



## **M404**

**ADSL/2/2+ Single Port Ethernet Modem**

## **M405**

**ADSL/2/2+ Single Port Ethernet/USB  
Modem**

***User's Manual***

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# 1. Introduction

Congratulations on becoming the owner of the Master series of ADSL2+ modem routers. You will now be able to access the Internet using your high-speed ADSL/2+ connection. The Master series of ADSL2+ modems has the following major features.

## Features

- ADSL/2/2+ modem for high speed Internet access
- Network Address Translation (NAT) and IP filtering functions to provide network sharing and firewall protection for your computers
- Easy configuration via a web browser
- SPI firewall to protect you from outside intruders and attacks
- TR-069 compliant for automatic modem update through your high speed Internet access

This User's Manual will guide you through the installation and configuration of your M404/M405 modem.

## System Requirements

Before installing your M404/M405 modem, make sure that you have the following:

- ADSL service up and running on your telephone line, with at least one public Internet address for your LAN
- Computer containing an Ethernet 10Base-T/100Base-T network interface card (NIC)
- Computer containing a USB port (M405 model)

For system configuration, use the web-based (HTTP) user interface.

**Note:** Make sure that your computer has a web browser such as Internet Explorer v5.0 or later, or Netscape v4.7 or later.

## 2. Installation

In addition to this document, your M404/M405 should arrive with the following:

- One power adapter and power cord
- One Ethernet cable with RJ-45 connector
- One USB A-B cable (M405 Only)
- One Telephone cable with RJ-11 connector
- “Visionnet Master Series” CD

### Front Panel

The front panel LEDs indicates the status of the unit. (*Left to Right*)

#### M404/M405

Label	Color	Function
Power	Green	On – Solid Green
		Off – The Modem is Off
		Red – Power on self test/ Device Malfunction (not bootable) and device malfunction Malfunction is any state which would prevent syncing or passing of data
DSL	Green	Green – DSL Good Sync
		Off - Powered off
		Flashing Green - DSL Attempting sync
Internet	Green	Solid Green – IP connected – no traffic passing Device has a public IP via either static/ DHCP/ or IPCP If PPP is used it has been authenticated If IP or PPPOE session is idle and dropped, light to remain green as long as ADSL is still present. Light to turn red if upon attempting new session it fails.
		Off – Modem Power Off. LED Should remain off if modem is in bridged mode
Ethernet	Green	Off - Power Off – or – No Device Detected on any LAN port
		Solid Green – Device connected including wake on LAN on any LAN port
		Flashing Green – LAN activity present
USB (M405)	Green	Off - Power Off – or – No Device Detected
		Solid Green – Device connected including wake on LAN
		Flashing Green – LAN activity present for that port

## Rear Panel

The connectors located at the rear panel have the following functions.

### M404/M405

Interface	Function
<i>Switch(Push Button)</i>	Power switch on/off
<i>Power</i>	Connects to the power adapter cable
<i>Reset</i>	Resets unit's configuration to factory default
<i>USB</i>	USB connection: Connects to your PC's USB 1.1/2.0 port
<i>Ethernet</i>	RJ-45 connector: Connects to your PC's Ethernet port, or to the uplink port on your LAN's hub/switch
<i>Line</i>	RJ-11 connector: Connects to your ADSL line

## Connecting the Hardware

Connect the M404/M405 to the phone jack, the power outlet, and your computer or network.



*Before you begin, turn the power off for all devices. These include your computer(s), your LAN hub/switch (if applicable), and the M404/M405.*

### Step 1. Connect the ADSL cable and optional telephone

Connect one end of the phone cable to the RJ-11 connector on the rear panel of the M404/M405. Connect the other end to the ADSL outlet provided by your service provider (normally MODEM port of the included splitter).

### Step 2. Connect the Ethernet cable

Connect one end of the Ethernet cable to the RJ-45 connectors on the rear panel of the M404/M405 and connect the other end to your PC's network adaptor (NIC). If you are connecting a LAN to the Master series, attach one end of the Ethernet cable to a regular hub port and the other end to the LAN port on the M404/M405.

### **Step 3. Attach the power connector**

Connect the AC power adapter to the power connector on the M404/M405 and plug in the adapter to a wall outlet or power extension.

### **Step 4. Turn on the M404/M405 and power up your systems**

Press the Power switch on the back panel of the M404/M405 to the ON position.  
Boot up your computer(s) and any LAN devices such as hubs or switches.

### **Step 5. Configure the M404/M405 through the WEB interface**

Please refer to Chapter 3.

### **Step 6. Save the configurations and Reboot**

Save the changes you made on the M404/M405 and it will automatically reboot to make the settings permanent.

## 3. Configuration

### 3.1 - Setup

- Connect your M404/M405 and PC with an RJ-45 Ethernet cable.
- Turn on the M404/M405.
- The default IP address of M404/M405 is 192.168.1.254.

### 3.2 - Establish the Connection

- Enter the IP address (default: 192.168.1.254) of M404/M405 in the address line of your web browser.
- A Dialogue Box will pop up to request the user to login. (Figure 1)



Figure 1. Login dialogue box

- Please enter the management username/password into the fields then click on the **OK** button (Please contact your ISP for login information).
- If the authentication is valid, the main page will be displayed on the screen. (Figure 2)

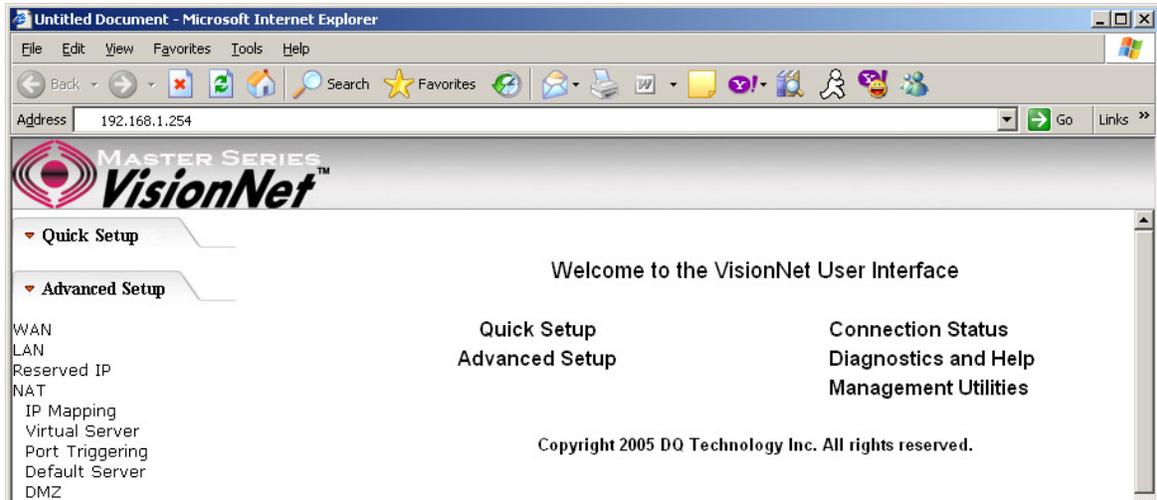


Figure 2. M404/M405 Home Page

## 4. Quick Setup

The system administrator can configure the M404/M405 remotely or locally via a Web Browser. Network configuration needs to be planned and decided before starting the configuration procedure.

Quick Setup allows system administrator to select the appropriate operation mode and configure the corresponding settings step by step to create a connection. The following operation modes are supported under Quick Setup:

- PPP over Ethernet (PPPoE)
- PPP over ATM (PPPoA)
- MER (MAC Encapsulation Routing)
- IPoA (IP over ATM)
- Bridging

### 4.1 - PPP over Ethernet (PPPoE) Configuration

Click on “Quick Setup” in the left frame and follow the steps below to create a PPP over Ethernet (PPPoE) connection.

Here you can either select DSL Autoconnect (Modem will attempt to find the correct VPI/VCI settings) or Uncheck the box to manually input the VPI/VCI settings.

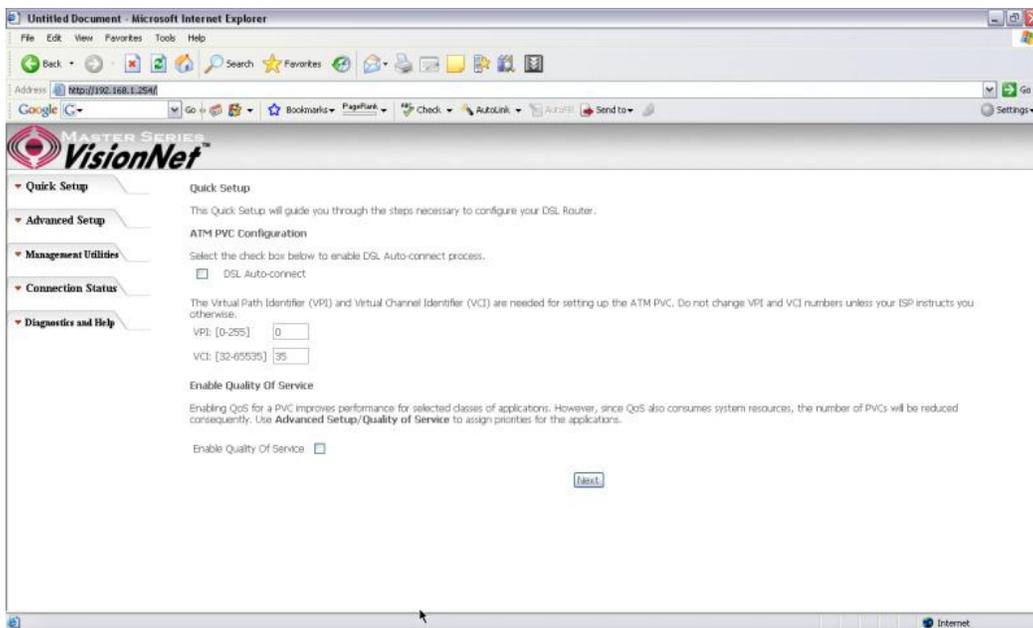


Figure 3. Quick Setup – ATM PVC

## PPP Username and Password

This page is where you will enter the “PPP Username”, and “PPP Password”. Please contact you ISP for this information.

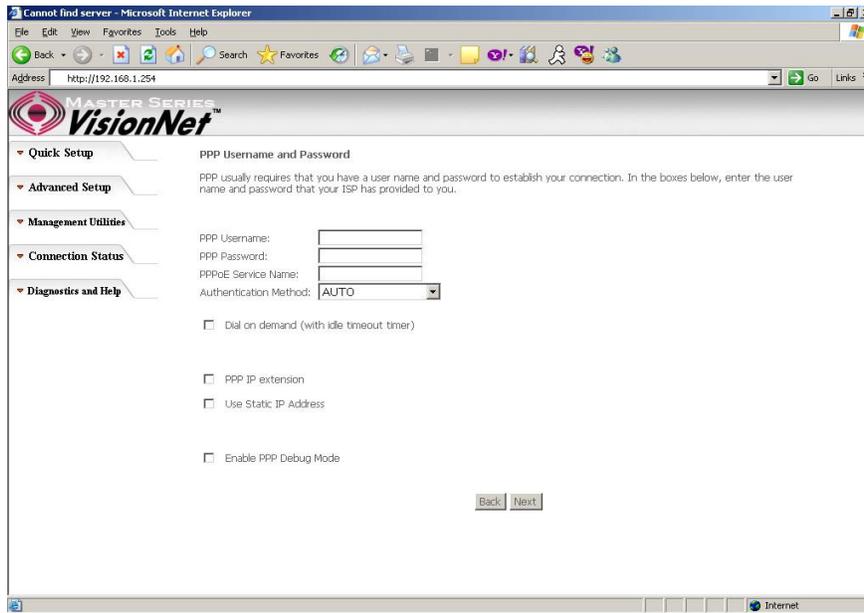


Figure 4. Quick Setup – Username, Password and option for IP extension and Static IP

## WAN Setup – NAT and IGMP

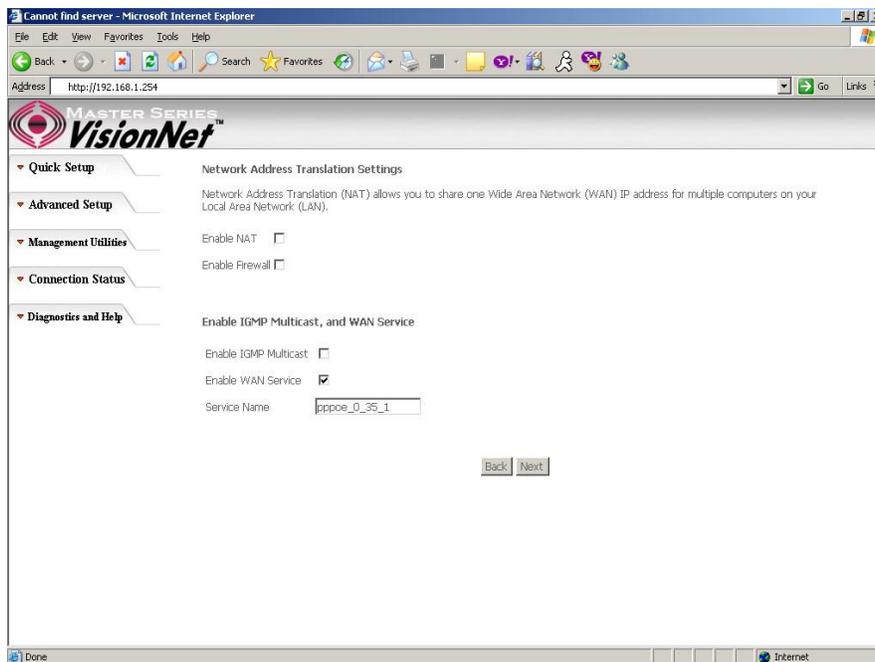


Figure 5. Quick Setup – WAN Setup – NAT, IGMP, and Firewall

## Device Setup

This page is where you can configure the modem's IP address and Default DHCP server range. Default is 192.168.1.254

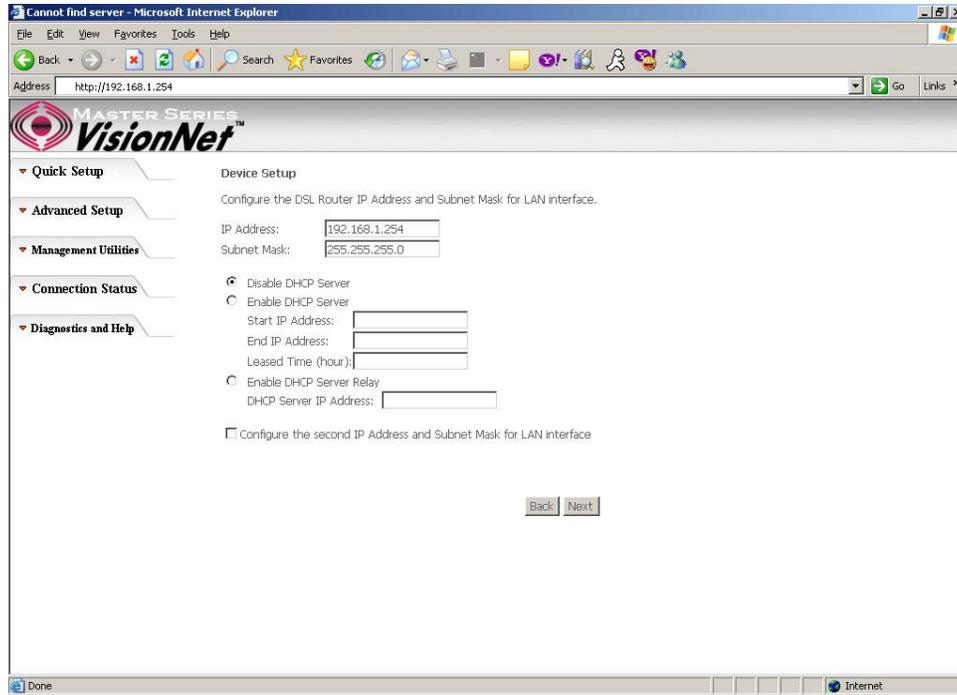


Figure 6. Quick Setup – Device Setup – LAN and DHCP Server

## Summary

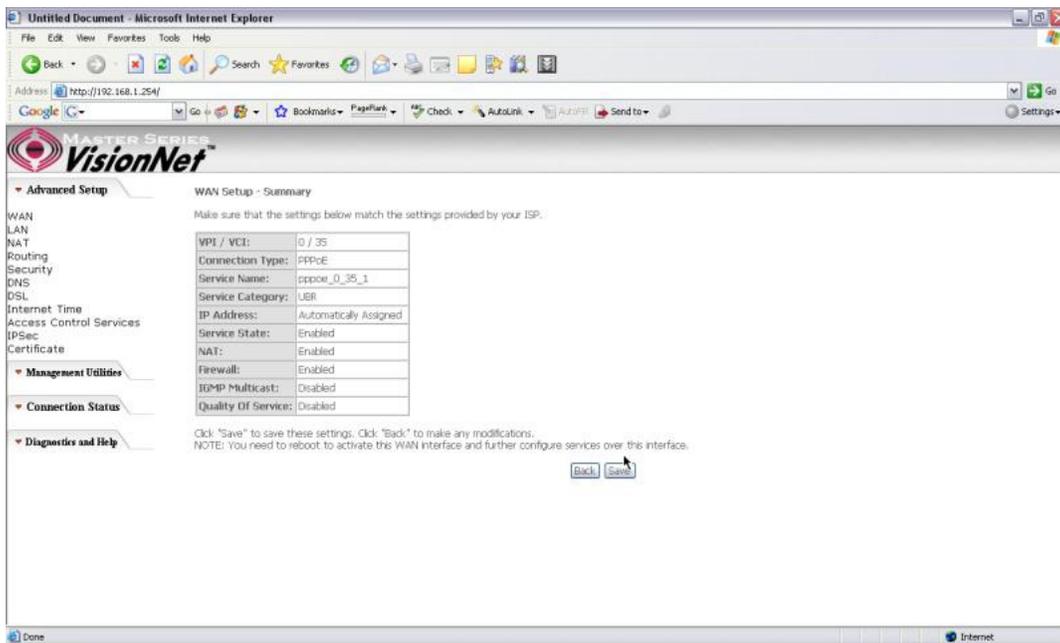


Figure 7. Quick Setup – WAN Setup – Summary

The last page displays a summary of your settings. Click on the “Save/Reboot” button to complete the configuration.

#### 4.2 - PPP over ATM (PPPoA) Configuration

Configuration of PPPoA is similar to PPPoE. Select “PPP over ATM (PPPoA)” in “Connection Type”. Please refer to PPPoE settings (Section 4.1) for details.

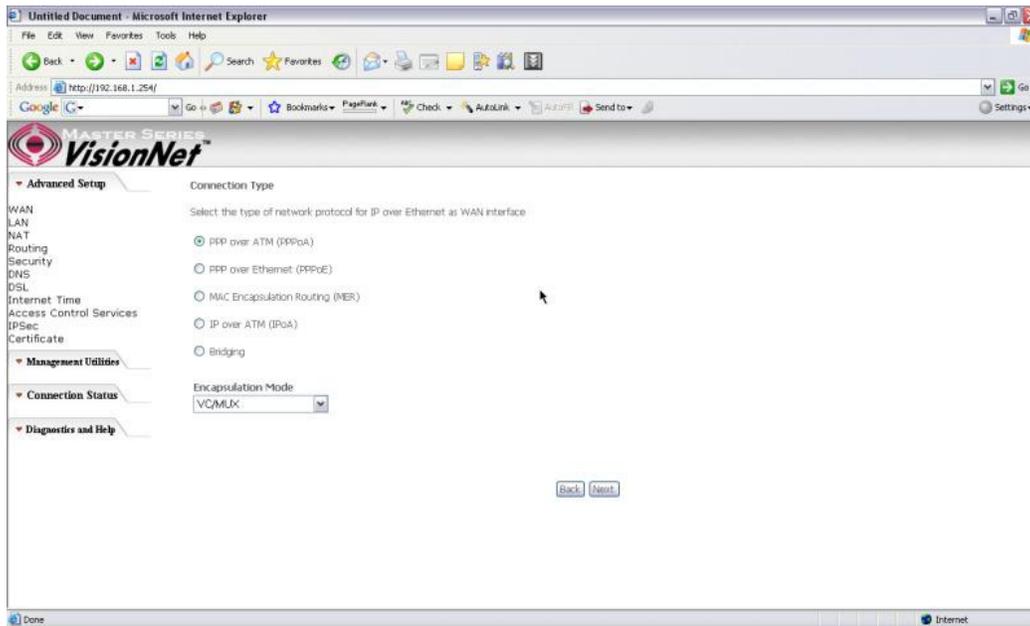


Figure 8. Quick Setup – Connection Type (PPPoA)

#### 4.3 - MER (MAC Encapsulation Routing) Configuration

Click on “Quick Setup” in the left frame and follow the steps below to create a MER connection.

Here you can either select DSL Autoconnect (Modem will attempt to find the correct VPI/VCI settings) or Uncheck the box to manually input the VPI/VCI settings.

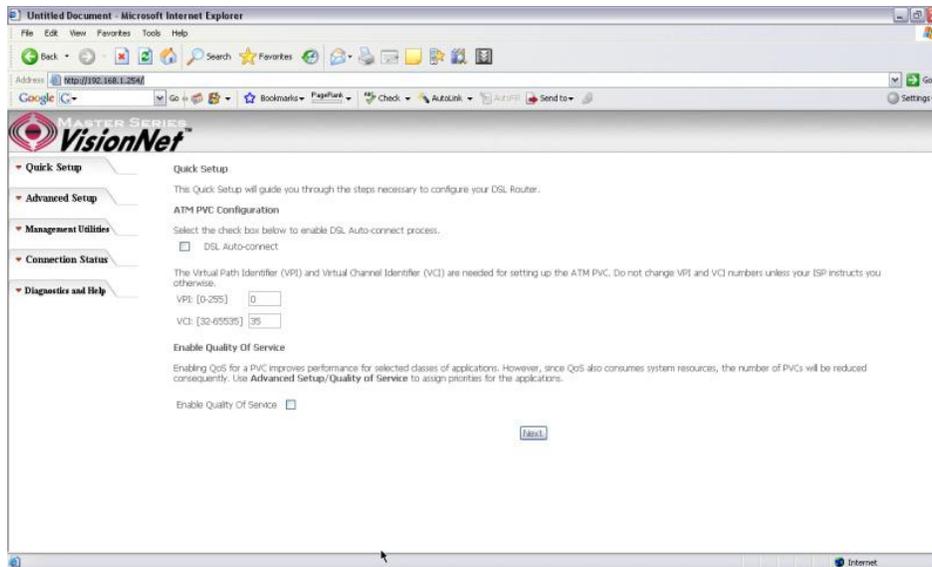


Figure 9. Quick Setup – ATM PVC Configuration (MER)

## Quick Setup – Connection Type

This page is where you select MER (MAC Encapsulation Routing).

