

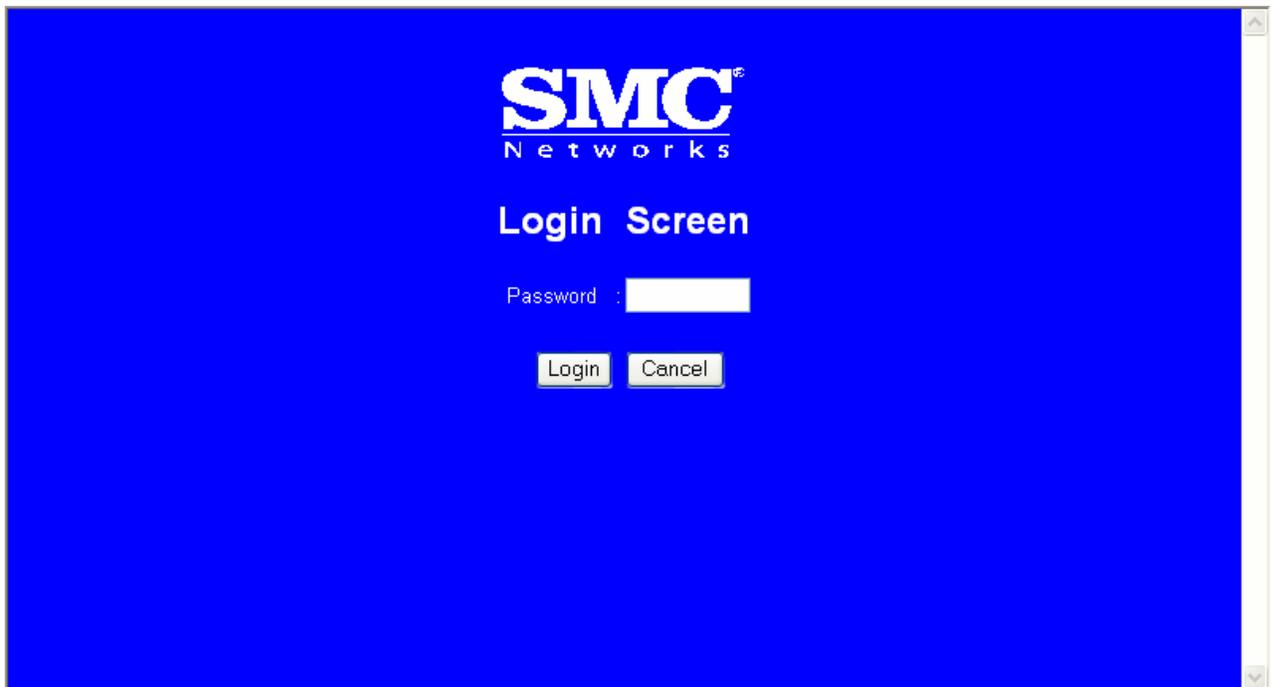
# SMC7008ABR Barricade Broadband Router

## Installation Instructions

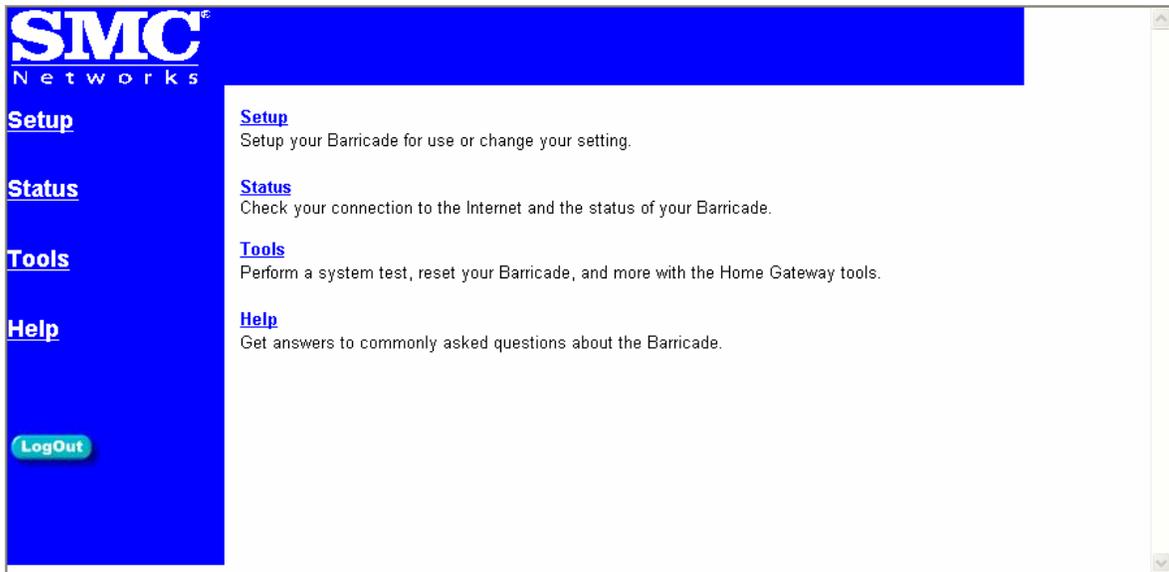
***SPECIAL NOTE: Part F – Adjusting MTU Value. This procedure MUST be followed in order to prevent chronic disconnections of the VPN tunnel!***

