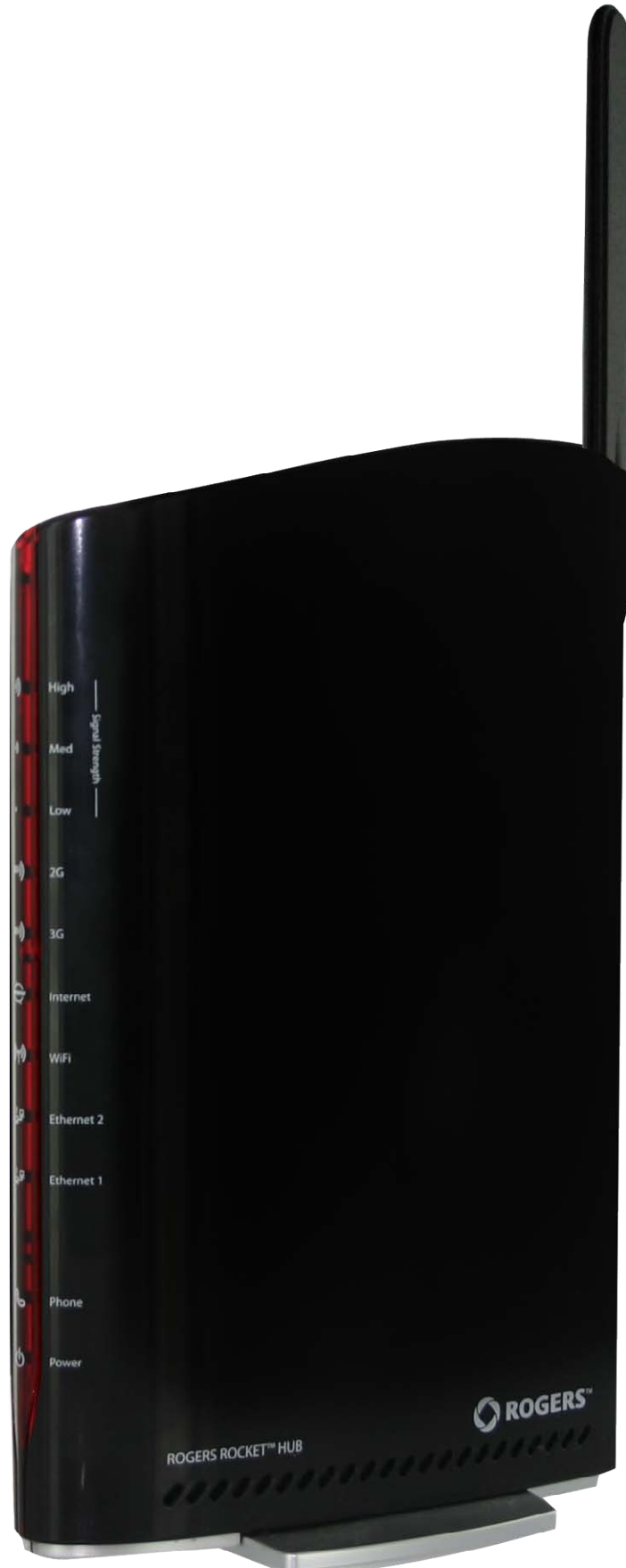


# HSPA+ WIFI ROUTER WITH VOICE

NETCOMM LIBERTY SERIES



*NetComm*

## Preface

The purpose of this manual is to provide you with detailed information on the installation, operation and application of your HSPA WiFi Router with Voice.

### Important Notice and Safety Precaution

- Before servicing or disassembling this equipment, always disconnect all power or telephone lines from the device.
- Use an appropriate power supply, preferably the supplied power adapter, with an output of DC 12V 1.5A
- Do not operate the device near flammable gas or fumes. Turn off the device when you are near a petrol station, fuel depot or chemical plant/depot. Operation of such equipment in potentially explosive atmospheres can represent a safety hazard.
- The device and antenna shall be used only with a minimum of 20cm from human body.
- The operation of this device may affect medical electronic devices, such as hearing aids and pacemakers
- The antennas must be connected to this product prior to connecting the telephone cord.
- The telephone cord must be disconnected prior to disconnecting the antennas.

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# INTRODUCTION

# Introduction

With the increasing popularity of the 3G standard worldwide, this HSPA WiFi Router with Voice provides you with triple-band coverage through expanding cellular networks throughout the world.

By following these simple step-by-step instructions, you can share your connection with multiple wireless and wired devices using the 3G network.

Integrating a Sierra Wireless HSPA module, this Router downloads at turbo speeds of up to 7.2Mbps.

This Router also provides state-of-the-art security features such as WiFi Protected Access (WPA) data encryption, Firewall and Virtual Private Networks (VPN) pass through.

## 1.1 Features

- This HSPA WiFi Router with Voice allows you to share your 3G connection with multiple wireless or wired devices
- Provides you with worldwide coverage through triple-band HSUPA/HSDPA/UMTS (850 / 1900 / 2100MHz), quad-band EDGE/GSM (850 / 900 / 1800 / 1900 MHz)
- Embedded multi-mode HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM module
- 1 x RJ11 port for voice calling over the 3G network via a connected standard Analogue Telephone (not included).
- Integrated 802.11g/54Mbps AP (backward compatible with 802.11b)
- WiFi Protected Access (WPA)/ WiFi Protected Access 2 (WPA2) and 802.1x wireless encryption
- Static route/ Routing Information Protocol (RIP)/RIP v2 routing functions
- Media Access Control (MAC) address and IP filtering
- Network Address Translation (NAT)/ Port Address Translation (PAT)
- Supports Universal Plug and Play (UPnP) and Internet Group Management Protocol (IGMP) snooping
- Supports Virtual Private Network (VPN) Pass-Through
- Dynamic Host Configuration Protocol (DHCP) Server/Relay/Client
- Domain Name System (DNS) Proxy and Dynamic Domain Name System (DDNS)
- Web-based Management
- Command Line Interface (CLI) command interface via Telnet
- Configuration backup and restoration
- Remote configuration
- Router and 3G module firmware upgrade
- Supports half-bridging mode
- Supports Simple Network Management Protocol (SNMP)

## 1.2 Package Contents

Your package contains the following:

- 3G10WVR2 – HSPA WiFi Router with Voice
- Printed Quick Start Guide
- Ethernet Cable
- Wireless Security Card
- 1 x 3G Antenna
- Power Supply
- Support CD

## 1.3 LED Indicators

The front panel LED indicators are shown in this illustration and followed by detailed explanations in the table below.

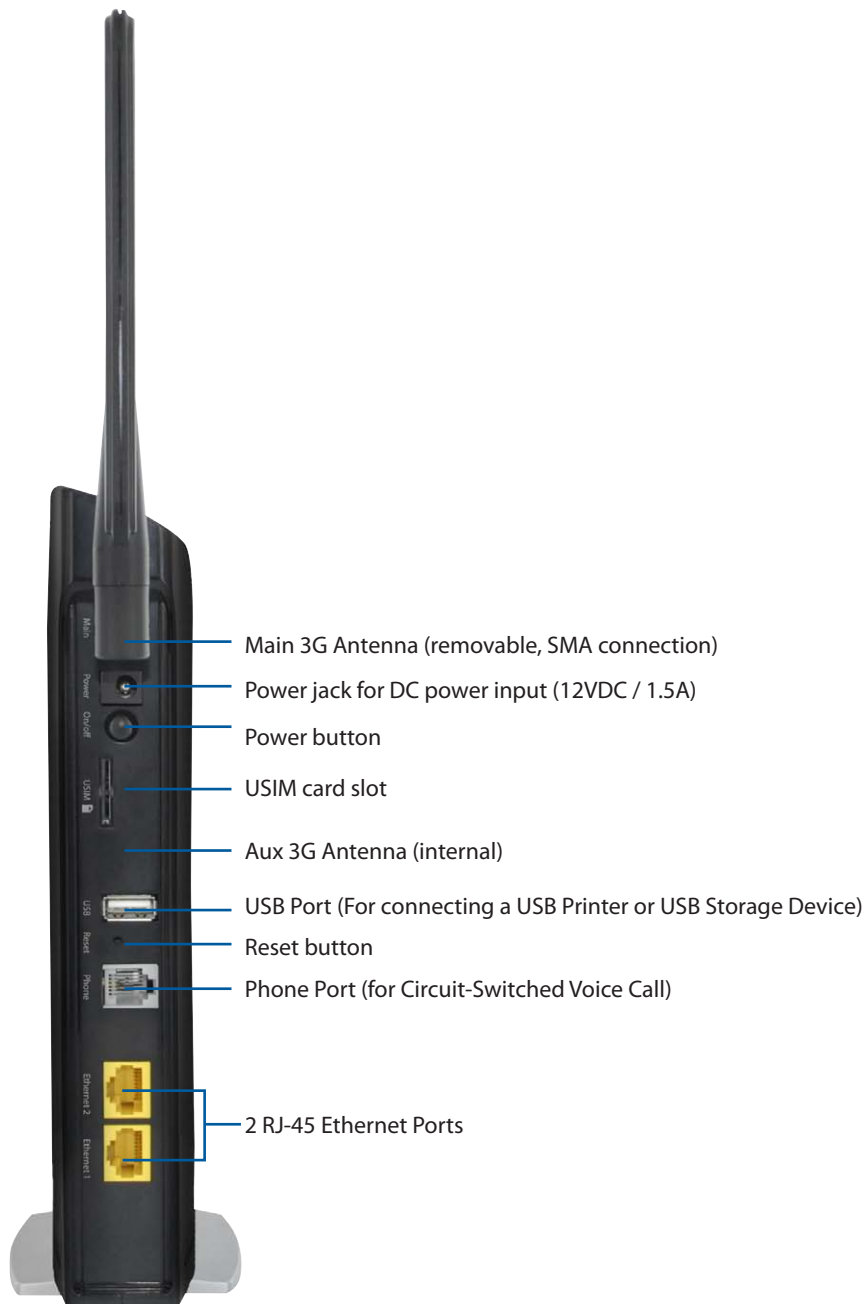


LED	COLOR	MODE	DESCRIPTION
POWER	Red	On	Power on
		Off	Power off
Phone	Red	On	Phone line active
		Off	Phone line inactive or not connected
		Flashing	New Voice mail
LAN 1~2	Red	On	Powered device connected to the associated port (includes devices with wake-on-LAN capability where a slight voltage is supplied to an Ethernet connection)
		Off	No activity, modem powered off, no cable or no powered device connected to the associated port
		Blink	LAN activity present (traffic in either direction)
WiFi	Red	On	The wireless module is ready.
		Off	The wireless module is not installed.
		Blink	Data being transmitted or received over WiFi.
Internet	Red	Blink	Data is transmitted through Internet connection
		Off	No connection to the internet or router powered off
		On	Internet connection established
3G	Red	On	Internet connection established.
		Blink	Connecting with UMTS cellular station
		Off	No connection with UMTS cellular station, no activity or router powered off.
2G	Red	On	Internet connection established.
		Blink	Connecting to an EDGE, GPRS or GSM cellular station
		Off	No connection with EDGE, GPRS or GSM cellular station, no activity or router powered off.
Low	Red	On	Low signal strength
		Off	No activity, router powered off or on other signal strength
Med	Red	On	Medium signal strength
		Off	No activity, router powered off or on other signal strength
High	Red	On	High signal strength
		Off	No activity, router powered off or on other signal strength

**NOTE:** The six LEDs on the right side of the front panel display (Internet, 3G, 2G, Low, Med, High) will cycle on and off if PIN code protection is activated. In this case, you should consult section 4.2.1 PIN Code Protection for further instructions.

## 1.4 Rear Panel

The rear panel contains the ports for data and power connections.



