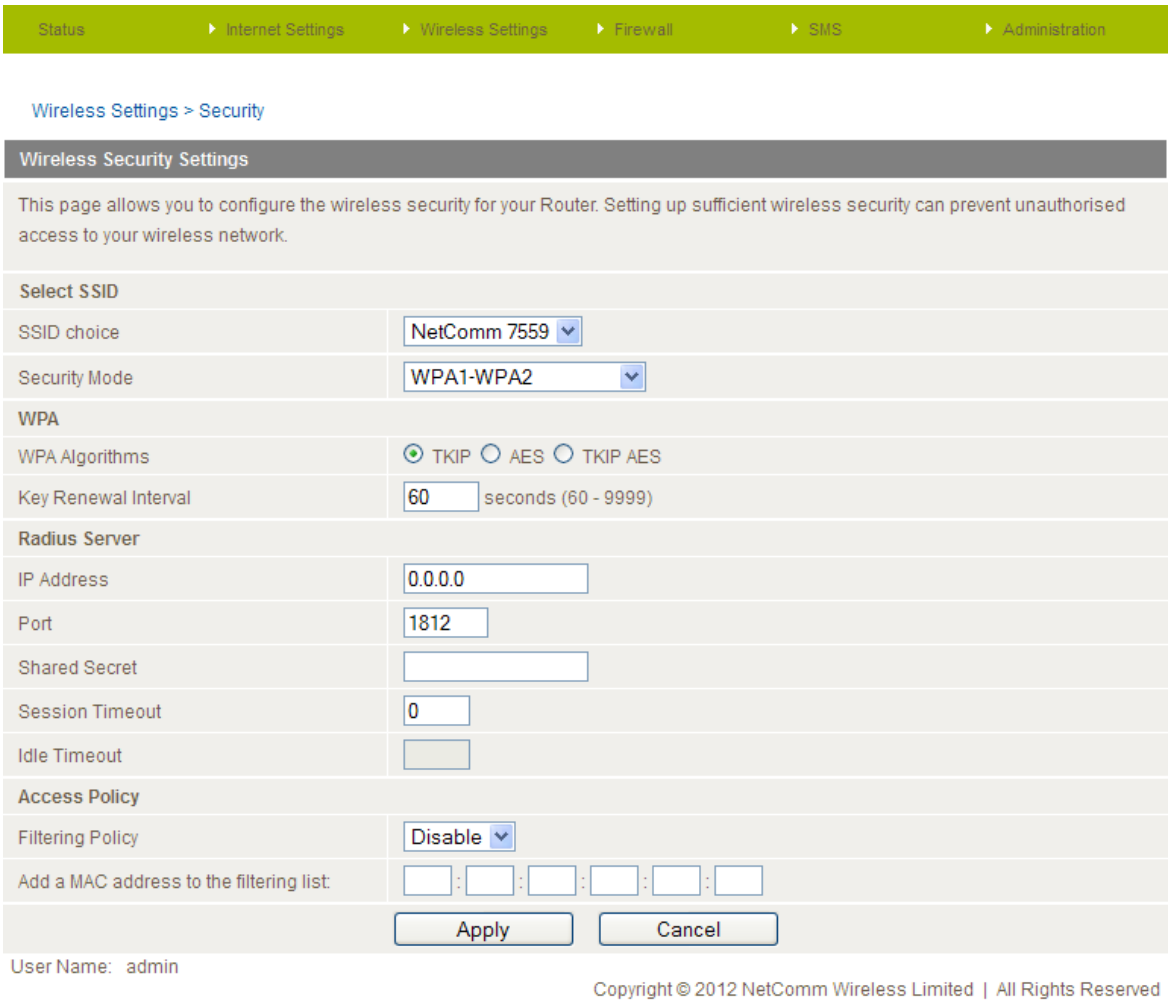


Figure 38 - Advanced View - WiFi Security Settings - WPA1/WPA2

WPA-PSK/WPA2-PSK

A newer type of security is WPA-PSK (TKIP) and WPA2-PSK (AES). This type of security gives a more secure network when compared to WEP security. Use TKIP Encryption Type for WPA-PSK and AES for WPA2-PSK. After that, please enter the key in the Passphrase field. The key needs to be more than 8 characters and less than 63 characters and can be any combination of letters and numbers.

Please note that the configuration for WPA-PSK and WPA2-PSK is identical.

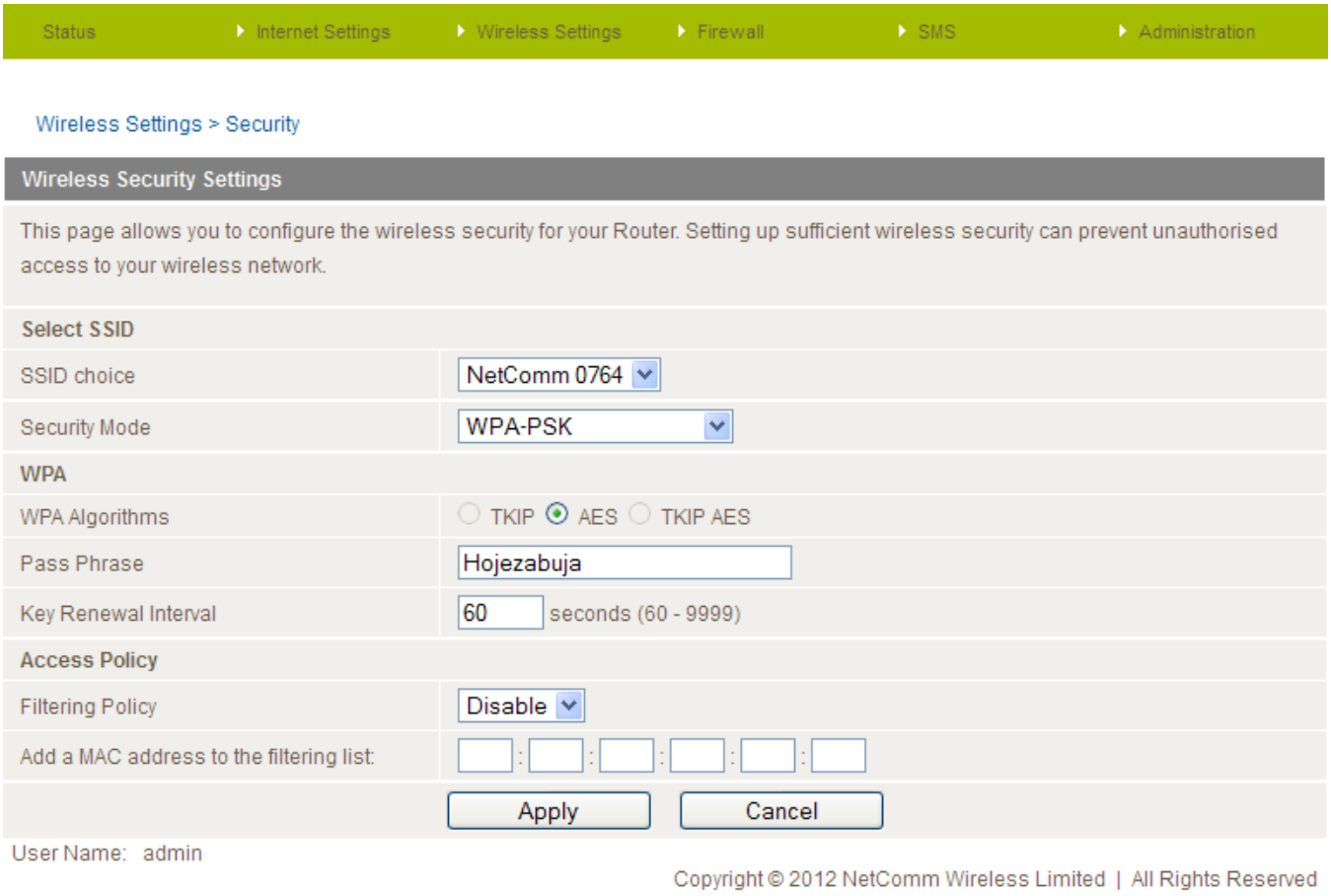


Figure 39 - Advanced View - WiFi Security Settings - WPA-PSK/WPA2-PSK

Your NetComm Wireless 3G38WV uses WPA-PSK-WPA2-PSK by default. Check your Wireless Security Card or the device label on the bottom of the NetComm Wireless 3G38WV for your default SSID and Security key to begin connecting your wireless devices.

802.1x

In order to use 802.1X security, you need to have a RADIUS server on your network that will act as the authentication server. Please type in the details for your RADIUS server in the fields required.

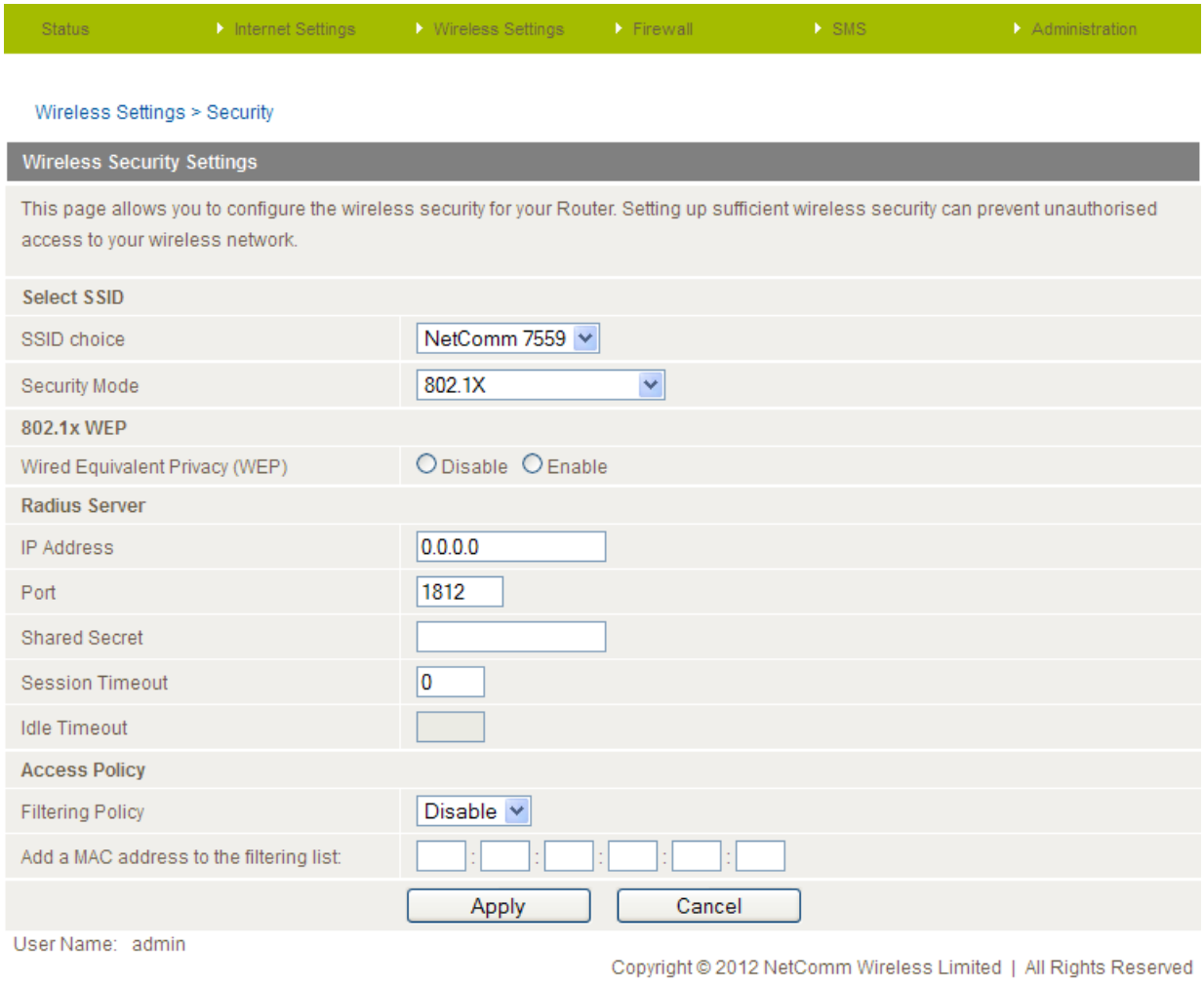


Figure 40 - Advanced View - WiFi Security Settings - 802.1x

Note: After configuring wireless security, you also need to configure your wireless adapter to use the same security settings before you can connect wirelessly. Not all wireless adapters support WPA-PSK/WPA2-PSK/WPA/WPA2 security. Please refer to your wireless adapter user guide for more details. We strongly recommended that you configure a simple wireless security method such as WPA-PSK in order to secure your network.