### **Part A – General Setup**

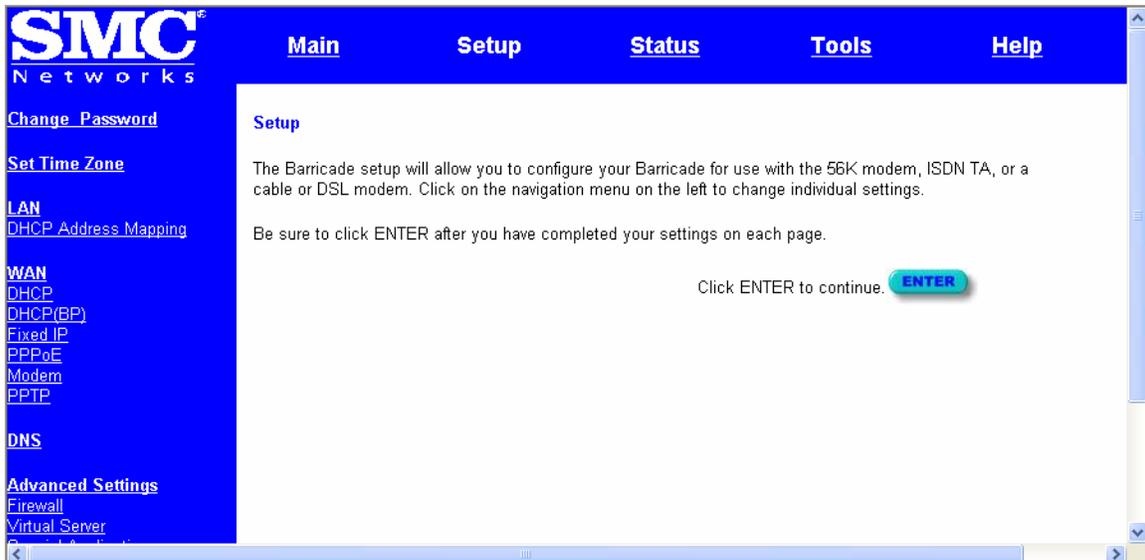
1. Open your Web browser and enter the following in the “Address” field:  
<http://192.168.2.1>
2. The Barricade login screen will appear. Leave the password field empty and click on “login”.