# QUICK SETUP



# Quick Setup

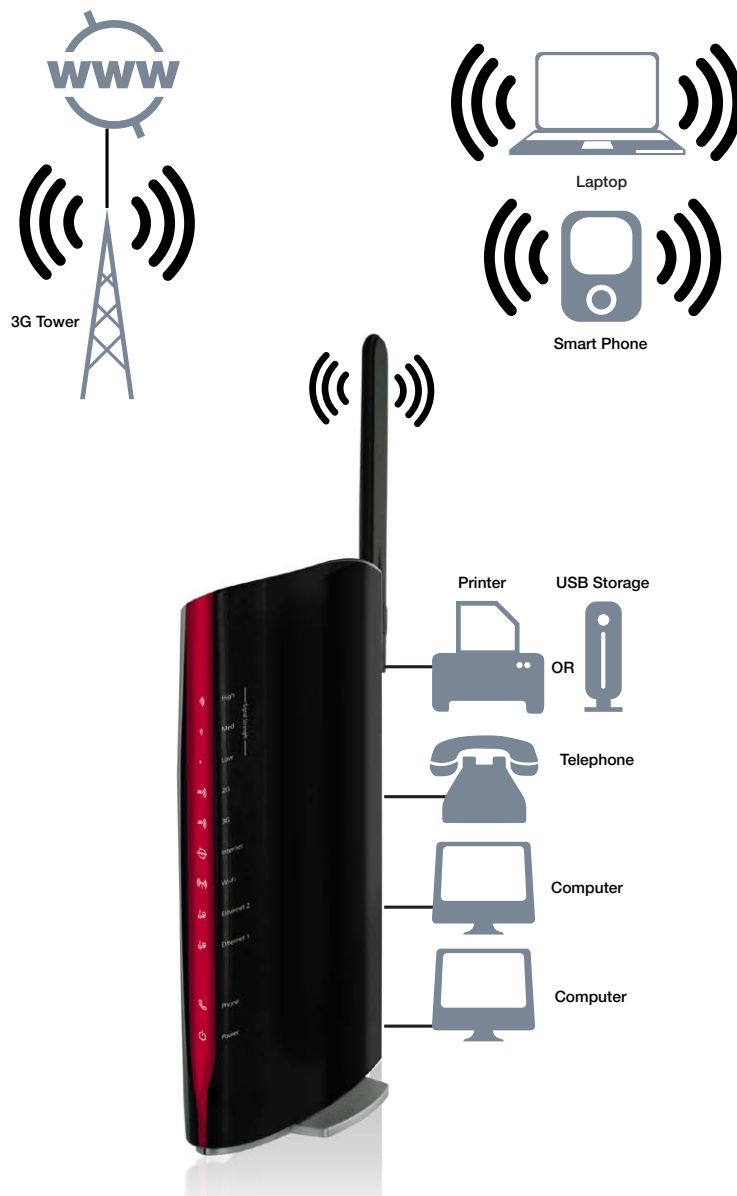
## 2.1 Setup Procedure

These steps explain how to quickly setup your 3G Router:

1. Attach the 3G antenna provided to the port marked Main on the back of the router. The antenna should be screwed in a clockwise direction.
2. Insert your SIM card (until you hear a click) into the USIM slot at the back of the Router.
3. Connect the yellow networking cable to one of the yellow ports found at the back of the Router.
4. Connect the other end of the yellow networking cable to the port on your computer.
5. If required, connect a standard Analogue Telephone to the port labeled "Phone" using an RJ-11 Cable (not included)
6. Connect the power adapter to the Power socket on the back of the Router.
7. Plug the power adapter into the wall socket and press the power button into the ON position (in).
8. Configure the router through the Web User Interface (WUI).

**NOTE:** Chapters 3 through 8 explain how to setup and use the WUI

9. Save the router configuration and reboot (see section 6.4).



# **WEB USER INTERFACE**

# Web User Interface

This section describes how to access the device via the web user interface using a web browser such as Microsoft Internet Explorer (version 6.0 or later).

## 3.1 Default Settings

The following are the default settings for the device.

- Local (LAN) access (username: admin, password: admin)
- Remote (WAN) access (username: support, password: support)
- User access (username: user, password: user)
- LAN IP address: 192.168.1.1
- Remote WAN access: disabled
- NAT and firewall: enabled
- Dynamic Host Configuration Protocol (DHCP) server on LAN interface: enabled

### Technical Note:

During power on, the device initializes all settings to default values. It will then read the configuration profile from the permanent storage section of flash memory. The default attributes are overwritten when identical attributes with different values are configured. The configuration profile in permanent storage can be created via the web user interface or telnet user interface, or other management protocols. The factory default configuration can be restored either by pushing the reset button for more than five seconds until the power indicates LED blinking or by clicking the Restore Default Configuration option in the Restore Default Settings screen.

## 3.2 TCP/IP Settings

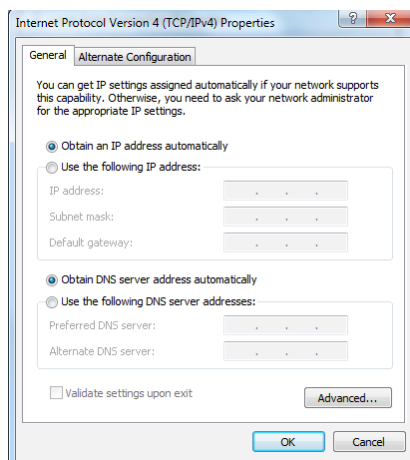
It is likely that your computer will automatically obtain an IP Address and join the network. This is because the Dynamic Host Configuration Protocol (DHCP) server (on the device) will start automatically when your Router powers up.

This automatic assignment requires that DHCP is configured on your computers. It is likely that this is already the case, but should you be required to configure this, please see the instructions below.

### Windows XP/Vista/7

#### DHCP Mode

To set your PC for DHCP mode, check the Internet Protocol properties of your Local Area Connection. You can set your PC to DHCP mode by selecting Obtain an IP address automatically in the dialog box shown below.

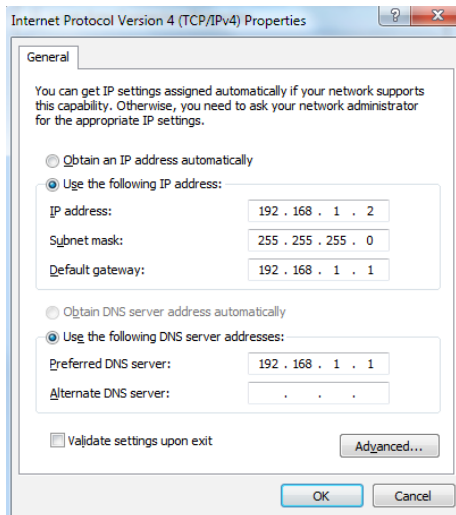


## STATIC IP Mode

To configure your Router manually, your PC must have a static IP address within the Router's subnet. The following steps show how to configure your PC IP address using subnet 192.168.1.x. The following assumes you are running Windows XP .

1. From the Network Connections window, open Local Area Connection (You may also access this screen by double-clicking the Local Area Connection icon on your taskbar). Click the Properties button.
2. Select Internet Protocol (TCP/IP) and click the Properties button. The screen should now display as below. Change the IP address to the domain of 192.168.1.x (1<x<254) with subnet mask of 255.255.255.0. Set the default router and DNS server to the router's IP address.

NOTE: The IP address of the router is 192.168.1.1 (default), so the PC must be set with a different IP. In the case below, the PC's IP address is set as 192.168.1.2

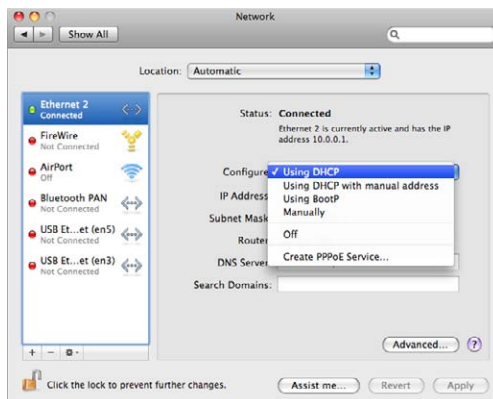


3. Click OK to submit the settings.

## MAC OSX 10.4

### DHCP Mode

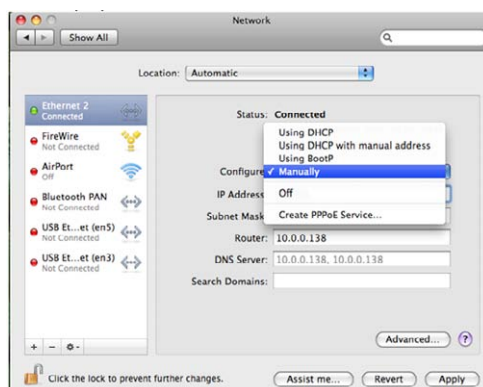
To set your Apple Mac for DHCP mode, browse to the Apple menu and select System Preferences. In the System Preferences menu, click on the Network icon and select Ethernet. Next select Using DHCP from the Configure drop down list. After clicking Apply, your Mac's IP Address will now be automatically assigned from the Gateway.



### STATIC Mode

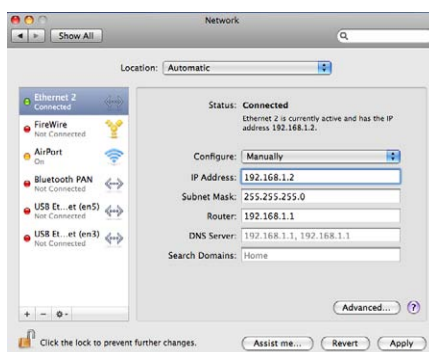
If you do not wish to use automatic assignment of IP Addresses and wish to configure your Router manually, your computer must have a static IP address within the Router's subnet. The following steps show how to configure your computer's IP address within the subnet 192.168.1.x

1. Browse to the Apple menu and select System Preferences. From the System Preferences, click the Network icon and select the Ethernet connection.
2. From the Configure drop down list, you can set your computer to Static IP mode by selecting the "Manually" option.



3. Choose an IP address between 192.168.1.2 – 192.168.1.254 (Do not choose the Router IP of 192.168.1.1). Enter this IP address into the field marked IP Address, and enter a Subnet Mask of 255.255.255.0
4. Set the Router and DNS server field to 192.168.1.1 (The Router's IP address).

**NOTE:** The IP address of the router is 192.168.1.1 (default), so the computer must be set with a different IP to the router. In the case below, the PC's IP address is set as 192.168.1.2



5. Click Apply to submit the settings.

## 3.3 Login Procedure

To login to the web interface, follow the steps below:

**NOTE:** The default settings can be found in 3.1 Default Settings.

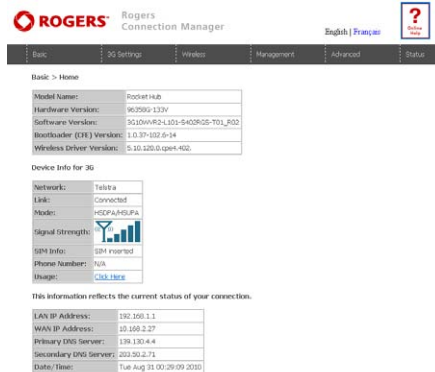
1. Open a web browser and enter the default IP address for the Router in the Web address field. In this case <http://192.168.1.1> .

**NOTE:** For local administration (i.e. LAN access), the PC running the browser must be attached to the Ethernet, and not necessarily to the device. For remote access, use the WAN IP address shown on the WUI Homepage screen and login with remote username and password.

2. Enter the default username and password, as defined in section 3.1 Default Settings. Click OK to continue.

**NOTE:** The login password can be changed later (see 6.4.2 Passwords)

3. After successfully logging in for the first time, you will reach this screen.



## 3.4 Web User Interface Homepage

The web user interface (WUI) is divided into two window panels, the main menu (on the top) and the display screen (on the bottom). The main menu has the following options: Basic, 3G Settings, Wireless, Management, Advanced, and Status.

Selecting one of these options will open a submenu with more options. Basic is discussed below while subsequent chapters introduce the other main menu selections.

**NOTE:** The menu options available within the web user interface are based upon the device configuration and user privileges (i.e. local or remote).

### BASIC / HOME

The Basic / Home screen is the WUI homepage and the first selection on the main menu. It provides information regarding the firmware, 3G, and IP configuration.

The following table provides further details

FIELDS	DESCRIPTION
Software version	The software version of the device.
Hardware version	The Hardware version of the device
Bootloader version	The bootloader version of the device.
Wireless driver version	The wireless driver version of the wireless module.
Network	The name of or other reference to the mobile network operator.
Link	Shows the connection status of the current 3G connection.
Mode	The radio access technique currently used to enable internet access. It can be HSPA, HSDPA, UMTS, EDGE, GPRS or Disconnected.
Signal strength	The mobile network (UMTS or GSM) signal quality available at the device location. This signal quality affects the performance of the unit. If two or more bars are green, the connection is usually acceptable.
SIM info	Shows the SIM card status on the device.
LAN IP Address	Shows the IP address for LAN interface.
WAN IP Address	Shows the IP address for WAN interface.
Default Gateway	Shows the IP address of the default gateway for the WAN interface.
Primary DNS Server	Shows the IP address of the primary DNS server.
Secondary DNS Server	Shows the IP address of the secondary DNS server.
Date/Time	The time according to the device's internal clock
Online Help	Click this Icon for Online User Guide

# 3G SETTINGS

## 3G Settings

### 4.1 3G Service Setup

Select your 3G service settings according to predefined or custom profiles. Setup instructions are provided in the following sections for your assistance.

#### 4.1.1 3G Settings

This menu includes 3G service Setup and PIN Configuration.

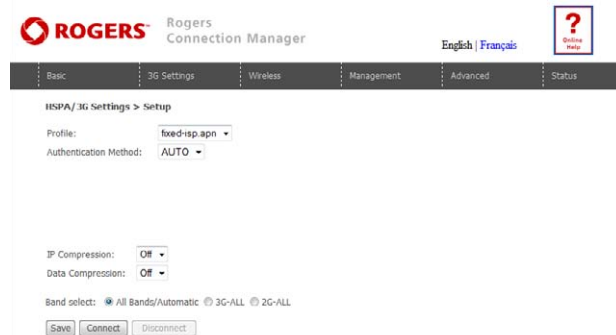
**NOTE:** Sections 8.3 and 8.4.2 also provide information about the 3G service.



#### 4.1.2 Profile Setup

Your Service Provider will provide the information required to complete the first time setup instructions below. This includes profile, username and password. Only complete those steps for which you have information and skip the others.

1. If your SIM card is not inserted into the Router, then do so now.
2. Type the APN in the APN field. Authentication Method should be provided by your Internet service provider; or just leave it to AUTO if not acquired. If you have not received the username and password, leave these fields empty.