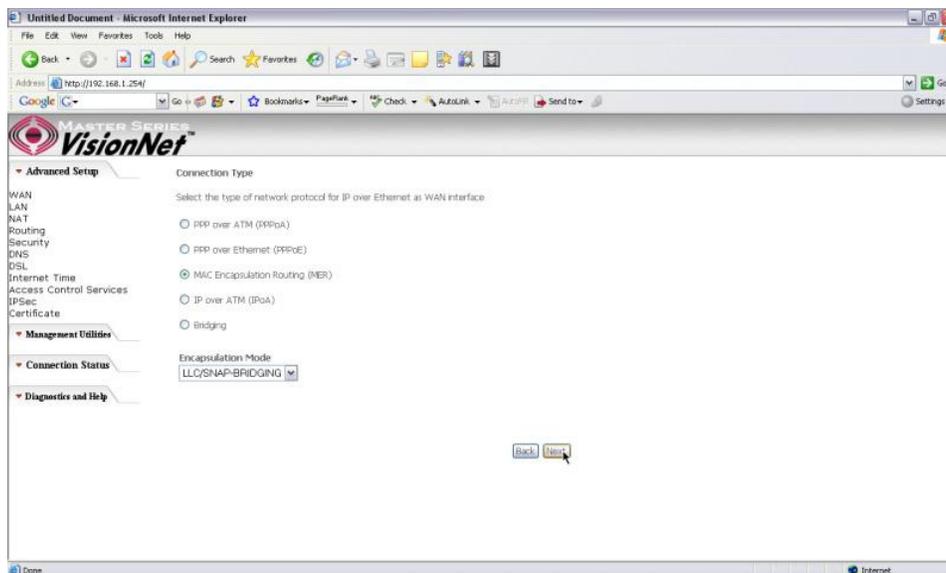


Figure 10. Quick Setup – Connection Type

## Quick Setup – WAN IP Settings

This page is where you either select for the M404/M405 to obtain the IP information automatically (sometime referred to as DHCP connection) or you can input the IP

address if Static IP's were assigned by your Internet Service Provider.

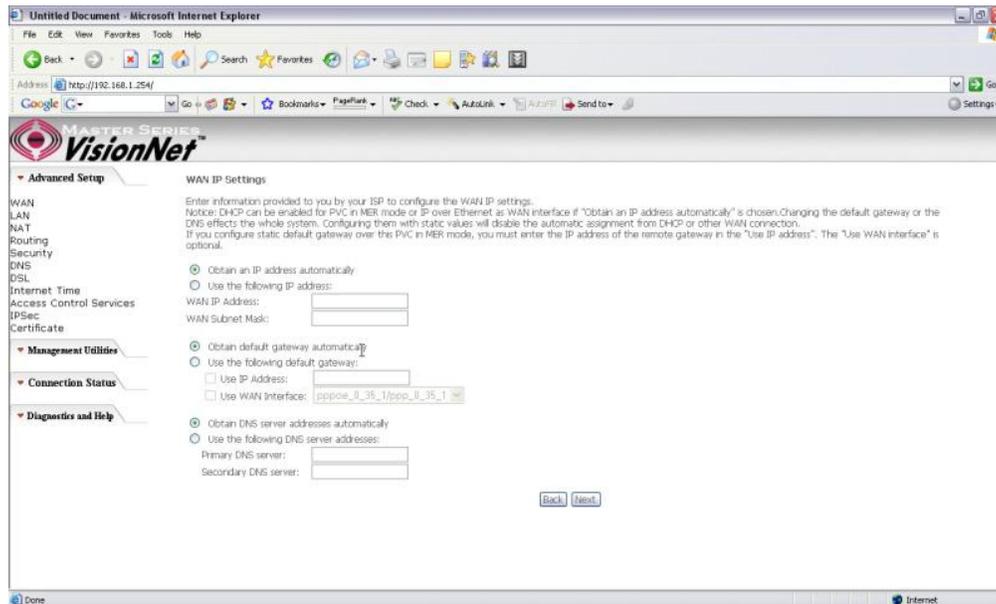


Figure 11. Quick Setup – WAN IP Settings

### Quick Setup – Network Address Translation and IGMP

This page is where you either select to enable NAT (Please enable this option for the M404/405 to route private (Local) IP address to your LAN clients).

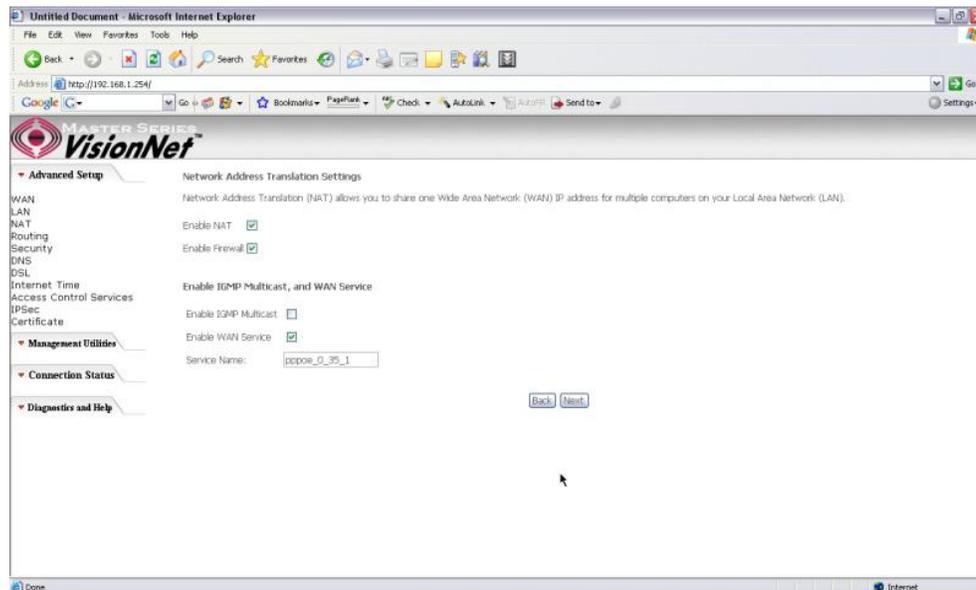


Figure 12. Quick Setup – Network Address Translation and IGMP

## Quick Setup - Device Setup

This page is where you can configure the modem's IP address and Default DHCP server range. Default is 192.168.1.254

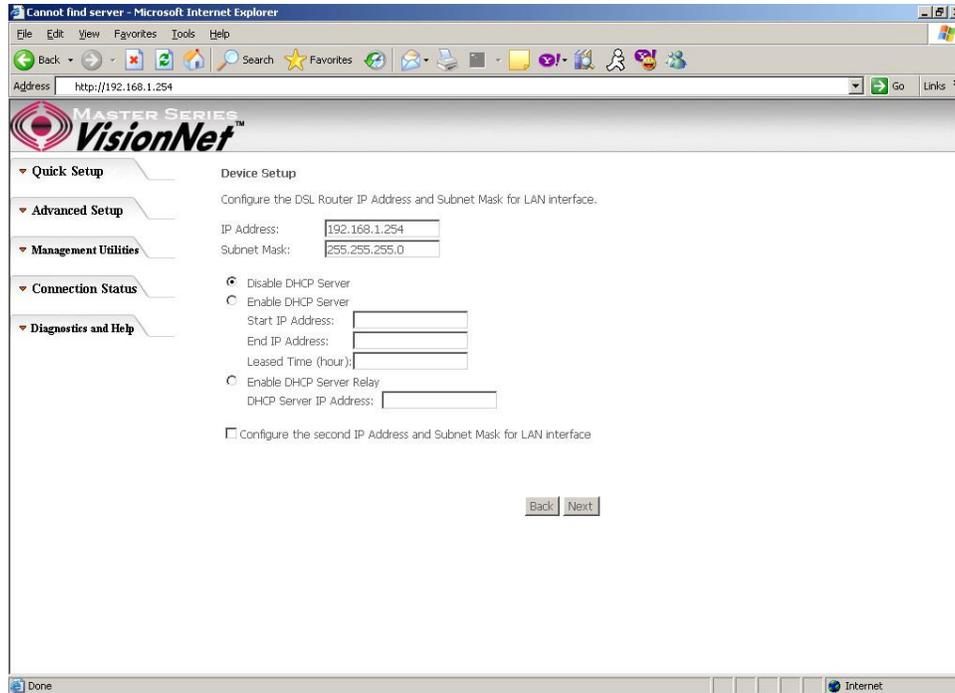


Figure 13. Quick Setup – Device Setup – LAN and DHCP Server

## Quick Setup - Summary

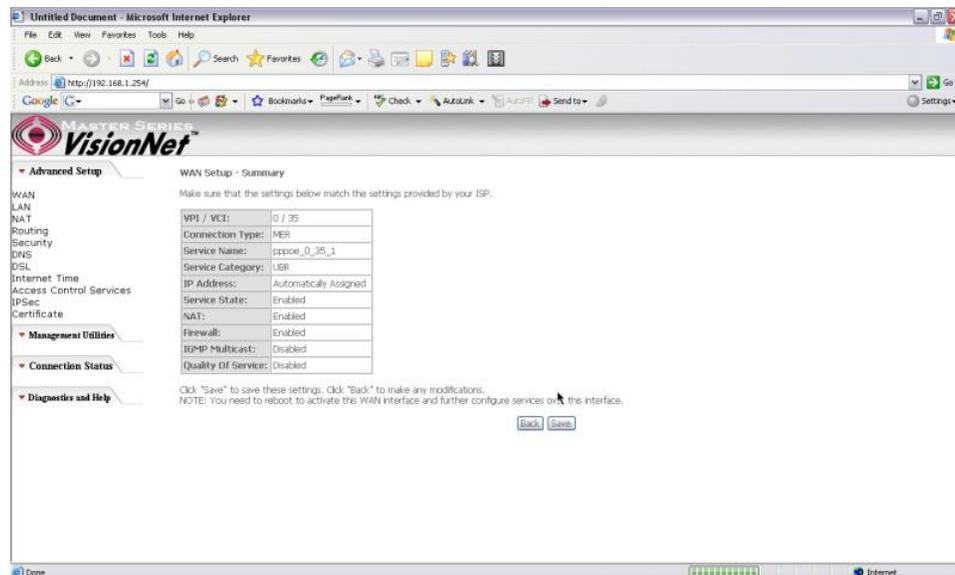


Figure 14. Quick Setup – WAN Setup – Summary

The last page displays a summary of your settings. You must click on the “Save” button to complete the configuration.

## 4.4 - IP over ATM (IPoA) Configuration

Click on “Quick Setup” in the left frame and follow the steps below to create an IPoA connection.

Here you can either select DSL Autoconnect (Modem will attempt to find the correct VPI/VCI settings) or Uncheck the box to manually input the VPI/VCI settings.

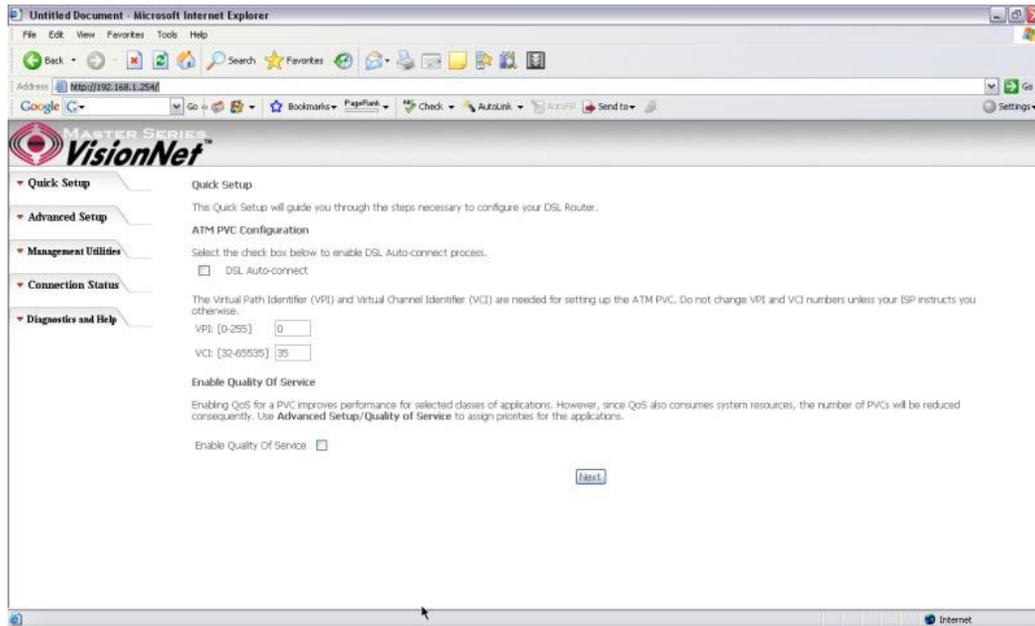


Figure 15. Quick Setup – ATM PVC

### Quick Setup – Connection Type

This page is where you select IPoA (IP over ATM).

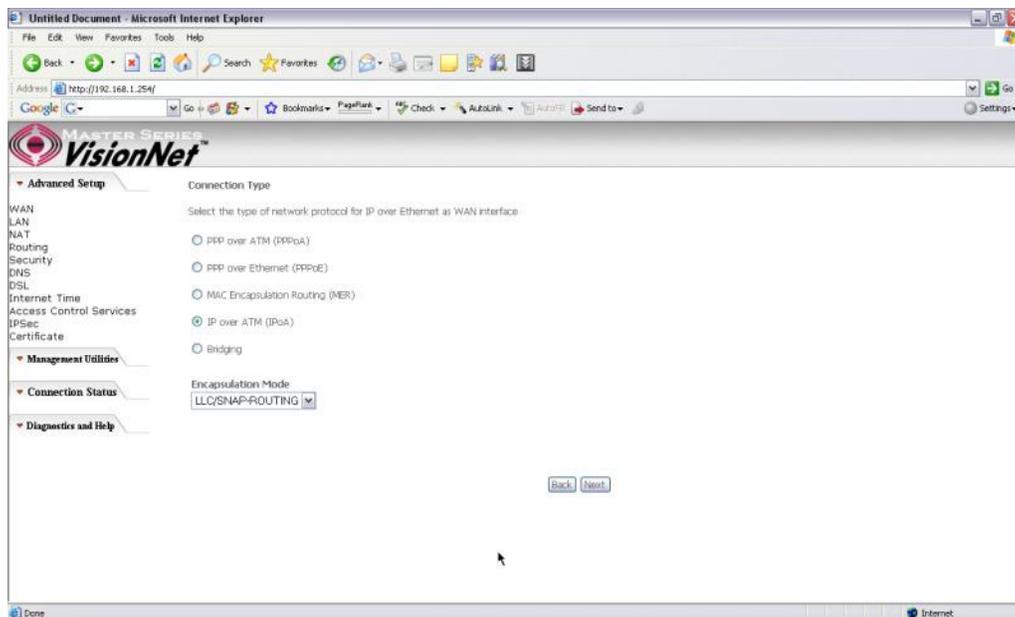


Figure 16. Quick Setup – Connection Type

## Quick Setup – WAN IP Settings

This page is where you input the IP information provided by your ISP. This connection does not support DHCP (Where modem obtains IP information automatically)

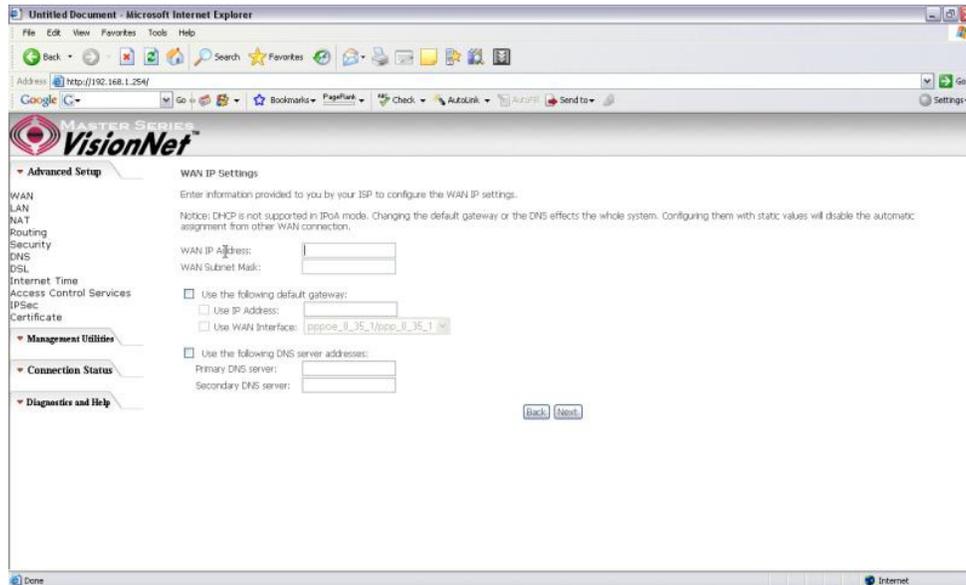


Figure 17. Quick Setup – WAN IP Settings

## Quick Setup – Network Address Translation and IGMP

This page is where you either select to enable NAT (Please enable this option for the M404/M405 to route private (Local) IP address to your LAN clients).

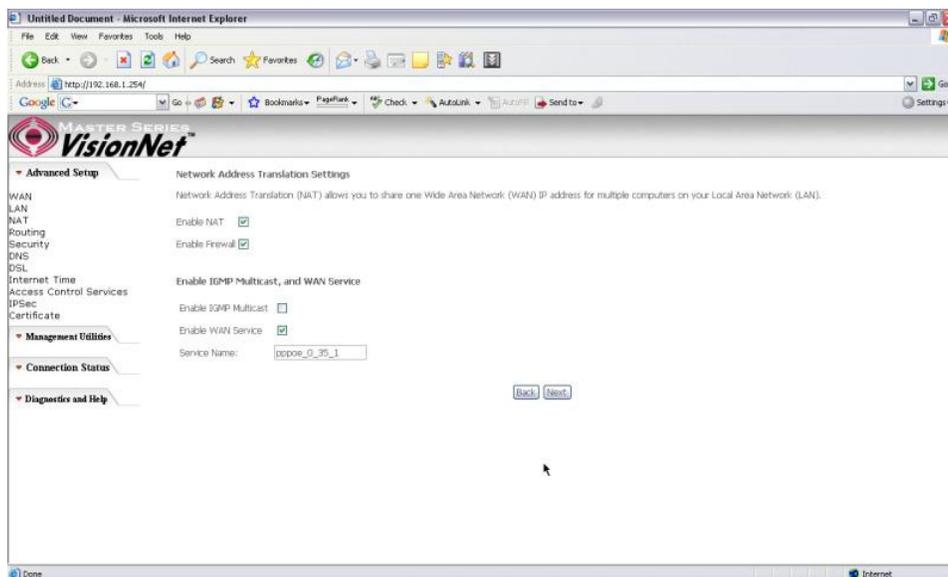


Figure 18. Quick Setup – Network Address Translation and IGMP

## Quick Setup - Device Setup

This page is where you can configure the modem's IP address and Default DHCP server range. Default is 192.168.1.254

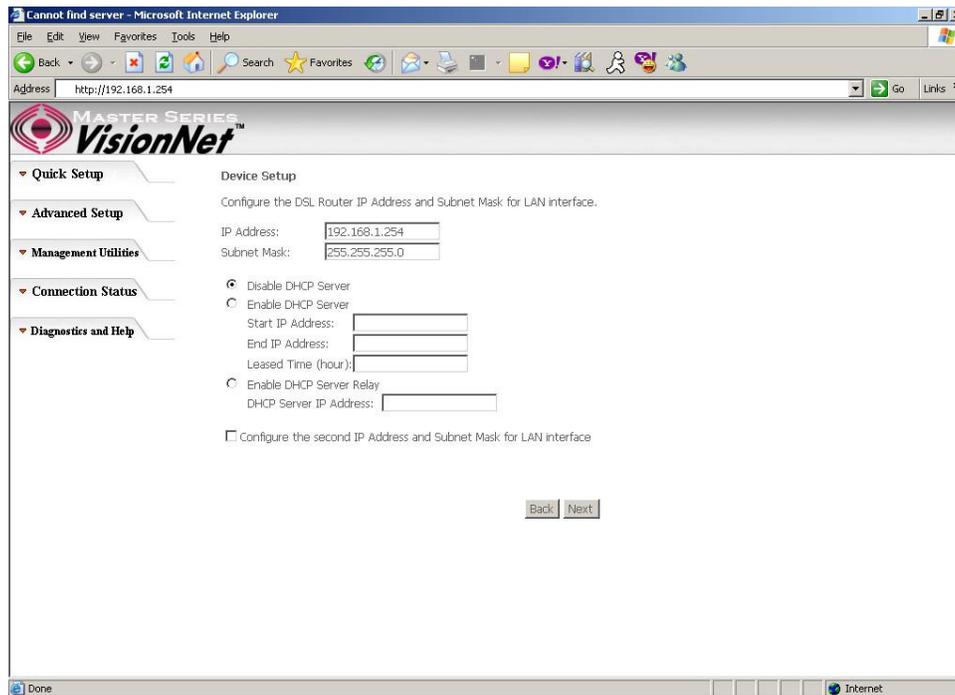


Figure 19. Quick Setup – Device Setup – LAN and DHCP Server

## Quick Setup – Summary

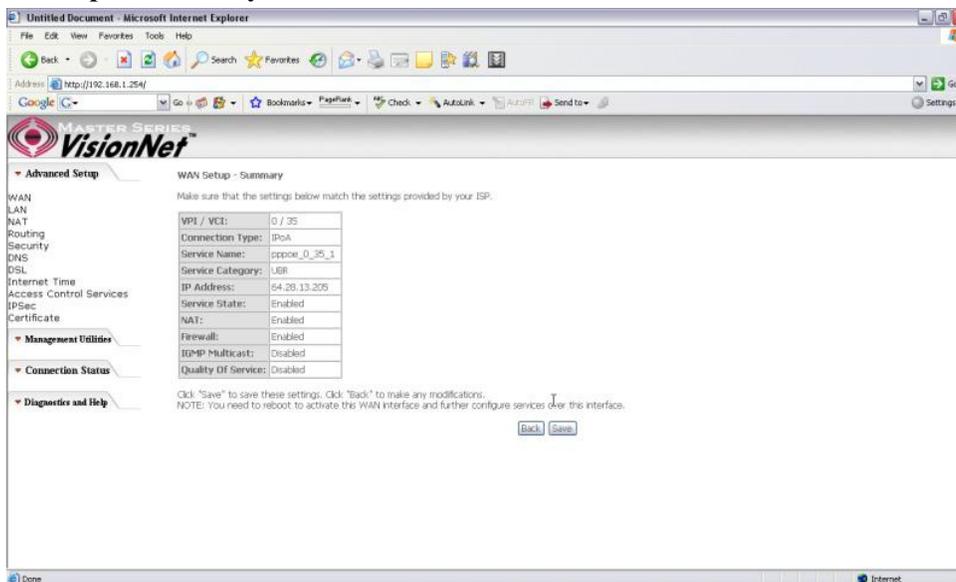


Figure 20. Quick Setup – WAN Setup – Summary

The last page displays a summary of your settings. Click on the “Save” button to complete the configuration.

#### 4.5 - Bridging (Transparent/Pass-through) Configuration

Click on “Quick Setup” in the left frame and follow the steps below to create a Bridge connection.

Here you can either select DSL Autoconnect (Modem will attempt to find the correct VPI/VCI settings) or Uncheck the box to manually input the VPI/VCI settings.

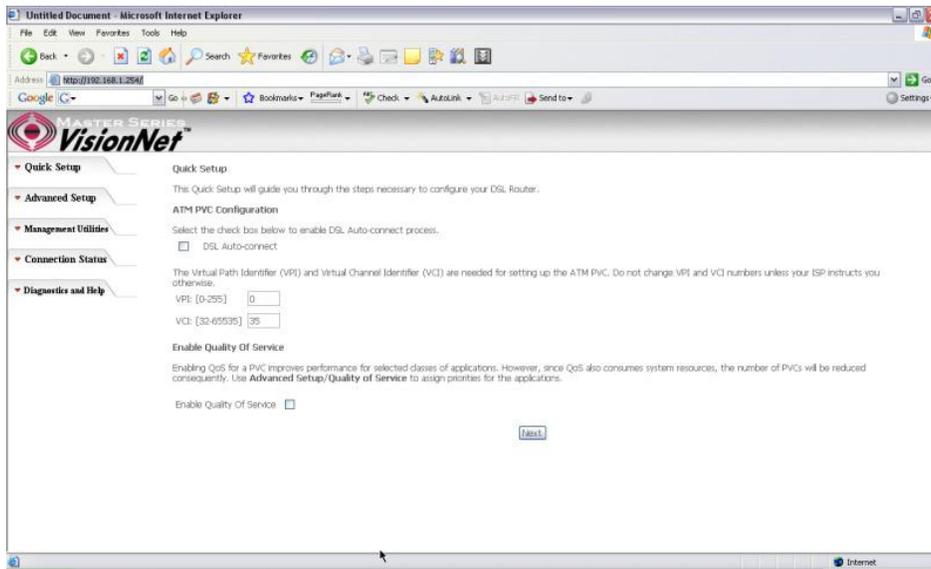


Figure 21. Quick Setup – ATM PVC Configuration

#### Quick Setup – Connection Type

This page is where you select Bridging (Last option).