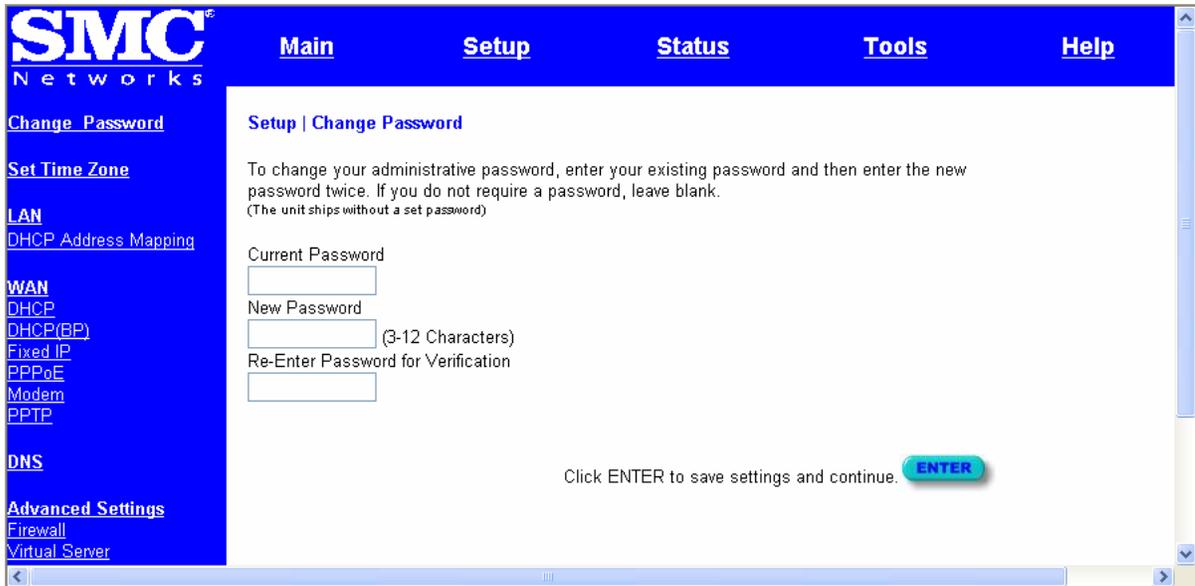
3. On the main page of the Barricade Web console, click “Setup”.



4. The Barricade's automated setup process will take you through each step for setting up your Barricade. Click "Enter" to start the process.

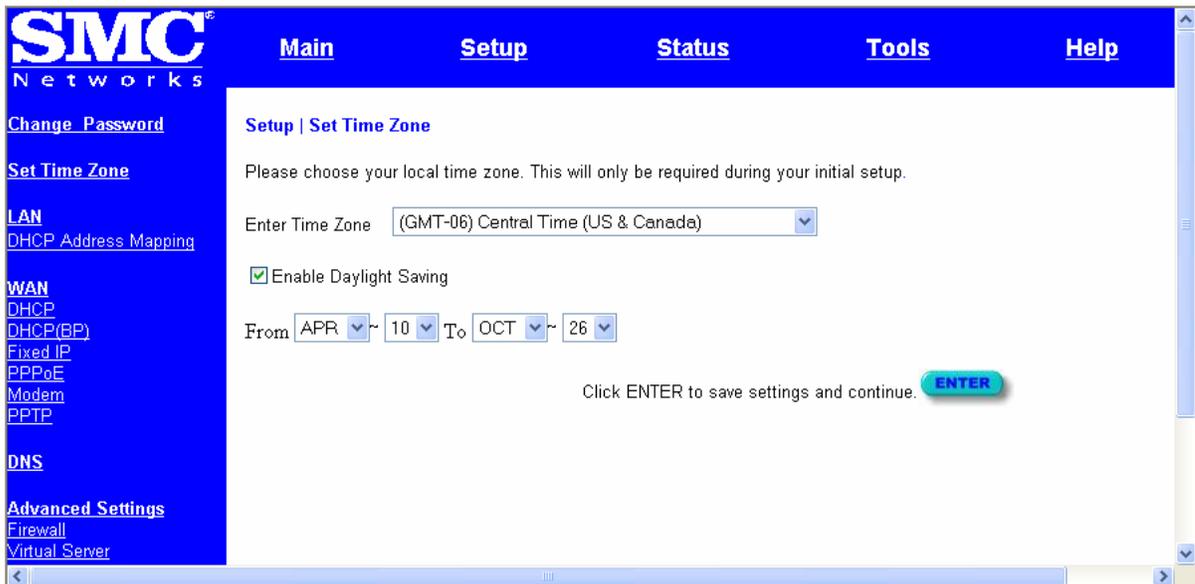


5. In the "Change Password" screen type lower-case "galileo" in the "New Password" field. Confirm this entry by entering the lower-case "galileo" again in the "Re-enter Password for Verification" field.