WPS

WPS is the simplest way to establish a connection between wireless clients and your NetComm Wireless 3G38WV. This method removes the need to manually select the encryption mode and enter in a passphrase key. You only need to press a button on both the wireless client and the NetComm Wireless 3G38WV router, and the WPS feature will complete the wireless connection. The NetComm Wireless 3G38WV supports two types of WPS:

OPTION	DEFINITION
WPS via Push Button	A specific button needs to be pressed on the wireless client or in the wireless client utility to start WPS mode. Then switch the NetComm Wireless 3G38WV to WPS mode either by pushing the WPS button on the wireless router, or by clicking the 'Apply' button in the web configuration interface.
WPS via PIN code	A PIN code needs to be assigned to the wireless client set to WPS mode. Then to complete the wireless connection input the wireless client PIN into the NetComm Wireless 3G38WV web interface.

Table 23 - Advanced View - Enable or Disable WPS

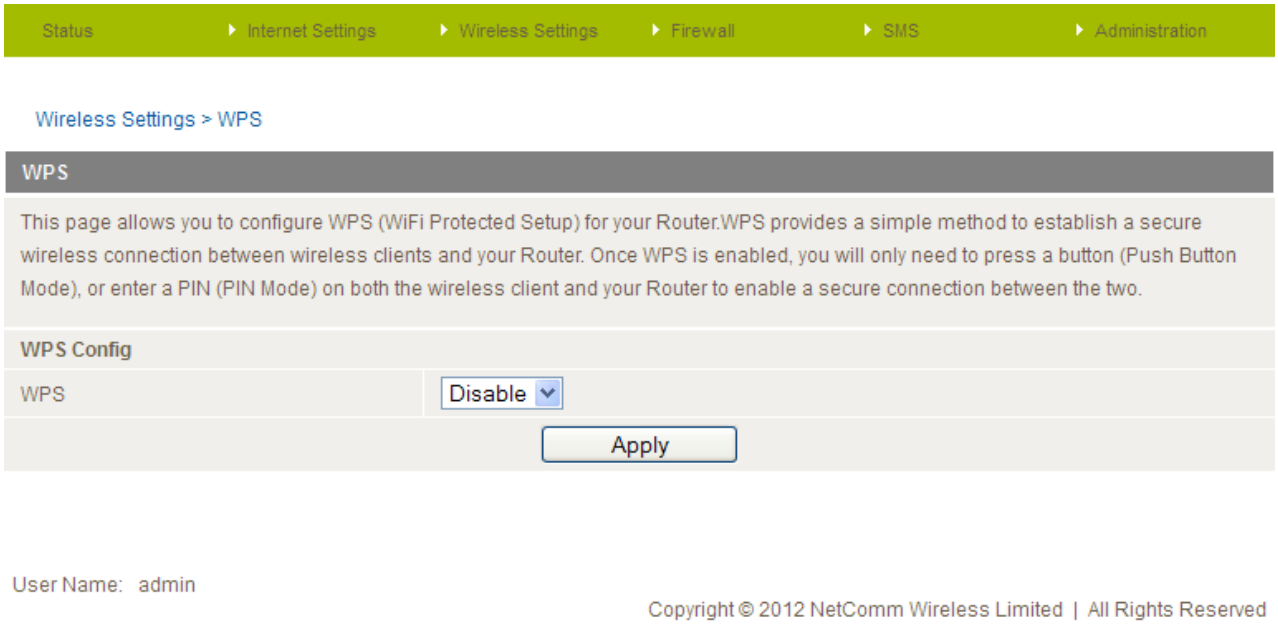


Figure 41 - Advanced View - WPS Settings – Disabled

Use the drop down box to either enable or disable the WPS function.

Status | Internet Settings | Wireless Settings | Firewall | SMS | Administration

Wireless Settings > WPS

WPS

This page allows you to configure WPS (WiFi Protected Setup) for your Router.WPS provides a simple method to establish a secure wireless connection between wireless clients and your Router. Once WPS is enabled, you will only need to press a button (Push Button Mode), or enter a PIN (PIN Mode) on both the wireless client and your Router to enable a secure connection between the two.

WPS Config

WPS	Enable

Apply

WPS Summary

Status	Idle
WPS Configured	No
SSID	NetComm 7559
WPS Auth Mode	WPA2-PSK
WPS Encrypt Type	AES
WPS Default Key Index	2
WPS Key(ASCII)	cakofuqatu
PIN	75073640

Reset OOB

WPS Progress

WPS mode	PIN / Push Button (PBC)

Apply

WPS Status

WSC:Idle

User Name: admin

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Figure 42 - Advanced View - WPS Settings - Enabled

OPTION	DEFINITION
Status	If the wireless security (encryption) function of this wireless router is properly set, you will see a 'Success' message here. Otherwise, you will see a message in the WPS Status field stating 'Idle'.
SSID	This is the network broadcast name (SSID) of the router.
WPS Auth Mode	This field shows the active authentication mode for the wireless connection.
WPS PIN	This is the WPS PIN code of the wireless router. You may need this information when connecting to other WPS enabled wireless devices.
WPS Mode	Select either PIN mode or PBC (which is the WPA via Push Button).

Table 24 - Advanced View - WPS Setting

Station List

The Station List shows the wireless clients currently associated with your NetComm Wireless 3G38WV.

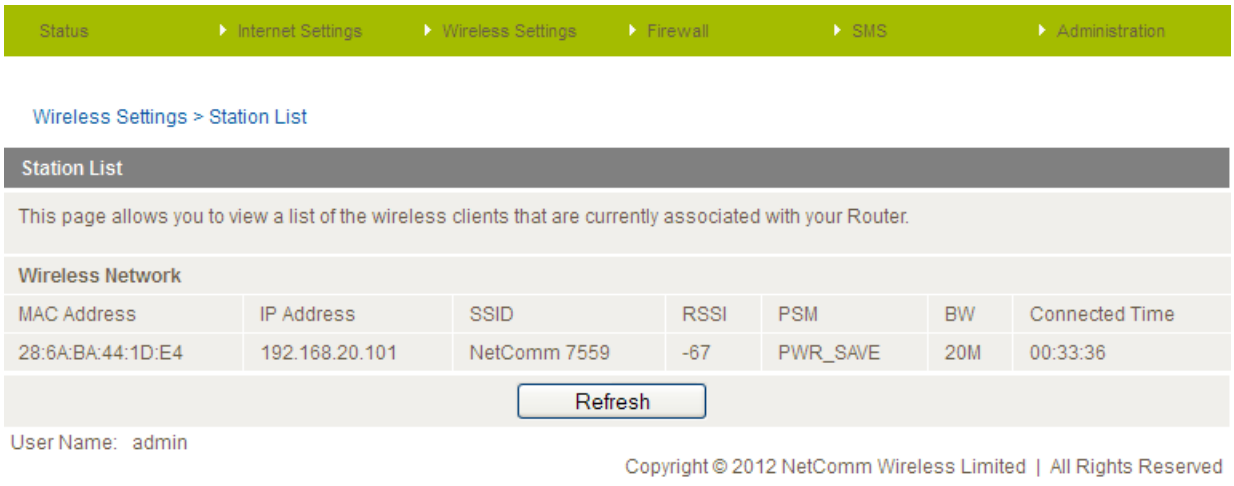


Figure 43 - Advanced View - WiFi - Station List

OPTION	DEFINITION
MAC Address	The wireless client's unique 12 digit hexadecimal identifier.
IP Address	The local network address assigned to the wireless client by the router.
SSID	This is the network broadcast name (SSID) of the router.
RSSI	The Received Signal Strength Indicator (RSSI) measures the wireless signal strength.
PSM	This field shows the Power Saving Mode (PSM) status.
BW	The bandwidth field gives an estimation of the range of the wireless signal.
Connected Time	This field shows how long the wireless client has been connected to the router.

Table 25 - Advanced View - WiFi - Station List Details

Firewall

MAC/IP/Port Filtering

This page allows you to setup MAC, IP and port filtering rules to protect your network from malicious activity. The filtering rules can be used to either allow or block certain users and/or ports from accessing the Internet.

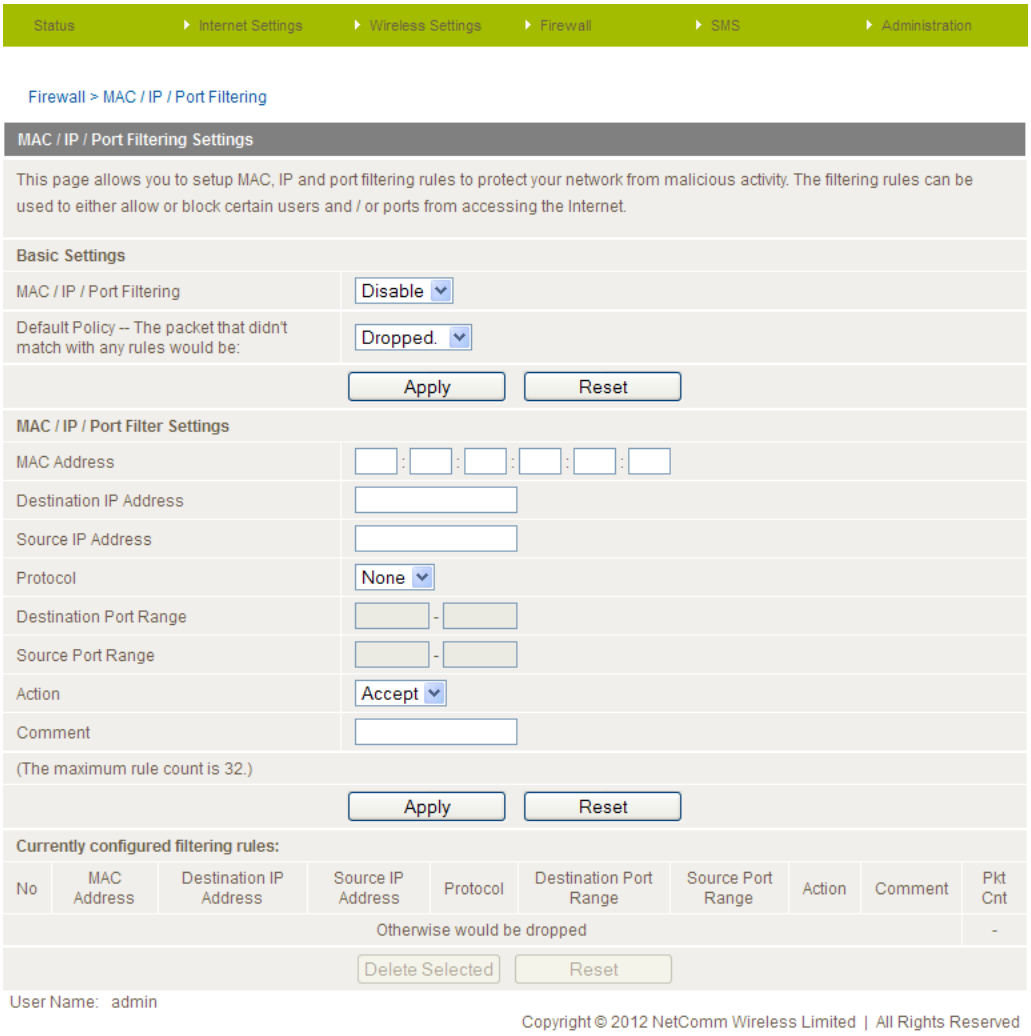


Figure 44 - Advanced View - Port Filtering Settings

OPTION	DEFINITION
Basic Settings	
MAC/IP/Port Filtering	Select Enable to enable MAC/IP/Port Filtering.
Default Policy	Select whether packets that do not match any rules will be either accepted and transmitted to its network destination or dropped from the network.
MAC/IP/Port Filtering Settings	
MAC Address	Enter the MAC address of a local computer connected or associated with the router.
Destination IP Address	Enter the destination IP Address for the filter rule, a local IP address.
Source IP Address	Enter the source IP Address for the filter rule. This is the address from which the data packets originate and is usually a WAN IP address.
Protocol	Select the protocol type (TCP, UDP or both) for the port number or port range. If you are unsure which protocol to use, select the "TCP&UDP" setting.
Destination Port Range	Enter the destination port number or port range of the filter rule. If the rule is needed for a single port only, enter the same port number in both text boxes.
Source Port Range	Enter the source port number or port range of the filter rule. If the rule is needed for a single port only, enter the same port number in both text boxes.
Action	Select either to accept or drop the packet that matches the rule .
Comment	Add a comment to identify the rule (optional).

Table 26 - Advanced View - Port Filtering Settings

Click **Apply** to save any changes you make to the settings.

Port Forwarding

This page allows you to configure port forwarding rules to allow remote users to access services such as Web (HTTP) or FTP on your local computers. This allows you to redirect a particular port number or port range (from the Internet/WAN port) to a particular LAN IP address on your local network.