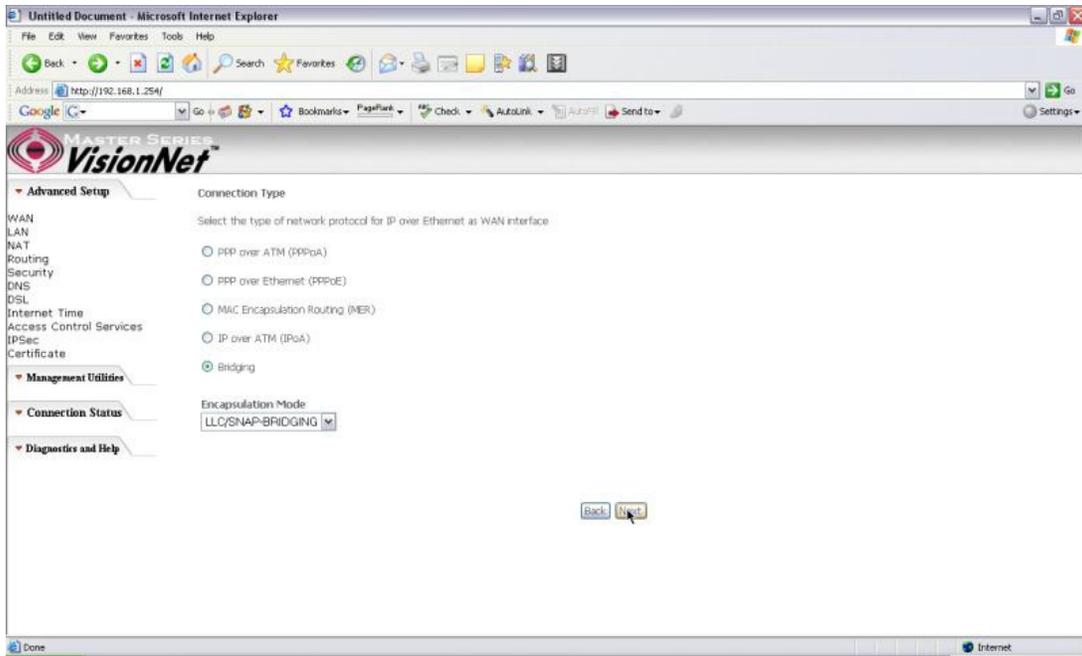


Figure 22. Quick Setup – Connection Type

## Quick Setup – Enabling Bridge Mode

For this page, please check the box “Enabled Bridge Service” and click “Next”

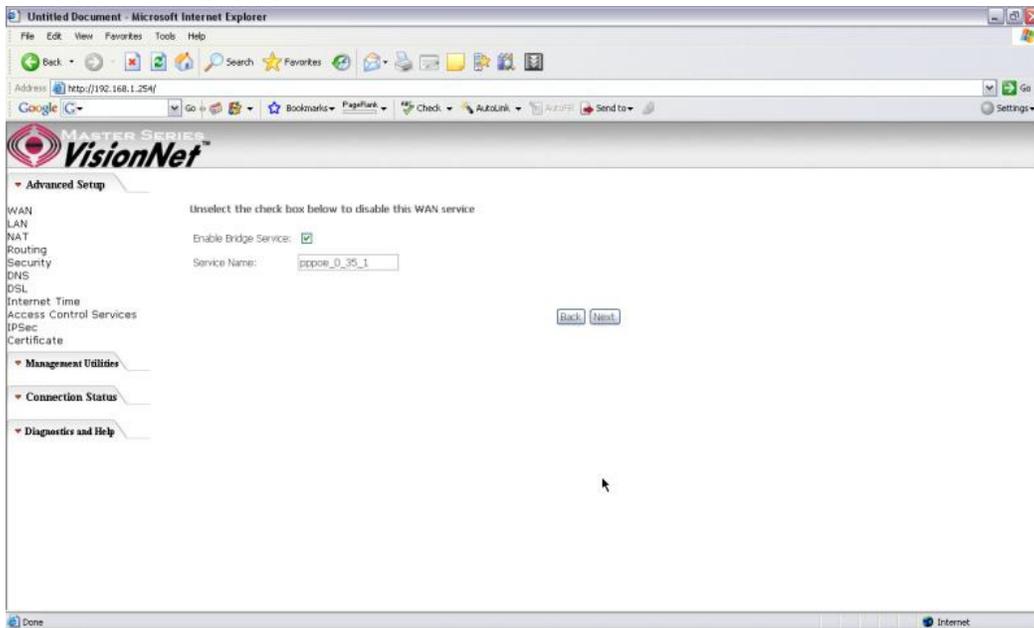


Figure 23. Quick Setup – Enabling Bridge Mode

## Quick Setup – Summary

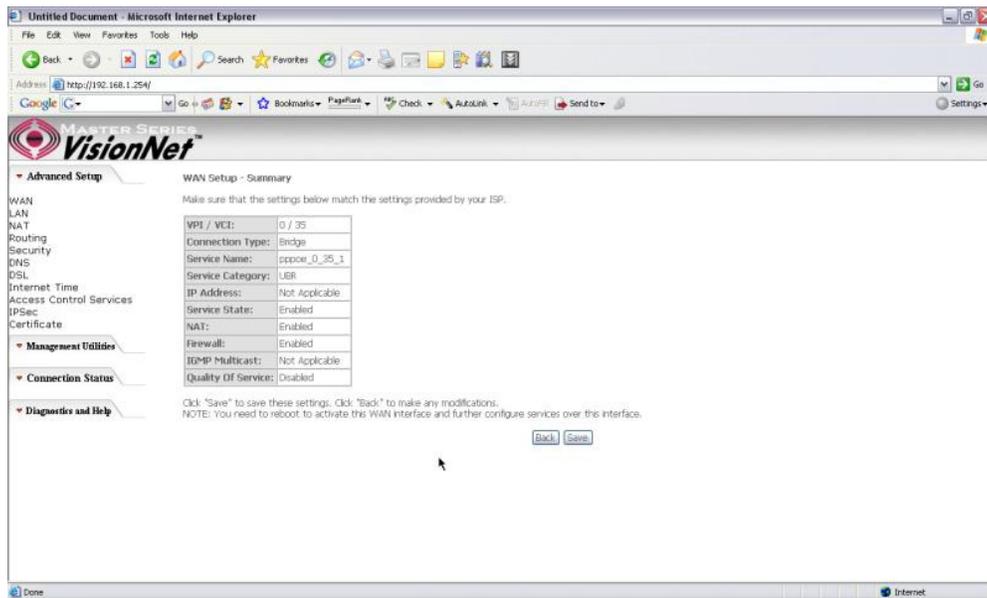


Figure 24. Quick Setup – WAN Setup – Summary

The last page displays a summary of your settings. Please click the “Save” button to complete the configuration process.

# 5. Advanced Setup

Advanced Setup allows system administrator to configure the following topics:

- WAN
- LAN
- NAT
- Routing
- Security
- DNS
- DSL
- Internet Time
- Access Control Services
- IPSec
- Certificates

## 5.1 - WAN

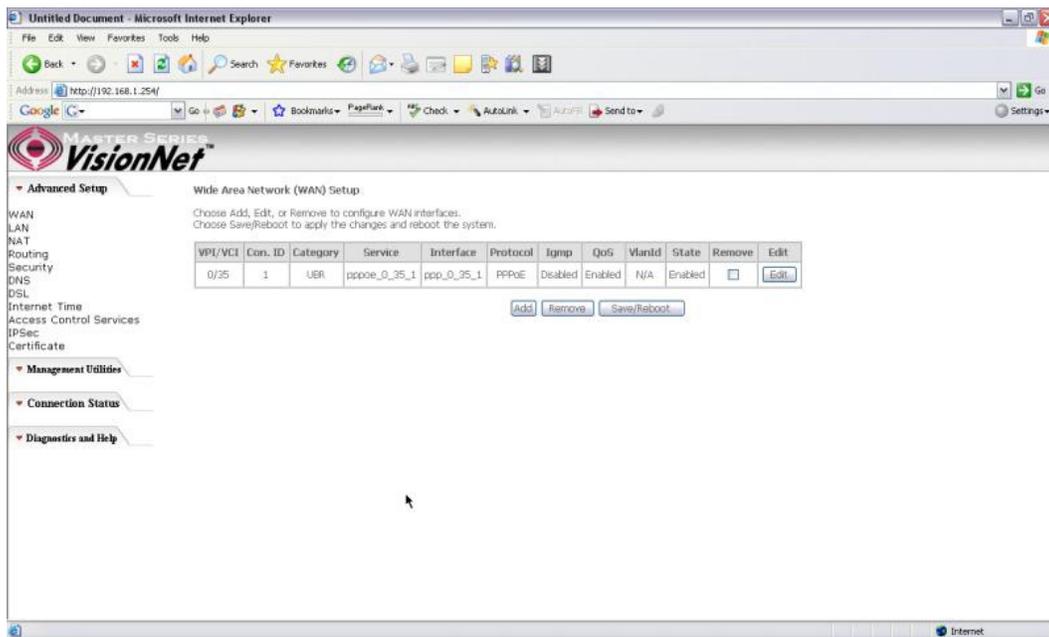


Figure 25. Advanced Setup – WAN

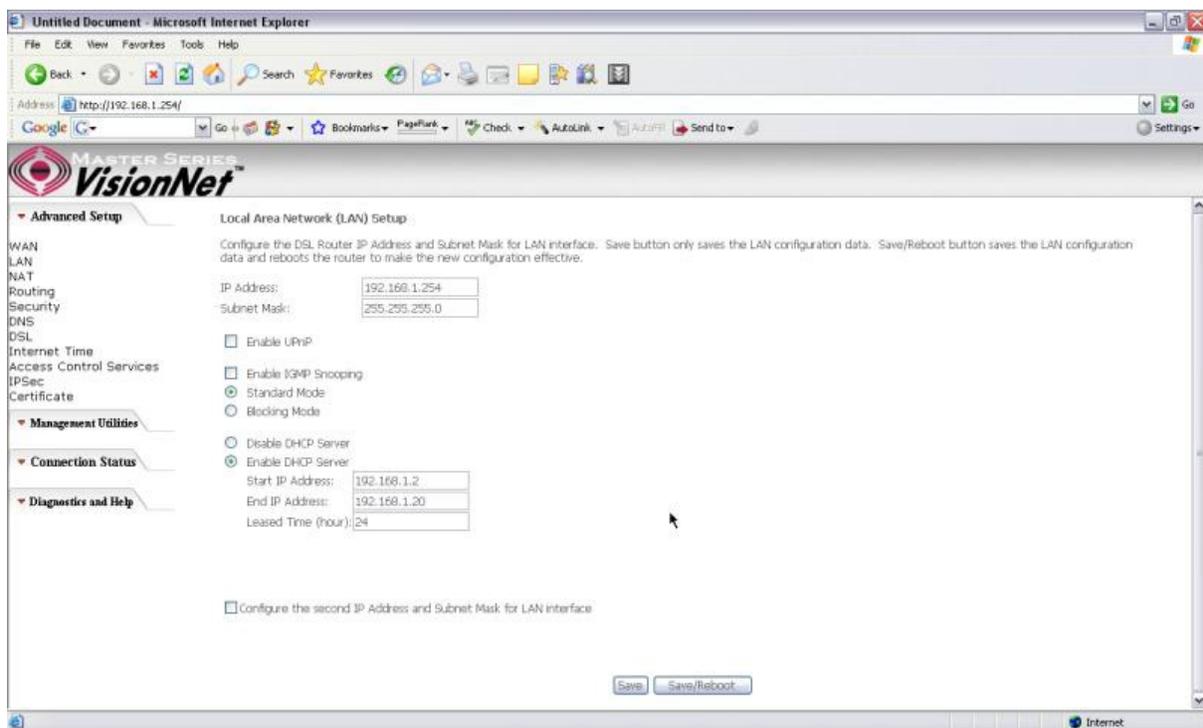
This page shows the current existing WAN interfaces in the system. User can choose to *Add*, *Edit*, or *Remove* WAN interfaces. Clicking the “Add” button will take the user to a wizard similar to the Quick Setup (Chapter 4) wizard, where additional WAN protocols can be configured.

Protocols supported:

**PPPoE, PPPoA, IP over ATM (IPoA), Bridging, MAC Encapsulation Routing (MER).**

Please refer to **Section 4** for additional information regarding creating WAN Connections.

## 5.2 - LAN



*Figure 26. LAN Setup page*

Input the IP Address and Subnet Mask of your M404/M405. (Default: 192.168.1.254)

Check the box if you want to enable UPnP and/or IGMP Snooping.

Disable/Enable DHCP Server, and change the starting and ending IP address of your server pool if needed.

Check the “Configure the second IP Address and Subnet Mask for LAN interface” if a second IP address is used.

## 5.3 - NAT

Three functions are supported in NAT: Virtual Servers, Port Triggering, and DMZ Host.

### Virtual Servers

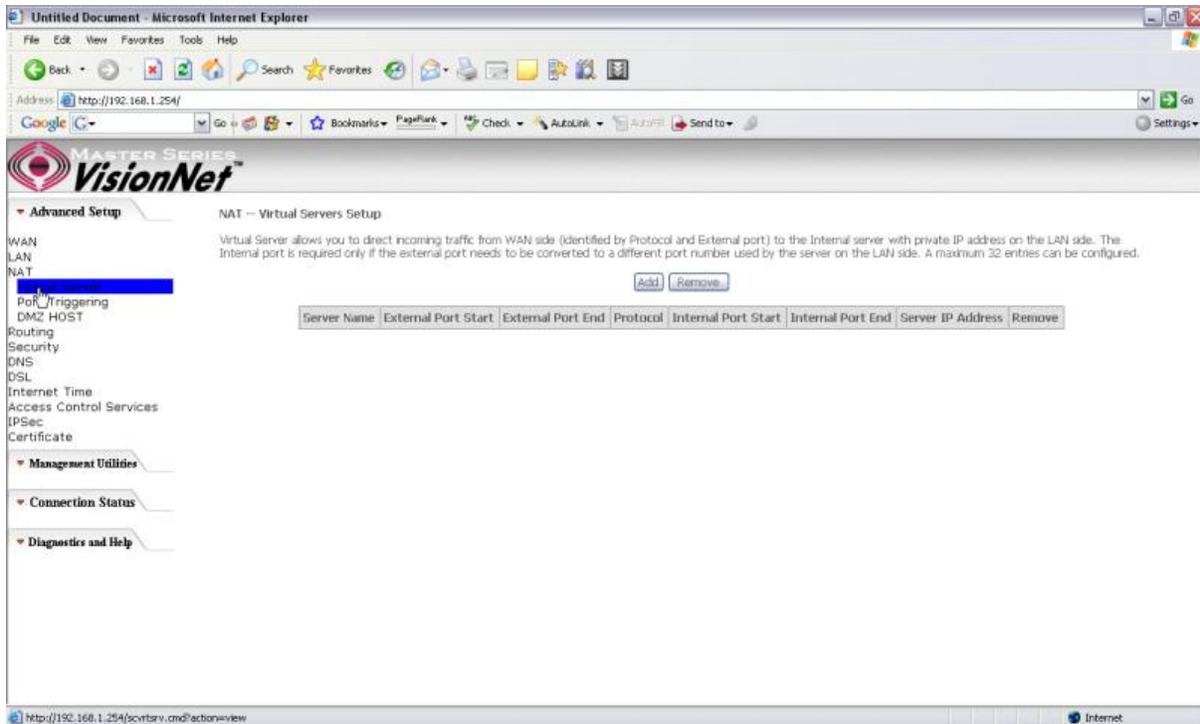


Figure 27. Advanced Setup – NAT

Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with 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.

Click on “Add” to enter configuration page to add your own rule(s). Some common used servers (Web, FTP, Mail, ...etc.) are already pre-defined for the M404/M405. User can simply select the desired server from the pull-down menu and assign the IP address of the local PC.

To delete the configured rule(s), check the “Remove” box of the specific rule(s) and click on “Remove”.



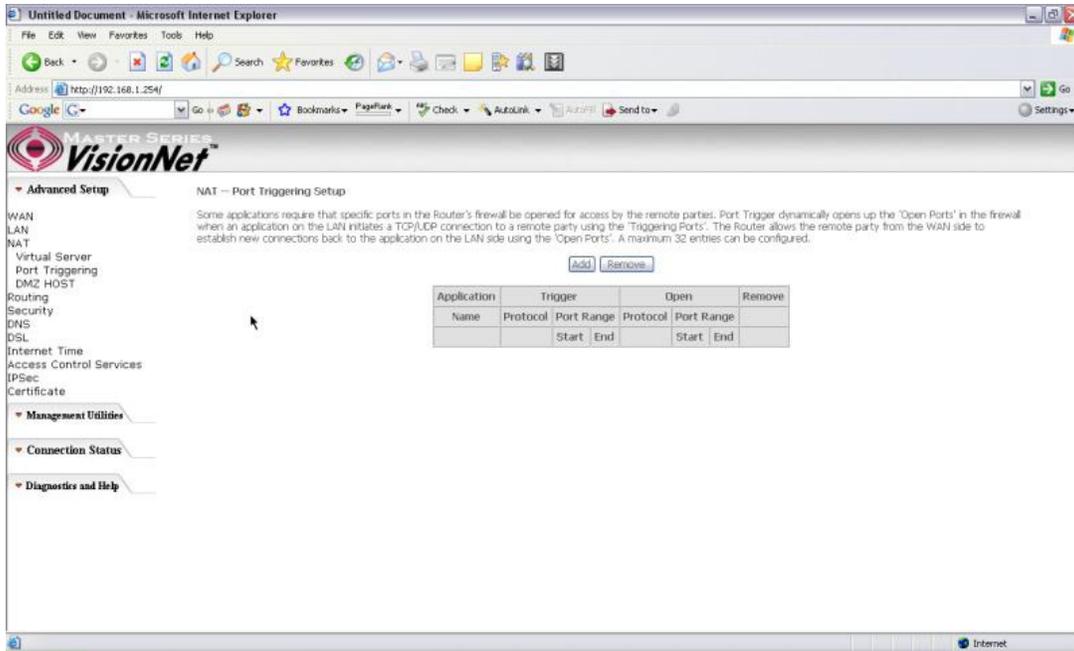


Figure 29. Advanced Setup – NAT – Port Triggering

Click on “Add” to enter the configuration page to add your own rule(s). Some games, video conferencing, remote access applications and other software might require that specific ports in the Router's firewall be opened for access. You can configure the port settings from this screen by selecting an existing application or creating your own (Custom application) and click “Save/Apply” to add it.

To delete the configured rule(s), check the “Remove” box of the specific rule(s) and click on “Remove”.

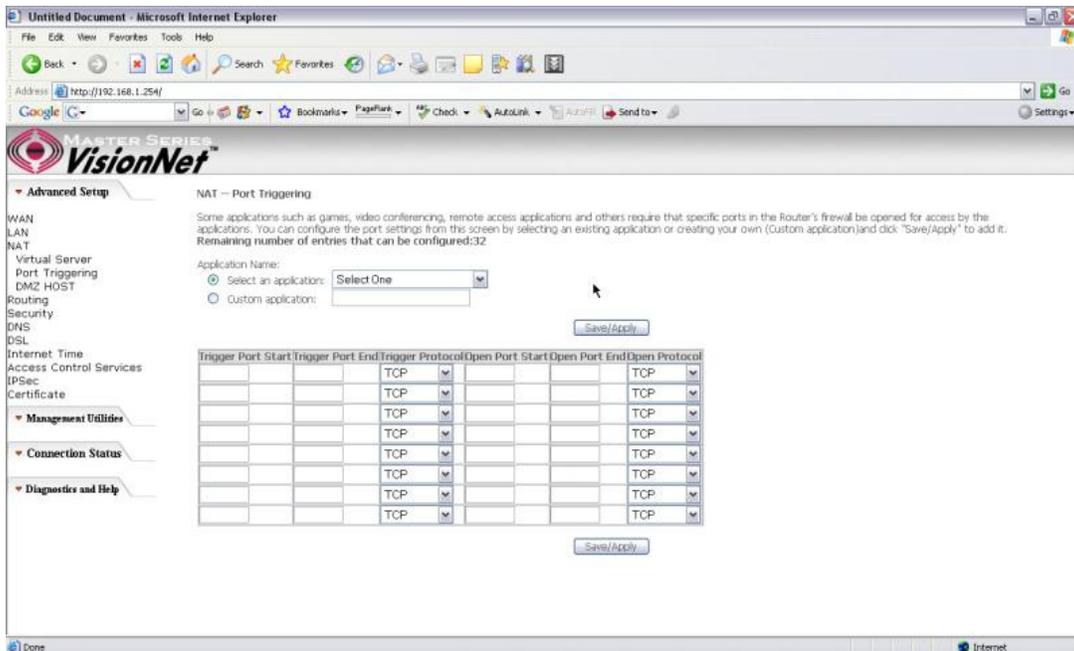


Figure 30. Advanced Setup – NAT – Add Port Triggering

## DMZ Host

The DSL router will forward IP packets from the 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 “Save/Apply” to activate the DMZ host.

Clear the IP address field and click “Save/Apply” to deactivate the DMZ host.

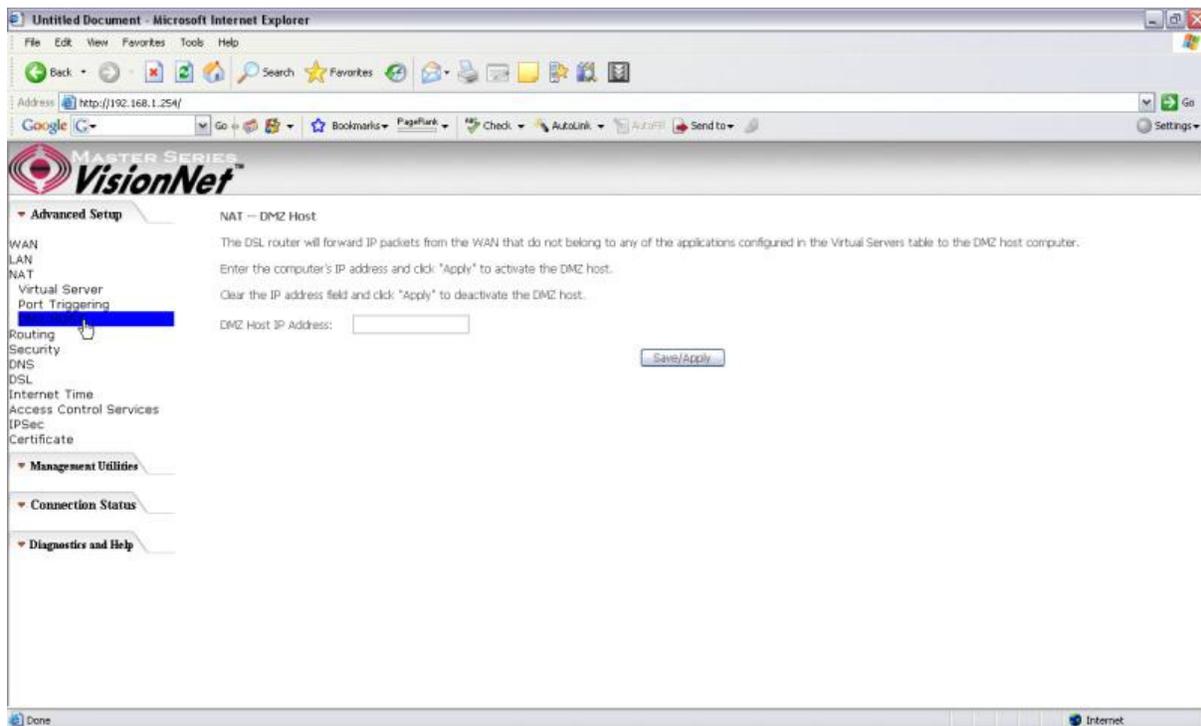


Figure 31. Advanced Setup – NAT – DMZ Host

## 5.4 - Routing

There are three routing related settings:

### Routing – Default Gateway

If the “Enable Automatic Assigned Default Gateway” checkbox is selected, the M404/M405 will accept the first received default gateway assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s). If the checkbox is not selected, enter the static default gateway AND/OR a WAN interface. Click the “Save/Apply” button to save it.