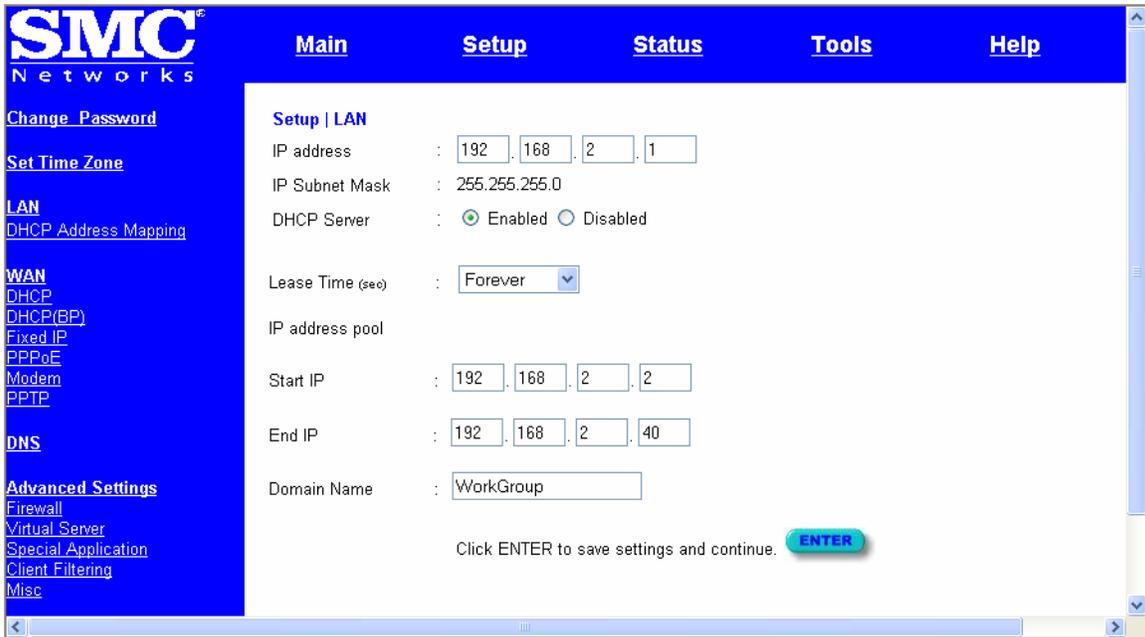


6. Click “Enter” to complete this step.

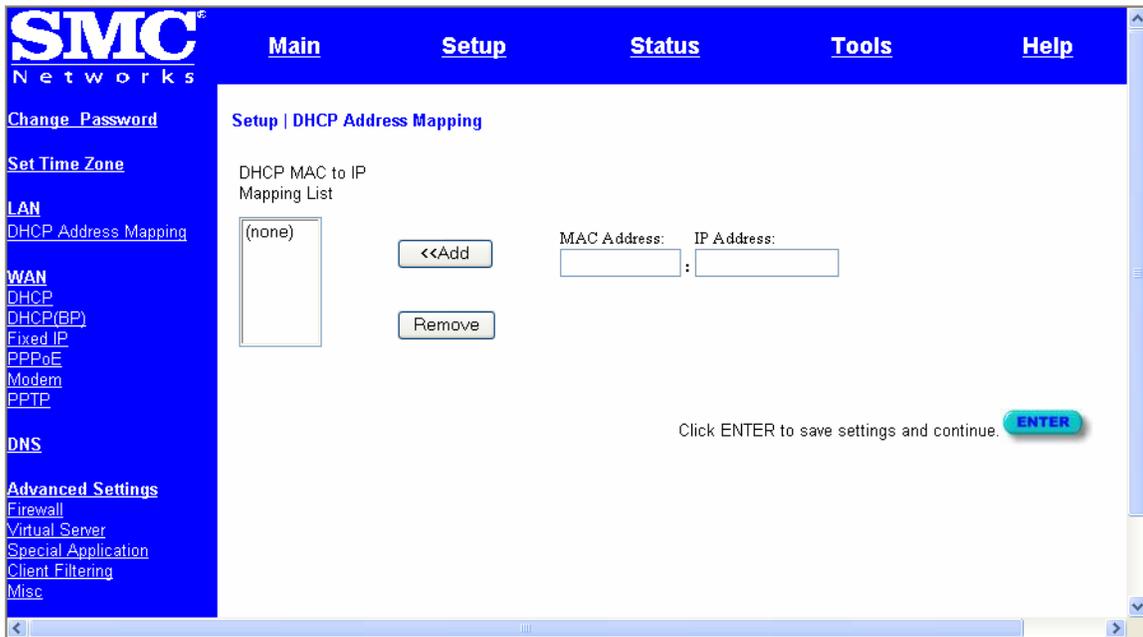
7. Select your time zone from the list and click “Enter”.