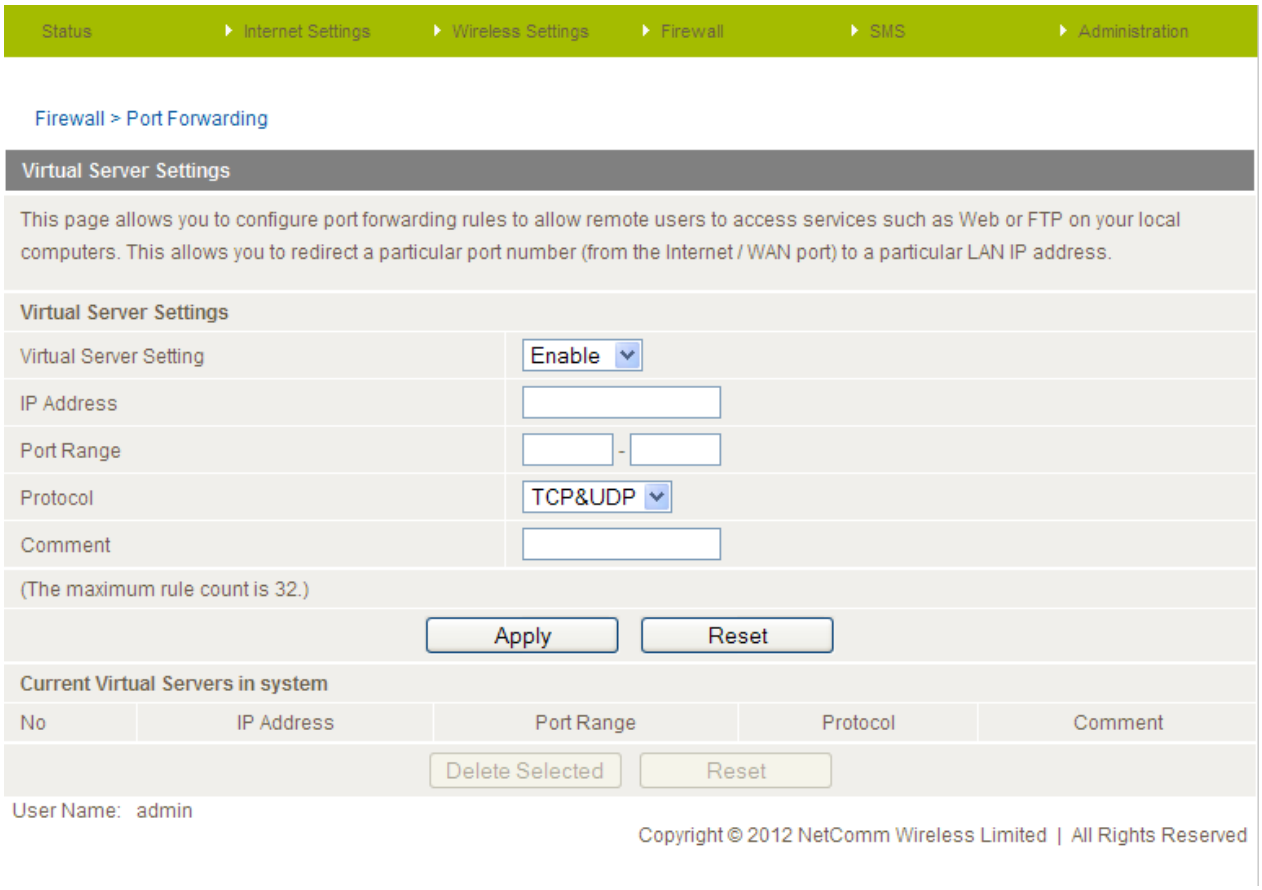


Figure 45 - Advanced View - Port Forwarding Settings

OPTION	DEFINITION
Virtual Server Setting	Select to Enable or Disable the virtual server (port forwarding) function.
IP Address	The LAN IP address that a public incoming packet will be sent to.
Port Range	The public port number or port range to be sent to the specific LAN IP address. If the rule is to be set for a single port, enter the same number in both fields.
Protocol	Select the protocol type (TCP, UDP or both) for the port forwarding rule to transmit data packets with. If you are unsure use the default "TCP&UDP" setting.
Comment	Add a comment to identify the rule (optional).

Table 27 - Advanced View - Port Forwarding Settings

Click **Apply** to save any changes you make to the settings.

DMZ

If you have a client PC that cannot run an Internet application (e.g. Games) properly from behind the NAT firewall, then you can open up the firewall restrictions to allow unrestricted two-way Internet access by defining a DMZ Host.

The DMZ function allows you to re-direct all packets going to your WAN port IP address to a particular IP address in your LAN. The difference between the virtual server and the DMZ function is that the virtual server re-directs a particular service/Internet application (e.g. FTP, websites) to a particular LAN client/server, whereas DMZ re-directs all packets (regardless of services) going to your WAN IP address to a particular LAN client/server.

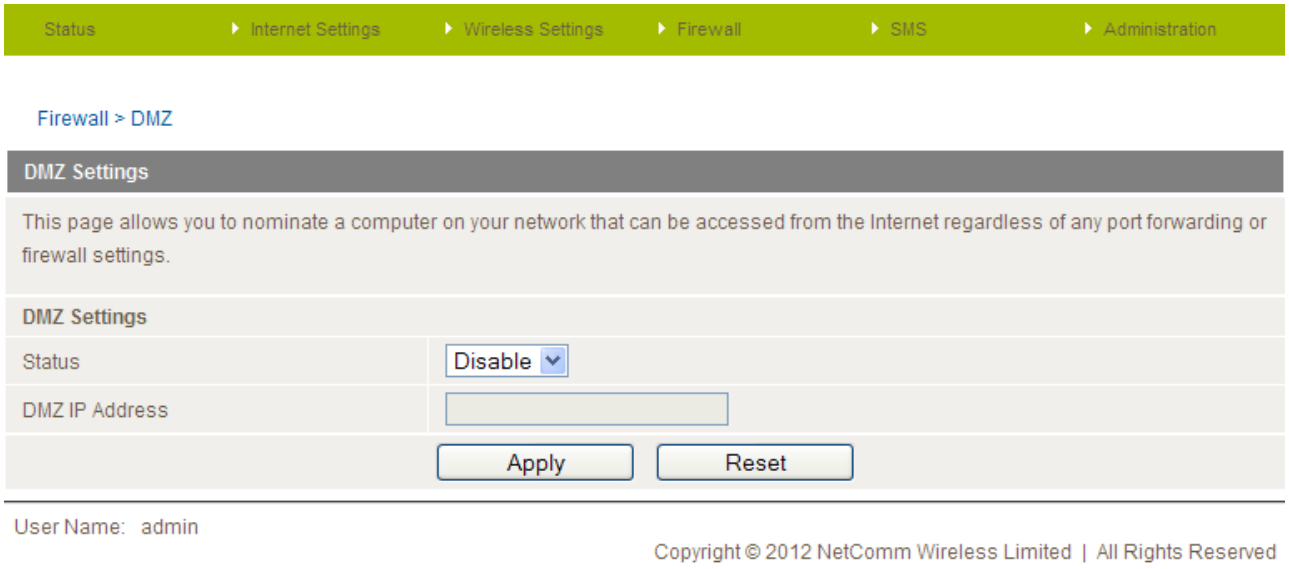


Figure 46 - Advanced View - DMZ Settings

OPTION	DEFINITION
Status	Select to enable or disable the DMZ host function.
DMZ IP Address	Fill in the IP address of a particular host in your LAN Network that will receive all the packets originally going to the WAN port/Public IP address of your NetComm Wireless 3G38WV.

Table 28 - Advanced View - DMZ Settings

Click **Apply** to save the any changes you make to the above configuration.

System Security

This page allows you to improve the security of your NetComm Wireless 3G38WV through the SPI (Stateful Packet Inspection) firewall and remote access settings.

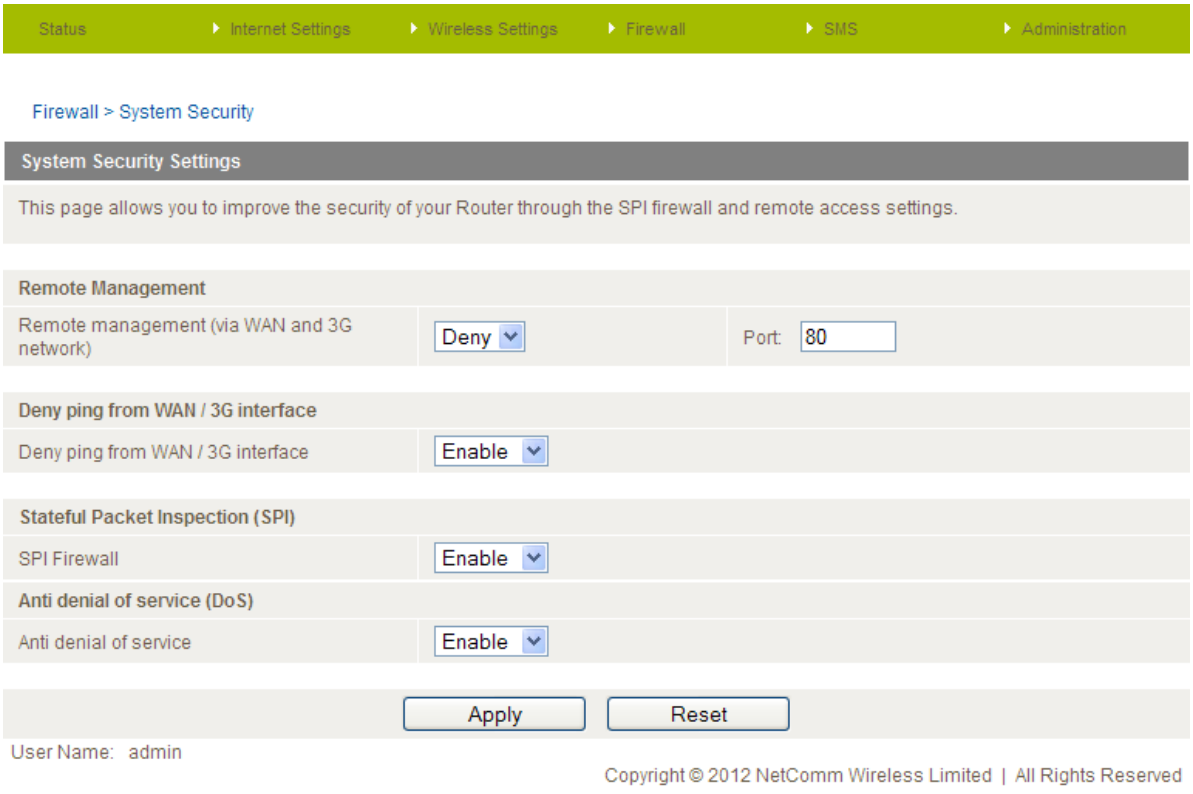


Figure 47 - Advanced View - System Security Settings

OPTION	DEFINITION
Remote Management (via WAN and 3G network):	Select to enable or disable remote management access from the WAN interface to the router GUI. The port to be used for remote access can also be entered here.
Deny ping from WAN / 3G interface	Select the Enable option to deny ICMP (ping) packets received on the WAN interface. Otherwise, select the "Disable" option to allow ICMP packets to be received from the WAN interface.
SPI Firewall	Select to enable or disable the SPI (Stateful Packet Inspection) firewall to improve the security of your NetComm Wireless 3G38WV.
Anti denial of service (DoS)	Select to enable or disable the anti denial of service function. The Anti denial of service function can help to protect your network from denial of service attacks.

Table 29 – Advanced View – System Security Settings

Click **Apply** to save any changes you make to the settings.

Content Filtering

This page allows you to configure content, URL and host filters to restrict improper internet content access from LAN computers across one or both of the 3G and Ethernet WAN connections.