**NOTE:** If changing the “Enable Automatic Assigned Default Gateway” from unselected to selected, you must reboot your M404/M405 to activate the automatically assigned default gateway.

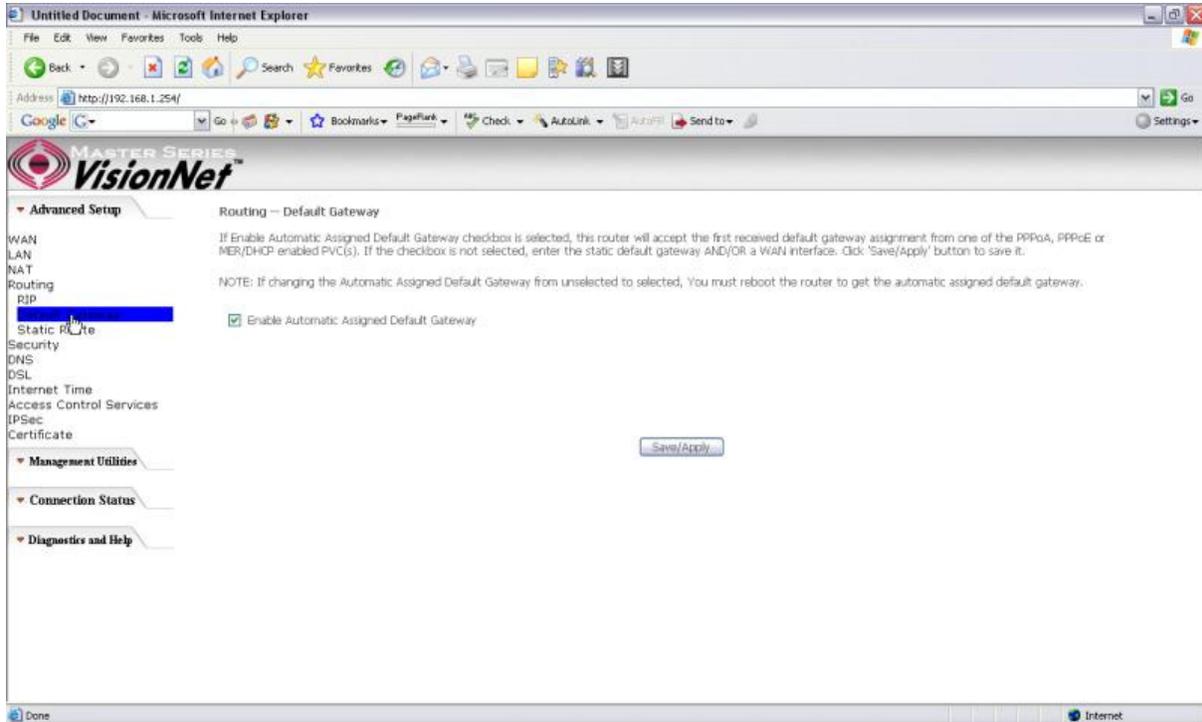


Figure 32. Advanced Setup – Routing – Default Gateway

### Routing – Static Route

Click on “Add” to create a new Static Route. Up to 32 entries can be configured.

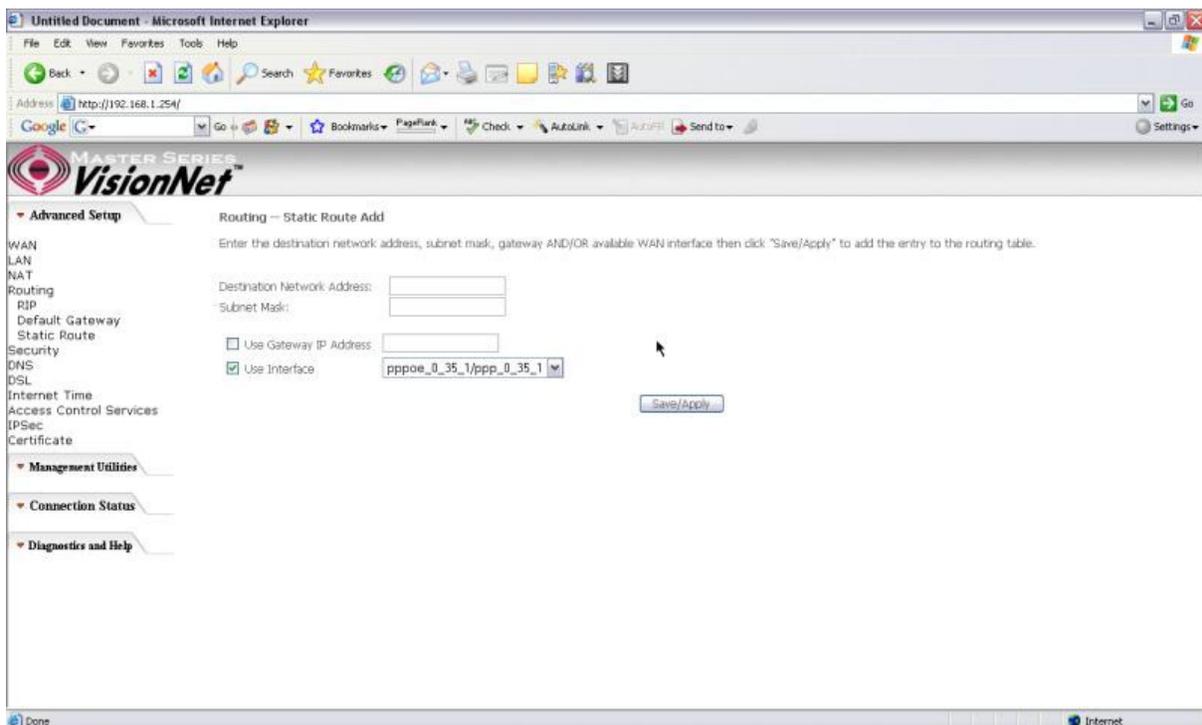


Figure 33. Advanced Setup – Routing – Add New Static Route

Enter the destination network address, subnet mask, gateway AND/OR available WAN interface, then click “Save/Apply” to add the entry to the routing table.

## Routing – RIP

The Routing Information Protocol (RIP) is designed for exchanging routing information within a small to medium-size network.

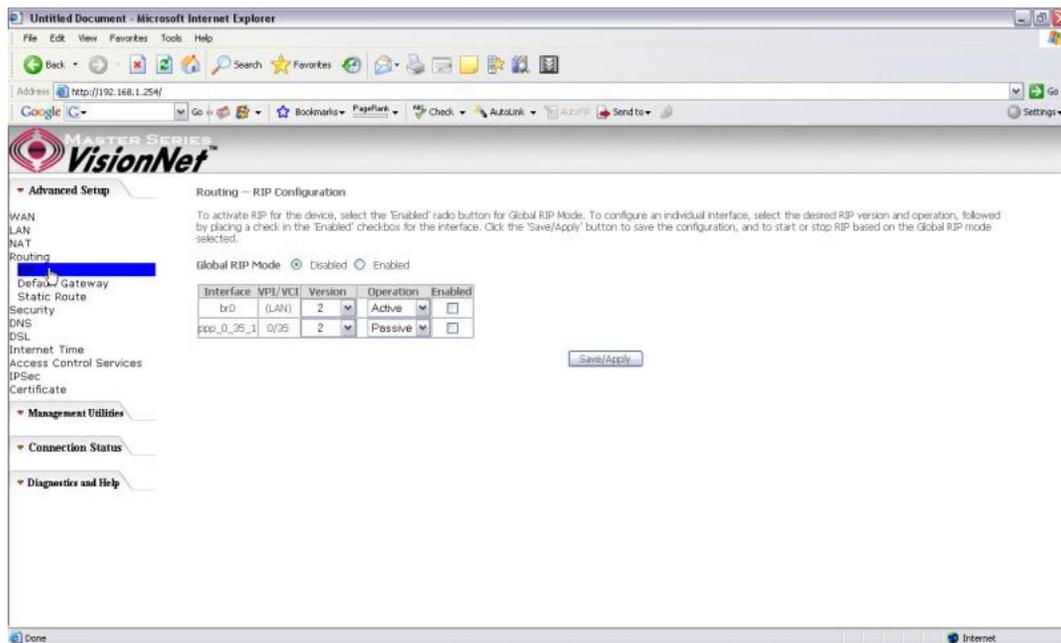


Figure 34. Advanced Setup – Routing – RIP

To configure an individual interface, select the desired RIP version and operation:

**RIP Version 1:** Class-based IP network.

**RIP Version 2:** Classless IP network.

**Operation Active:** Broadcast and listen to other RIP enabled devices.

**Operation Passive:** Listen only.

Place a check in the “Enabled” checkbox next to the interface to complete the configuration. Click the “Save/Apply” button to save the configuration. To start/stop RIP for the M404/M405, select the “Enabled/Disabled” radio button for “Global RIP Mode”.

## 5.5 - Security

Two functions are supported in Firewall: Outgoing IP Filtering and MAC Filtering.

### Firewall – Outgoing IP Filtering

By default, all outgoing IP traffic from LAN is allowed, but some IP traffic can be BLOCKED by setting up filters. Choose “Add” to configure outgoing IP filters. To remove, check the item and click “Remove”.

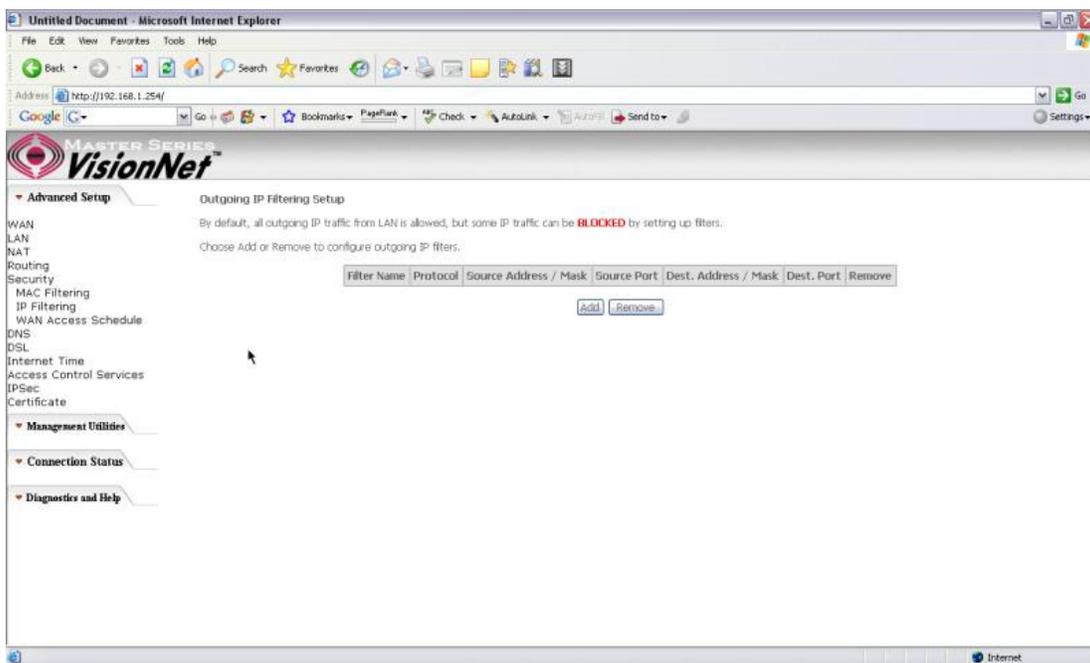


Figure 35. Advanced Setup – Security – Outgoing IP Filtering Setup

The screen allows you to create a filter rule to identify outgoing IP traffic by specifying a filter name and at least one of the conditions below. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Click “Save/Apply” to save and activate the filter.

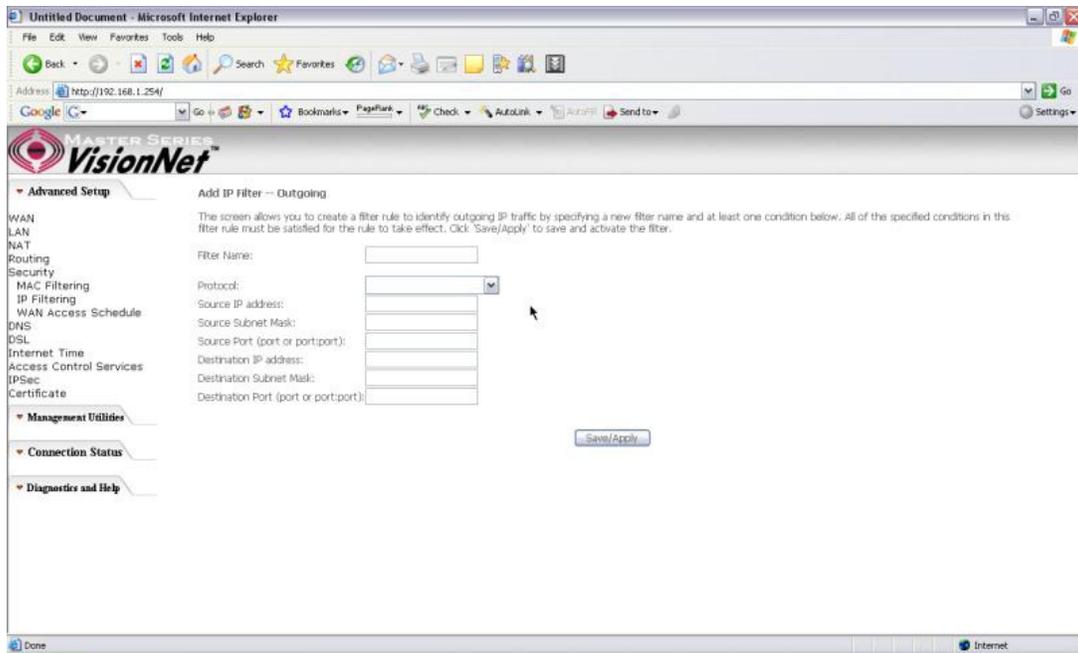


Figure 36. Advanced Setup – Security – Add new Outgoing IP Filter

## Security – WAN Access Control

WAN Access Control allows users to create time of day restrictions to a specific LAN device connected to the Router. Click “Add” to configure restriction rules. To remove, check the item and click “Remove”. Up to 16 entries can be configured and used.

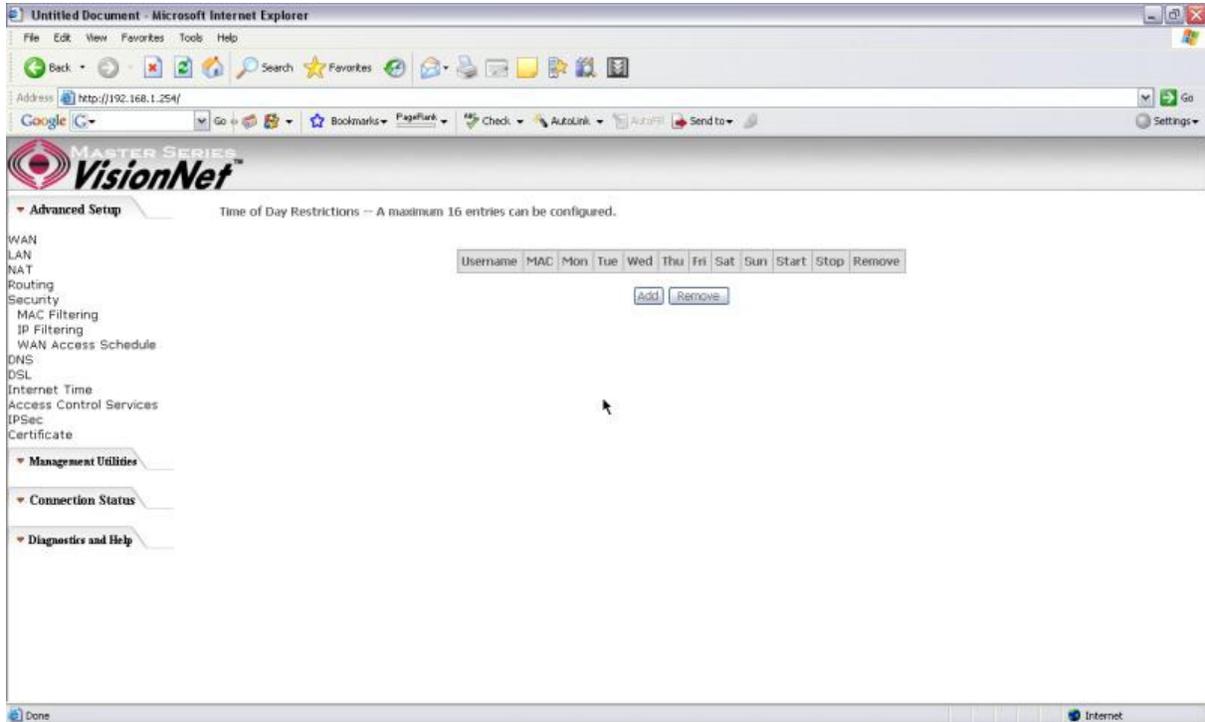


Figure 37. Advanced Setup – Security – WAN Access Control

The MAC Address of the current “browser” will automatically display on the “Browser’s MAC Address” box. To restrict another LAN device, click the “Other MAC Address” button and enter the MAC address of that LAN device.

To find out the MAC address of a Windows-based PC, go to the command prompt window and type “ipconfig /all”. Click “Save/Apply” to save and activate the restriction rule.

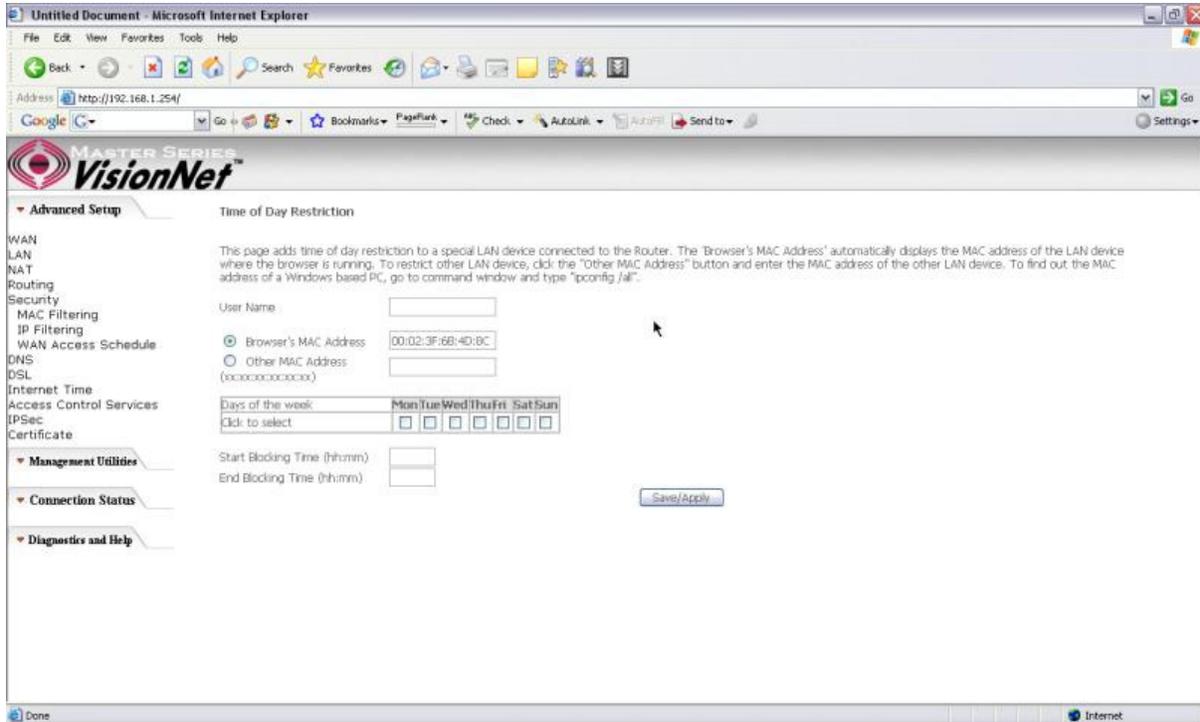


Figure 38. Advanced Setup – Security – Add new Parental Control restriction

## 5.6 - DNS

### DNS Server

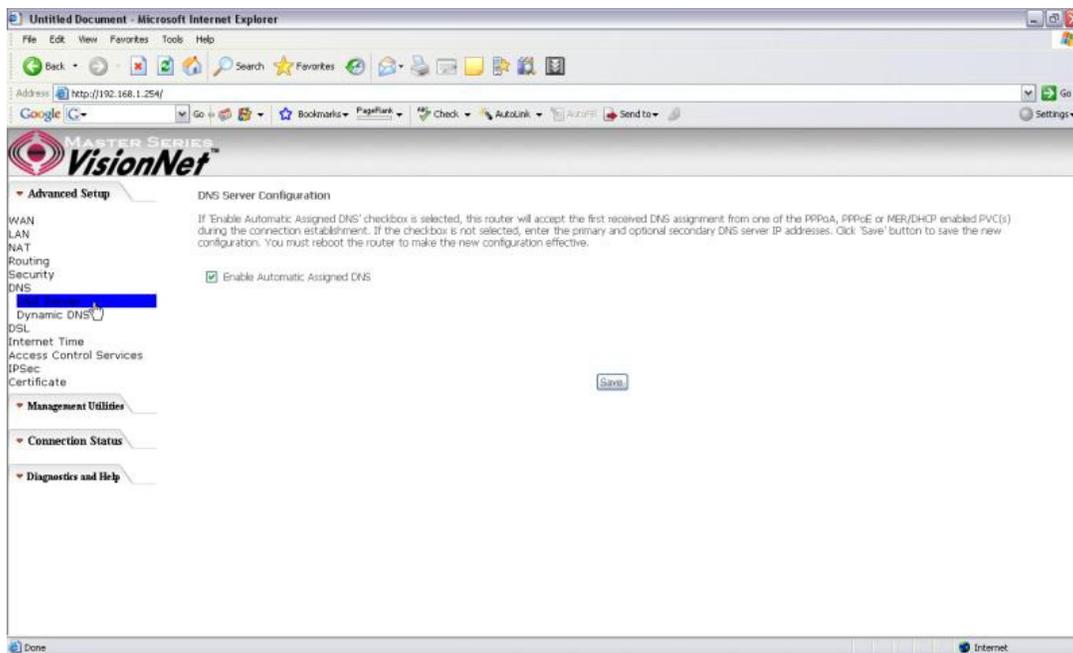


Figure 39. Advanced Setup – DNS Server

If “Enable Automatic Assigned DNS” checkbox is selected, the M404/M405 will accept the first received DNS assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s) during the connection establishment. If the checkbox is not selected, enter the primary and optional secondary DNS server IP addresses. Click the “Save” button to save it.

**NOTE:** If changing from unselected “Enable Automatic Assigned DNS” to selected, you must reboot the M404/M405 to get the automatic assigned DNS addresses.

### Dynamic DNS

The Dynamic DNS service allows you to give a dynamic IP address a static hostname in any of the domains. This function allows your M404/M405 to be more easily accessible from various locations of the Internet.