3. Select IP compression and Data compression to be ON or Off. By default they are set to off.
4. Click the Save button to save the new settings.
5. Press the Connect button to reboot the router and to connect to Internet. After reboot, the Device Info for 3G network box in the WUI Basic screen should indicate an active connection, as shown below. The 3G and Internet LEDs on the front panel of the Router should also be blinking. If the LEDs are off, then either your profile settings are incorrect, the SIM card is not working or the service network is unavailable. In either case, contact Technical Support for further instructions.

**NOTE:** If the LEDs light in an on/off pattern moving from left to right this indicates that your SIM is PIN Locked, please see PIN Lock Off on page 17 for instruction on how to fix this



## 4.2 PIN Configuration

This screen allows for changes to the 3G SIM card PIN code protection settings.

**NOTE:** If you have entered the incorrect PIN 3 times, your SIM card will be locked for your security. Please call your 3G Provider for assistance.

### 4.2.1 PIN Code Protection

PIN code protection prevents the use of a SIM card by unauthorized persons. To use the 3G internet service with this router however, the PIN code protection must be disabled. If the SIM card inserted into the Router is locked with a PIN code, the web user interface will display the following screen after login.

**ROGERS** Rogers Connection Manager English | Français

3G Settings > PIN Configuration

PIN Configuration allows you to enable/disable the PIN code or change the PIN Code on the SIM card. To enable/disable the PIN code, please select Change PIN Code Protection. To change the PIN code please select PIN Code Change. The original PIN code is required to be input.

Change PIN Code Protection

Enable PIN Lock

PIN Code:

Confirm PIN Code:

Remember PIN code: No

Times remaining: 1

PIN Code Change

Old PIN Code:

New PIN Code:

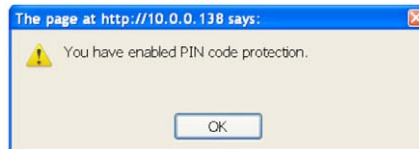
Confirm PIN Code:

Times remaining:

Apply

#### PIN Lock Off

If you wish to connect to the Internet using a PIN locked SIM card, you must first turn PIN code protection Off. Select PIN lock Off, enter the PIN Code twice. Please keep in mind you only have 3 attempts before your SIM card is locked. The remaining attempts' number shows how many attempts left. Contact Your 3G Carrier your 3G Carrier if you require assistance. You can select Remember PIN Code to ON so you don't need to input the PIN code every time when the router turns on. Afterwards, click Apply. The following dialog box should now appear.



#### PIN Lock On

After you are finished using your SIM card for Internet service, you may wish to lock it again. In this case, first go to the 3G Settings - PIN Configuration screen, as shown below. Select PIN lock ON, enter the PIN code twice. You can select Remember PIN code to Yes so you don't need to input the PIN code every time when the router turns on.

**ROGERS** Rogers Connection Manager English | Français

3G Settings > PIN Configuration

PIN Configuration allows you to enable/disable the PIN code or change the PIN Code on the SIM card. To enable/disable the PIN code, please select Change PIN Code Protection. To change the PIN code please select PIN Code Change. The original PIN code is required to be input.

Change PIN Code Protection

Enable PIN Lock

PIN Code:

Confirm PIN Code:

Remember PIN code: No

Times remaining: 1

PIN Code Change

Old PIN Code:

New PIN Code:

Confirm PIN Code:

Times remaining:

Apply

After you do so, the following dialog box should appear.

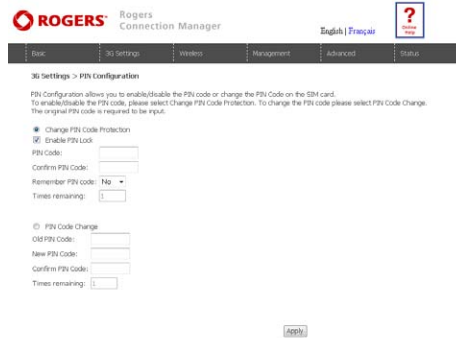


You can now return your SIM card to your cellular phone or other mobile device.

## 4.2.2 PIN Code Change

If you wish to change your PIN code for greater security, enable the PIN Code protection. Go to the previous section and follow the procedure listed under PIN Lock On.

After locking the SIM card, select PIN Code Change and enter your Old and New PIN codes in the fields provided. Keep in mind you only have 3 attempts before your SIM card is locked. The remaining attempts' number shows how many attempts left. Contact Your 3G Carrier if you require assistance. Afterwards, click Apply to activate the change.



The screenshot shows the Rogers Connection Manager interface. At the top, there is a navigation bar with tabs for Home, 3G Settings, Wireless, Management, Advanced, and Status. The '3G Settings' tab is selected, and the 'PIN Configuration' section is active. The page title is '3G Settings > PIN Configuration'. Below the title, there is a brief explanation of PIN Configuration and instructions on how to enable it or change the PIN code. There are two main sections: 'Change PIN Code Protection' and 'PIN Code Change'. The 'Change PIN Code Protection' section has a radio button for 'Enable PIN Lock' which is selected, followed by fields for 'PIN Code', 'Confirm PIN Code', 'Remember PIN code' (set to 'No'), and 'Times remaining' (set to '3'). The 'PIN Code Change' section has radio buttons for 'PIN Code Change', followed by fields for 'Old PIN Code', 'New PIN Code', 'Confirm PIN Code', and 'Times remaining' (set to '3'). An 'Apply' button is located at the bottom of the form.

**NOTE:** If you forget to change the PIN Code without first turning on PIN lock protection, you will see this dialog box as a helpful reminder.



**NOTE:** If your PIN Code change request was successful the following dialog box will display.

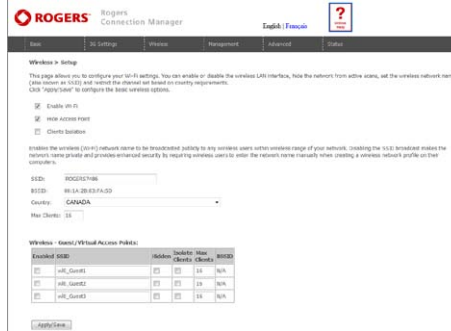


**WIRELESS**

# Wireless

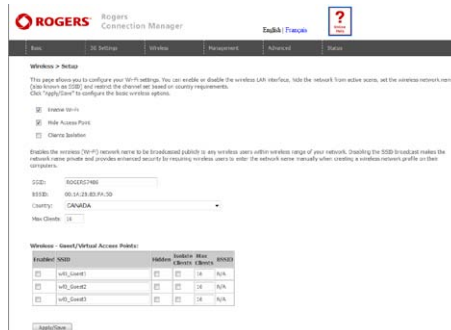
The Wireless submenu provides access to Wireless Local Area Network (WLAN) configuration settings including:

- Wireless network name
- Channel restrictions (based on country)
- Security
- Access point or bridging behaviour
- Station information



## 5.1 Setup

This screen allows you to configure basic features of the wireless LAN interface. You can enable or disable the wireless LAN interface, hide the network from active scans, set the wireless network name (also known as SSID) and restrict the channel set based on country requirements. The Wireless Guest Network function adds extra networking security when connecting to remote hosts.



OPTION	DESCRIPTION
Enable Wireless	A checkbox that enables (default) or disables the wireless LAN interface. When selected, the Web UI displays Hide Access point, SSID, BSSID and Country settings.
Hide Access Point	Select Hide Access Point to protect the access point from detection by wireless active scans. To check AP status in Windows XP, open Network Connections from the start Menu and select View Available Network Connections. If the access point is hidden, it will not be listed there. To connect a client to a hidden access point, the station must add the access point manually to its wireless configuration.
SSID [1-32 characters]	Sets the wireless network name. SSID stands for Service Set Identifier. All stations must be configured with the correct SSID to access the WLAN. If the SSID does not match, that user will not be granted access.
BSSID	The BSSID is a 48bit identity used to identify a particular BSS (Basic Service Set) within an area. In Infrastructure BSS networks, the BSSID is the MAC (Media Access Control) address of the AP (Access Point) and in Independent BSS or ad hoc networks, the BSSID is generated randomly.
Country	A drop-down menu that permits worldwide and specific national settings.
Wireless Guest	The Guest SSID (Virtual Access Point) can be enabled by selecting the Enable Wireless Guest
Network checkbox	Rename the Wireless Guest Network as you wish.
Clients Isolation	Prevent wireless clients from communicating with each other

NOTE: wireless hosts cannot scan Guest SSIDs.

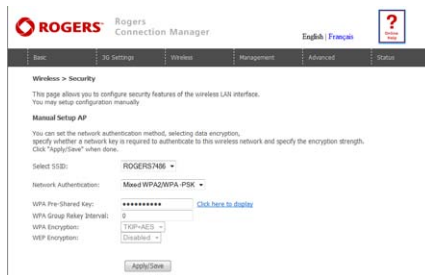
## 5.2 Security

This Router includes a number of security options that provides you with a secure connection to your wireless network. State-of-the art security includes:

- WEP / WPA / WPA2 data encryption
- SPI Firewall
- VPN Pass-Through
- MAC address IP filtering
- Authentication protocols – PAP / CHAP

You can authenticate or encrypt your service on the Wired Equivalent Privacy (WEP) algorithm, which provides protection against unauthorized access such as eavesdropping.

The following screen appears when Security is selected. The Security page allows you to configure security features of your Router's wireless LAN interface. You can set the network authentication method, select data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength.



Click Save/Apply to configure the wireless security options.

OPTION	DESCRIPTION
Select SSID	Your Service Set Identifier (SSID), sets your Wireless Network Name. You can connect multiple devices including Laptops, Desktop PCs and PDAs to your Wireless Router. To get additional devices connected, scan for a network, and locate the SSID shown on your Wireless Security Card. If the SSID does not match, access is denied.
Network Authentication	<p>This option is used for authentication to the wireless network. Each authentication type has its own settings as illustrated below. For example, selecting 802.1X authentication will reveal the RADIUS Server IP address, Port and Key fields. WEP Encryption will also be enabled.</p> <p>The first screenshot shows 802.1X authentication with fields for WPA Encryption (Enabled), Encryption Strength (64-bit), Current Network Key (1), and Network Key 1 through 4.</p> <p>The second screenshot shows WPA authentication with fields for WPA Group Policy Interval (2), RADIUS Server IP Address (0.0.0.0), RADIUS Port (1812), RADIUS Key (*****), WPA Encryption (TKIP), and WEP Encryption (Disabled).</p> <p>The third screenshot shows WPA-PSK authentication with fields for WPA Pre-Shared Key (*****), WPA Group Policy Interval (2), WPA Encryption (TKIP), and WEP Encryption (Disabled).</p>

The settings for WPA authentication are shown below.

OPTION	DESCRIPTION
WEP Encryption	This option indicates whether data sent over the network is encrypted. The same network key is used for data encryption and network authentication. Whilst four network keys can be defined, only one can be used at any one time. Use the network key found in the drop down list.
Encryption Strength	This drop-down list box will display when WEP Encryption is enabled. The key strength is proportional to the number of binary bits comprising the key. This means that keys with a greater number of bits have a greater degree encrypted data, of security and are considerably more difficult to crack. Encryption strength can be set to either 64-bit or 128-bit. A 64-bit key is equivalent to 5 ASCII characters or 10 hexadecimal numbers. A 128-bitkey contains 13 ASCII characters or 26 hexadecimal numbers. FYI: Each key contains a 24-bit header (an initiation vector) which enables parallel decoding of multiple streams of encrypted data.

## 5.3 Configuration

The amount of time between beacon transmissions is in milliseconds.

- Select the channel which you wish to operate from
- Force the transmission rate to a particular speed
- Set the fragmentation threshold
- Set the RTS threshold
- Set the wake-up interval for clients in power-save mode
- Set the beacon interval for the access point
- Set Xpress mode
- Program short or long preambles

Click Save/Apply to set the advanced wireless configuration.

**ROGERS** Rogers Connection Manager English Français ? Online Help

Basic 3G Settings Wireless Management Advanced Status

**Wireless > Configuration**

This page allows you to configure advanced features of the wireless LAN interface. You can select a particular channel on which to operate, force the transmission rate to a particular speed, set the fragmentation threshold, set the RTS threshold, set the wakeup interval for clients in power-save mode, set the beacon interval for the access point, set XPress mode and set whether short or long preambles are used. Click "Apply/Save" to configure the advanced wireless options.