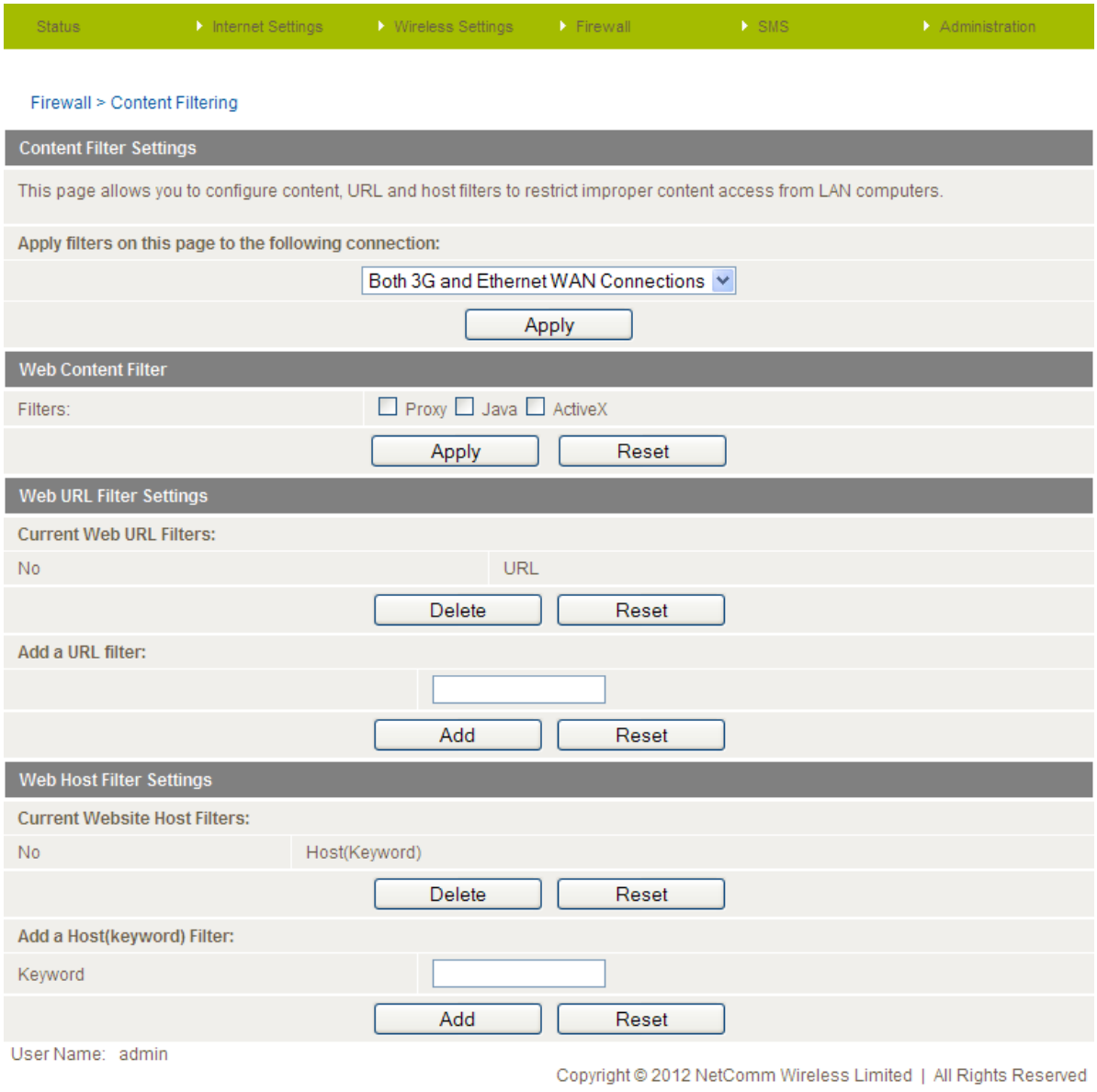


Figure 48 – Advanced View – Content Filtering Settings

OPTION	DEFINITION
Content Filter Settings	Select which connection type the content filtering will apply to. Options include the 3G connection only, the Ethernet WAN connection only or both the 3G and Ethernet WAN connections.
Web Content Filter	Tick the boxes to enable Proxy, Java or ActiveX content filtering. Click **Apply** to save any settings changes.
URL Filter	Block access to a website by entering its full URL address and clicking the **Add** button. Rules previously created and listed here can be deleted at any time via this page.
Web Host Filter	Access to certain websites can be blocked by entering a keyword. Rules can be deleted at any time via this page.

Table 30 - Advanced View - Content Filtering Settings

SMS

The SMS pages are used to perform basic messaging functions such as sending a message, receiving a message and redirecting an incoming message to another destination.

Basic functionality supported:

1. Ability to send a text message via a 3G network and store in permanent storage.
2. Ability to receive a text message via a 3G network and store in permanent storage.
3. Ability to forward incoming text messages via a 3G network to another remote destination which may be a TCP/UDP server or other mobile devices.

Setup

General SMS functionality is enabled by default. You can open the Setup page in order to configure additional settings. To do this, click on “SMS” and then “Setup”.

The router can store up to 30 messages in memory and displays the total number of messages stored under the “Memory & Message Status” section. It also displays the number of messages in the Inbox and Outbox.

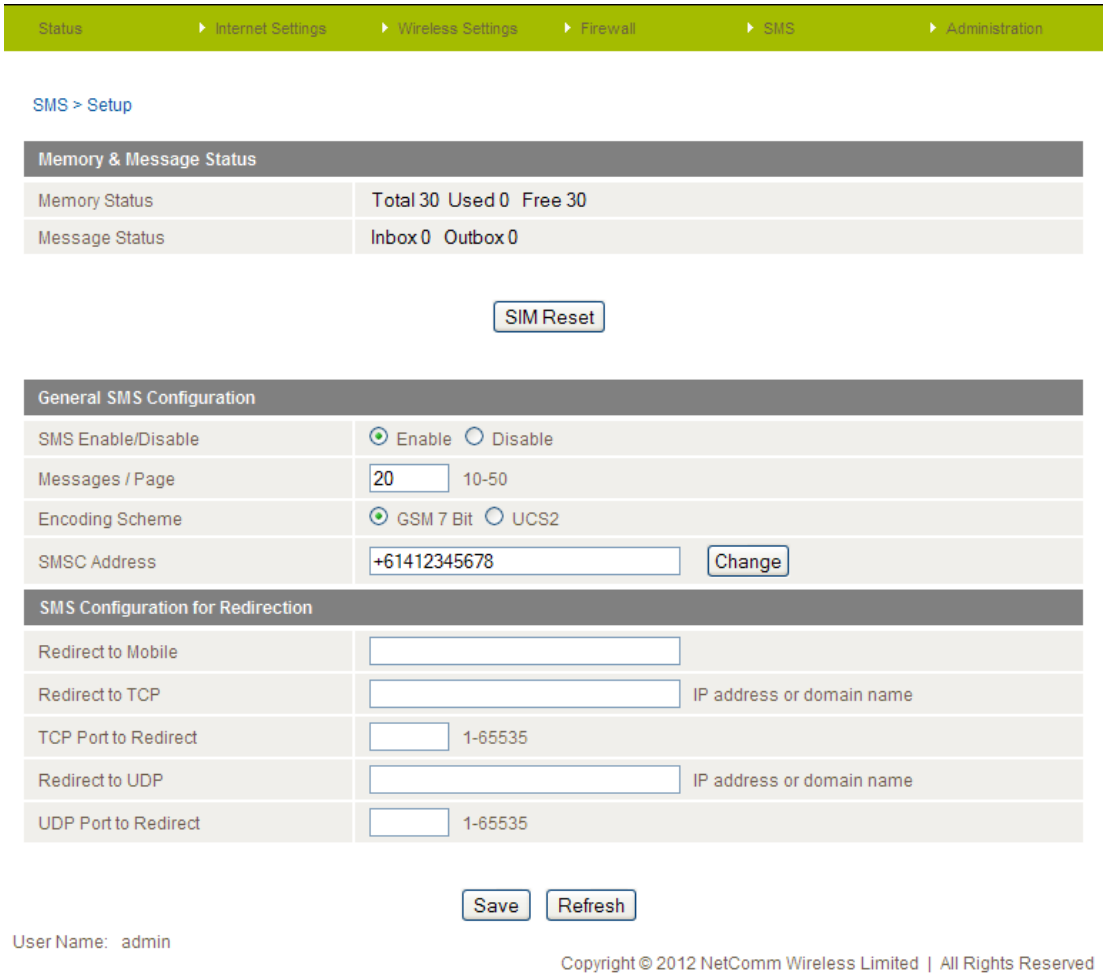


Figure 49 – Advanced View – SMS Setup

OPTION	DEFINITION
SMS Enable/Disable	Use this option to enable or disable the SMS functionality of the router.
Messages / Page	Enter the number of SMS messages to display per page.
Encoding Scheme	The encoding method used for SMS messages.
Redirect to Mobile	Forward incoming text messages to the remote destination defined.
Redirect to TCP	Forward incoming text messages to the remote TCP destination defined.
TCP Port to Redirect	The TCP port on which to connect to the remote destination on.
Redirect to UDP	Forward incoming text messages to the remote UDP destination defined.
UDP Port to Redirect	The UDP port on which to connect to the remote destination.

Table 31 - Advanced View - SMS Setup Configuration items

SMS Configuration for Redirection

Incoming text messages can be redirected to another mobile device and/or a TCP/UDP message server.

Redirect To Mobile
You can forward incoming text messages to a different destination number. This destination number can be another mobile phone or 3G router phone number. To disable the feature, delete the number in the 'Redirect to Mobile' field and click the **Save** button.

For Example:
If someone sends a text message and Redirect to Mobile is set to "0412345678", this text message is stored on the router and forwarded to "0412345678" at the same time.

Redirect to TCP & TCP Port, Redirect to UDP & UDP Port
You can also forward incoming text messages to a TCP/UDP based destination. The TCP or UDP server can be any kind of public or private server if the server accepts incoming text-based messages.

The TCP/UDP address can be an IP address or domain name. The port number range is from 1 to 65535. Please refer to your TCP/UDP based SMS server configuration for which port to use.

For Example:
If someone sends a text message and Redirect to TCP is set to "192.168.20.3" and "2002", this text message is stored in the router and forwarded to "192.168.20.3" on port "2002" at the same time.

New Message

The New Message page is used to send an SMS text message to multiple recipients.

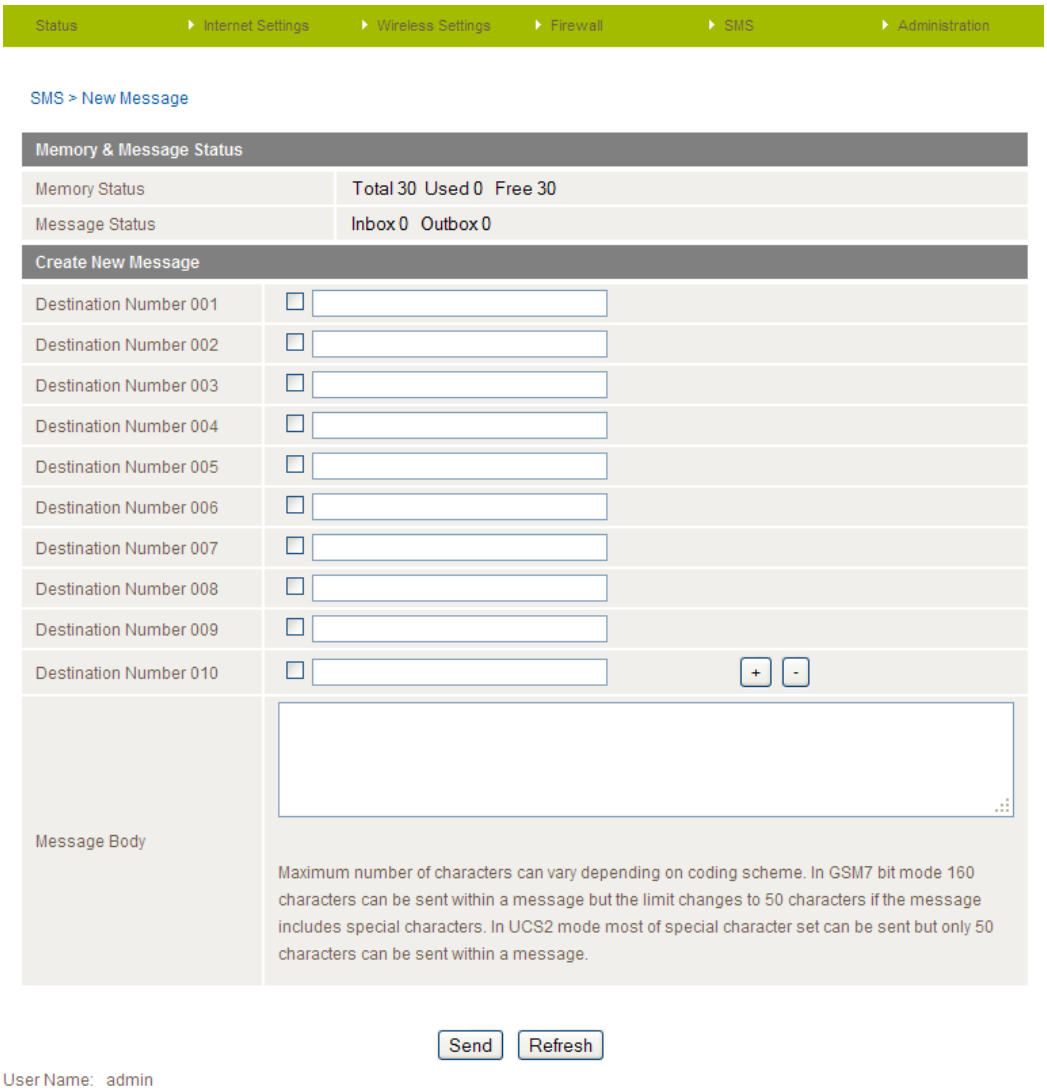


Figure 50 - New SMS Message

A new SMS message can be sent to a maximum of 100 recipients at the same time. After sending the message, the result is displayed next to the destination number as “Success” (in blue) or “Failure” (in red). By default, 10 recipient entry fields are shown on this page however you can increase or decrease this number by pressing the + or – button to the right of the last recipient entry field.

You can select to enable or disable individual message recipients by selecting the checkbox beside each entered number. After entering the required recipient numbers, type your SMS message in the “Message Body” field and then click the Send button.

Inbox / Outbox

You can read, delete, reply or forward an SMS message to another mobile device from the SMS Inbox or check all sent SMS messages in the SMS Outbox.