Choose “Add” to configure Dynamic DNS.

Before you proceed, please visit one of these two websites to receive your own Dynamic DNS service: [www.dyndns.org](http://www.dyndns.org) or [www.tzo.com](http://www.tzo.com).

To remove, check the item and click “Remove”

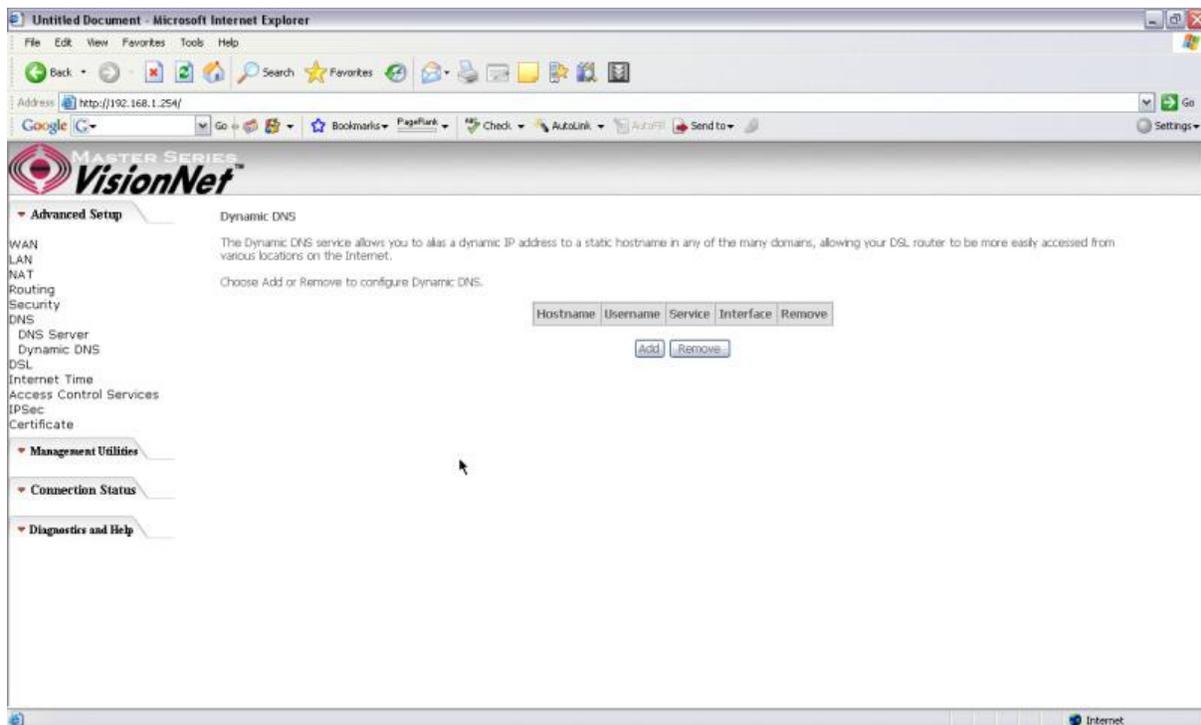


Figure 40. Advanced Setup – DNS – Dynamic DNS

Select your Dynamic DNS service provider from ‘D-DNS provider’, and enter your registration information. Click “Save/Apply” to save the configuration.

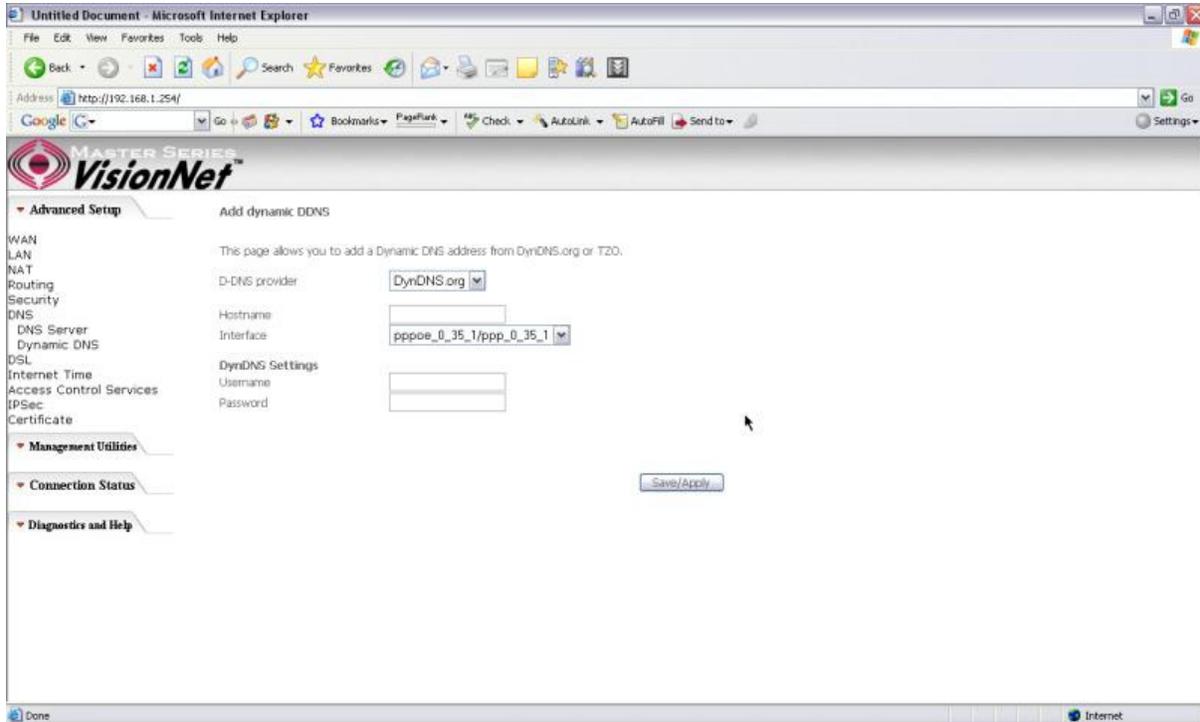


Figure 41. Advanced Setup – DNS – Add Dynamic DNS

## 5.7 - DSL

This page allows you to choose which handshake protocols you want your M404/M405 to look through when training. Uncheck any of the listed protocols that have “Enabled” at the end of it to have the modem skip that protocol when synchronizing with your ADSL line. Leave it checked if you would like the modem to cycle through those settings.

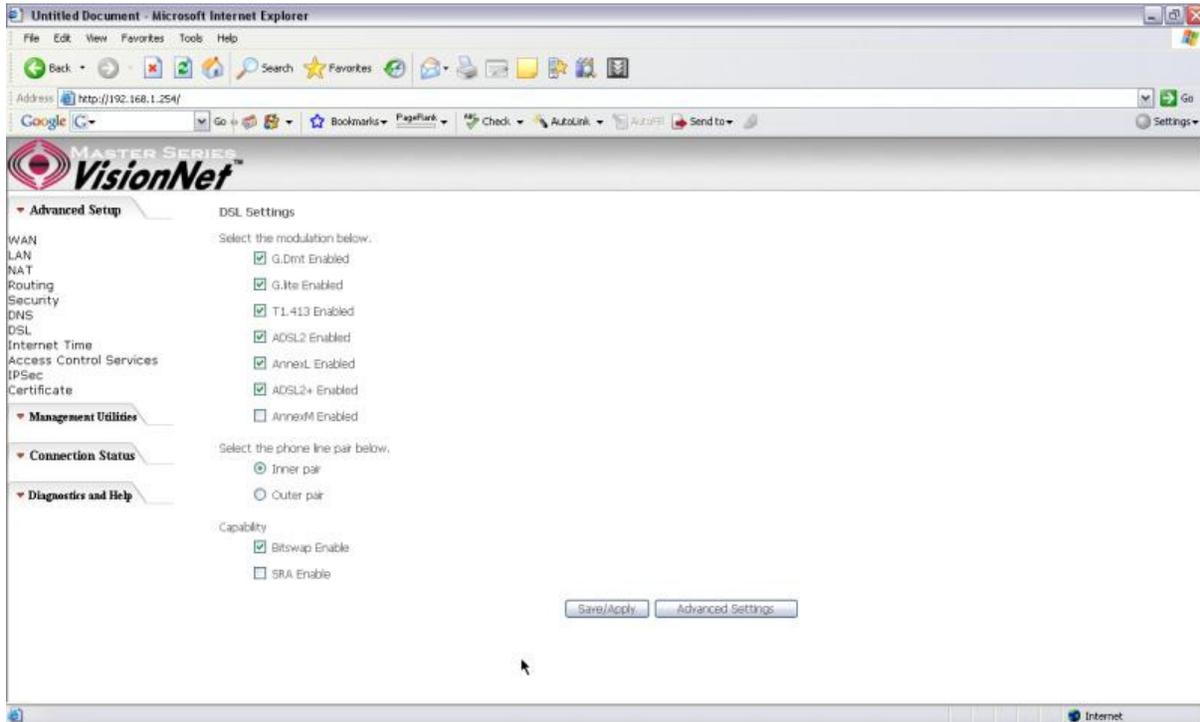


Figure 42. Advanced Setup – DSL Settings

## 5.8 - Internet Time

The M404/M405 can synchronize its internal time with an Internet time server when available. To enable this function, check “Automatically synchronize with Internet time servers”. Select First and Second NTP time server from the pull down menu. Or select “Other” and define your preferred NTP server. Choose the time zone from “Time zone offset”. Click on “Save/Apply” to save the configuration.

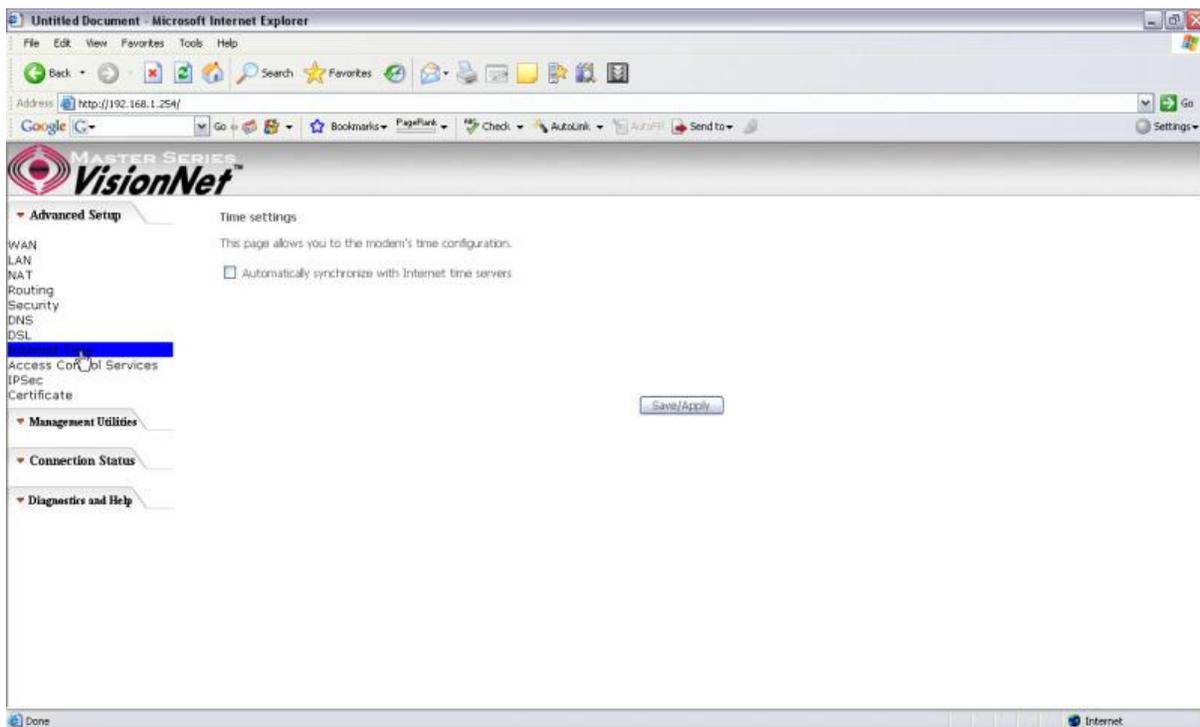


Figure 43. Advanced Setup - Internet Time

## 5.9 - Access Control Services

### Services

The M404/M405 browser management tool is protected by three categories: Services, IP addresses, and Passwords. All three must be matched (if configured) to gain access to the management tool.

All services are enabled from LAN side and disabled from WAN side by default.

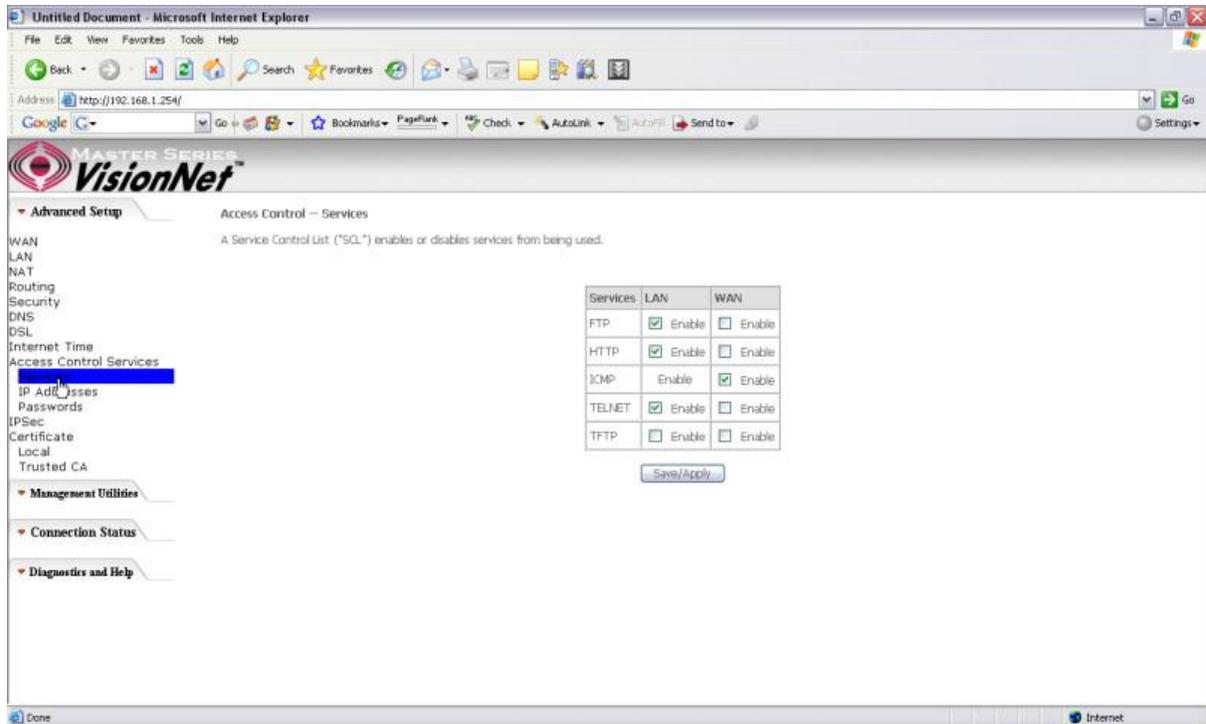


Figure 44. Advanced Setup - Access Control - Service

## IP Addresses

The IP Address Access Control mode, if enabled, permits access to local management services from IP addresses contained in the Access Control List. If the Access Control mode is disabled, the system will not validate IP addresses for incoming packets. The services are the system applications listed in the Service Control List.

Click “Add” to add an IP address to the Access Control List. To remove, mark the Remove option of the specified IP address, then click “Remove” to remove the IP address from the Access Control List. Up to 16 hosts can be configured here.

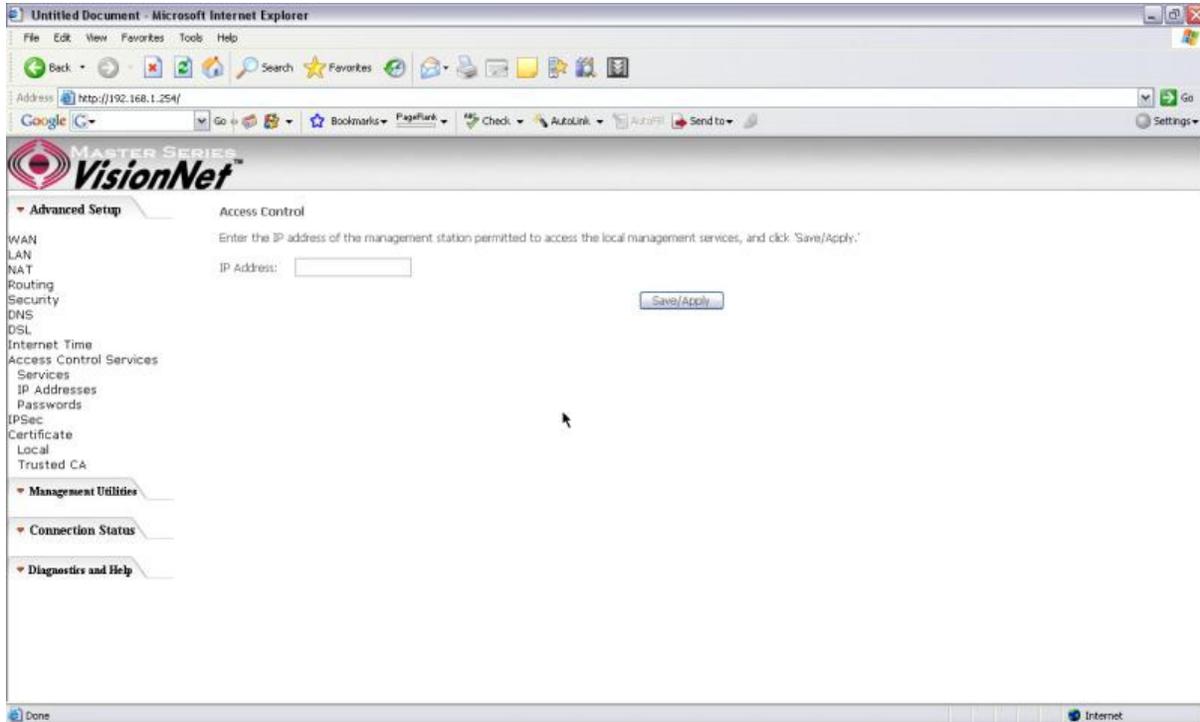


Figure 45. Advanced Setup - Access Control – IP Addresses

## Passwords

Access to your router is controlled through three user accounts: **admin**, **support**, and **user**.

- admin**: has unrestricted access to change and view the M404/M405 configuration.
- support**: is used to allow an ISP technician to access the M404/M405 for maintenance and to run diagnostics.

**user**: can access the M404/M405 to view configuration settings and statistics, as well as, update the M404/M405 software.

Use the fields below to enter up to 16 characters and click “Save/Apply” to change or create passwords.

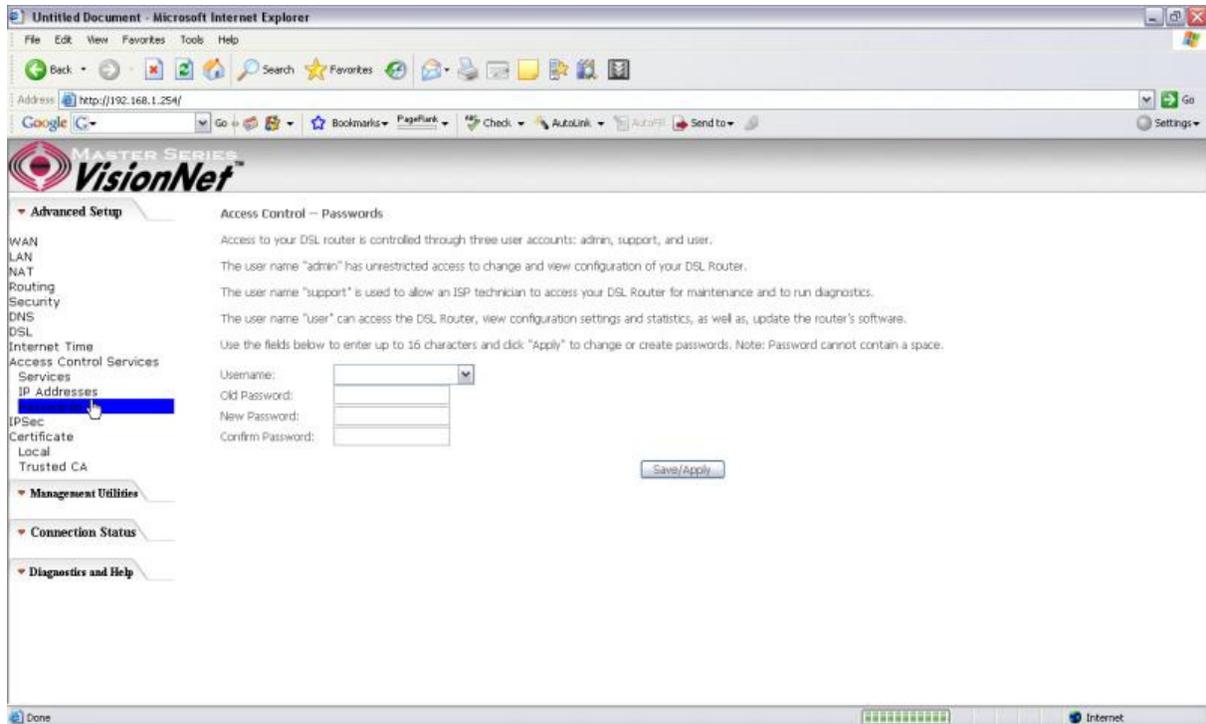


Figure 46. Advanced Setup - Access Control – Passwords

## 5.10 - IPsec

The M404/M405 also has the ability to create a VPN (Virtual Private Network) tunnel using IPsec as the security measure. VPN allows user to remotely connect to a network using their Broadband connection. Please refer to your ISP and Network Administrator for detail settings regarding VPN IPsec.