Band: 2.4GHz  
 Channel: Auto Current: 11  
 Auto Channel Timer(min): 0  
 54g™ Rate: Auto  
 Multicast Rate: Auto  
 Basic Rate: Default  
 Fragmentation Threshold: 2316  
 RTS Threshold: 2347  
 DTIM Interval: 1  
 Beacon Interval: 100  
 Global Max Clients: 16  
 XPress™ Technology: Disabled  
 54g™ Mode: 54g Auto  
 54g™ Protection: Auto  
 Preamble Type: long  
 Transmit Power: 100%

Apply/Save

OPTION	DESCRIPTION
Band	The new amendment allows IEEE 802.11g units to fall back to speeds of 11 Mbps, so IEEE 802.11b and IEEE 802.11g devices can coexist in the same network.
Channel	Allows selection of a specific channel (1-11) or Auto mode.
Auto Channel Timer (min)	The Auto Channel times the length it takes to scan in minutes.
54g Rate	In Auto (default) mode, your Router uses the maximum data rate and lowers the data rate dependent on the signal strength. The appropriate setting is dependent on signal strength. Other rates are discrete values between 1 to 54Mbps.
Multicast Rate	Setting for multicast packet transmission rate. (1-54 Mbps)
Basic Rate	Sets basic transmission rate.
Fragmentation Threshold	A threshold (in bytes) determines whether packets will be fragmented and at what size. Packets that exceed the fragmentation threshold of an 802.11 WLAN will be split into smaller units suitable for the circuit size. Packets smaller than the specified fragmentation threshold value however are not fragmented. Values between 256 and 2346 can be entered but should remain at a default setting of 2346. Setting the Fragmentation Threshold too low may result in poor performance.
RTS Threshold	Request To Send (RTS) specifies the packet size that exceeds the specified RTS threshold, which then triggers the RTS/CTS mechanism. Smaller packets are sent without using RTS/CTS. The default setting of 2347 (max length) will disable the RTS Threshold.
DTIM Interval	Delivery Traffic Indication Message (DTIM) is also known as Beacon Rate. The entry range is a value between 1 and 65535. A DTIM is a countdown variable that informs clients of the next window for listening to broadcast and multicast messages. When the AP has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. AP Clients hear the beacons and awaken to receive the broadcast and multicast messages. The default is 1.
Beacon Interval	The amount of time between beacon transmissions in is milliseconds. The default is 100 ms and the acceptable range is 1 – 65535. The beacon transmissions identify the presence of an access point. By default, network devices passively scan all RF channels listening for beacons coming from access points. Before a station enters power save mode, the station needs the beacon interval to know when to wake up to receive the beacon.
Xpress™ Technology	Broadcom's Xpress™ Technology is compliant with draft specifications of two planned wireless industry standards. It has been designed to improve wireless network efficiency. Disabled by default.
54g Mode	Select Auto mode for greatest compatibility. Select Performance mode for the fastest performance among 54g certified equipment. Select LRS mode if you are experiencing difficulty with legacy 802.11b equipment. If this does not work, you may also try 802.11b only mode.
54g Protection	In Auto mode, the router will use RTS/CTS to improve 802.11g performance in mixed 802.11g/802.11b networks. Turning protection Off will maximize 802.11g throughput under most conditions.
Preamble Type	Short preamble is intended for applications where maximum throughput is desired but it does not work with legacy equipment. Long preamble works with the current 1 and 2 Mbit/s DSSS specification as described in IEEE Std 802.11-1999
Transmit Power	Set the power output (by percentage) as desired.

## 5.4 MAC Filter

This screen appears when Media Access Control (MAC) Filter is selected. This option allows access to be restricted based upon the unique 48-bit MAC address.

To add a MAC Address filter, click the Add button shown below.

To delete a filter, select it from the table below and click the Remove button.

OPTION	DESCRIPTION
MAC Restrict Mode	Disabled – Disables MAC filtering
	Allow – Permits access for the specified MAC addresses.  <b>NOTE:</b> Add a wireless device's MAC address before clicking the Allow radio button or else you will need to connect to the Router's web user interface using the supplied yellow Ethernet cable and add the wireless device's MAC address.
	Deny – Rejects access for the specified MAC addresses
MAC Address	Lists the MAC addresses subject to the MAC Restrict Mode. The Add button prompts an entry field that requires you type in a MAC address in a two-character, 6-byte convention: xx:xx:xx:xx:xx:xx where xx are hexadecimal numbers. A maximum of 60 MAC addresses can be added.

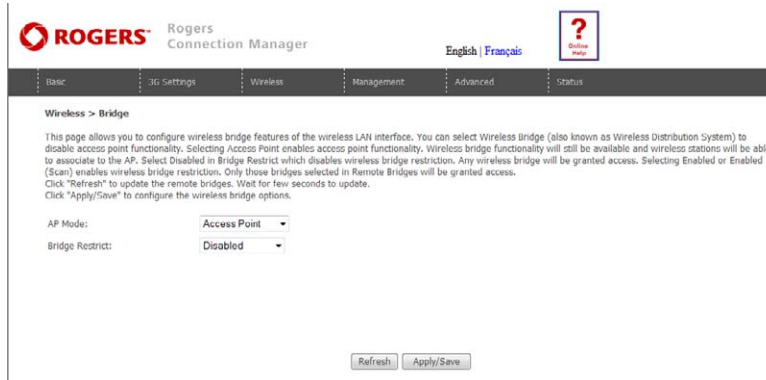
Enter the MAC address on the screen below and click Save/Apply.



## 5.5 Wireless Bridge

The following screen appears when selecting Wireless Bridge, and goes into a detailed explanation of how to configure wireless bridge features of the wireless LAN interface.

Click Save/Apply to implement new configuration settings.

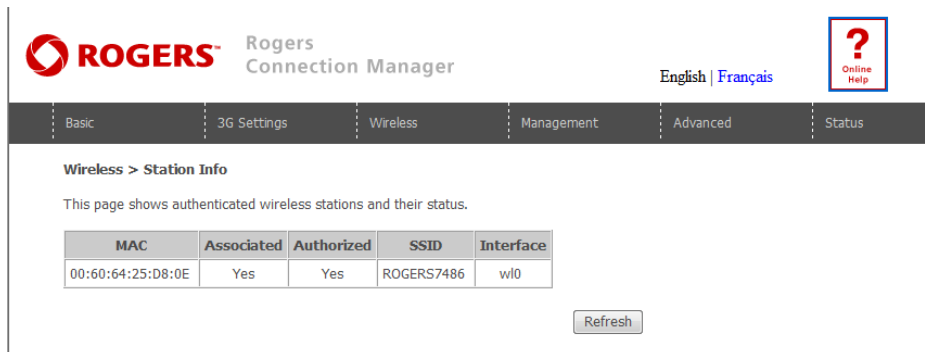


FEATURE	DESCRIPTION
AP Mode	Selecting Wireless Bridge (Wireless Distribution System) disables Access Point (AP functionality) while selecting Access Point enables AP functionality. In Access Point mode, wireless bridge functionality will still be available and wireless stations will be able to associate to the AP.
Bridge Restrict	Selecting Disabled in Bridge Restrict disables Wireless Bridge restriction, which means that any wireless bridge will be granted access. Selecting Enabled or Enabled (Scan) allows wireless bridge restriction. Only those bridges selected in Remote Bridges will be granted access. Click Refresh to update the station list when Bridge Restrict is enabled.

## 5.6 Station Info

The following screen appears when you select Station Info, and shows authenticated wireless stations and their status.

Click the Refresh button to update the list of stations in the WLAN.



OPTION	DESCRIPTION
Associated	Lists all the stations that are associated with the Access Point, along with the amount of time since packets were transferred to and from each station. If a station is idle for too long, it is removed from this list.
Authorized	Lists those devices with authorized access.

# MANAGEMENT

# Management

The Management menu has the following maintenance functions and processes:

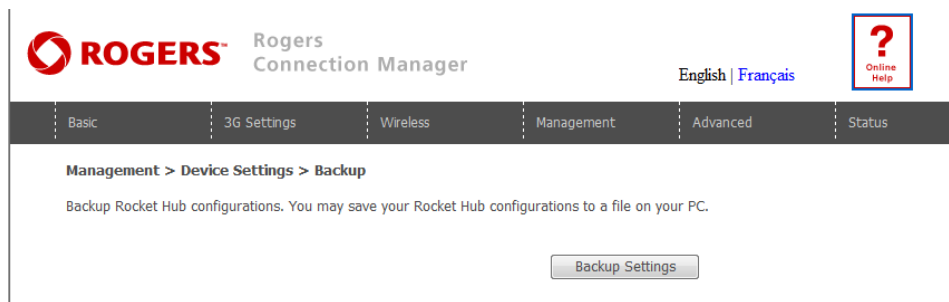
- Device Settings
- Simple Network Management Protocol (SNMP)
- Simple Network Time Protocol (SNTP)
- Access Control
- Save and Reboot

## 6.1 Device Settings

The Device Settings screens allow you to backup, retrieve and restore the default settings of your Router. It also provides a function for you to update your Routers firmware.

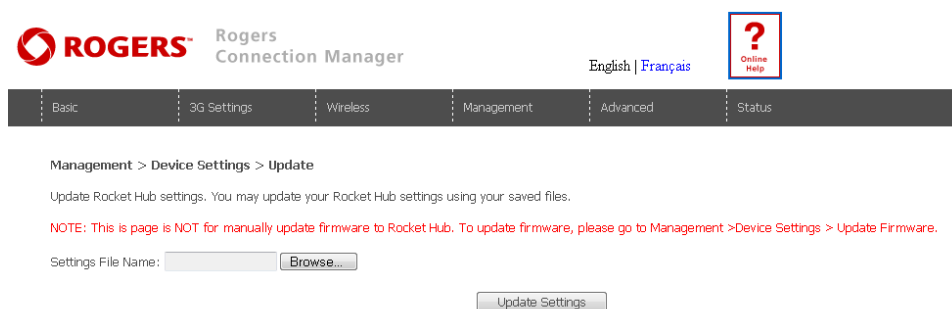
### 6.1.1 Backup Settings

The following screen appears when Backup is selected. Click the Backup Settings button to save the current configuration settings. You will be prompted to define the location of a backup file to save to your PC.



### 6.1.2 Update Settings

The following screen appears when selecting Update from the submenu. By clicking on the Browse button, you can locate a previously saved filename as the configuration backup file. Click on the Update settings to load it.



## 6.1.3 Restore Default

The following screen appears when selecting Restore Default. By clicking on the Restore Default Settings button, you can restore your Routers default firmware settings. To restore system settings, reboot your Router.



**NOTE:** The default settings can be found in section 3.1 Default Settings.

Once you have selected the Restore Default Settings button, the following screen will appear. Close the window and wait 2 minutes before reopening your browser. If required, reconfigure your PCs IP address to match your new configuration(see section 3.2 TCP/IP Settings for details).

After a successful reboot, the browser will return to the Device Info screen. If the browser does not refresh to the default screen, close and restart the browser.

**NOTE:** The Restore Default function has the same effect as the reset button. The device board hardware and the boot loader support the reset to default button. If the reset button is continuously pushed for more than 5 seconds (and not more than 12 seconds), the boot loader will erase the configuration settings saved on flash memory.

## 6.1.4 Update Firmware

The following screen appears when selecting Update Firmware. By following this screens steps, you can update your Routers firmware. Manual device upgrades from a locally stored file can also be performed using the following screen.

1. Obtain an updated software image file
2. Enter the path and filename of the firmware image file in the Software File Name field or click the Browse button to locate the image file.
3. Click the Update Software button once to upload and install the file.

**NOTE:** The update process will take about 2 minutes to complete. The Router will reboot and the browser window will refresh to the default screen upon successful installation.

It is recommended that you compare the Software Version at the top of the Basic screen (WUI homepage) with the firmware version installed, to confirm the installation was successful.



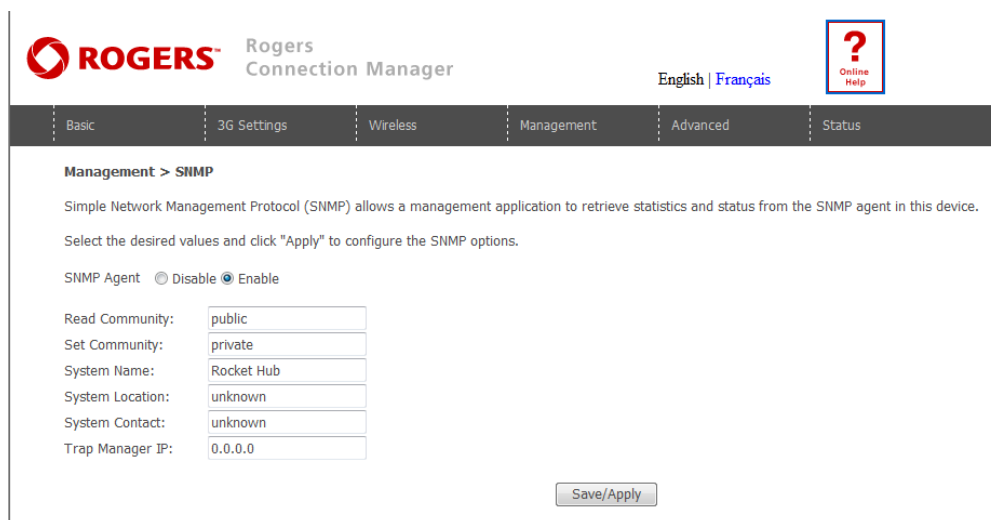
## 6.2 Configure SNMP agent on 3G10WVR2

The Simple Network Management Protocol (SNMP) allows a network administrator to monitor a network by retrieving settings on remote network devices. To do this, the administrator typically runs an SNMP management station program such as MIB browser on a local host to obtain information from the SNMP agent, in this case the 3G10WVR2 (if SNMP enabled). An SNMP 'community' performs the function of authenticating SNMP traffic. A 'community name' acts as a password that is typically shared among SNMP agents and managers.

By default, SNMP agent is enabled on the router.

### Setting up SNMP agent

1. Open a web browser (IE/firefox/Safari), type in LAN address of the router (http://192.168.1.1 by default) to log into the web interface.
2. The login username and password by default is admin/admin.
3. Go to Management> SNMP
4. Enable SNMP agent and set up all options according to the description form below.