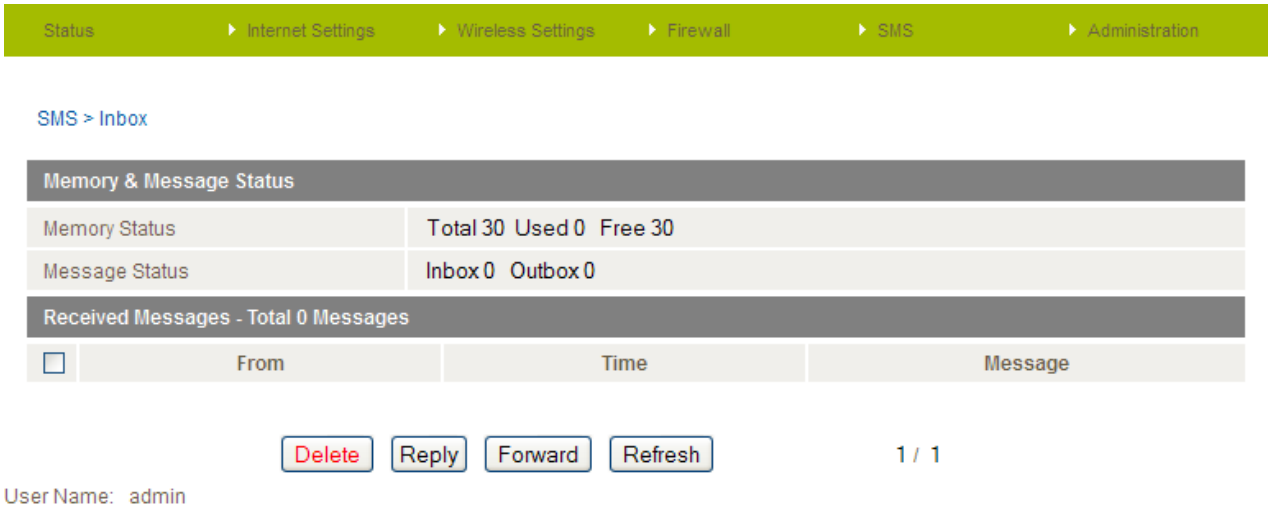


Figure 51 - Advanced View - SMS Inbox

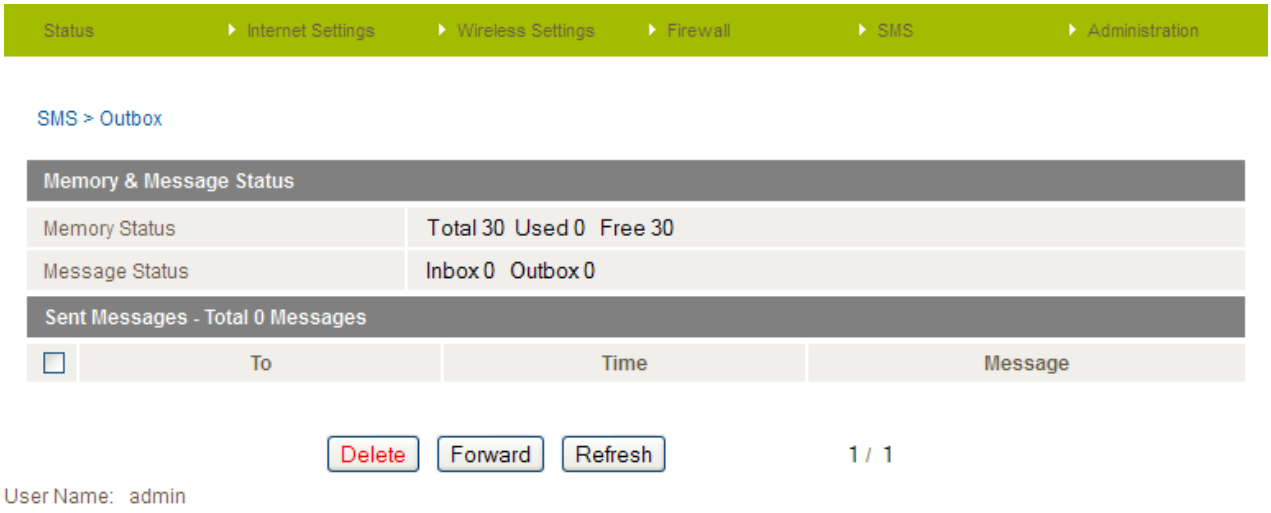


Figure 52 - Advanced View - SMS Outbox

Administration

Startup Wizard

If you wish to re-run the initial setup wizard, you can do so by moving the mouse over the Administration menu, and clicking on "Start Wizard" option.

Management

This page allows you to configure administrator system settings including the system language, administrator username and password, NTP settings, and DDNS settings.

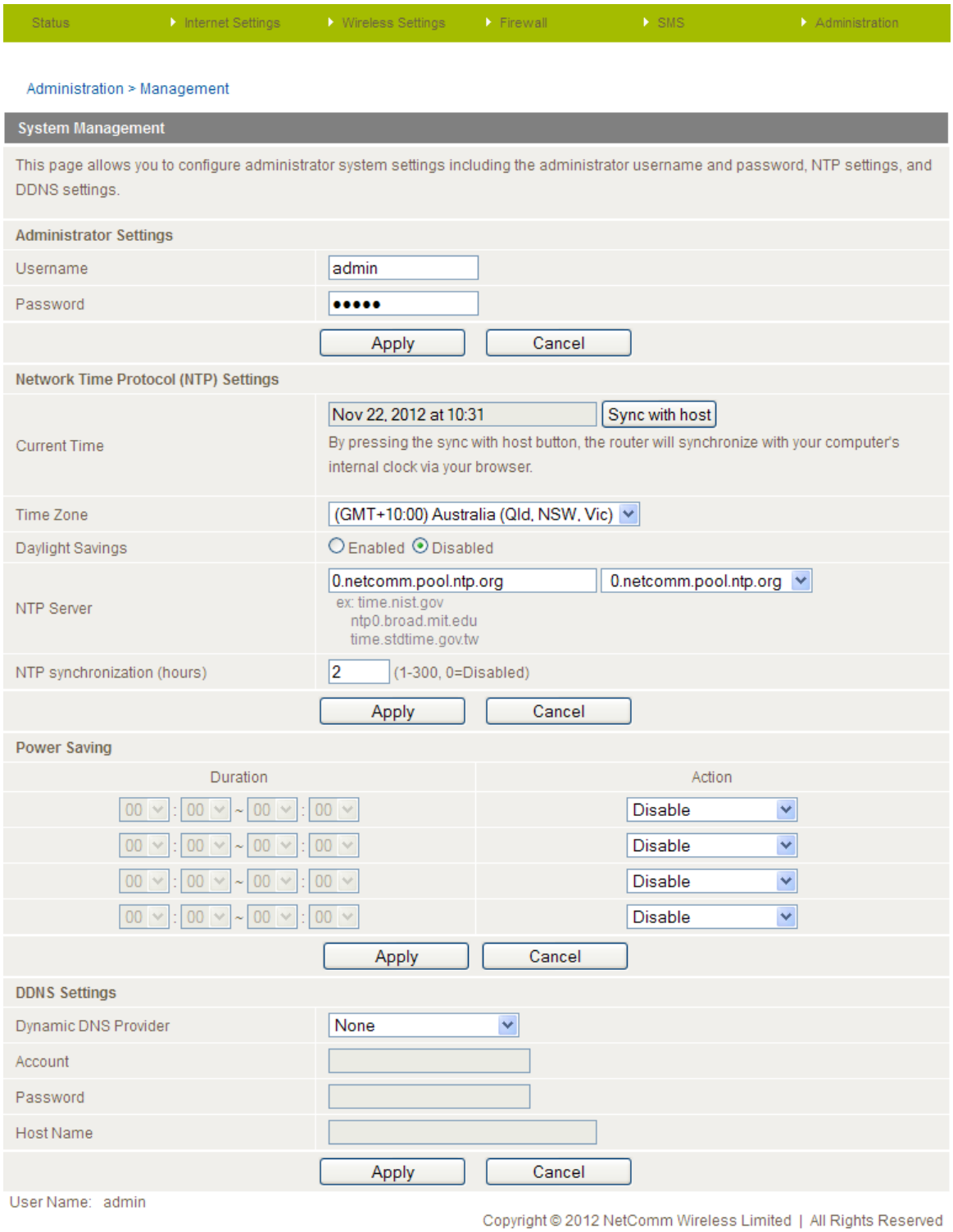


Figure 53 - Advanced View - Management Settings

OPTION	DEFINITION
Administrator Settings (account/password)	This option can be used to configure a new administrator username and password. Click **Apply** when you have entered the desired username and password.
NTP Settings	The NTP (Network Time Protocol) settings allow your router to synchronize its internal clock with the global Internet Time. These settings will affect functions such as System Log entries and Firewall settings. You can specify a custom NTP server to synchronise with and configure the number of hours between synchronisation attempts.
Power Saving	This setting provides for optional reduction in power usage and can assign periods of the day to reduce the WiFi power output by 25%, 50%, 75% or to turn off WiFi completely. Please note that a reduction in the WiFi power output can potentially reduce coverage, data throughput speeds, and stability. If you are having problems with your WiFi coverage, stability, or throughput speed, please disable the Power Saving function.
DDNS Settings	DDNS (Dynamic Domain Name Service) allows you to map a static domain name to a dynamic IP address. To use this feature, you must sign up for an account from a DDNS service provider. If your provider is not listed you can use the **Custom DDNS Server** option. Enter the account details provided by your Dynamic DNS service provider.

Table 32 - Advanced View - Management Settings

Click **Apply** to save any changes you make to the settings.

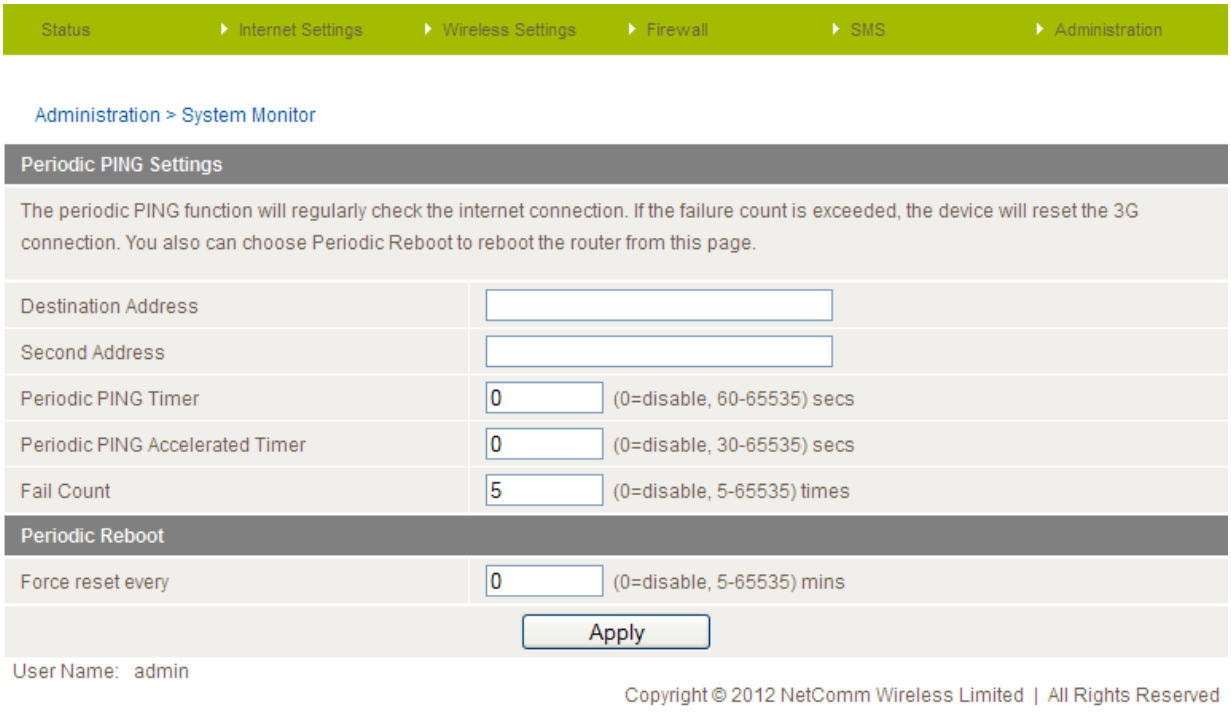


Figure 54 - Advanced View - System Monitor Settings

The Periodic Ping Reset Monitor configures the NetComm Wireless 3G38WV to transmit controlled ping packets to user-specified IP addresses. If the router does not receive a response to the pings the router will reboot. The purpose of this feature is to ensure recovery of the device if the internet connection disconnects and does not reconnect for some reason.

This feature works as follows:-

- At a time interval specified by the “Periodic Ping Timer” value in seconds, the NetComm Wireless 3G38WV sends 3 consecutive pings to the “Destination Address”.
- If all 3 pings fail the NetComm Wireless 3G38WV sends 3 consecutive pings to the “Second Address”.
- The NetComm Wireless 3G38WV then sends 3 consecutive pings to the “Destination Address” and 3 consecutive pings to the “Second Address” at the time interval specified by the “Periodic Ping Accelerated Timer” value in seconds.
- If all accelerated pings fail, the NetComm Wireless 3G38WV reboots after waiting the amount of time specified by the “Fail Count” value in seconds.
- If any of the pings succeed, the NetComm Wireless 3G38WV returns to the first step and does not reboot.