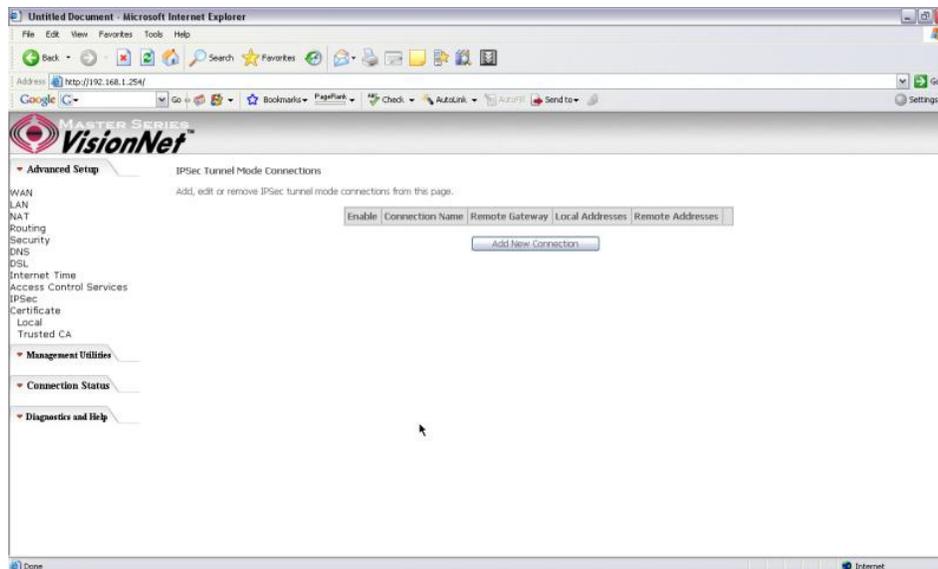


Figure 47. Advanced Setup – IPsec

Click the “Add” button create a new VPN connection

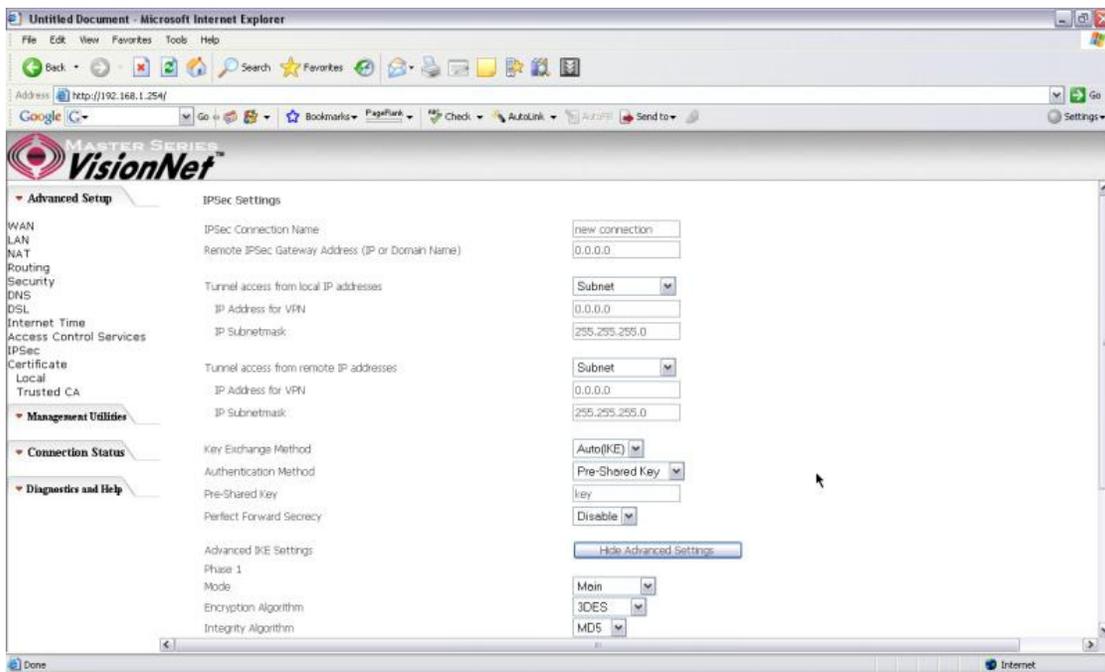


Figure 48. Advanced Setup – IPsec Add

## 5.11 - Certificate

This page allows user to authenticate their VPN session using certificate. Some VPN network requires this. There are two sections: Local and Trusted CA.

**LOCAL** option: A maximum of 4 certificates are supported. You can either import or send a request for certificates.

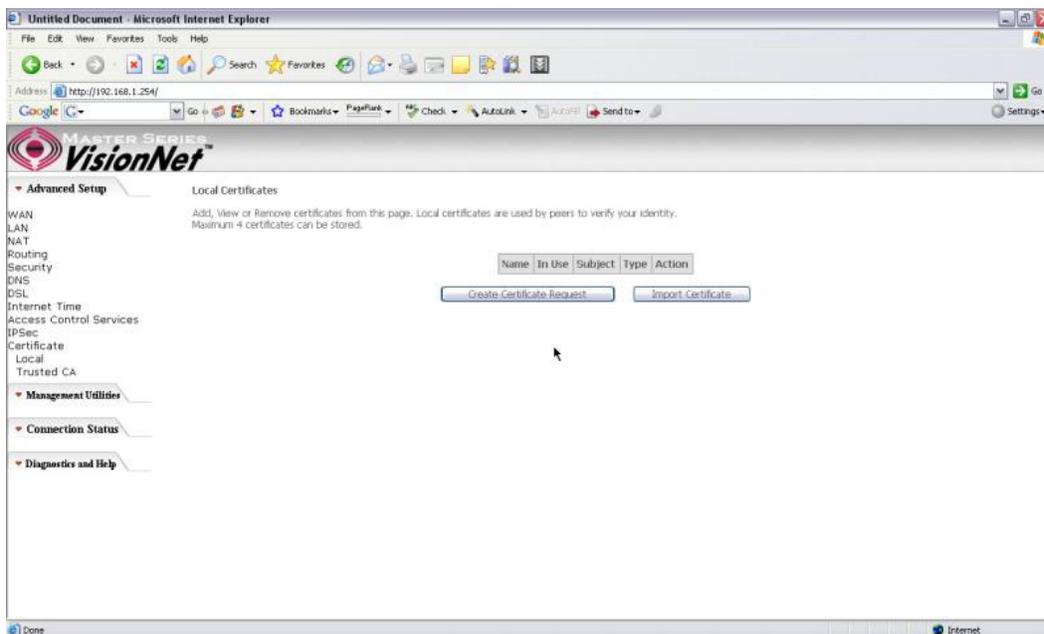


Figure 49. Advanced Setup - Certificates

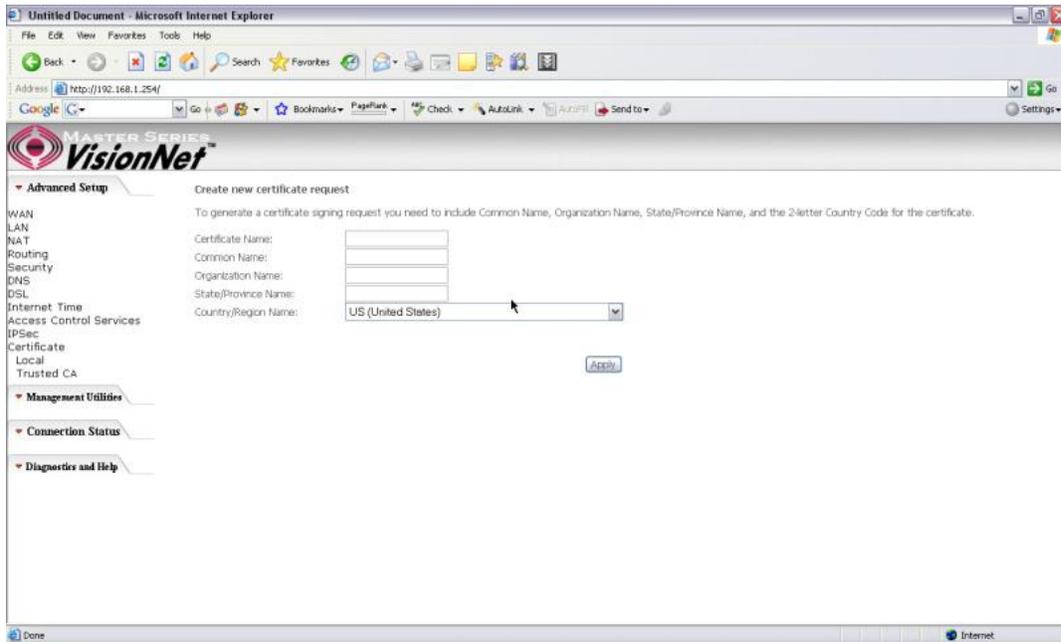


Figure 50. Advanced Setup – Local – Create Certificate

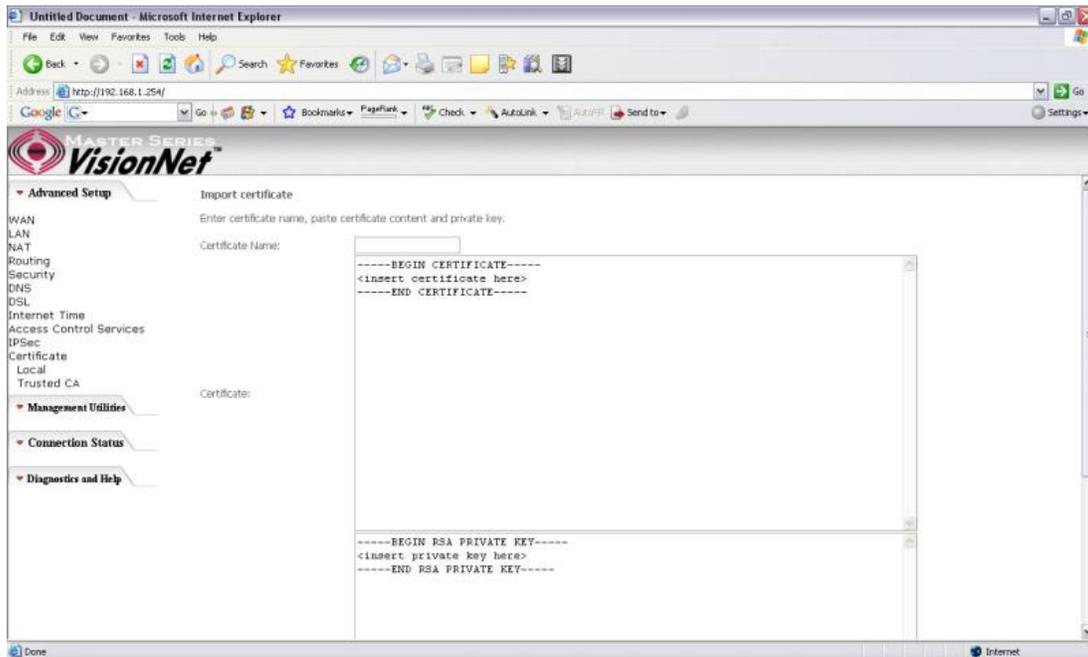


Figure 51. Advance Setup – Certificates – Local Import

**Trusted CA** option: This is used to verify peer certificates. Please click on “Import Certificate” to proceed.

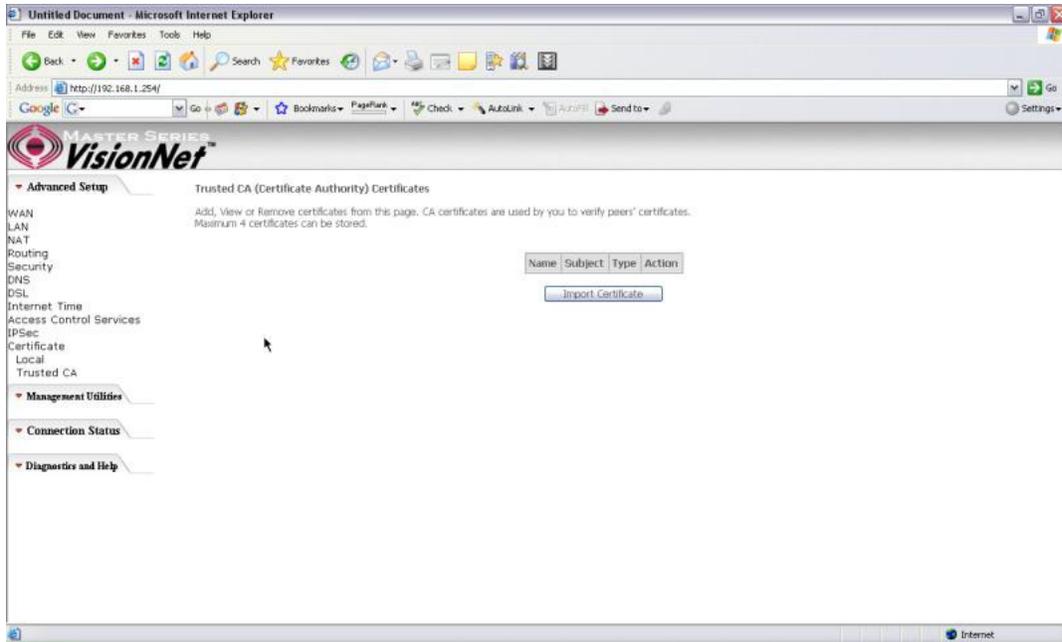


Figure 52. Advanced Setup – Certificates- Trusted CA

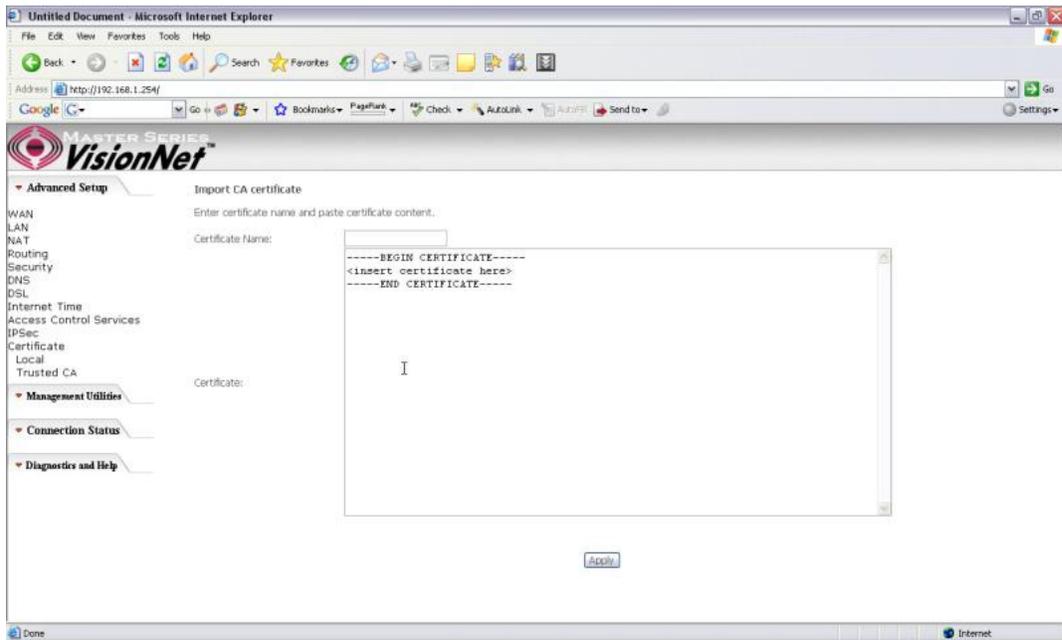


Figure 53. Advanced Setup – Certificates - Trusted CA – Import Certificate

# 6. Management Utilities

## 6.1 - Backup Settings

System Administrator can do the M404/M405 settings backup, update, and restore default here. The settings can be saved from M404/M405 to PC. The saved setting file can also be loaded from PC to M404/M405. These 2 functions can help the system administrator to manage large amount of M404/M405 efficiently. Restore Default would set the M404/M405 with the factory default configuration.

To backup the current configurations, click on “Backup Settings”, and a File Download window will pop up.

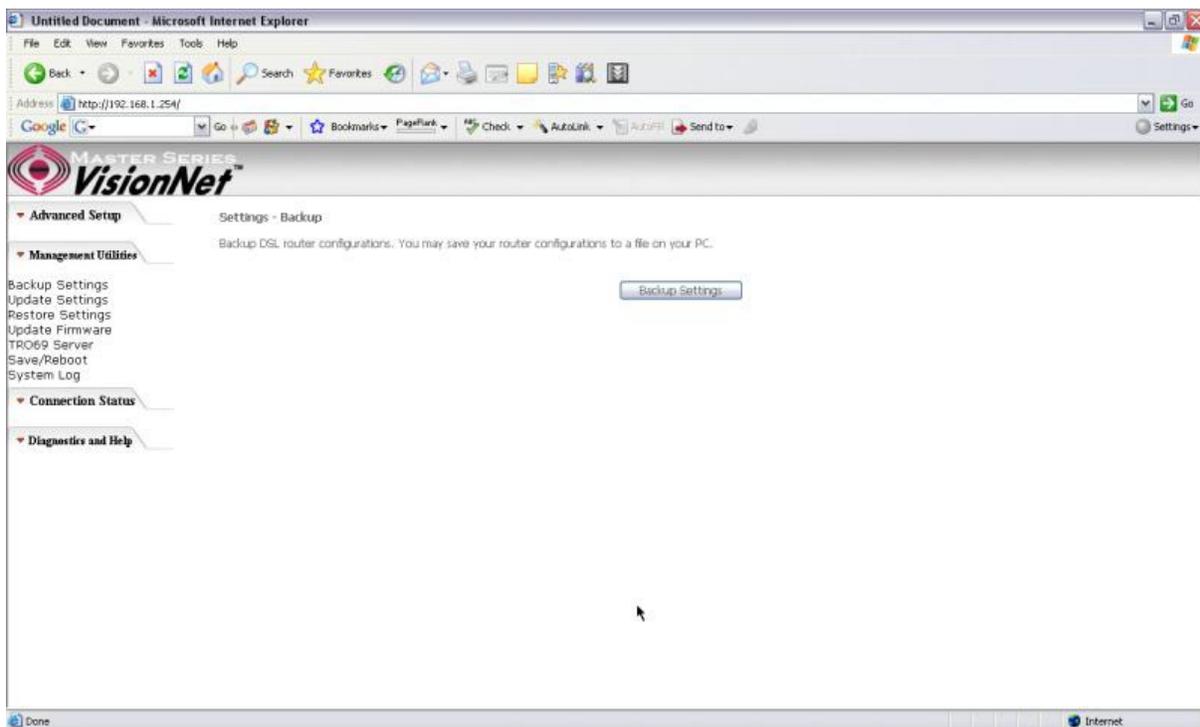


Figure 54. Management Utilities – Backup Settings

Click on “Save” and select the destination of the backup file (backupsettings.cfg) in your local PC. Click on “Save” again to save your backup file.

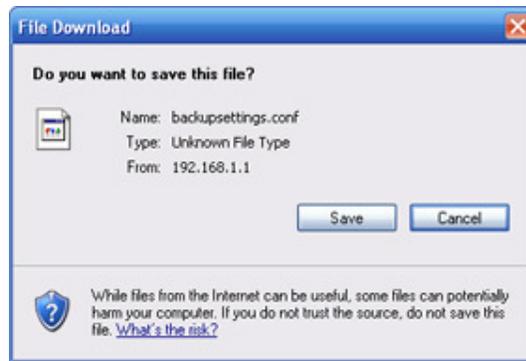


Figure 55. Management Utilities – Backup Settings – File Download

## 6.2 - Update Backup Settings

To update the configuration, click on “Browse” and a Choose-File-window will pop up. Locate the saved file and click on “Update Backup Settings”. The M404/M405 will modify its settings based on the update file.

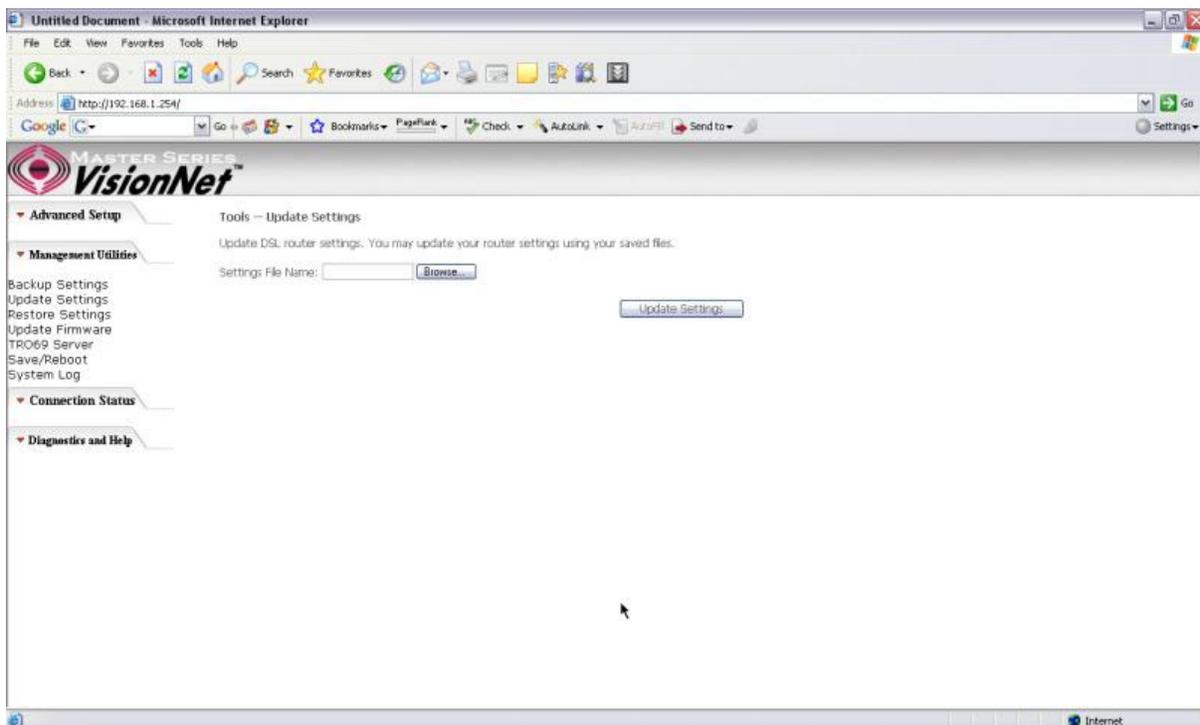


Figure 56. Management Utilities – Update Settings

### 6.3 - Restore Settings

To restore the router to its factory default settings, click on “Restore Default Settings”.

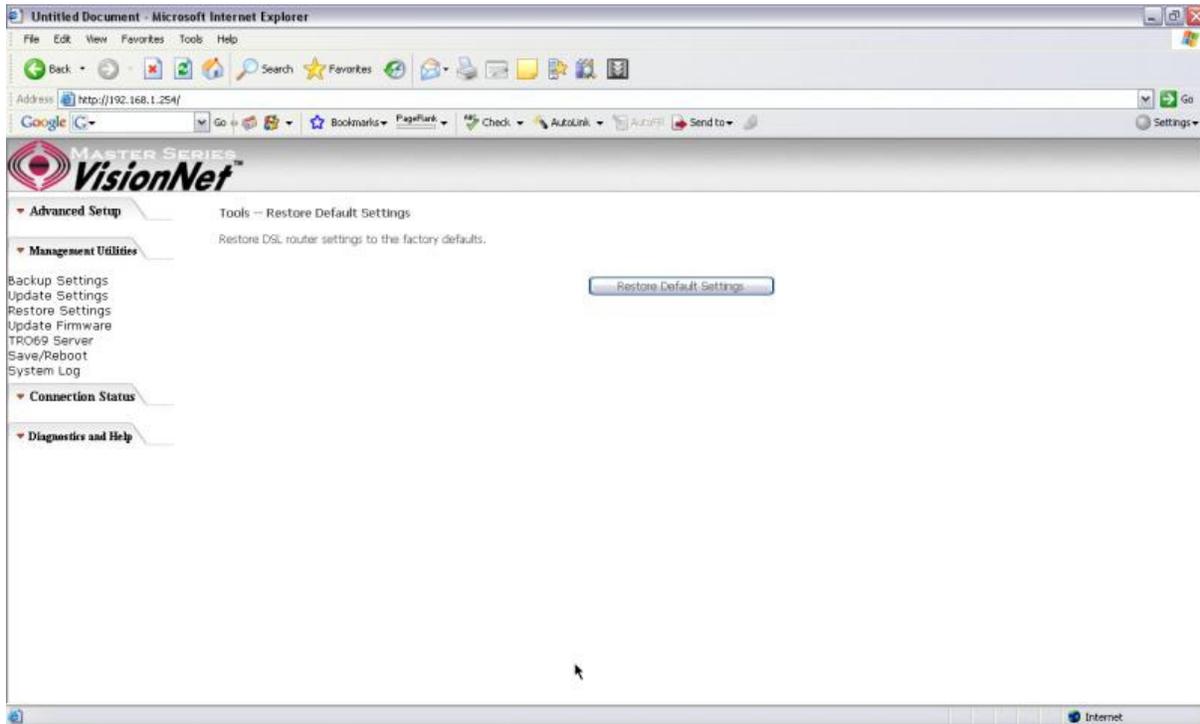


Figure 57. Management Utilities– Restore Default Settings

### 6.4 - Update Firmware

The new software could be updated from the Local PC connected to M404/M405 via Ethernet cable. Click on “Browse” to locate the new software image file in the PC. And then Click on “Update Software” to proceed with the software update.

Note: The update process takes about 2 minutes to complete, and your M404/M405 will reboot automatically.