8. The LAN screen is where you configure the Local Area Network settings of your Barricade. Unless you have an existing network with Domain information there is no reason to change these settings. Click “Enter” to complete this step.



9. At this point the LAN side of your Barricade is configured. The next step is to configure it for the Internet connection with the information provided by your ISP.



10. This screen needs to be configured in order to “RESERVE” an IP address for the Focalpoint Print Manager.

Note: To complete this section we will need to obtain the MAC address or Physical Address of the network interface card on the FPM machine. How this is

accomplished will depend of the Operating System that is running on the FPM workstation.

- If the OS is Windows NT4, Windows 2000 or windows XP:  
START->RUN->CMD to start a DOS window.  
Type IPCONFIG /ALL at the DOS prompt.
- If the OS is Windows 9.x including ME:  
START->RUN->WINIPCFG /ALL



```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Gordon McHenry.CONSULTING>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : gsmxpl
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Hybrid
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No

Ethernet adapter {CCEB451A-79CF-4D81-8232-F762276A8505}:

    Connection-specific DNS Suffix  . :
    Description . . . . . : Nortel IPSECSHM Adapter - Packet Scheduler Miniport
    Physical Address. . . . . : 44-45-53-54-42-00
    Dhcp Enabled. . . . . : No
    IP Address. . . . . : 0.0.0.0
    Subnet Mask . . . . . : 0.0.0.0
    Default Gateway . . . . . :

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : WorkGroup
    Description . . . . . : Xircom CardBus Ethernet 100 + Modem
    Physical Address. . . . . : 00-10-A4-E7-3F-99
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IP Address. . . . . : 192.168.2.40
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.2.1
    DHCP Server . . . . . : 192.168.2.1
    DNS Servers . . . . . : 192.168.2.1
    Lease Obtained. . . . . : Monday, December 02, 2002 10:35:17 AM
    Lease Expires . . . . . : Monday, January 18, 2038 9:14:07 PM

C:\Documents and Settings\Gordon McHenry.CONSULTING>
```

C. Write down the Physical Address to be used in the next step.

D. You will need to select a specific address from the group of addresses previously defined in Step 8 above and enter it here. This address needs to be

within the range of 192.168.2.2 – 192.168.2.40. The preference is to keep it simple and select the first available address (192.168.2.2).

SMC Networks

Main Setup Status Tools Help

Change Password

Set Time Zone

LAN

DHCP Address Mapping

WAN

DHCP

DHCP(BP)

Fixed IP

PPPoE

Modem

PPTP

DNS

Advanced Settings

Firewall

Virtual Server

Special Application

Client Filtering

Misc

LogOut

Setup | DHCP Address Mapping

DHCP MAC to IP Mapping List

(none)

<<Add

Remove

MAC Address: 0010a4e73f99

IP Address: 192.168.2.2

Click ENTER to save settings and continue. ENTER

E. Click on the “Add” button to select this information.

SMC Networks

Main Setup Status Tools Help

Change Password

Set Time Zone

LAN

DHCP Address Mapping

WAN

DHCP

DHCP(BP)