Note: The “Periodic Ping Timer” should never be set to a value less than 60 seconds; this is to allow the NetComm Wireless 3G38WV time to reconnect to the cellular network following a reboot.

To disable the Periodic Ping Reset Monitor function, set the “Fail Count” option to a value of 0.

The NetComm Wireless 3G38WV can be configured to automatically reboot at an interval specified in minutes. While this is not necessary, it does ensure that in the case of remote installations the NetComm Wireless 3G38WV will reboot if some anomaly occurs. The default value is 0 which disables the Periodic Reset Timer while the maximum value is 65535 minutes.

Update Firmware

This page enables you to update the firmware which controls the NetComm Wireless 3G38WV when updates are available. To update the NetComm Wireless 3G38WV firmware, perform the following steps:

1. Download the firmware update file and save it to your computer.
2. Click the **Browse** button and navigate to where you saved the file that you downloaded to your computer.
3. Select this file and click the **Open** button.
4. Click the **Apply** button and follow the on-screen prompts.

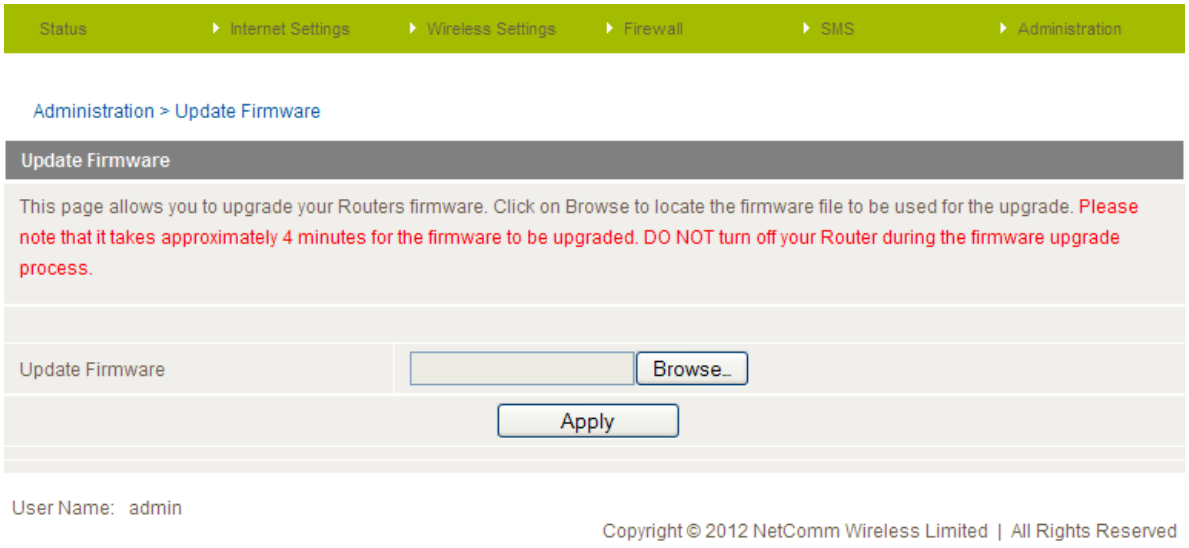


Figure 55 - Advanced View - Upload Firmware

Settings Manager

This page allows you to import/export the system settings, reset your NetComm Wireless 3G38WV to factory default settings, or reboot your NetComm Wireless 3G38WV.

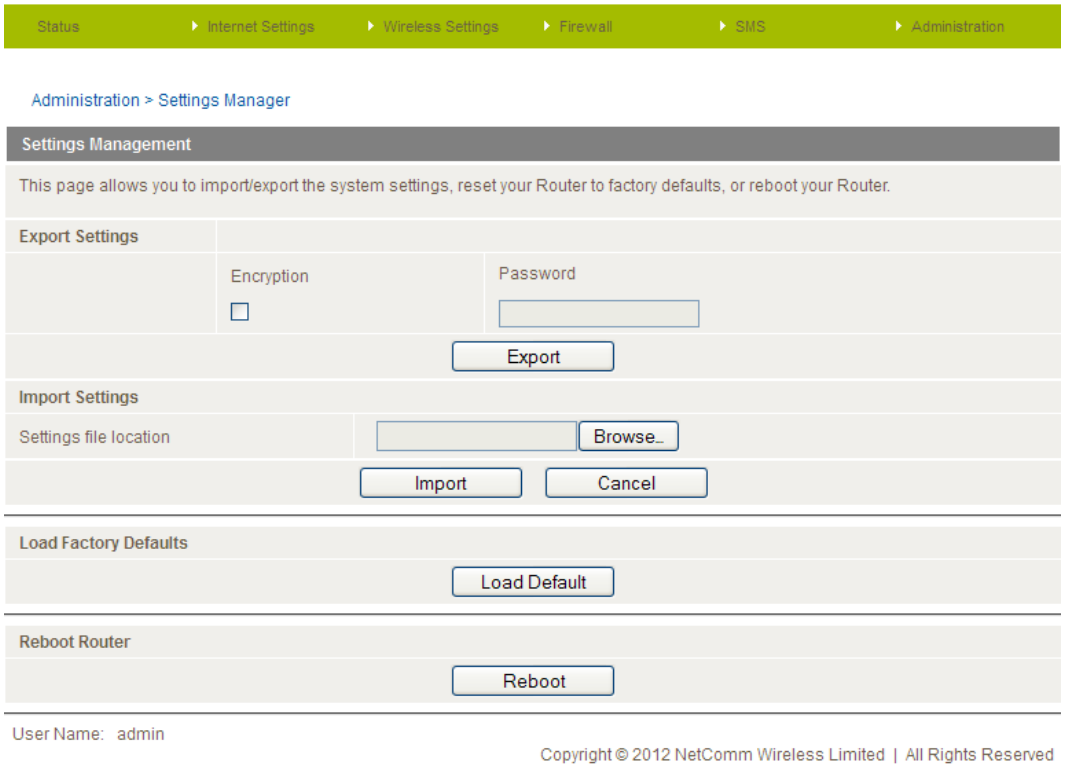


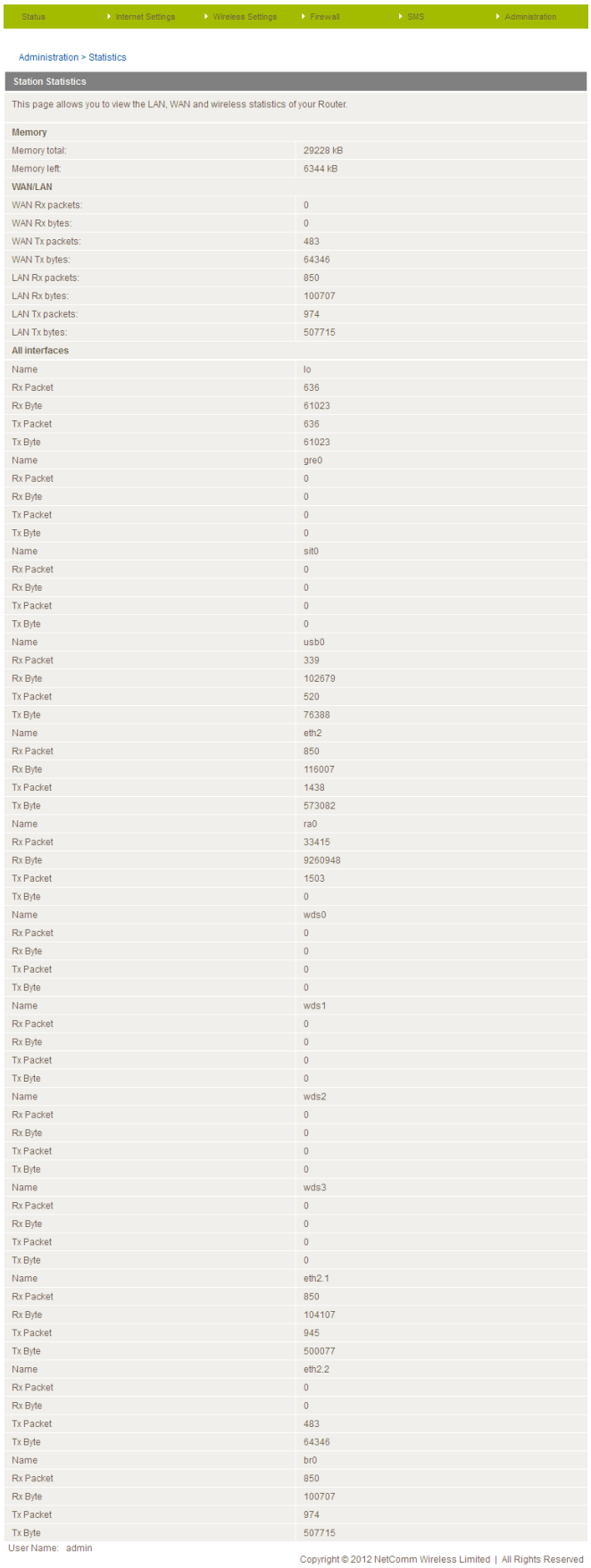
Figure 56 - Advanced View - Settings Manager Settings

OPTION	DEFINITION
Export Settings	Select to save a copy of the current configuration of the NetComm Wireless 3G38WV router. You can also encrypt the export settings file by selecting the 'Encryption' option and then entering a password.
Import Settings	Select the **Browse** button and locate a previously saved copy of the NetComm Wireless 3G38WV configuration settings file. To load these settings onto the router press the **Import** button.
Load Factory Defaults	Use the **Load Default** button to reset the NetComm Wireless 3G38WV to factory default settings.
Reboot Router	Use the **Reboot** the NetComm Wireless 3G38WV router.

Table 33 - Advanced View - Settings Manager Settings

Statistics

This page allows you to view the LAN, WAN and wireless statistics of your NetComm Wireless 3G38WV.



Status | Internet Settings | Wireless Settings | Firewall | SMS | Administration

Administration > Statistics

Station Statistics

This page allows you to view the LAN, WAN and wireless statistics of your Router.

Memory	
Memory total:	29228 kB
Memory left:	6344 kB
WAN/LAN	
WAN Rx packets:	0
WAN Rx bytes:	0
WAN Tx packets:	483
WAN Tx bytes:	64346
LAN Rx packets:	850
LAN Rx bytes:	100707
LAN Tx packets:	974
LAN Tx bytes:	507715
All interfaces	
Name	lo
Rx Packet	636
Rx Byte	61023
Tx Packet	636
Tx Byte	61023
Name	gre0
Rx Packet	0
Rx Byte	0
Tx Packet	0
Tx Byte	0
Name	sit0
Rx Packet	0
Rx Byte	0
Tx Packet	0
Tx Byte	0
Name	usb0
Rx Packet	339
Rx Byte	102679
Tx Packet	520
Tx Byte	76388
Name	eth2
Rx Packet	850
Rx Byte	116007
Tx Packet	1438
Tx Byte	573082
Name	ra0
Rx Packet	33415
Rx Byte	9260948
Tx Packet	1503
Tx Byte	0
Name	wds0
Rx Packet	0
Rx Byte	0
Tx Packet	0
Tx Byte	0
Name	wds1
Rx Packet	0
Rx Byte	0
Tx Packet	0
Tx Byte	0
Name	wds2
Rx Packet	0
Rx Byte	0
Tx Packet	0
Tx Byte	0
Name	wds3
Rx Packet	0
Rx Byte	0
Tx Packet	0
Tx Byte	0
Name	eth2.1
Rx Packet	850
Rx Byte	104107
Tx Packet	945
Tx Byte	500077
Name	eth2.2
Rx Packet	0
Rx Byte	0
Tx Packet	483
Tx Byte	64346
Name	br0
Rx Packet	850
Rx Byte	100707
Tx Packet	974
Tx Byte	507715

User Name: admin

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Figure 57 - Advanced View - System Statistics

System Log

All important system events are logged and displayed on this page. You can use this page to check the log of your NetComm Wireless 3G38WV for troubleshooting and diagnostic purposes. Using the remote system log settings a copy of the logs can be sent to a system log server and viewed remotely using system log software such as syslog server which is available at http://www.kiwisyslog.com/