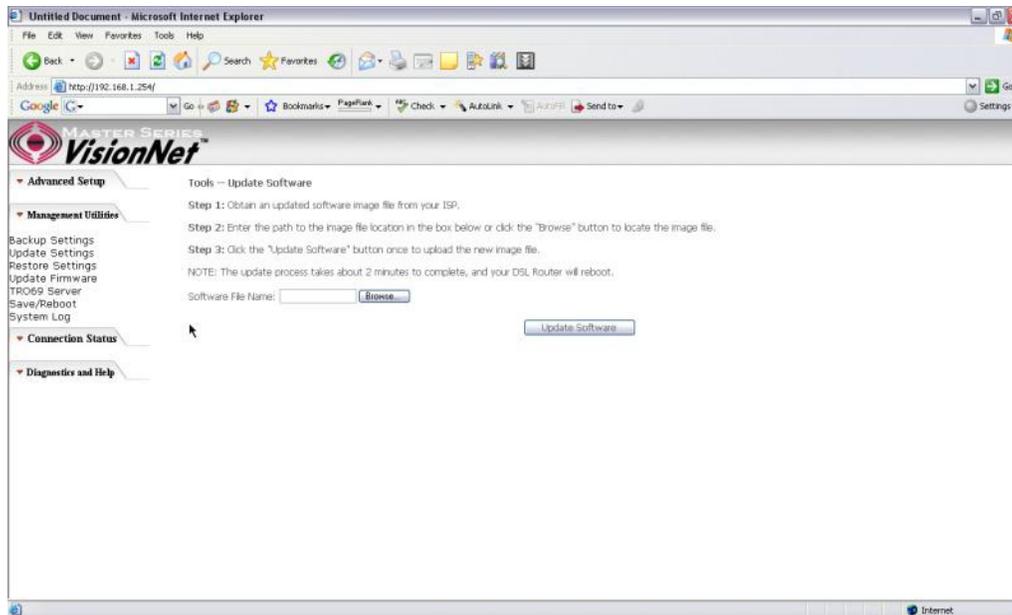


Figure 58. Management Utilities – Update Software

## 6.5 - TR069 Server

This feature allows your Internet Service Provider's ACS (Auto Configuration Server) to provision your M404/M405 remotely. Actions such as configuring the modem settings, diagnostic, and collecting data can be accomplish with this feature. The information for the settings to be entered in the fields must be provided by your Internet Service Provider.

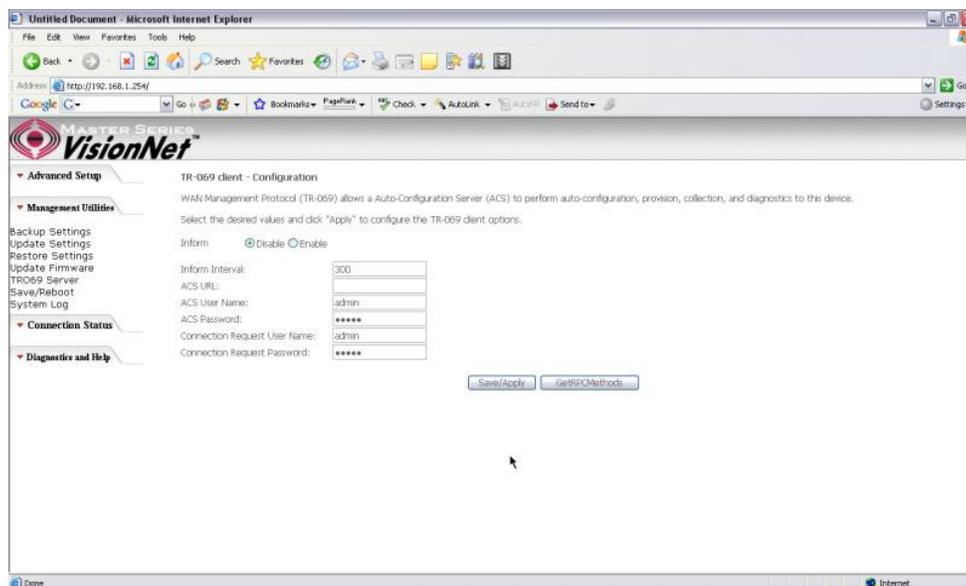


Figure 59. Management Utilities – TR069 Server

## 6.6 - Save/Reboot

Click “Reboot Router” to reboot M404/M405. The M404/M405 would automatically save the configuration before reboot, so that modified settings would take effect after reboot.

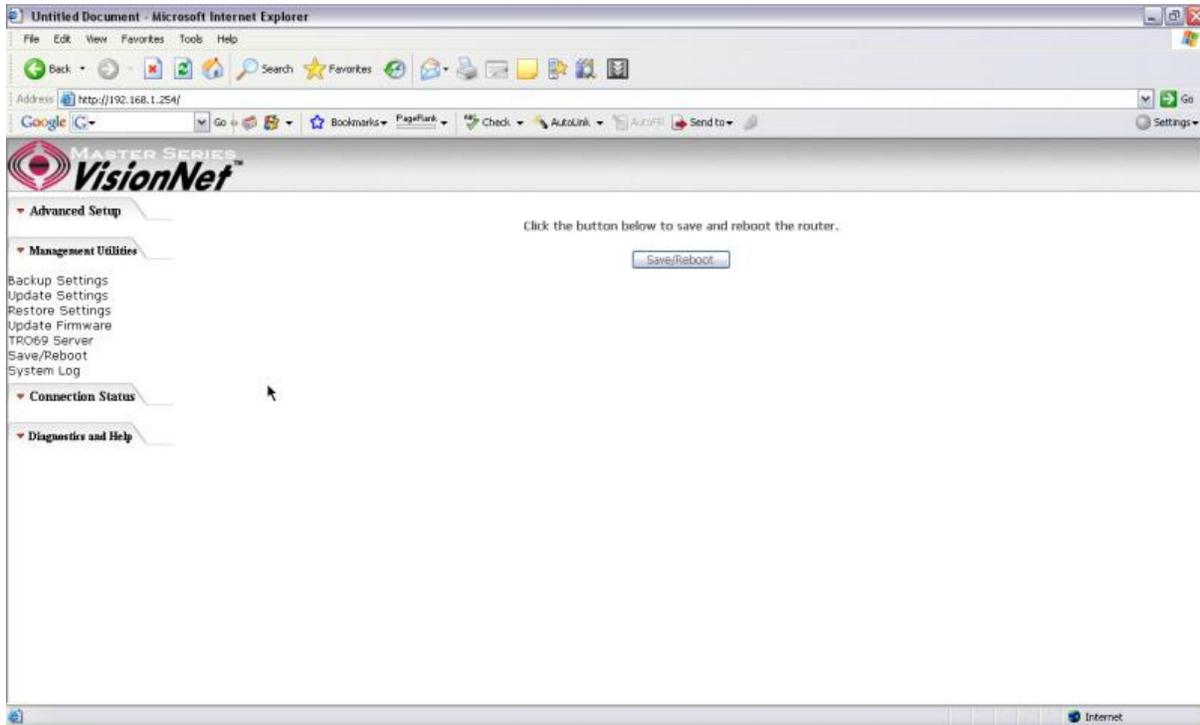


Figure 60. Management Utilities – Save / Reboot

## 6.7 - System Log

This allows System Administrator to view the System Log and configure the System Log options.

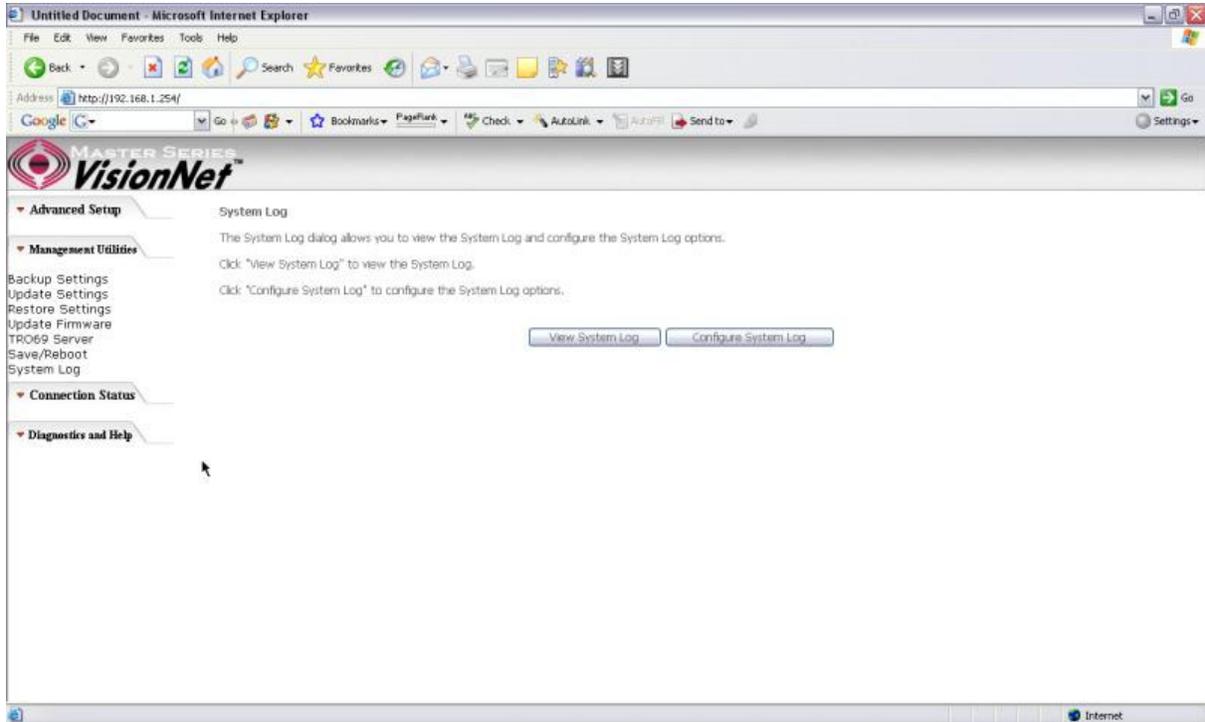


Figure 61. Management Utilities – System Log

Click on “Configure System Log” to configure the log options. There are 8 events of “Log Level” and “Display Level”: **Emergency, Alert, Critical, Error, Warning, Notice, Informational, and Debugging**. If the log mode is enabled, the system will begin to log all the selected events. For the Log Level, all events above or equal to the selected level will be logged. For the Display Level, all logged events above or equal to the selected level will be displayed.

If the selected mode is “Remote” or “Both”, events will be sent to the specified IP address and UDP port of the remote syslog server. If the selected mode is “Local” or “Both”, events will be recorded in the local memory. Click on “Save/Apply” to save the configuration.

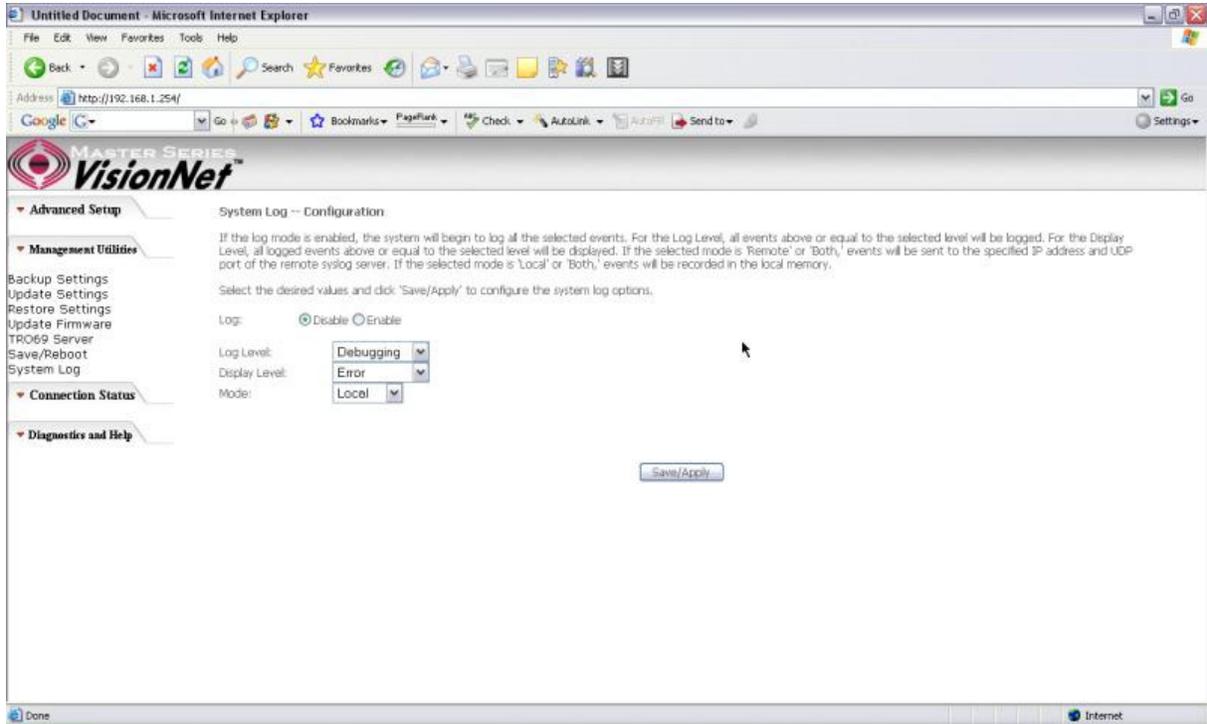


Figure 62. Management Utilities – System Log Configuration

Click on “View System Log” to see the router log based on your configuration

# 7. Connection Status

## 7.1 - LAN

This page displays the status of packets transmitted and received on the M404/M405 LAN interfaces.

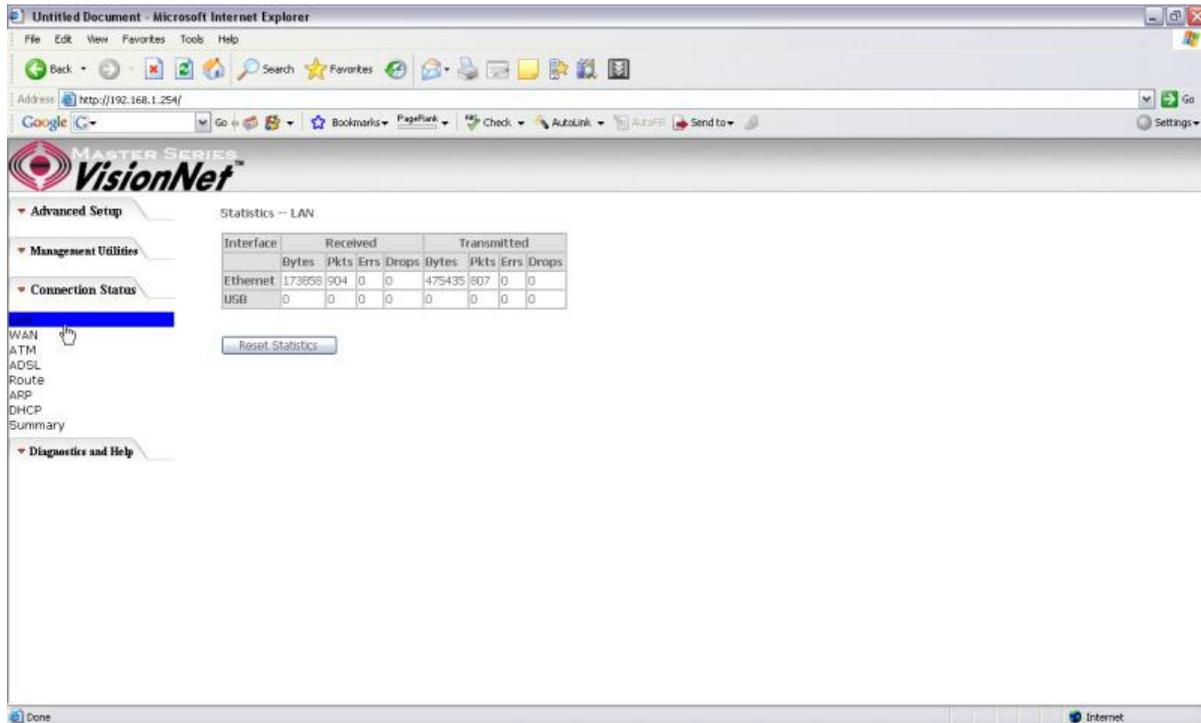


Figure 63. Connection Status – LAN

## 7.2 - WAN

**The WAN Connection Status is broken into 2 parts:**

1. Connection – Information concerning the WAN protocol currently in used by the M404/M405 to connect to the Internet. In the figure below: The modem is currently in PPPoE mode, IGMP option is disabled, No Quality of Service is used, the PPPoE connection is Up and the WAN IP address that the modem receives from the Internet Service Provider Equipment.
2. Status –Information concerning Packets Received and Transmitted on the WAN side based on the Protocol used by the M404/M405 (example shows PPPoE connection).

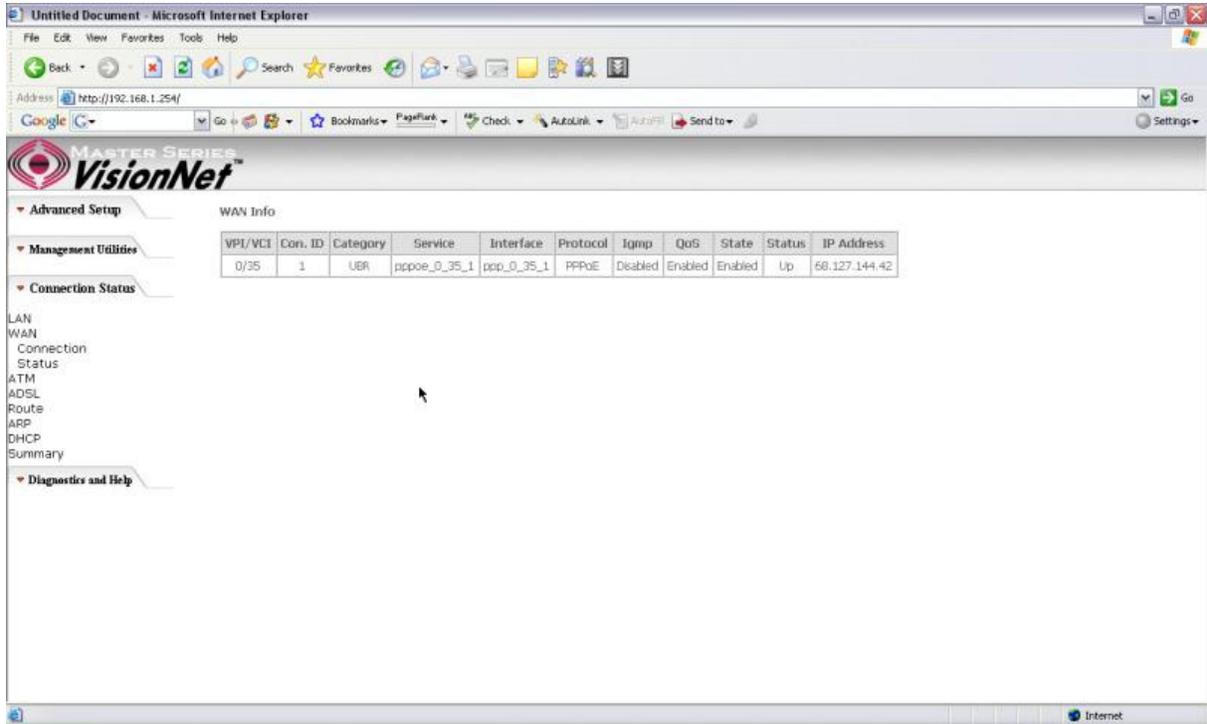


Figure 64. Connection Status – WAN Connection

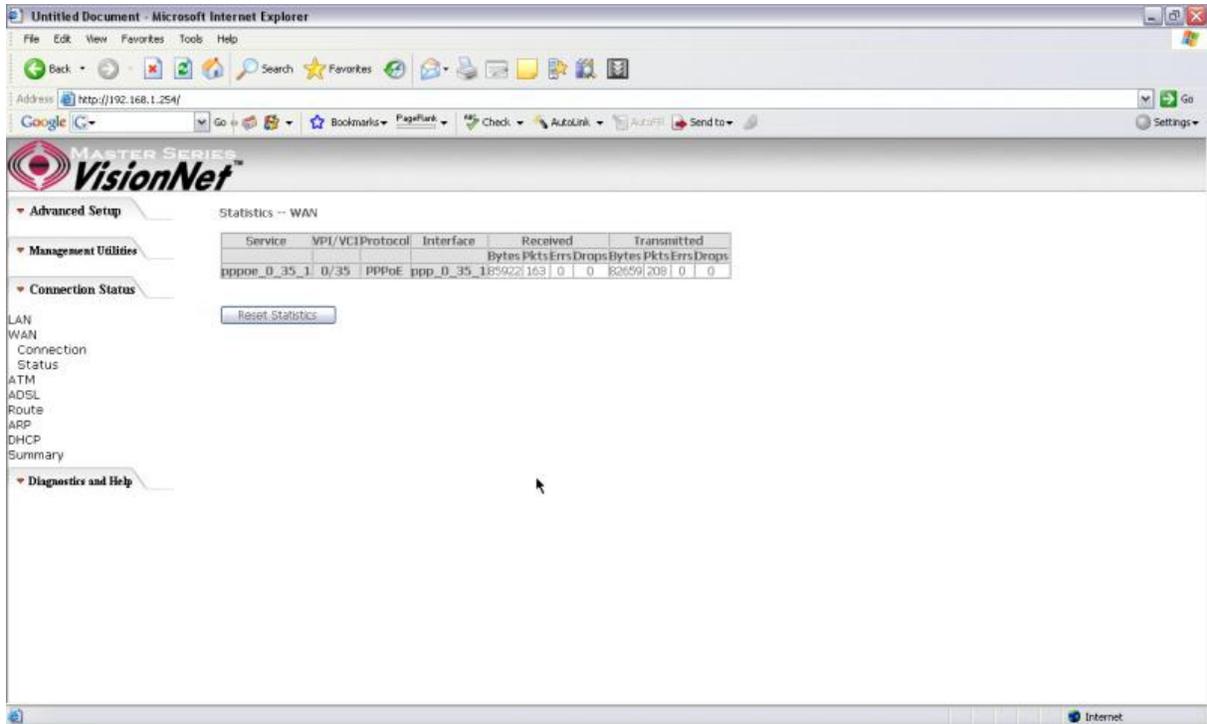


Figure 65. Connection Status – WAN Status

### 7.3 - ATM

This page displays the statistics of M404/M405 ATM interface (including AAL5).