Fixed IP

PPPoE

Modem

PPTP

DNS

Advanced Settings

Firewall

Virtual Server

Special Application

Client Filtering

Misc

LogOut

Setup | DHCP Address Mapping

DHCP MAC to IP Mapping List

0010a4e73f99:192.168.2.2

<<Add

Remove

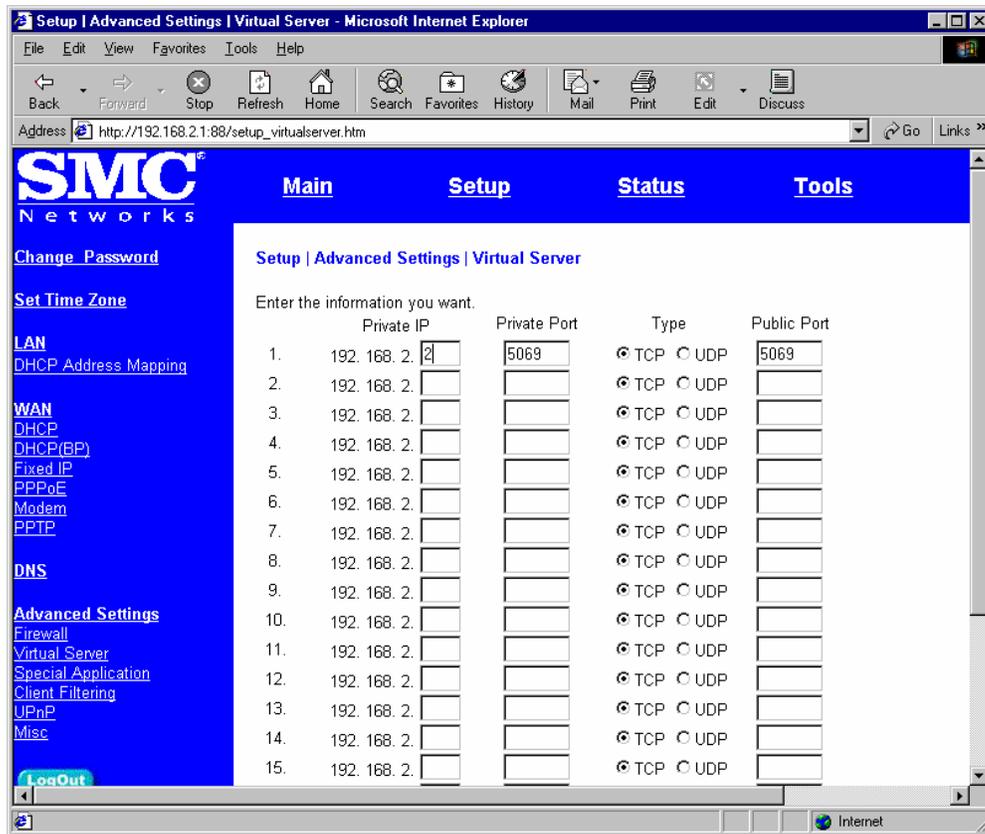
MAC Address:

IP Address:

Click ENTER to save settings and continue. ENTER

F. Click on ENTER to finish this step.

11. Under **Advanced Settings** click **Virtual Server**. Type the same reserved IP address that was input in step 10 for the FPM workstation, type **5069** for the private and public port number and choose **TCP** for the type. Click **Enter**.