The screenshot shows the Rogers Connection Manager web interface. At the top, there is a navigation bar with tabs for Basic, 3G Settings, Wireless, Management, Advanced, and Status. The 'Management' tab is selected, and the sub-page is titled 'Management > SNMP'. Below the title, there is a brief description of SNMP and instructions to select values and click 'Apply'. The 'SNMP Agent' is currently set to 'Enable'. Below this, there are several input fields: 'Read Community' (public), 'Set Community' (private), 'System Name' (Rocket Hub), 'System Location' (unknown), 'System Contact' (unknown), and 'Trap Manager IP' (0.0.0.0). A 'Save/Apply' button is located at the bottom right of the form.

5. Press Save/Apply to activate setting.

## 6.3 Simple Network Time Protocol (SNTP)

This screen allows you to configure the time settings of your Router. To automatically synchronize with Internet timeservers, tick the box as illustrated below.

The following options should now appear (see screenshot below):

First NTP timeserver:	Select the required server.
Second NTP timeserver:	Select second timeserver, if required.
Time zone offset:	Select the local time zone.

Configure these options and then click Save/Apply to activate.

**NOTE:** SNTP must be activated to use Parental Control (section 7.3.2).

## 6.4 Access Control

The Access Control option found in the Management drop down menu, configures access related parameters in the following areas:

- Services
- Passwords

Access Control is used to control remote management settings for your Router.

The screenshot shows the Rogers Connection Manager web interface. The navigation menu includes Basic, 3G Settings, Wireless, Management, Advanced, and Status. The current page is Management > Access Control > Services. A note states: "A Service Control List ("SCL") enables or disables services from being used. The following ports are not recommended for HTTP remote management in case conflict with them for other management purpose in some particular case (21, 2121, 22, 2222, 23, 2323, 69, 6969, 161, 16116)". Below this is a table with columns 'Services' and 'WAN'. The table lists FTP, HTTP, ICMP, SNMP, SSH, TELNET, and TFTP, each with a checkbox and the word 'Enable'. The HTTP row has a text input field containing '80' followed by 'port'. A 'Save/Apply' button is located below the table.

Services	WAN
FTP	<input checked="" type="checkbox"/> Enable
HTTP	<input checked="" type="checkbox"/> Enable <input type="text" value="80"/> port
ICMP	<input checked="" type="checkbox"/> Enable
SNMP	<input checked="" type="checkbox"/> Enable
SSH	<input checked="" type="checkbox"/> Enable
TELNET	<input checked="" type="checkbox"/> Enable
TFTP	<input checked="" type="checkbox"/> Enable

Save/Apply

### 6.4.1 Services

The Service Control List (SCL) allows you to enable or disable your Wide Area Network (WAN) services by ticking the checkbox as illustrated below. These access services are available: FTP, HTTP, ICMP, SNMP, SSH, TELNET, and TFTP. Click Save/Apply to continue.

This screenshot is identical to the one above, showing the Rogers Connection Manager web interface with the Services configuration page. The table shows all services (FTP, HTTP, ICMP, SNMP, SSH, TELNET, TFTP) with their checkboxes checked and the word 'Enable' next to them. The HTTP row includes a text input field with '80' and 'port'.

Services	WAN
FTP	<input checked="" type="checkbox"/> Enable
HTTP	<input checked="" type="checkbox"/> Enable <input type="text" value="80"/> port
ICMP	<input checked="" type="checkbox"/> Enable
SNMP	<input checked="" type="checkbox"/> Enable
SSH	<input checked="" type="checkbox"/> Enable
TELNET	<input checked="" type="checkbox"/> Enable
TFTP	<input checked="" type="checkbox"/> Enable

Save/Apply

## 6.4.2 Passwords

The Passwords option configures your account access password for your Router. Access to the device is limited to the following three user accounts:

- admin is to be used for local unrestricted access control
- support is to be used for remote maintenance of the device
- user is to be used to view information and update device firmware

Use the fields illustrated in the screen below to change or create your password. Passwords must be 16 characters or less with no spaces. Click Save/Apply to continue.

The screenshot shows the Rogers Connection Manager web interface. The page title is "Management > Access Control > Passwords". The breadcrumb navigation is "Basic > 3G Settings > Wireless > Management > Advanced > Status". The page content includes the following text: "Access to your Rocket Hub is controlled through three user accounts: admin, support, and user. The user name 'admin' has unrestricted access to change and view configuration of your RocketTM Hub. The password is admin (lower case) by default. The user name 'support' is used to allow an ISP technician to access your Rocket Hub for maintenance and to run diagnostics. The user name 'user' is to be used for restricted view to the Basic and Status information. The password is user (lower case) by default. Use the fields below to enter up to 16 characters and click 'Apply/Save' to change or create passwords. Note: Password cannot contain a space." Below the text are four input fields: "Username:" (a dropdown menu), "Old Password:", "New Password:", and "Confirm Password:". An "Apply/Save" button is located at the bottom right of the form.

## 6.5 Save and Reboot

This function saves the current configuration settings and reboots your Router.

The screenshot shows the Rogers Connection Manager web interface. The page title is "Management > Save/Reboot". The breadcrumb navigation is "Basic > 3G Settings > Wireless > Management > Advanced > Status". The page content includes the following text: "Click the button below to reboot the Rocket Hub for saved configuration to take effect." Below the text is a "Save/Reboot" button.

**NOTE1:** It may be necessary to reconfigure your TCP/IP settings to adjust for the new configuration. For example, if you disable the Dynamic Host Configuration Protocol (DHCP) server you will need to apply Static IP settings.

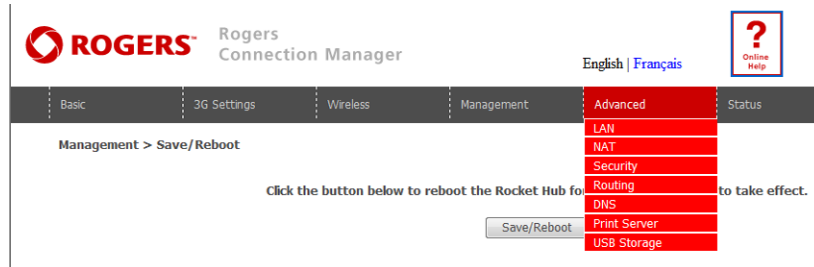
**NOTE2:** If you lose all access to your web user interface, simply press the reset button on the rear panel for 5-7 seconds to restore default settings.



# ADVANCED SETUP

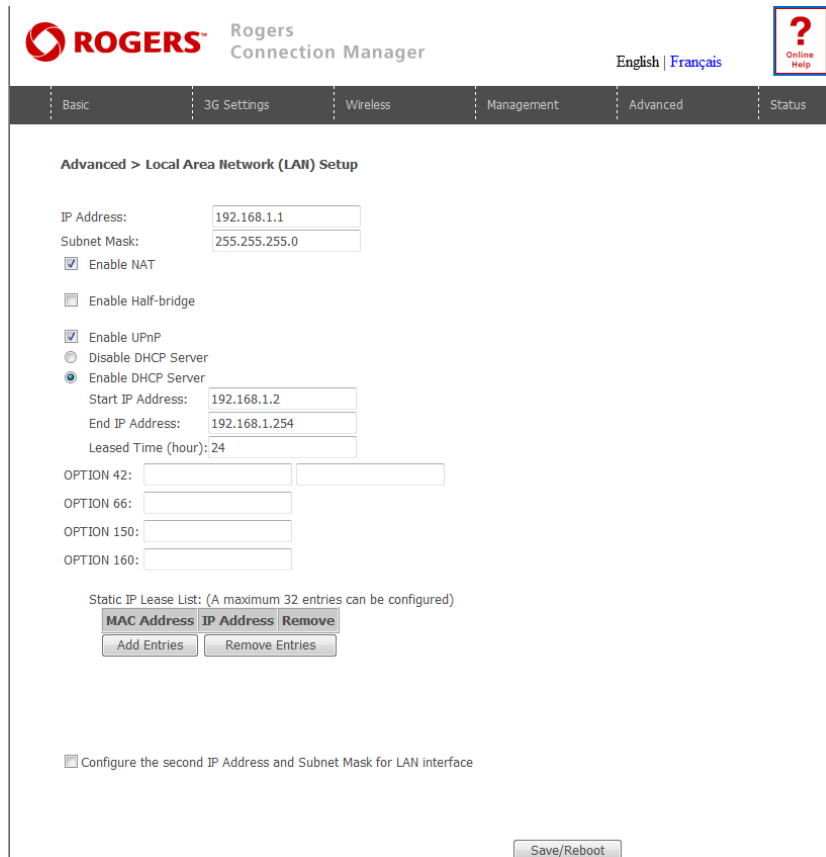
# Advanced Setup

This chapter explains advanced setup for your Router:



## 7.1 Local Area Network (LAN)

This screen allows you to configure the Local Area Network (LAN) interface on your Router.



See the field descriptions below for more details.

OPTION	DESCRIPTION
IP Address	Enter the IP address for the LAN interface
Subnet Mask	Enter the subnet mask for the LAN interface
Enable UPnP	Tick the box to enable Universal Plug and Play
Enable Half-Bridge	The Router can be set up as a half-transparent bridge to cope with some special applications such as VPN pass-through. By default half-bridge is off.
Enable Internet Group Management Protocol (IGMP) Snooping	Enable by ticking the box
Standard Mode:	In standard mode, multicast traffic will flood to all bridge ports when no client subscribes to a multicast group.
Blocking Mode:	In blocking mode, the multicast data traffic will be blocked. When there are no client subscriptions to a multicast group, it will not flood to the bridge ports.
Dynamic Host Configuration Protocol (DHCP) Server	Select Enable DHCP server and enter your starting and ending IP addresses and the lease time. This setting configures the router to automatically assign IP, default gateway and DNS server addresses to every DHCP client on your LAN
Enable NAT	To enable/disable Network Address Translation (NAT, please refer to 7.2 for NAT setting). By default NAT is enabled.
Option 42, 66,150,160	These options are used for special DHCP set up.
Static IP Lease List	To specify the IP address assigned through DHCP according to the MAC address of the hosts connected to HSPA WiFi Router.

Configure a second IP address by ticking the checkbox shown below and enter the following information:

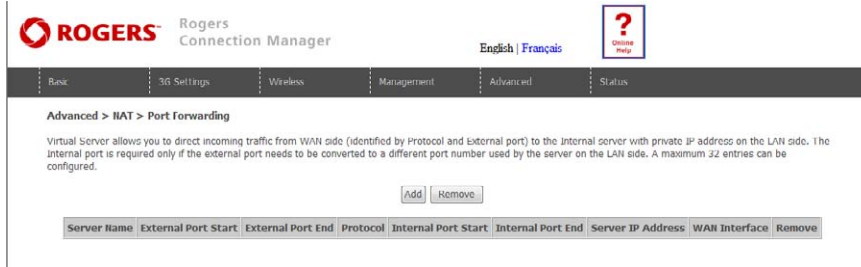
IP Address:	Enter the secondary IP address for the LAN interface.
Subnet Mask:	Enter the secondary subnet mask for the LAN interface.

**NOTE:** The Save button saves new settings to allow continued configuration, while the Save/Reboot button not only saves new settings but also reboots the device to apply the new configuration (i.e. all new settings).

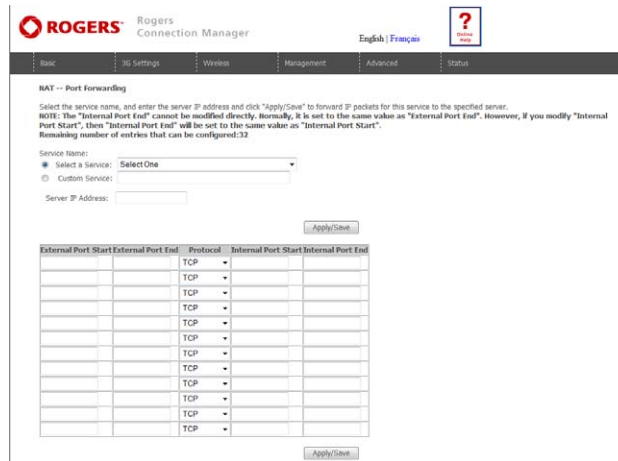
## 7.2 Network Address Translation (NAT)

### 7.2.1 Port Forwarding

Port Forwarding allows you to direct incoming traffic from the Internet side (identified by Protocol and External port) to the internal server with a private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum of 32 entries can be configured.



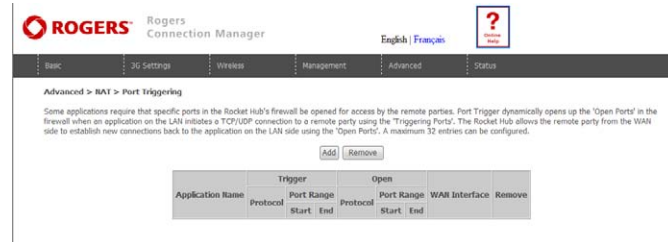
To add a Virtual Server, click the Add button. The following screen will display.