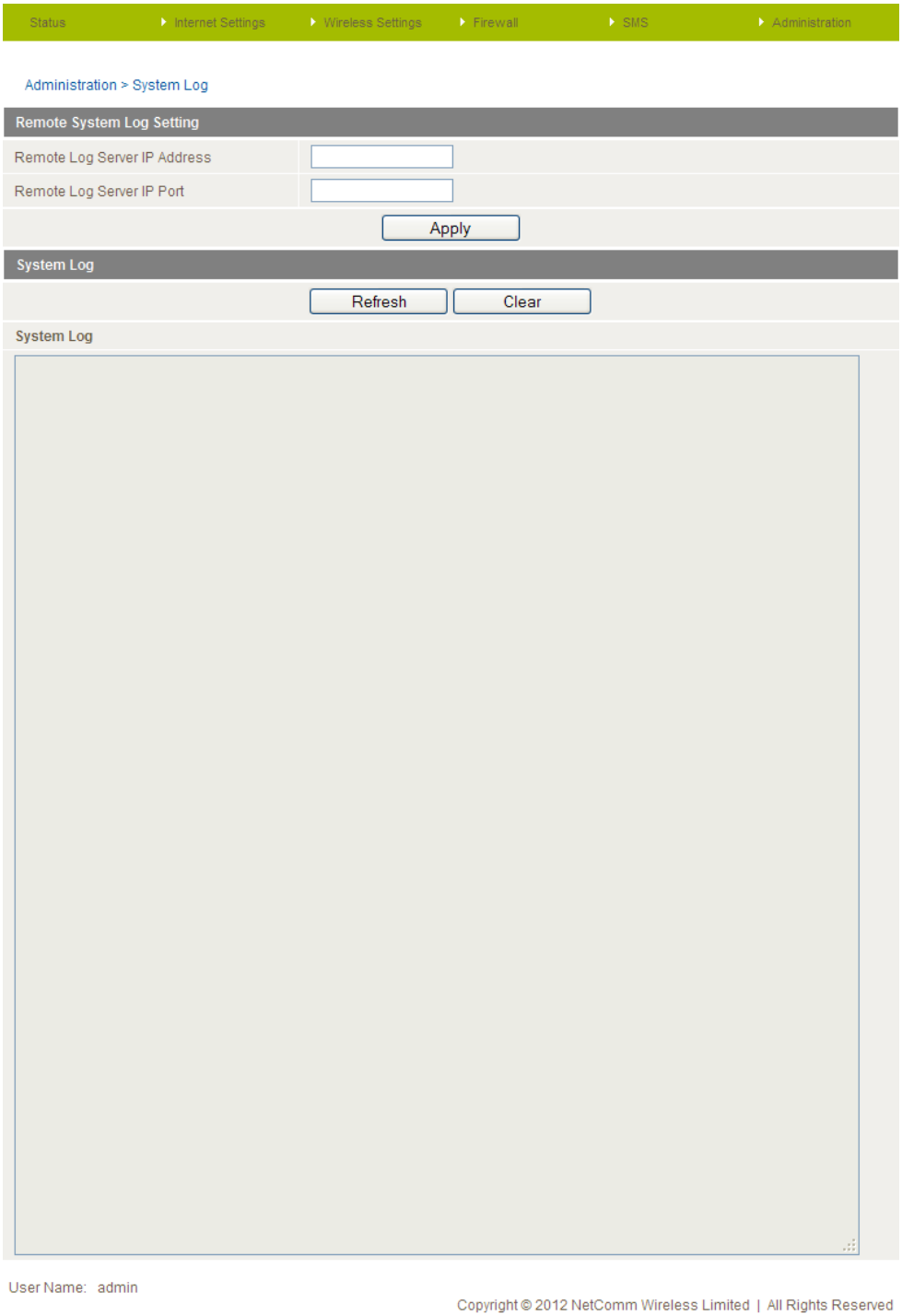

Figure 58 -- Advanced View - System Log Settings

OPTION	DEFINITION
Remote Log Server IP address	Enter the IP address that your remote system log server uses.
Remote Log Server IP Port	Enter the port number that the remote system log server uses. (Port 514 UDP is commonly used for this purpose.)
System Log	The current contents of the NetComm Wireless 3G38WV system log.

Table 34 - Advanced View - System Log Settings

TR-069

The TR-069 (Technical Report 069) protocol is a technical specification also known as CPE WAN Management Protocol (CWMP). It is a framework for remote management and auto-configuration of end-user devices such as customer-premises equipment (CPE) and Auto Configuration Servers (ACS). It is particularly efficient in applying configuration updates across networks to multiple CPEs.

TR-069 uses a bi-directional SOAP/HTTP-based protocol based on the application layer protocol. Some cellular specific vendor extensions are supported by NetComm M2M series routers, with the data model available on request from NetComm.

TR-069 provides several benefits for the maintenance of a field of CPEs:

- Simplifies the initial configuration of a device during installation
- Enables easy restoration of service after a factory reset or replacement of a faulty device
- Firmware and software version management
- Diagnostics and monitoring

Note: In order to access and configure the TR-069 settings you must be logged into the router as the root user.

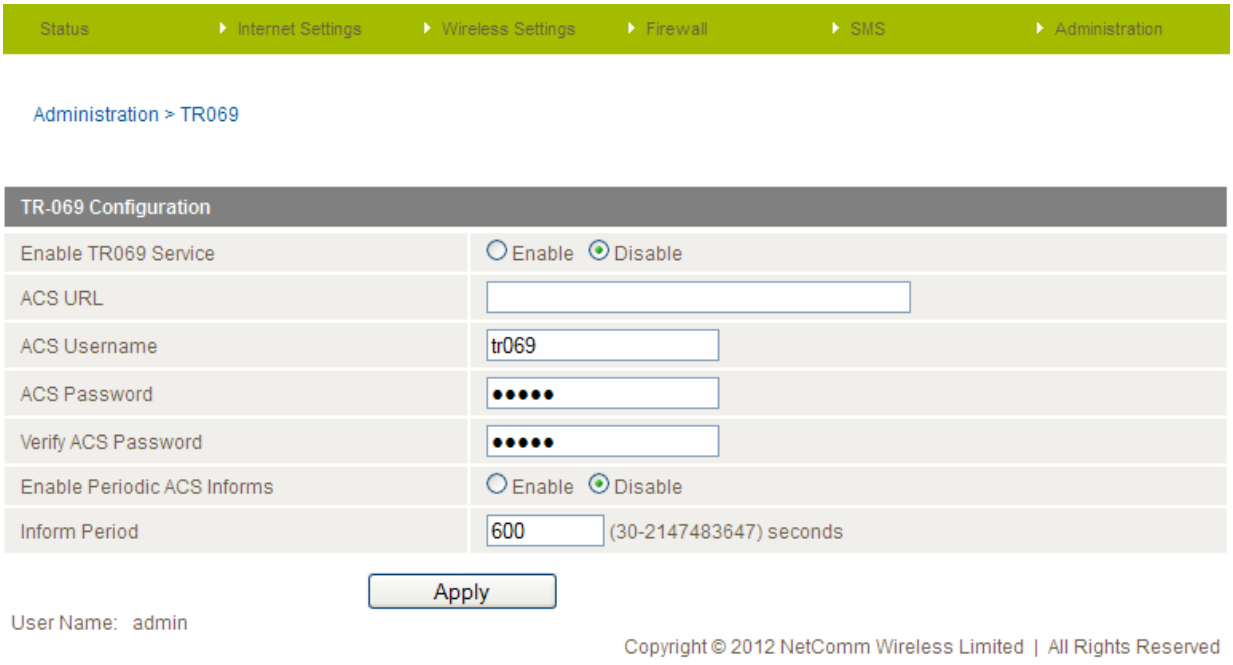

Figure 59 - Advanced View - TR-069 Settings

OPTION	DEFINITION
Enable TR-069 Service	This field provides the option to switch on or off the TR-069 feature.
ACS URL	This field can be used to enter the domain name or IP address of the Auto Configuration Server (ACS) you wish to use.
ACS Username	The username for the Auto Configuration Server (ACS) account
ACS Password/Verify ACS Password	This field can be used to enter the password that the Auto Configuration Server (ACS) uses
Enable Periodic ACS Informs	Each session begins with the transmission of an Inform message from the ACS server. If able to, the CPE device responds with an InformResponse message. A periodic Inform message verifies that each CPE device is capable of communicating and receiving updates from the ACS server
Inform Period	Enter the time in seconds between periodic Inform messages. The maximum time span possible is equivalent to more than 68 years.
TR-069 Connection Request	
Connection Request Username	Enter the connection request username for the TR-069 connection to the ACS server.
Connection Request Password	Enter the connection request password for the TR-069 connection to the ACS server.
Verify Password	Re-enter to verify the request password for the TR-069 connection to the ACS server.

Table 35 - TR-069 Settings

Logoff

The logoff item will log you out of your web configuration session.

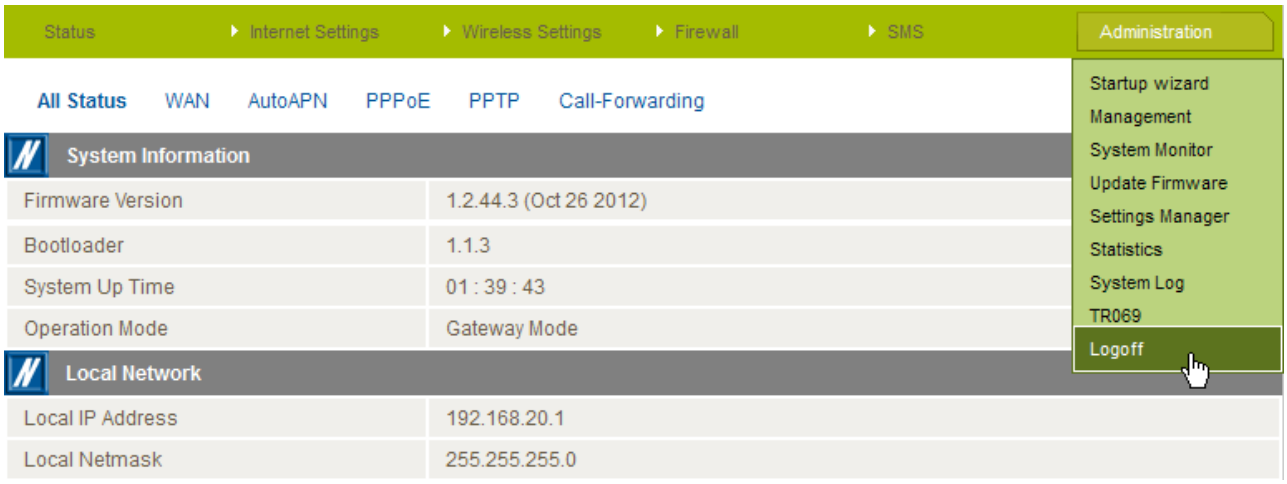

Figure 60 - Logoff

Additional Product Information

Using the NetComm Wireless 3G38WV to make and receive telephone calls

The NetComm Wireless 3G38WV provides circuit switched voice services via two telephony line interfaces offering the ability to make and receive telephone calls via a regular analogue telephone using the mobile network.

Note: Please refer to your mobile service provider for activation of your voice service and information about the call charges that apply.

It's important to note that the NetComm Wireless 3G38WV has two separate line interfaces that share a single outbound/inbound telephone line. This means that handset(s) connected via one port will not be able to use the line at the same time as handsets connected via the other port.

If a call is already in progress via the first port, the user on the handset(s) connected to the second port will receive a busy signal. Incoming calls will ring and can be answered on either port, however once a call is answered from one port, handset(s) on the second port will receive a busy signal.

Handset requirements

The NetComm Wireless 3G38WV allows you to make telephone calls over the mobile network using a standard analogue telephone via the built in RJ-11 Phone ports. Please refer to the documentation provided by the manufacturer of your analogue telephone for assistance with the operation of your telephone handset.

Maximum REN Loading

Please note that each of the line interfaces on the NetComm Wireless 3G38WV is capable of supporting multiple analogue telephones connected via splitters. The ringer equivalence number (REN) for each line is 5. Therefore, a maximum of 5 handsets each with a REN number of 1 can be connected to each line port.

Before you start make any phone call, make sure you have checked the following:

1. You have an activated SIM card inserted prior to powering on the NetComm Wireless 3G38WV.
2. Your NetComm Wireless 3G38WV is powered on and in running condition.
3. A working analogue telephone is connected into either the Line 1 or Line 2 port.
4. You hear the dial tone and the Line LED on the front of your NetComm Wireless 3G38WV should light up after lifting the handset.

How to place a call

To make a call, simply lift the handset, listen for a dial tone and then dial the number following the instructions provided by your telephone handset manufacturer.

How to receive a call

When an incoming call is received, both Line 1 and Line 2 lights will start flashing and any phones connected to the NetComm Wireless 3G38WV will ring. Answer the telephone following the instructions provided by your telephone handset manufacturer to conduct the call.

Please note: If the call is answered from a telephone connected to Line 1, telephones connected to Line 2 will receive an engaged tone for the duration of the call.

If there is no phone connected to the NetComm Wireless 3G38WV, all incoming calls will be transferred to Voicemail (if enabled on the device).

Answering an incoming call when on a call

Call waiting enables a 2nd incoming call to be received while you are on a call. To answer a call waiting call, perform a hook-flash (briefly depressing the hook button). The incoming call should then be answered. Upon hanging up or performing another hook-flash, you will be returned to the original telephone call.

Accessing voicemail

To access your voicemail, please dial *98 and follow the voice prompts.

Call feature codes

Quick Reference Table

The NetComm Wireless 3G38WV supports a number of call feature codes for supplementary services.