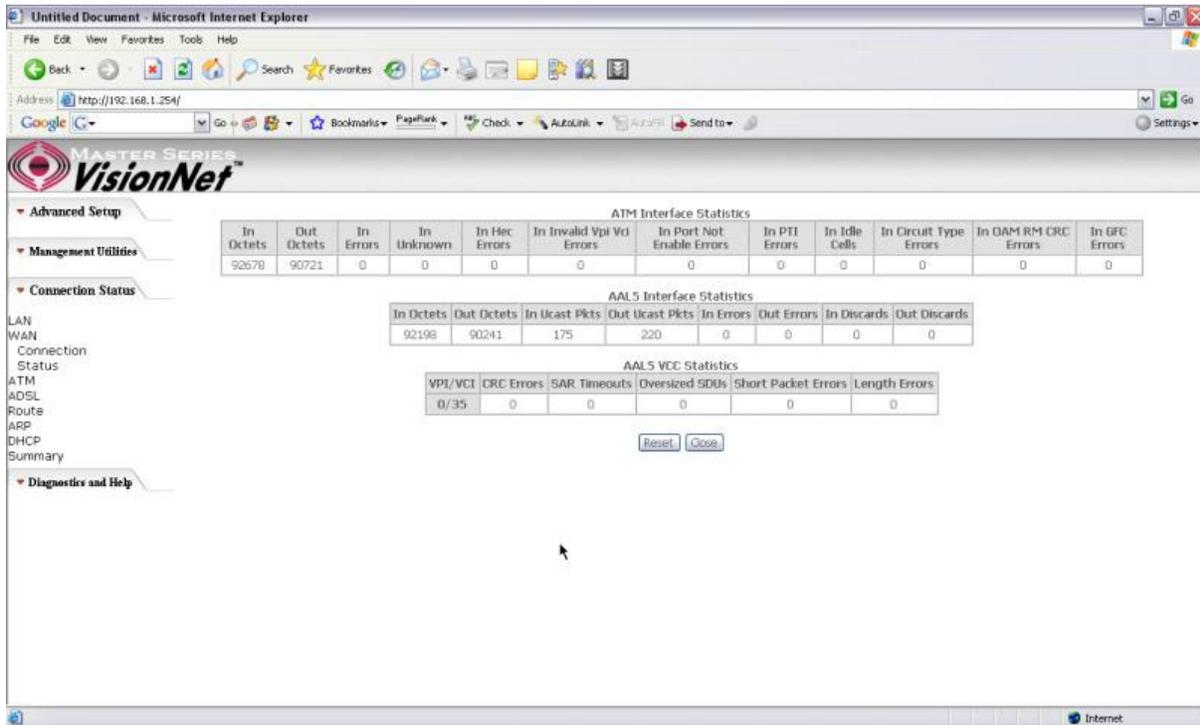


Figure 66. Connection Status – ATM

### 7.4 - ADSL

This page displays the M404/M405 ADSL connection information and status, such as Rate (Kbps), SNR, ES (Error Second)...etc. This information is useful when there are problems with your ADSL connection (The M404/M405 DSL LED light does not stay solid for example)

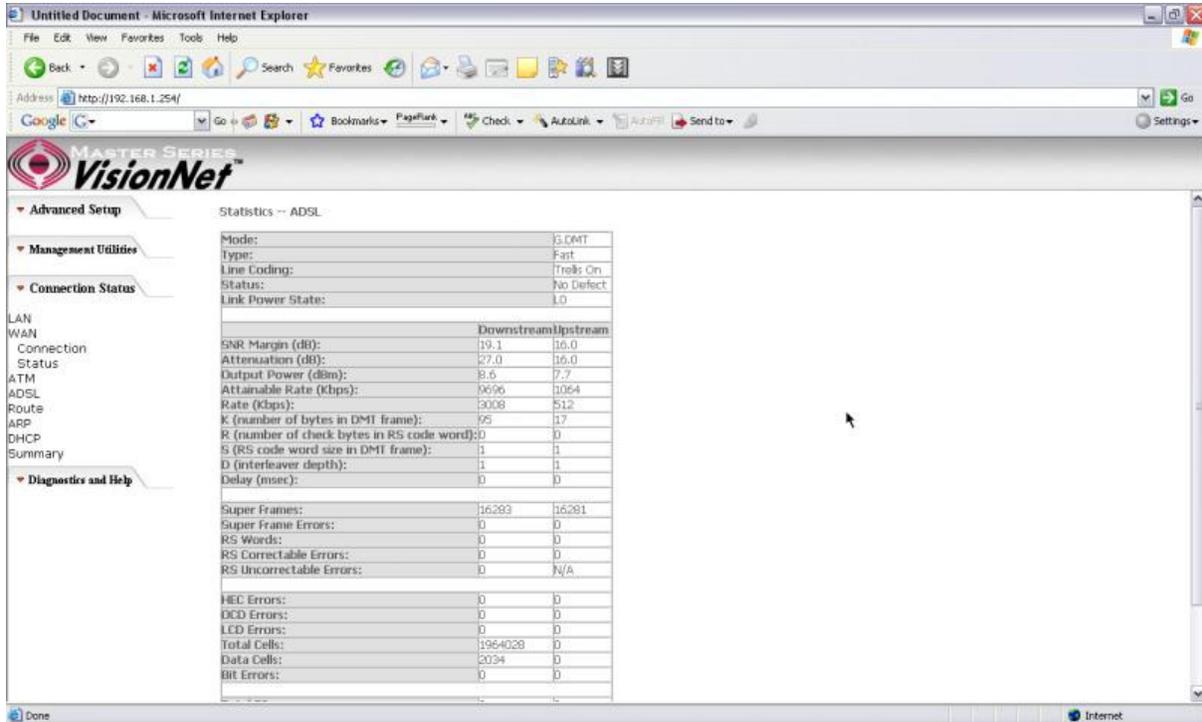


Figure 67. Connection Status – ADSL

## 7.5 - Route

This page displays the M404/M405 routing table.

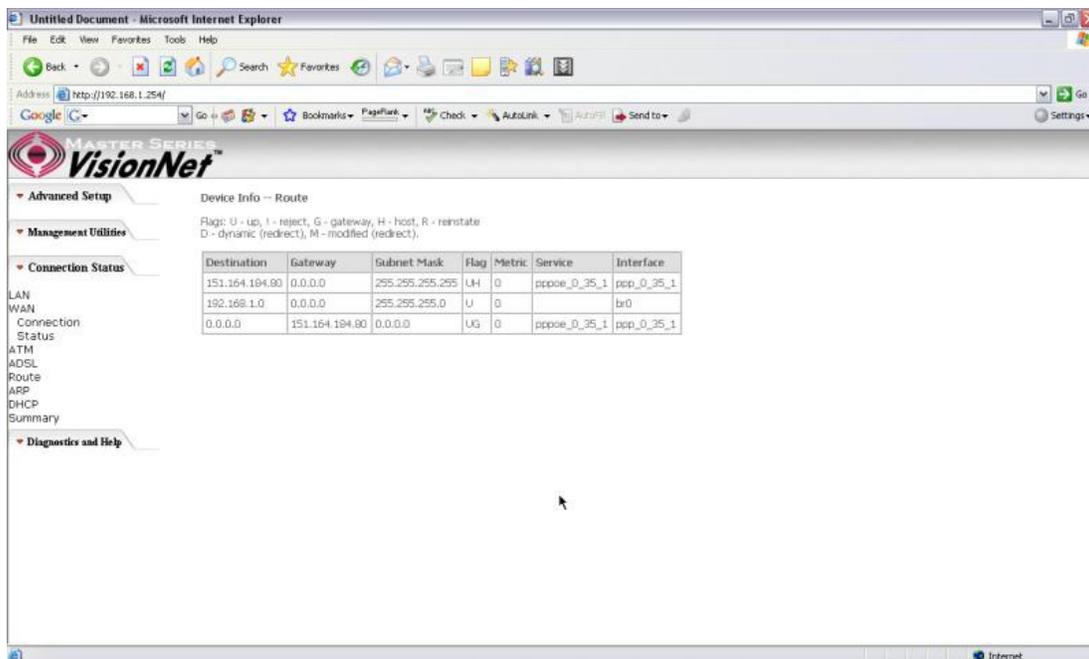


Figure 68. Connection Status – Route

## 7.6 - ARP (Address Resolution Protocol)

This page displays the M404/M405 ARP table.

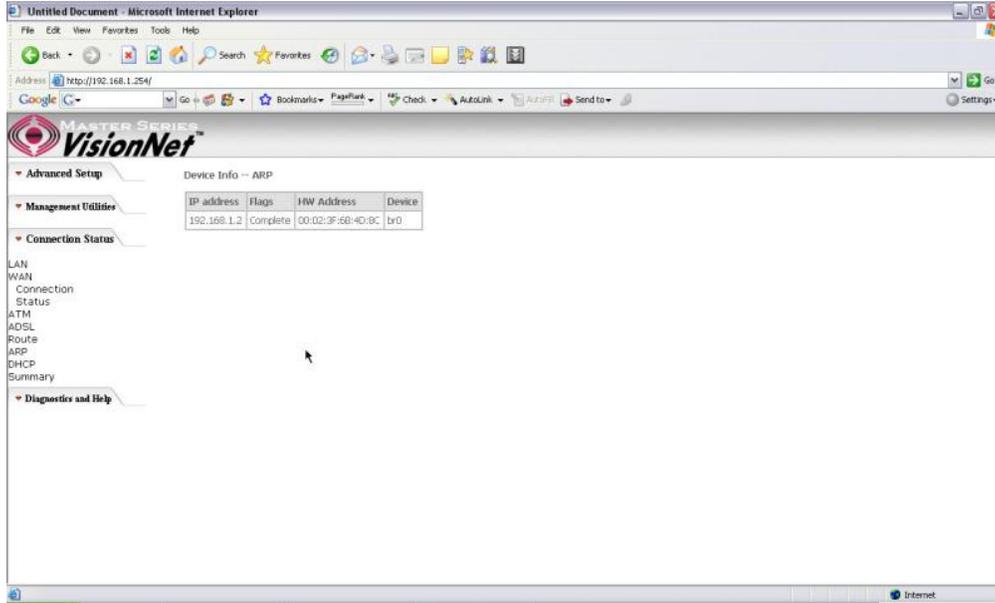


Figure 69. Connection Status – ARP

## 7.7 - DHCP

This page displays the lease time for PC's or devices connected to the router

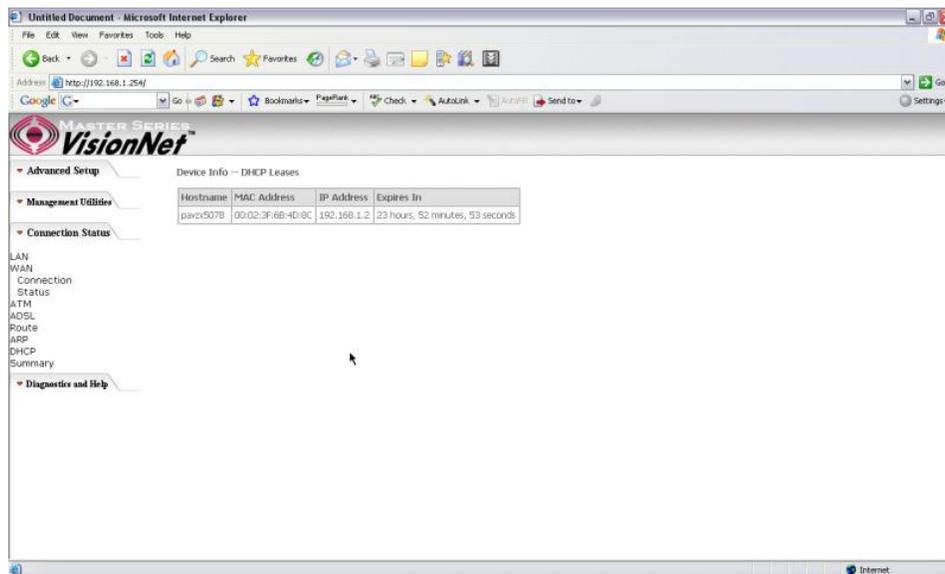
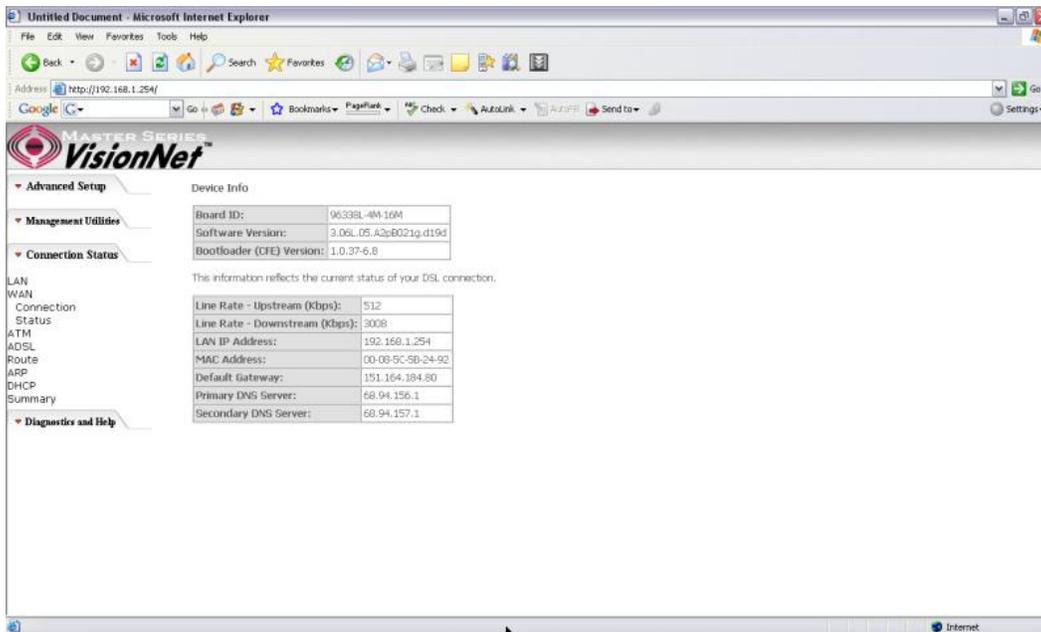


Figure 70. Connection Status - DHCP

## 7.8 - Summary

This page displays the summary of the M404/M405 hardware, software and connection information. Line Rate shows the speed that you are currently connected to your ISP. In the figure below the M404/405 is currently connected at a Download speed of 3000 Kbps or 3 Mbps with an Upload speed of 512 Kbps or 0.5 Mbps. MAC address and LAN IP address of the M404/M405. Gateway and DNS information is also shown.



The screenshot shows the VisionNet web interface in Microsoft Internet Explorer. The browser address bar shows <http://192.168.1.254/>. The page title is "VisionNet" and the logo is visible. The navigation menu on the left includes: LAN, WAN, Connection Status, ATM, ADSL, Route, ARP, DHCP, Summary, and Diagnostics and Help. The "Connection Status" section is expanded, showing "Device Info" and "This information reflects the current status of your DSL connection." Below this, a table displays the following connection details:

Board ID:	06338L4M10M
Software Version:	3.06L_05_A2pB021g.d19d
Bootloader (CFE) Version:	1.0.37-6.8
This information reflects the current status of your DSL connection.	
Line Rate - Upstream (Kbps):	512
Line Rate - Downstream (Kbps):	3008
LAN IP Address:	192.168.1.254
MAC Address:	00-08-5C-5B-24-92
Default Gateway:	151.164.184.80
Primary DNS Server:	68.94.156.1
Secondary DNS Server:	68.94.157.1

Figure 71. Connection Status - Summary

## 8. Diagnostics and Help

This page allows users to test the Ethernet port connection, DSL port connection, and connection to the Internet Service Provider. If a test displays a fail status, click “Return Diagnostic Tests” at the bottom of the page to make sure the fail status is consistent. If the test continues to show fail, click “Help” to go to through the troubleshooting procedures.

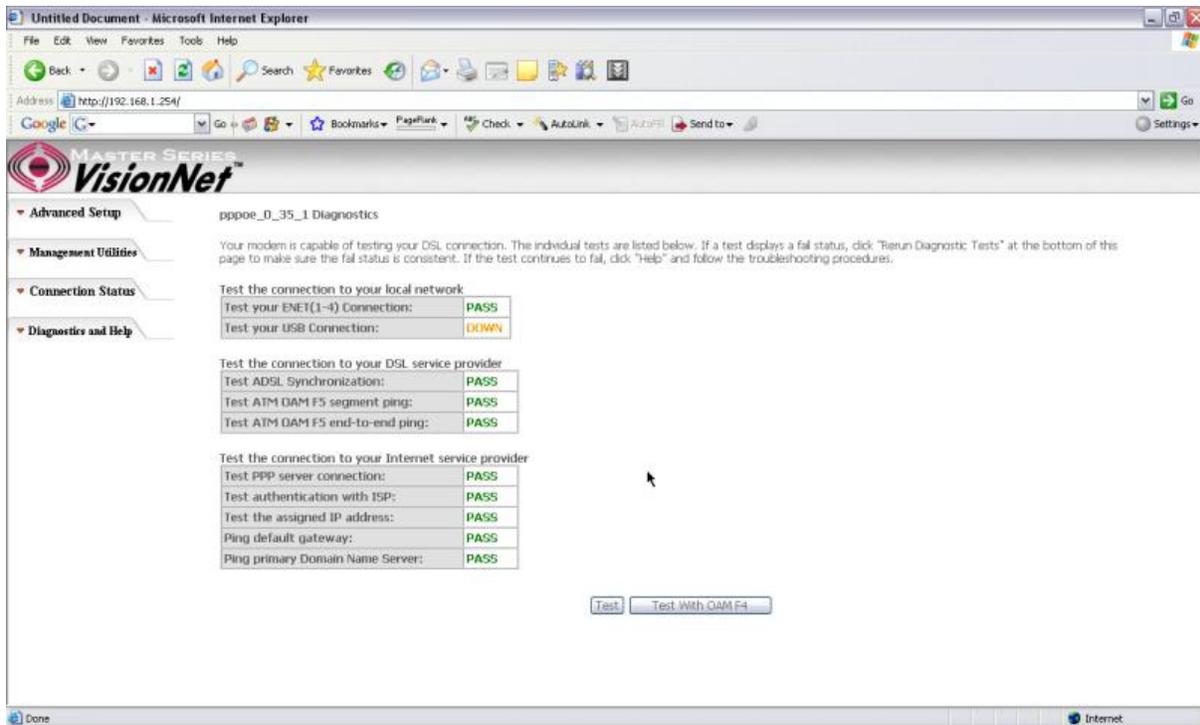


Figure 72. Diagnostics and Help

# 9. Appendix A – Specifications

## A1. Hardware Specifications

- Local Interface
  - One 10/100BaseT Ethernet port (IEEE 802.3, RJ-45 connector)
  - One USB 1.1 port (M405)
- WAN ADSL Line Interface
  - Complies with G.dmt (G.992.1) Annex A
  - Complies with G.lite (G.992.2) and T1.413
  - Complies with ADSL2 (G.992.3)
  - Complies with ADSL2+ (G.992.5)
  - Connector: RJ-11
- OAM&P
  - Remote: Telnet or Web browser
- Environment
  - Operation Temperature: 0°C ~ 40°C
  - Operation Humidity: 10% ~ 95%
  - Storage Temperature: -20 ~ 70°C
  - Storage Humidity: 5%~95%
- Power
  - AC Adapter :Input 120V AC 60Hz; Output 10VDC 1A
- Certificates
  - FCC Part 68 and 15 Class B, UL

## A2. Software Specifications

- ATM
  - ATM Cell over ADSL, AAL5
  - Supports UBR, CBR & VBR-nrt
  - VPI Range (0-255) and VCI range (1-65535)
  - Supports up to 8 PVCs
  - Supports OAM F4/F5, and loop back cells
  - Payload Encapsulation --
    - RFC2684 (RFC1483), multi-protocol over ATM
    - RFC2364, PPP over ATM (CHAP and PAP supported)
    - RFC2516, PPPoE (PPP over Ethernet) over ATM
- Bridging
  - Transparent Bridging (IEEE 802.1D)
  - RFC2684 (RFC1483) Bridged
  - Spanning Tree Protocol (IEEE 802.1D)
  - Bridge Filtering
- Routing
  - IP Address Forwarding
  - MAC Encapsulated Routing
  - Routing Information Protocol (RIP) v1, v2
  - DHCP Client (to the DSL network)
  - DHCP relay agent
  - NAT/PAT – RFC1631 (basic Firewall support)
  - Support Point-to-Point Protocol (PPP)
  - PAP for user authentication
  - RFC2684 (RFC1483) Routed

- DNS relay
- UPnP
- IGMP-Proxy
- Configuration and Network Management
  - DHCP server for IP management
  - HTTP (Web Server) for configuration and firmware upgrade
  - TFTP Server
  - FTP Server
- Firewall
  - NAT ALGs
  - IPSEC pass-through
  - Ping of Death
  - SYN Flood LAND
  - Protection against IP and MAC address spoofing
  - Packet Filtering
  - Stateful Packet Inspection (SPI)
  - UPnP NAT Traversal

## 10. Appendix B – Warranties

DQ Technology adheres to the strictest Quality Assurance processes to ensure that our products are free from defects prior to shipping. DQ Technology provides a standard 1 year limited warranty for all products and provides an extended warranty option for North American customers.

Please note that standard warranty terms apply to all equipment sold by DQ Technology unless an extended warranty has been purchased.

The 1 year limited warranty offered by DQ Technology Inc. is non-transferrable. End Users who purchased equipment from a Service Provider, or other source, should contact the company from whom they purchased the equipment for all warranty and returns.

This warranty is not transferable and does not include service, repair, or replacement to correct any damage caused by improper installation or maintenance, improper connection with any peripheral, external electrical fault, accident, disaster, misuse, abuse, or modifications to the DSL modem not approved in writing by DQ Technology. All implied warranties are hereby limited to a One (1) year term. DQ Technology hereby disclaims all express warranties not included in these terms.

DQ Technology warrants that all products are free from defective material and workmanship and, subject to the conditions set forth below, agrees to repair or replace any part of a product, which proves defective by reason of improper workmanship or materials without charge for parts and labor.

If a Product does not perform as warranted herein, owner's sole remedy shall be repair or replacement as provided below. In no event will DQ Technology be liable for damages, lost revenue, lost wages, lost savings, or any other incidental or consequential damages arising from purchase, use, or inability to use this product, even if DQ Technology has been advised of the possibility of such damages. Any defective Product should be returned to the address above unless otherwise instructed by this notice, along with a copy of your sales slip, the product serial number (if applicable), and a detailed description of the problem(s) you are experiencing.

No express or implied warranty is made for DQ Technology Products damaged by accident of use, misuse, natural or personal disaster or any unauthorized disassembly, repair or modification.

DQ Technology's Warranty covers only repair or replacement of defective Products

DQ Technology is not liable for, and does not cover under Warranty, any costs associated with servicing or installation of Products.

If you experience any difficulty during installation or subsequent use of Products, please contact Technical Support at 1-866-286-XDSL or email [rma@dqusa.com](mailto:rma@dqusa.com).

DQ Technology warrants that all solid-state memory products are free from defect in material and workmanship. Subject to the conditions and limitations set forth below, DQ Technology will repair or replace any part of a Product that proves defective by reason of improper workmanship or materials.

Repair parts or replacement Products will be furnished on an exchange basis and will be either new or refurbished to be functionally equivalent to new.

# Appendix C – Regulations

## **C1. FCC Part 15 Notice**

**Warning:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 to the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is unlikely to cause harmful interference. But if it does, the user will be required to correct the interference at his or her own expense. The authority to operate this equipment is conditioned by the requirement that no modifications will be made to the equipment unless DQ Technology expressly approves the changes or modifications.

## **C2. UL Safety Regulations**

- ▶ Disconnect TNV circuit connector or before removing cover or equivalent.
- ▶ Disconnect TNV circuit connector(s) before disconnecting power.
- ▶ Do not use this product near water for example, near a bathtub, washbowl, and kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
- ▶ Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightening.
- ▶ Do not use the telephone to report a gas leak in the vicinity of the leak.
- ▶ Use only the power cord batteries indicated in this manual. Do not dispose of batteries in a fire, as they may explode. Check with local codes for possible special disposal instructions.

No. 26 AWG Telephone Line Cord shall either be provided with the equipment or shall be described in the safety instruction. If fuse (F1) is not present, see the caution statement listed below:

**CAUTION:** To reduce the risk of fire, use only No. 26 AWG or larger UL Listed or CSA Certified Telecommunication Line Cord.

## Contact Information

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You can help us to serve you better by sending us your comments and feedback. Listed below are the addresses, and telephone and fax numbers of our offices. You can also visit us on the World Wide Web at [www.dqusa.com](http://www.dqusa.com) for more information. We look forward to hearing from you!

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### World Headquarters

5111 Johnson Dr.

Pleasanton, CA 94588

Tel: (925) 730-3940 Fax: (925) 730-3950

[info@dqusa.com](mailto:info@dqusa.com)

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### Technical Support

(866) 286-xDSL (9375)

[support@dqusa.com](mailto:support@dqusa.com)

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