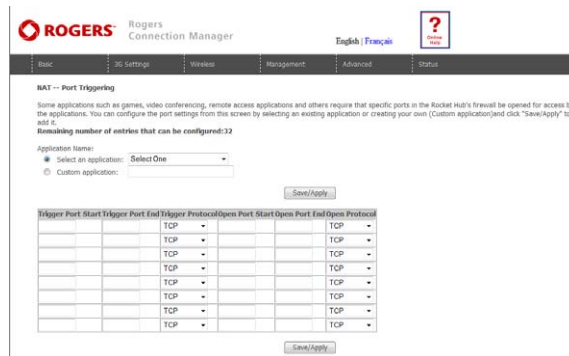
OPTION	DESCRIPTION
Select a Service	User should select the service from the list.
Or	Or
Custom Server	Create a custom server and enter a name for the custom server
Server IP Address	Enter the IP address for the server.
External Port Start	Enter the starting external port number (when you select Custom Server). When a service is selected the port ranges are automatically configured.
External Port End	Enter the ending external port number (when you select Custom Server). When a service is selected the port ranges are automatically configured.
Protocol	User can select from: TCP, TCP/UDP or UDP.
Internal Port Start	Enter the internal port starting number (when you select Custom Server). When a service is selected the port ranges are automatically configured
Internal Port End	Enter the internal port ending number (when you select Custom Server). When a service is selected the port ranges are automatically configured.

## 7.2.2 Port Triggering

Some applications require specific ports in the Router's firewall to be open for access by remote parties. Port Triggering opens up the 'Open Ports' in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the 'Triggering Ports'. The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the 'Open Ports'. A maximum 32 entries can be configured.



To add a Trigger Port, simply click the Add button. The following will be displayed.

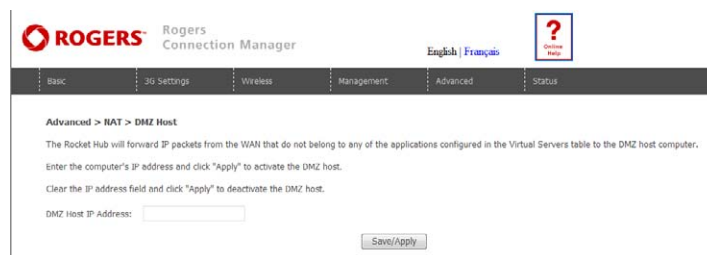


OPTION	DESCRIPTION
Select an Application	User should select the application from the list.
Or	Or
Custom Application	User can enter the name of their choice.
Trigger Port Start	Enter the starting trigger port number (when you select custom application). When an application is selected, the port ranges are automatically configured.
Trigger Port End	Enter the ending trigger port number (when you select custom application). When an application is selected, the port ranges are automatically configured.
Trigger Protocol	TCP, TCP/UDP or UDP.
Open Port Start	Enter the starting open port number (when you select custom application). When an application is selected, the port ranges are automatically configured.
Open Port End	Enter the ending open port number (when you select custom application). When an application is selected, the port ranges are automatically configured.
Open Protocol	TCP, TCP/UDP or UDP

## 7.2.3 Demilitarized (DMZ) Host

Your Router will forward IP packets from the Wireless Area Network (WAN) that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer.

Enter the computer's IP address and click Apply to activate the DMZ host. Clear the IP address field and click Apply to deactivate the DMZ host.



## 7.3 Security

Your Router can be secured with IP Filtering or Parental Control functions.

### 7.3.1 IP Filtering

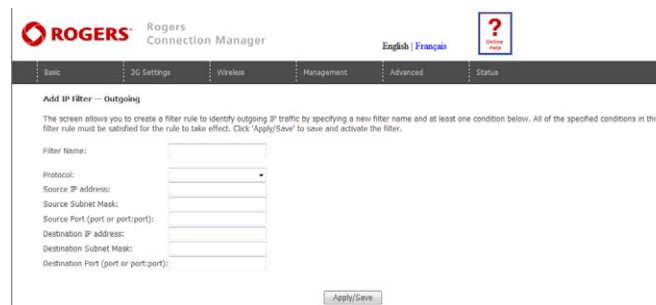
The IP Filtering screen sets filter rules that limit incoming and outgoing IP traffic. Multiple filter rules can be set with at least one limiting condition. All conditions must be fulfilled when individual IP packets pass filter.

#### Outgoing IP Filter

The default setting for Outgoing traffic is ACCEPTED. Under this condition, all outgoing IP packets that match the filter rules will be BLOCKED.



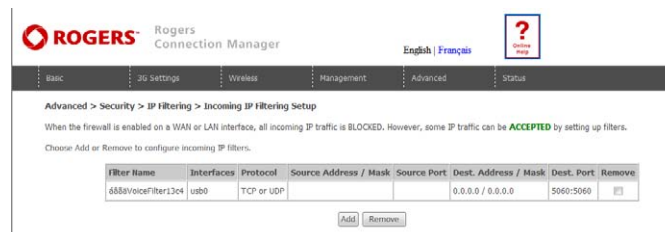
To add a filtering rule, click the Add button. The following screen will display.



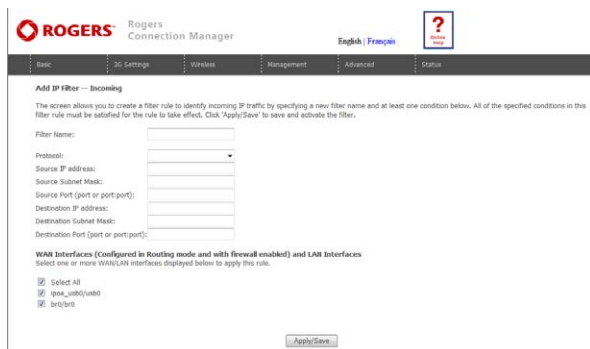
FILTER NAME	THE FILTER RULE LABEL
Protocol	TCP, TCP/UDP, UDP or ICMP Source IP address
Source IP address	Enter source IP address Source Subnet Mask
Destination IP address	Enter source subnet mask
Source Port (port or port:port)	Enter source port number or port range
Destination IP address	Enter destination IP address
Destination Subnet Mask	Enter destination subnet mask
Destination port (port or port:port)	Enter destination port number or range

#### Incoming IP Filter

The default setting for all Incoming traffic is BLOCKED. Under this condition only those incoming IP packets that match the filter rules will be ACCEPTED.



To add a filtering rule, click the Add button. The following screen will display.

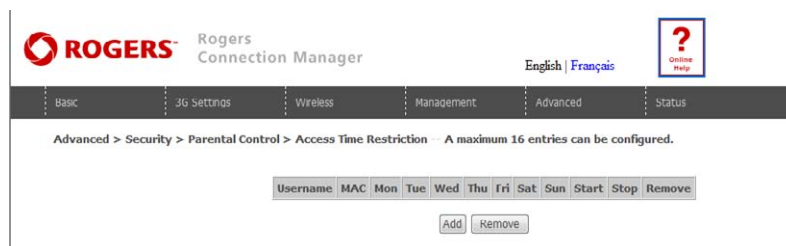


Please refer to the Outgoing IP Filter table for field descriptions.

Click Save/Apply to save and activate the filter.

### 7.3.2 Parental Control

This Parental Control allows you to restrict access from a Local Area Network (LAN) to an outside network through the Router on selected days at certain times. Make sure to activate the Internet Time server synchronization as described in section 6.3 SNTP, so that the scheduled times match your local time.



Click Add to display the following screen.



See instructions below and click Save/Apply to apply the settings.

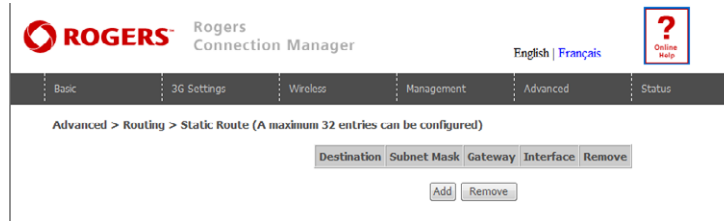
OPTION	DESCRIPTION
User Name	A user-defined label for this restriction
Browser's MAC Address	MAC address of the PC running the browser
Other MAC Address	MAC address of another LAN device
Days of the Week	The days the restrictions apply.
Start Blocking Time	The time the restrictions start
End Blocking Time	The time the restrictions end.

## 7.4 Routing

Static Route and Dynamic Route settings can be found in the Routing link as illustrated below.

### 7.4.1 Static Route

The Static Route screen displays the configured static routes. Click the Add or Remove buttons to change settings.



Click the Add button to display the following screen.

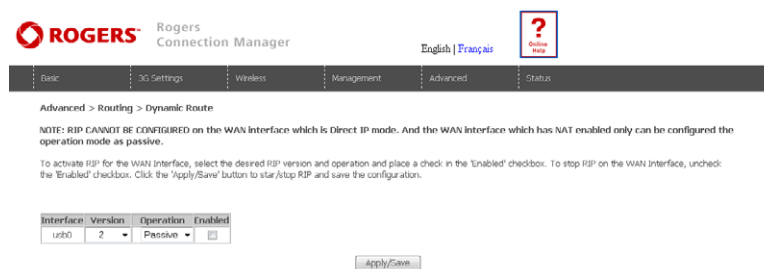


Enter Destination Network Address, Subnet Mask, Gateway IP Address and/or WAN Interface. Then click Save/Apply to add the entry to the routing table.

### 7.4.2 Dynamic Route

To activate this option, select the Enabled radio button for Global RIP Mode.

To configure an individual interface, select the desired RIP version and operation, followed by placing a check in the Enabled checkbox for that interface. Click Save/Apply to save the configuration and to start or stop dynamic routing.





## 7.5 Domain Name Servers (DNS)

### 7.5.1 DNS Server Configuration

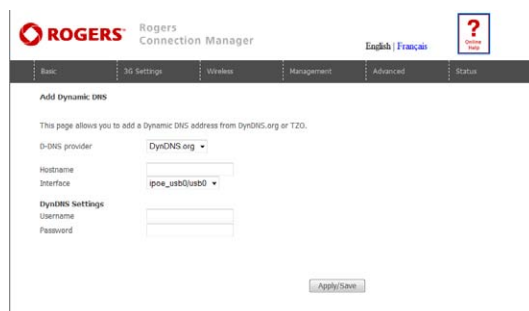
If the Enable Automatic Assigned DNS checkbox is selected, this device will accept the first received DNS assignment from the Wide Area Network (WAN) interface during the connection process. If the checkbox is not selected, a field will appear allowing you to enter the primary and optional secondary DNS server IP addresses. Click on Save to apply.



**NOTE:** Click the Save button to save the new configuration. To make the new configuration effective, reboot your Router.

### 7.5.2 Dynamic DNS

The Dynamic DNS service allows a dynamic IP address to be aliased to a static hostname in any of a selection of domains, allowing the router to be more easily accessed from various locations on the internet.



**Note:** The Add/Remove buttons will be displayed only if the router has been assigned an IP address from the remote server.

To add a dynamic DNS service, click the Add button and this screen will display.

OPTION	DESCRIPTION
D-DNS provider	Select a dynamic DNS provider from the list.
Hostname	Enter the name for the dynamic DNS server.
Interface	Select the interface from the list.
Username	Enter the username for the dynamic DNS server.
Password	Enter the password for the dynamic DNS server.

**VOICE**

# Voice

The 3G10WVR2 Router with Voice allows you to make telephone calls over the 3G Mobile/Cellular Telephone network using a standard Analogue Telephone via the built in RJ-11 Phone port.

Please refer to the documentation provided by the manufacturer for operating your Analogue Telephone.

**Note:** That your SIM card and Mobile service needs to be provisioned for Voice Calling. Please consult with your Network Provider for verification.

**Note:** That any telephone calls placed using the 3G10WVR2 may incur call usage charges determined by your Network Provider. Please consult with your Network Provider for verification.

## Configuring your 3G10WVR2 for placing Voice Calls

Once your 3G10WVR2 has been correctly configured to access the mobile network as outlined in Section 2.1 – Quick Setup, you can make and receive telephone calls after connecting your Analogue Telephone to the socket labeled Voice on the back of your Router.

## Calling Features

The 3G10WVR2 router allows you to experience the calling features provided by your service provider. Please refer to the table below for more details.

CALLING FEATURE	USAGE	ACT CODE	DE-ACT CODE
Access Voice Mail	Access Voice Mail Standard wireless	*98	
Call Display - Blocking per call		#31#	
Call Forwarding All Calls		*21*	#21#
Call Waiting		*43#	#43#
	Answering Call waiting	Hook Flash"	
	To switch between calls	Hook Flash"	
Directory Assistance		Dial 411	
Emergency Call		Dial 911	
Collect Calls	Collect calls cannot be received on your wireless phone. However you can make an outgoing collect call.		
Roaming	The Rocket Hub will functional only in Canada, and only on the Rogers Wireless Network		

# STATUS

# Status

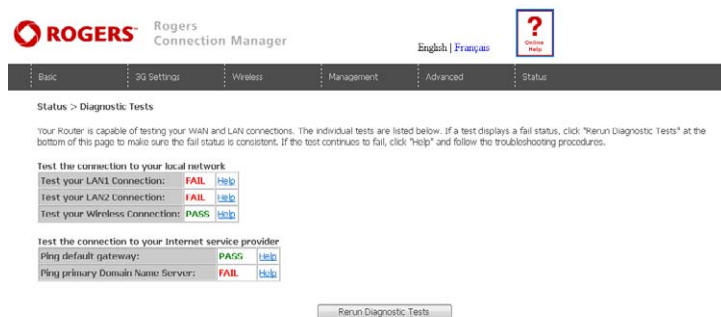
The Status menu has the following submenus:

- Diagnostics
- System Log
- 3G network
- Statistics
- Route
- ARP
- DHCP
- PING

## 8.1 Diagnostics

The Diagnostics menu provides feedback on the connection status of the device. The individual tests are listed below. If a test displays a fail status:

1. Click on the Help link
2. Now click Re-run Diagnostic Tests at the bottom of the screen to re-test and confirm the error
3. If the test continues to fail, follow the troubleshooting procedures in the Help screen.