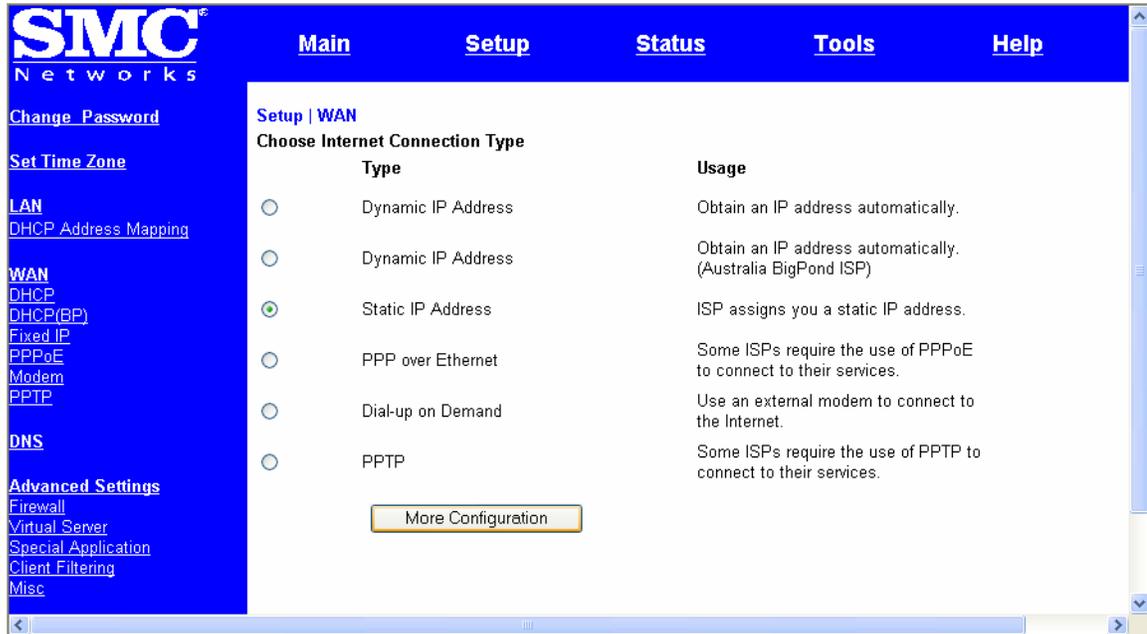


12. The next few steps will be to configure the Barricade router for Internet access. There are generally two different configurations used by most ISP's.

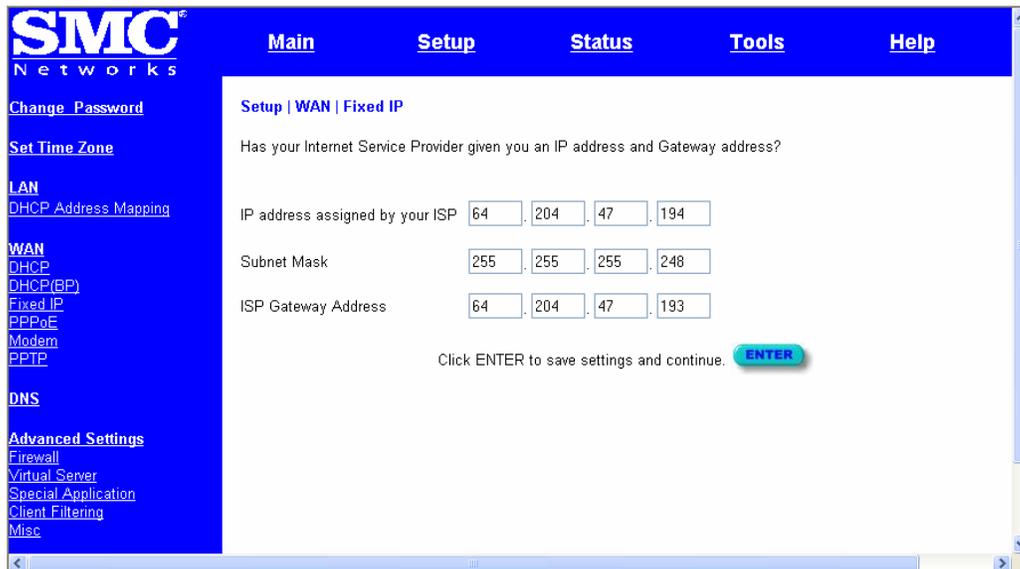
- If you use a DSL Modem your ISP probably requires you to manually enter your TCP/IP settings. If you have a DSL connection or if you know you use a Static IP address please move to **“Part B - Configuring Your Barricade for Static IP Address”**.
- If you connect to the Internet using a Cable Modem your ISP provider probably used DHCP to issue an IP address to you. If you use a cable modem or you know that the ISP uses dynamic IP address please move to **“Part C - Configuring Your Barricade for a Dynamic IP Address.”**