FEATURE	ACTIVATION	DEACTIVATION	STATUS
Caller ID	#31# (to block an individual call)	*31# (to unblock an individual call)	N/A
Call Waiting	*43#	#43#	*#43#
Call Forwarding Unconditional	*21*<Directory Number>#	#21#	*#21#
Call Forwarding No Answer	*61*<Directory Number>#	#61#	*#61#
Call Forwarding Busy	*67*<Directory Number>#	#67#	*#67#
Call Forwarding Unreachable	*62*<Directory Number>#	#62#	*#62#

Table 36 - Additional Product Information - Call Feature Codes Quick Reference

Caller ID

Caller ID transmits a caller's number to the called party's telephone equipment when the call is being set up but before the call is answered. Where available, caller ID can also provide a name associated with the calling telephone number.

- To force Caller ID to be blocked for an outbound call, dial #31# followed by the number you wish to dial.
- To force Caller ID to be unblocked for an outbound call, dial *31# then follow the dialling number.

Call Waiting

Call waiting allows for indication and answering of an incoming telephone whilst an existing call is underway.

- To disable call waiting, dial #43#, and hang up after you hear 2 high pitch beeps.
- To enable call waiting, dial *43#, and hang up after you hear 2 low pitch beeps.
- To check the status of Call Waiting, dial *#43# or view the advanced status page of the management console.
    - Call waiting is disabled if you hear 2 high pitch beeps.
    - Call waiting is enabled if you hear 2 low pitch beeps.

Call Forwarding

Call forwarding (or call diverting), is a feature that allows an incoming call to be redirected to another number depending on the circumstances at the time of receiving the call.

Please note: The Call Waiting feature will automatically turn off if you enable Call forwarding. Call Waiting will need to be enabled again after Call Forwarding is disabled.

Call Forwarding Unconditional

Call forwarding Unconditional will divert all incoming calls to a phone number that you desire.

To enable Call Forwarding Unconditional, dial *21*<Directory Number># (Where directory number is the number you wish to forward calls to) and hang up after you hear 2 low pitch beeps.

To disable Call Forwarding Unconditional, dial #21# and hang up after you hear 2 high pitch beeps.

To check the status of Call Forwarding Unconditional, dial *#21# or view the advanced status page of the management console.

- Call Forwarding Unconditional is disabled if you hear 2 high pitch beeps.
- Call Forwarding Unconditional is enabled if you hear 2 low pitch beeps.

Call Forwarding No Answer

Call forwarding No Answer will divert all incoming calls to a phone number that you desire only if the incoming call is not answered.

To enable Call Forwarding No Answer, dial *61*<Directory Number># (Where directory number is the number you wish to forward calls to) and hang up after you hear 2 low pitch beeps.

To disable Call Forwarding No Answer, dial #61# and hang up after you hear 2 high pitch beeps.

To check the status of Call Forwarding No Answer, dial *#61# or view the advanced status page of the management console.

- Call Forwarding No Answer is disabled if you hear 2 high pitch beeps.
- Call Forwarding No Answer is enabled if you hear 2 low pitch beeps.

Call Forwarding Busy

Call forwarding busy will divert all incoming calls to a phone number that you desire only if your telephone is busy on another call. To enable Call Forwarding Busy, dial *67*<Directory Number># (Where directory number is the number you wish to forward calls to) and hang up after you hear 2 low pitch beeps.

To disable Call Forwarding Busy, dial #67# and hang up after you hear 2 high pitch beeps.

To check the status of Call Forwarding Busy, dial *#67# or view the advanced status page of the management console.

- Call Forwarding Busy is disabled if you hear 2 high pitch beeps.
- Call Forwarding Busy is enabled if you hear 2 low pitch beeps.

Call Forwarding Not Reachable

Call forwarding busy will divert all incoming calls to a phone number that you desire only if your telephone is unreachable by the network.

To enable Call Forwarding Not Reachable dial *62*<Directory Number># (Where directory number is the number you wish to forward calls to) and hang up after you hear 2 low pitch beeps.

To disable Call Forwarding Not Reachable, dial #62#, and hang up after you hear 2 high pitch beeps.

To check the status of Call Forwarding Not Reachable, dial *#62# or view the advanced status page of the management console.

- Call Forwarding No Answer is disabled if you hear 2 high pitch beeps.
- Call Forwarding No Answer is enabled if you hear 2 low pitch beeps.

Conference Call

This can be achieved by performing a hook-flash and then by dialling the third party.

Wait for the third party to answer your call and then perform another hook-flash to conference all the parties together.

Please note: In order to activate a conference call, you will need to have originated both calls.

Troubleshooting

What do I do if I have no dial tone?
Please follow the procedure listed below:

1. Check to make sure the phone is plugged into your NetComm Wireless 3G38WV on either Line 1 port or Line 2 port.
2. Check to make sure you are using the correct cable (Cat-3 UTP Telephone Cable with RJ-11 plugs).
3. Check to make sure the line light on the front panel of the NetComm Wireless 3G38WV turns solid blue if you lift the handset. Check to make sure the blue signal indication light on the front of the NetComm Wireless 3G38WV is blinking.
4. Check to make sure your SIM card is activated inserting it into your NetComm Wireless 3G38WV properly.
5. Check and see if you get the dial tone after rebooting your NetComm Wireless 3G38WV.

I have noise interference during telephone calls. How can I fix this?
To resolve this issue, try the following:

- Verify that the RJ-11 cable is securely connected and not damaged.
- Try to remove any telephone splitters from the connection between your phone and the NetComm Wireless 3G38WV.
- Try rebooting your NetComm Wireless 3G38WV.

Technical Data

The following table lists the hardware specifications of the NetComm Wireless 3G38WV.

FEATURE	SPECIFICATION
UMTS bands	UMTS/HSPA+/HSUPA/HSDPA (850/1900MHz)
GSM bands	GSM/GPRS
Maximum Data Throughput / 3G Radio interface	Up to 21 Mbps downlink (HSDPA Cat 14) Up to 5.76 Mbps uplink (HSUPA Cat 6)
Connectivity	3G WWAN x 1, 10/100 Ethernet LAN x 1, 10/100 Ethernet WAN x 1, WLAN, RJ-11 x 2
Antenna connector	SMA (female connector)
LED Indicators	Power, 3G, WiFi, Internet/WAN, LAN, Voice
Operating Temperature	0 ~ 50 degrees Celsius (operating temperature)
Power input	12VDC – 1.5A
Dimensions & Weight	133 mm (L) x 137 mm (H) x 34 mm (W) 250 grams
Regulatory Compliancy	PTCRB FCC IC ROHS

Table 37 - Technical Specifications for the NetComm Wireless 3G38WV

Electrical Specifications

The NetComm Wireless 3G38WV should be powered only using the 12VDC/1.5A power supply which is included with the device.

Environmental Specifications / Tolerances

The NetComm Wireless 3G38WV is able to operate at temperatures from 0˚C ~ 50˚C (ambient).

FAQ

1. Does the NetComm Wireless 3G38WV require any configuration out of the box?

   No, the NetComm Wireless 3G38WV is plug and play device. Plug the device into an electrical outlet and once the status indicator lights are on, plug in your analogue phone and LAN cable for voice and data connectivity. For WiFi connectivity the SSID (Service Set Identifier) and network key (password) are located on the bottom of the device. If you would like to customize your settings you can enter 192.168.20.1 into your Web browser to access the Management Console and device settings.

2. I cannot seem to access the web page interface

   The default IP address of the unit is 192.168.20.1, so first try to open a web browser to this address. Also check that your laptop/ PC is on the same subnet as the router's Ethernet port i.e. The PC's assigned IP address is in the range of 192.168.20.x where x = 100 – 254.

3. The router was connected previously but now cannot get back online

   You may need to enable the periodic ping timer using the System Monitor Link from the Management Console. This ensures that if the connection drops (i.e. due to an outage on the network) the router will reboot after so many failed pings and then force a re-connect. Setting the timer to around 15 minutes should be sufficient.

Note: The traffic generated by the periodic ping feature is counted as chargeable usage, please keep this in mind when selecting how often to ping.

4. The router is rebooting frequently.

   Check the System Monitor link in the Administration menu on the management console and see if the Periodic Reset timeout is set to something other than 0. If it is set to 1 this means the unit will reboot every minute regardless of what happens. Reset the Periodic Reset timeout to 0 if you don't want to use this feature or to a value that is something quite large if you don't want the router to reboot so often.

5. The router has a connection but cannot access the internet.

   Check whether the DNS Proxy function is enabled by clicking on the LAN link on the configuration interface. Make sure that the DHCP Primary DNS server IP address is set to the same address as that of the Ethernet port.

6. I cannot seem to get a mobile broadband WAN connection.

   Click on the Internet Settings > WWAN link on the webpage interface and check that the correct APN settings are entered.
   - Check that the username and password credentials are correct if the APN in use requires these.
   - Make sure that Always On is selected for the Operation mode.
   - Check you have suitable mobile broadband signal strength and that your SIM is active and does not require a PIN code to be entered.

7. The SIM status indicates that the SIM is "not installed or reboot required" on the home page.

   If a SIM is installed correctly this may indicate that the SIM has been removed or inserted whilst the unit is powered up. In this case you must reboot the unit. The Reset button on the home page will reboot the router.

8. How can I see the data usage on my NetComm Wireless 3G38WV?

   You can check your current Usage statistics by clicking on the "Usage Monitor" link at the top of the Status Page in the Advanced View.

9. Can I make voice calls from the NetComm Wireless 3G38WV?

   Yes. By simply connecting a regular landline (analogue) telephone to the port labelled "Line 1" using the RJ-11 Cable provided. To activate the phone jacks in your home or office connect an RJ-11 Cable from the port labelled "Line 2" to any wall jack. When you lift the receiver you should hear a dial tone and then be able to place your call.

10. How do I see if I have a voicemail message waiting to be listened to?

    Voicemail is a feature of the network and your service, not a feature embedded in the NetComm Wireless 3G38WV device. If you have a voicemail message waiting you will hear an intermittent dial tone on your phone, and if your phone has a message waiting indicator light, it will be lit.

11. Is the NetComm Wireless 3G38WV secure; can other people access my wireless network?

    The NetComm Wireless 3G38WV comes configured with WPA-PSK WiFi security enabled. When access the Internet for the first time enter 192.168.20.1 into the address bar of a web browser. The wizard will pop up to help you configure your wireless devices (such as laptops and mobile phones) to connect with the WPA-PSK security setting (please see the Quick Start Guide for more information on connecting your data devices to the NetComm Wireless 3G38WV). Only those people you allow will be able to connect to the NetComm Wireless 3G38WV the router using the wireless security key, ensuring your connection is secure and safe.

12. Can I change the name and password of my wireless network?

    Yes. You can change your NetComm Wireless 3G38WV settings from the browser user interface by typing 192.168.20.1 into the address bar of your Web browser. You can change the SSID (Service Set Identifier or wireless network name), wireless security standard (WPA, WPA2, WEP) and your WiFi password.

13. How do I share my Internet connection, using the NetComm Wireless 3G38WV, with other users?

    Provide any users you want to share your WiFi Internet connection with, the SSID (Service Set Identifier) and WiFi network password for your NetComm Wireless 3G38WV router. Each user will need to select the NetComm Wireless 3G38WV SSID, on their WiFi enabled computer or device and enter the network password you provide.

14. What is the difference between upload and download speeds and why do they differ?

    Upload describes when data packets are sent (e.g. emails) from your computer and download describes when data packets are received via the Internet. For most people, downloading data for information retrieval (such as viewing a website) is the primary function of their internet connection so most Internet service Providers will assign a higher download bandwidth (equating to a higher speed) than that assigned for uploading data. The speeds at which upload and download operate depend on the way you use the Internet and the size of files you send and receive.

15. Do I need to attach an antenna on this device?

    Yes. Your NetComm Wireless 3G38WV comes equipped with an antenna; you will need to attach the 3G antenna to send and receive data using the 3G network broadcast signal.

16. I have lost the security card that came with the setup instructions. What can I do?

    If you have lost your security card, and forgotten the wireless security details (SSID and WiFi network password), there is a label stuck to the base of your NetComm Wireless 3G38WV with all your original security details. If the label is unreadable or has been removed, the WiFi network password can be viewed/reset by logging in to the Management Console using an Ethernet Cable connected to the LAN port of the NetComm Wireless 3G38WV.

17. I forgot my Management Console password. What can I do?

    If you have forgotten your Management Console password and cannot access the Web user interface, you will need to reset your NetComm Wireless 3G38WV back to default settings. To return your device to factory default settings press and hold the reset button on the back of your NetComm Wireless 3G38WV for 10-15 seconds. All the indicator lights on the unit will flash when your device is reset. After a factory reset, use the default WiFi settings (SSID and WPA key) to access the router via wireless. These settings can be found on the base of your NetComm Wireless 3G38WV. (Note - this will also reset any custom settings and passwords you may have already set up).

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Legal & Regulatory Information

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FCC Warning

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

IC Important Note

IC Radiation Exposure Statement:
This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter. The County Code Selection feature is disabled for products marketed in the US/Canada. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication. This device has been designed to operate with an antenna having a maximum gain of 4.3 dBi. The required antenna impedance is 50 ohms.

Contact

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