OPTION	DESCRIPTION
LAN Connection	Pass: Indicates that the Ethernet interface from your computer is connected to the LAN port of this Router.
	Fail: Indicates that the Router does not detect the Ethernet interface on your computer.
Wireless connection	Pass: Indicates that the wireless card is ON.
	Down: Indicates that the wireless card is OFF.
DATA APN assigned IP Address	Pass: Indicates that the Router can communicate with the first entry point to the network. It is usually the IP address of the ISP's local Gateway.
	Fail: Indicates that the Router was unable to communicate with the first entry point on the network, and it may not have an effect on your Internet connectivity. If this test fails and you can access the Internet, there is no need to troubleshoot this issue.
Ping Primary Domain Name Server	Pass: Indicates that the Router can communicate with the primary Domain Name Server (DNS).
	Fail: Indicates that the Router was unable to communicate with the primary Domain Name Server (DNS). It may not have an effect on your Internet connectivity. Therefore if this test fails but you are still able to access the Internet, there is no need to troubleshoot this issue.

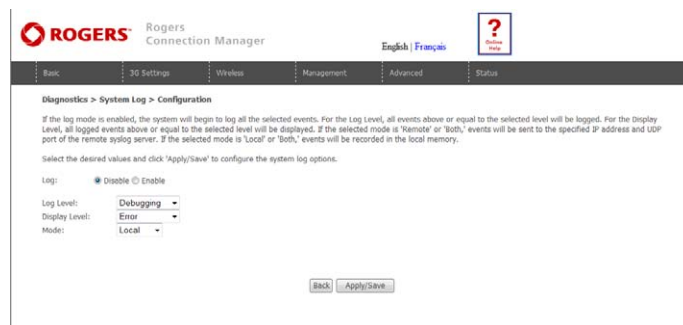
## 8.2 System Log

This function allows you to view system events and configure related options. Follow the steps below to enable and view the System Log.

1. Click Configure System Log to continue.



2. Select the system log options (see table below) and click Save/Apply.



OPTION	DESCRIPTION
Log	Indicates whether the system is currently recording events. You can enable or disable event logging. By default, it is disabled.
Log level	Allows you to configure the event level and filter out unwanted events below this level. The events ranging from the highest critical level "Emergency" down to this configured level will be recorded to the log buffer on the Router's SDRAM. When the log buffer is full, the newest event will wrap up to the top of the log buffer and overwrite the oldest event. By default, the log level is "Debugging", which is the lowest critical level. The log levels are defined as follows: Emergency is the most serious event level, whereas Debugging is the least important. For instance, if the log level is set to Debugging, all the events from the lowest Debugging level to the most critical level Emergency level will be recorded. If the log level is set to Error, only Error and the level above will be logged.
Display Level	Allows you to select the logged events and displays on the View System Log window for events of this level and above to the highest Emergency level.
Mode	Allows you to specify whether events should be stored in the local memory, be sent to a remote syslog server, or to both simultaneously. If remote mode is selected, the view system log will not be able to display events saved in the remote syslog server. When either Remote mode or Both mode is configured, the WEB UI will prompt the you to enter the Server IP address and Server UDP port.


3. Click View System Log. The results are displayed as follows.

System Log

Date/Time	Facility	Severity	Message
May 28 00:08:05	user	warn	kernel: kernel:endpoint_open
May 28 00:08:05	user	warn	kernel: kernel:endpoint_open COMPLETED
May 28 00:08:05	user	warn	kernel: Enter bosStartApp
May 28 00:08:05	user	warn	kernel:
May 28 00:08:05	user	warn	kernel:
May 28 00:08:05	user	warn	kernel: bosAppRootTask() - Is it morning already? Spawning app task (epoch #0)...
May 28 00:08:05	user	warn	kernel:
May 28 00:08:05	user	warn	kernel: Enter TaskCreate aoAP
May 28 00:08:05	user	warn	kernel: TaskCreate - spawn new task aoAP
May 28 00:08:05	user	warn	kernel: Exit bosStartApp
May 28 00:08:05	user	warn	kernel: Exit TaskCreate
May 28 00:08:05	user	warn	kernel: AppResetDetectionEnable() - Enabled reset detection.
May 28 00:08:05	user	warn	kernel: usb 1-1: control timeout on ep0in
May 28 00:08:05	user	warn	kernel: PLL init completed. PLL registers set to:
May 28 00:08:05	user	warn	kernel: PCM->pcm_pll_ctr1 = 0x00020001
May 28 00:08:05	user	warn	kernel: PCM->pcm_pll_ctr2 = 0x0008492B
May 28 00:08:05	user	warn	kernel: PCM->pcm_pll_ctr3 = 0x00001E1C
May 28 00:08:05	user	warn	kernel: M registers
May 28 00:08:05	user	warn	kernel: Channel 0 assigned to timeslot 0


## 8.3 3G Network

Select this option for detailed status information on your Routers 3G connection.



Rogers  
Connection Manager

English |  
Français



Basic
3G Settings
Wireless
Management
Advanced
Status

Status > 3G network

<b>Manufacturer</b>	Sierra Wireless, Incorporated
<b>Model</b>	MC8790V
<b>FW Rev</b>	K2_0_7_35AP
<b>IMEI</b>	354123030069662
<b>FSN</b>	D682299070510

<b>IMSI</b>	505013435730666
<b>HW Rev</b>	1.0

<b>System mode:</b>	HSPA
<b>HSPA band:</b>	IMT2000
<b>HSPA channel:</b>	10563
<b>GMM (PS) state:</b>	REGISTERED
<b>MM (CS) state:</b>	IDLE
<b>Signal Strength:</b>	-77 (dBm)

<b>Signal level(RSSI)</b>	14
<b>Quality(Ec/Io)</b>	-14.5 dB
<b>Network Registration Status</b>	registered
<b>Network Name</b>	ROGERS
<b>Country Code</b>	505
<b>Network Code</b>	06
<b>Cell ID</b>	00CA53CC
<b>Primary Scrambling Code (PSC)</b>	0170 (REF)
<b>Data Session Status</b>	Connected

<b>HSUPA Category</b>	6
<b>HSDPA Category</b>	8
<b>Received Signal Code Power(RSCP)</b>	-88 dBm



Consult the table on the next page for detailed field descriptions.

STATUS	DESCRIPTION
Manufacturer	The manufacturer of the embedded 3G module.
Model	The model name of the embedded 3G module
FW Rev	The firmware version of the 3G module.
IMEI	The IMEI (International Mobile Equipment Identity) is a 15 digit number that is used to identify a mobile device on a network.
FSN	Factory Serial Number of the 3G module.
IMSI	The IMSI (International Mobile Subscriber Identity) is a unique 15-digit number used to identify an individual user on a GSM or UMTS network.
HW Rev.	The hardware version of the 3G module.
System Mode	WCDMA/Europe CDMA 2000 / America
HSPA band	The 3G radio frequency band which supports tri-band UTMS/HSDPA/HSUPA frequencies (850/1900/2100 MHz), IMT2000 is 2100 MHz, WCDMA800 is 850 MHz, WCDMA1900 is 1900 MHz.
GSM band	The 2G radio frequency band which supports Quad-band GSM/GRPS frequencies, including GSM850, GSM900, DCS1800, PCS1900 with each number representing the respective frequency in MHz.
HSPA channel	The 3G channel.
GSM (PS) state	Packet Switching state
MM (CS) state	Circuit Switching state
Signal Strength	The 3G/2G service signal strength in dBm.

OPTION	DESCRIPTION
Signal Level (RSSI)	3G Radio Signal Strength Index
Quality (Ec/Io)	The total energy per chip per power density (Ec/Io) value of the active set's three strongest cells.
Network Registration Status	Should display as registered with a valid unlocked SIM card.
Network Name	The 3G internet Service Provider.
Country & Network Codes	Each country and network has a unique code.
Cell ID	The network information for the "serving" cell ID.
Primary Scrambling Code (PSC)	The PSC of the reference WCDMA cell
Data Session Status	Connected or Disconnected
HSUPA/HSDPA Categories	The HSUPA/HSDPA categories correspond to different data transmission rates with higher numbers generally indicating faster rates
Received Signal Code Power (RSCP)	The RSCP of the active set's three strongest cells

## 8.4 Statistics

These screens provide detailed information for:

- Local Area Network (LAN) and Wireless Local Area Network (WLAN)
- 3G Interfaces

NOTE: These statistics page refresh every 15 seconds.

### 8.4.1 LAN Statistics

This screen displays statistics for the Ethernet and Wireless LAN interfaces.

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
LAN1	0	0	0	0	387794	2525	0	0
LAN2	0	0	0	0	387730	2524	0	0
LAN3	0	0	0	0	0	0	0	0
wlan0	698643	5852	0	0	3063427	6465	35	0

INTERFACE	SHOWS CONNECTION INTERFACES	
Received / Transmitted	Bytes	Rx/TX (receive/transmit) packet in bytes
	Pkts	Rx/TX (receive/transmit) packets
	Errs	Rx/TX (receive/transmit) packets with errors
	Drops	Rx/TX (receive/transmit) packets dropped

### 8.4.2 3G Statistics

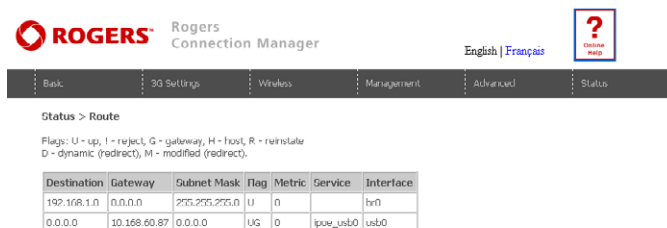
Click 3G network in the Statistics submenu to display the screen below.

Statistics of WAN	Inbound	Outbound
Detects	14730	1069
Packets	146	13
Drops	0	0
Error	0	0

Inbound	Octets	Number of received octets over the interface.
	Packets	Number of received packets over the interface.
	Drops	Received packets which are dropped.
	Error	Received packets which are errors.
Outbound	Octets	Number of Transmitted octets over the interface.
	Packets	Number of Transmitted packets over the interface.
	Drops	Transmitted packets which are dropped
	Error	Transmitted packets which are errors.

## 8.5 Route

Select Route to display the paths the Router has found.



DESTINATION	DESTINATION NETWORK OR DESTINATION HOST
Gateway	Next hop IP address
Subnet Mask	Subnet Mask of Destination
Flag	U: route is up
	!: reject route
	G: use gateway
	H: target is a host
	R: reinstate route for dynamic routing
	D: dynamically installed by daemon or redirect
	M: modified from routing daemon or redirect
Metric	The 'distance' to the target (usually counted in hops). It is not used by recent kernels, but may be needed by routing daemons.
Service	Shows the name for WAN connection
Interface	Shows connection interfaces

## 8.6 ARP

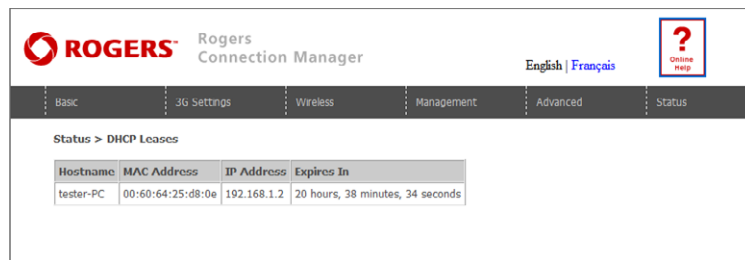
Click ARP to display the ARP information.



FIELD	DESCRIPTION
IP address	Shows IP address of host pc
Flags	Complete
	Incomplete
	Permanent
	Publish
HW Address	Shows the MAC address of host pc
Device	Shows the connection interface

## 8.7 Dynamic Host Configuration Protocol (DHCP)

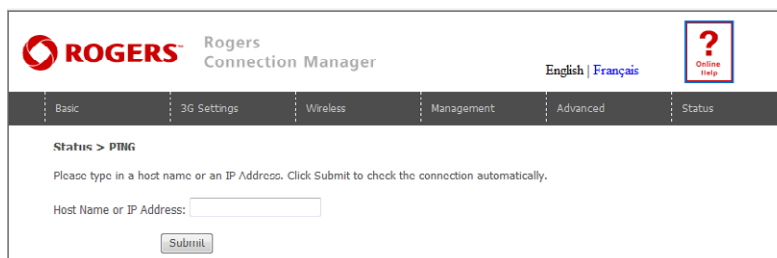
Click DHCP to display the DHCP information.



FIELD	DESCRIPTION
Hostname	Shows the device/host/PC network name
MAC Address	Shows the Ethernet MAC address of the device/host/PC
IP address	Shows IP address of device/host/PC
Expires In	Shows how much time is left for each DHCP Lease

## 8.8 PING

The PING menu provides feedback of connection test to an IP address or a host name.



Input an IP address or a host name, e.g www.google.com and press Submit.

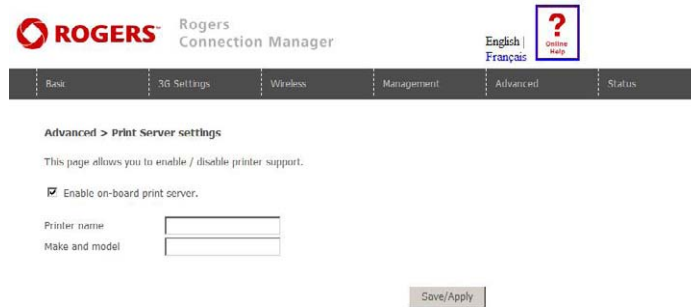
# APPENDICES

# Appendix A: Print Server

These steps explain the procedure for enabling the Printer Server.

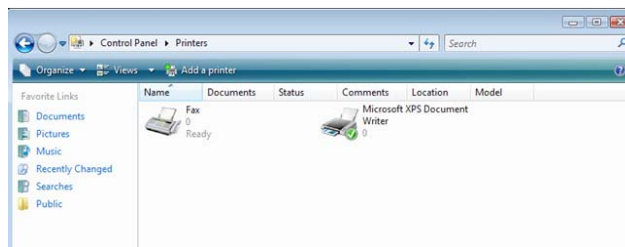
1. Click on Print Server from the Web User Interface
2. Select Enable on-board print server checkbox and enter Printer name and Make and model

NOTE: The Printer name can be any text string up to 40 characters. The Make and model can be any text string up to 128 characters.

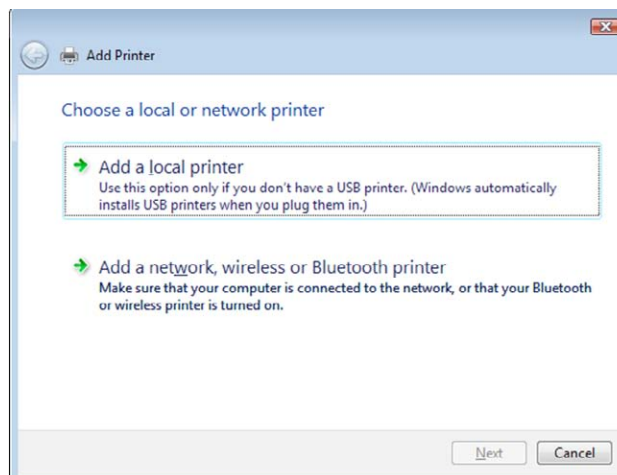


## For Windows Vista/7

1. Go to the control panel, and select 'Printers' if you are using Windows Vista or select "Devices and Printers" if you are using Windows7. Once in the 'Printers' page, click the 'Add a printer' button as shown below.

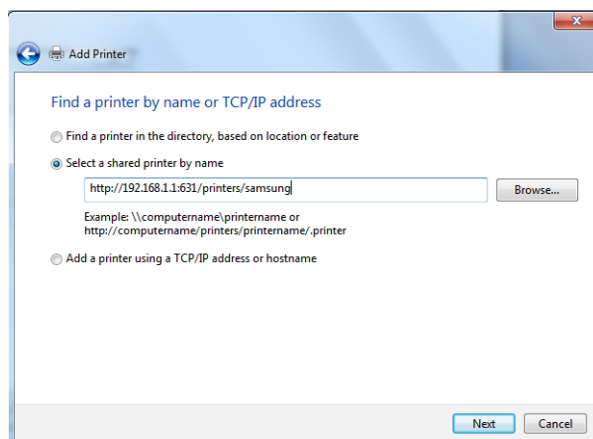


Select 'Add a network, wireless or bluetooth printer'.

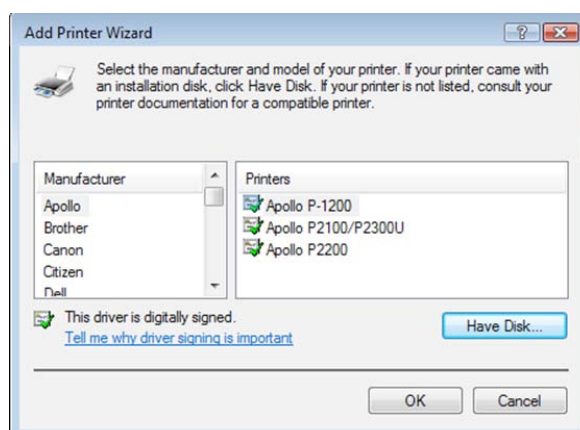


- Click on the radio-button labelled 'Select a shared printer by name', and type "http://192.168.1.1:631/printers/samsung" in the box below. Click 'Next'.

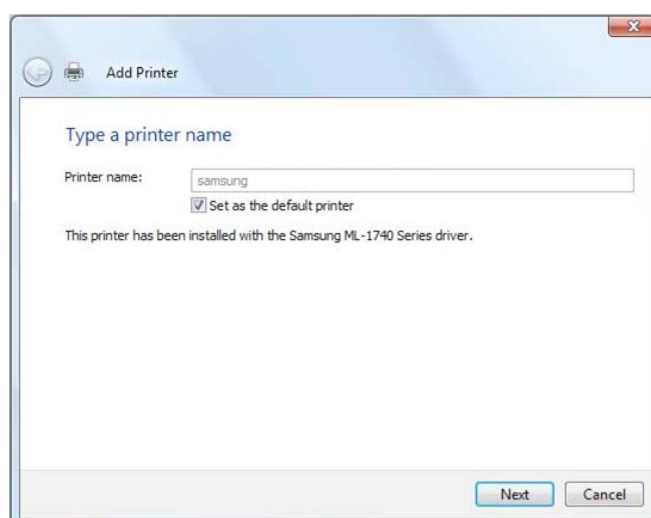
NOTE: The PrinterName must be the same as the printer name entered into the Printer section of 3G10WVR2.



- Next, select the driver that came with your printer. Browse through the list to select your printer driver, or click 'Have Disk' if you have your printer driver installation media.



Choose whether you want this printer to be the default printer, and then click 'Next'.



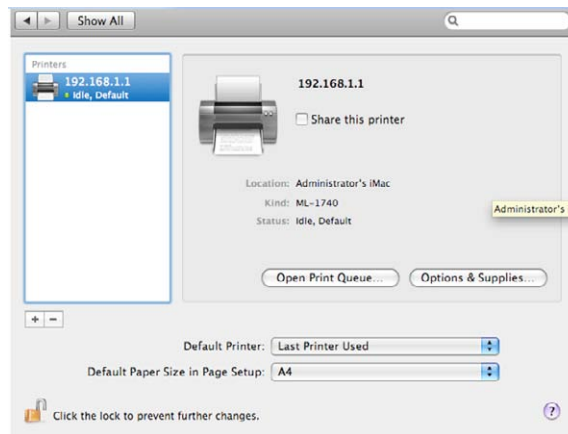
- Click 'Finish'. Your device is now configured and ready for use.

## For MAC OSX

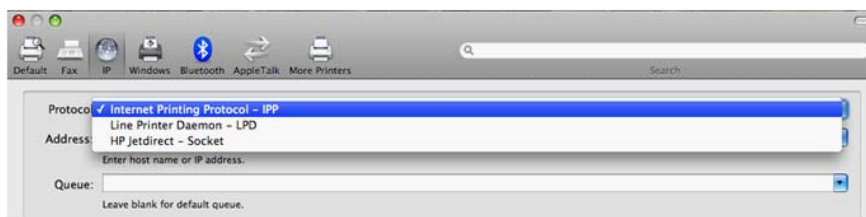
To set up your printer, check the Apple menu, select System Preferences. In the System Preference menu click on the Print & Fax.



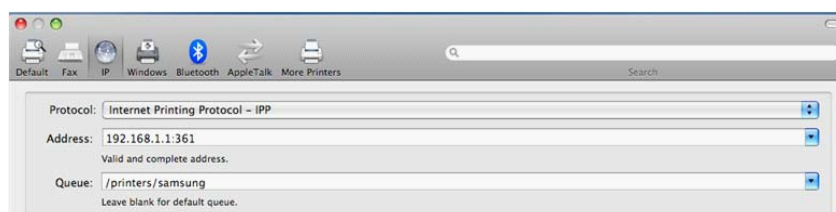
With your Printer driver installed, please add your printer from the Print & Fax menu.



Mouseover to the Protocol drop down list and select Internet Printing Protocol – IPP.



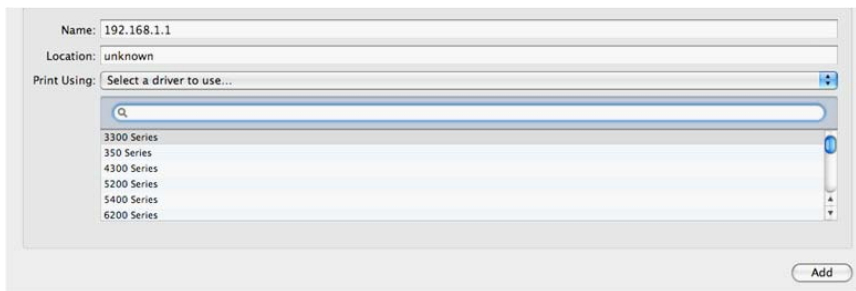
Input the Address field with "192.168.1.1:361" and the Queue with "/printers/PrinterName"



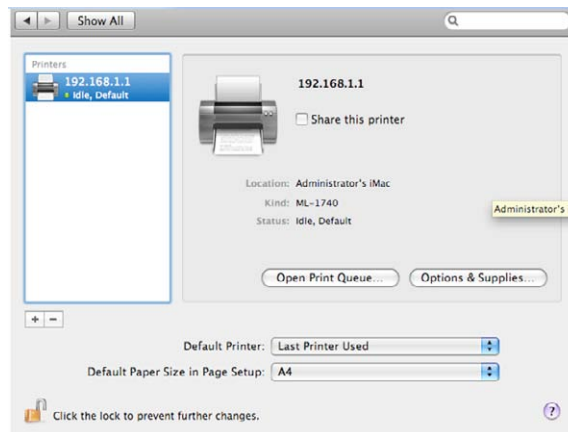
NOTE: The PrinterName must be the same as the printer name entered into the Printer section of 3G10WVR2.



From Print Using drop down list and select your corresponding printer driver.



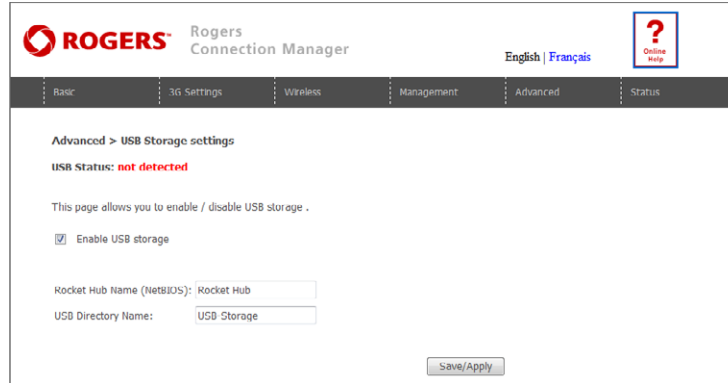
Click Add and check the printer status.



## Appendix B: USB Storage

Click on USB Storage from the Web User Interface

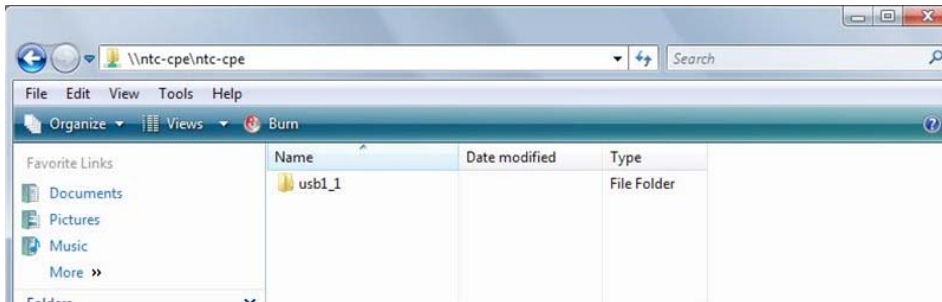
1. Select the Enable USB Storage checkbox.



### For Windows Vista/7

Open a web-browser (such as internet Explorer, Firefox or Safari)

Type in the address "\\NetbiosName\"DirectoryName\" (eg \\Rocket Hub\USB-Storage)



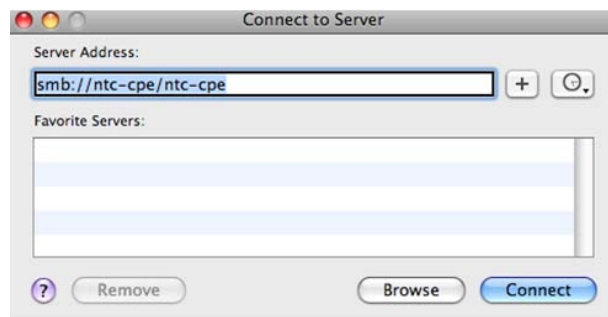
Note: There are no username and password required to access the USB drive, the user will be able to read/write the folder/files in the USB drive.

### For MAC OSX

Click the finder icon in the Dock.

Choose Connect to Server from the Go menu.

In the address field of the Connect to Server dialog, type in the URL Smb://NetbiosName/DirectoryName (eg smb://Rocket Hub/USB-Storage)



Select Connect to connect your USB storage.

# Legal & Regulatory Information

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## Federal Communication Commission Interference Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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 dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

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.

*NetComm*



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