## **Part B – Configuring Your Barricade for Static IP Addressing.**

1. Select “Static IP Address” and click on “More Configuration”

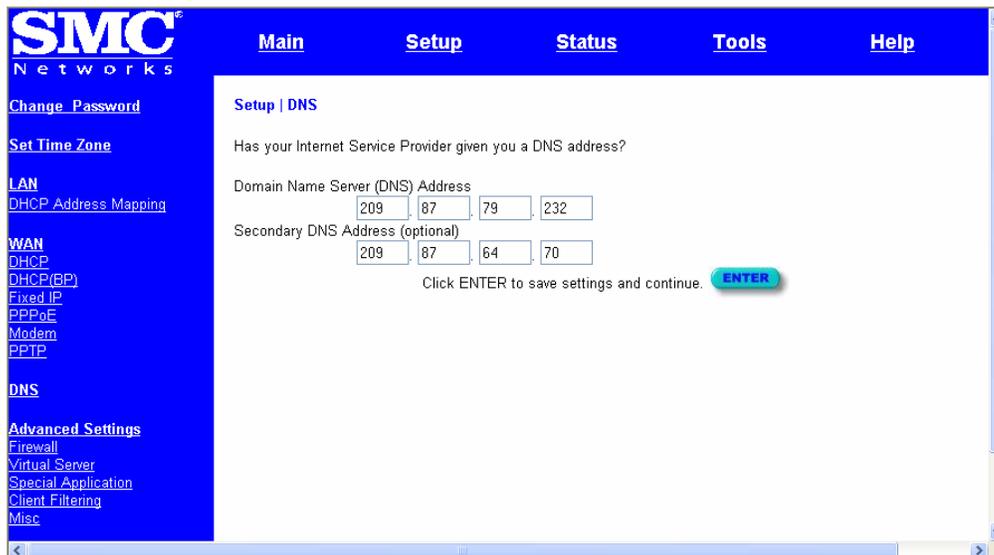


2. Enter the IP Address, subnet mask and gateway provided to you by your ISP in the appropriate fields. Click “Enter” when finished.



A Domain Name Server (DNS) is like an index of names and Web addresses. If you type a Web address into your browser, such as [www.whitehouse.gov](http://www.whitehouse.gov), a DNS server will find that name in its index and find the matching IP address: 198.137.240.92. Most ISPs provide a DNS server for speed and convenience. Since you are connecting to the Internet with static IP settings, it is likely that your ISP also provided DNS server addresses.

3. Enter the DNS server address(es) in the spaces provided. Click “Enter” when finished.



The screenshot shows the SMC Networks web interface. The top navigation bar includes links for Main, Setup, Status, Tools, and Help. The left sidebar contains various configuration options such as Change Password, Set Time Zone, LAN (DHCP Address Mapping), WAN (DHCP, DHCP(BP), Fixed IP, PPPoE, Modem, PPTP), DNS, and Advanced Settings (Firewall, Virtual Server, Special Application, Client Filtering, Misc). The main content area is titled "Setup | DNS" and contains the following text and form fields:

Has your Internet Service Provider given you a DNS address?

Domain Name Server (DNS) Address

209	87	79	232
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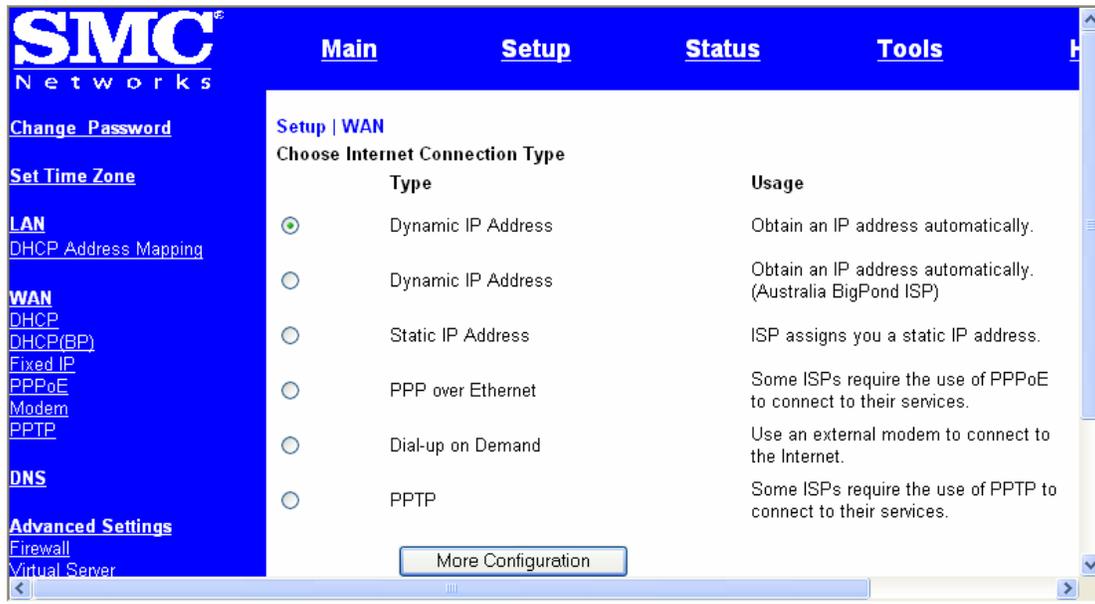
Secondary DNS Address (optional)

209	87	64	70
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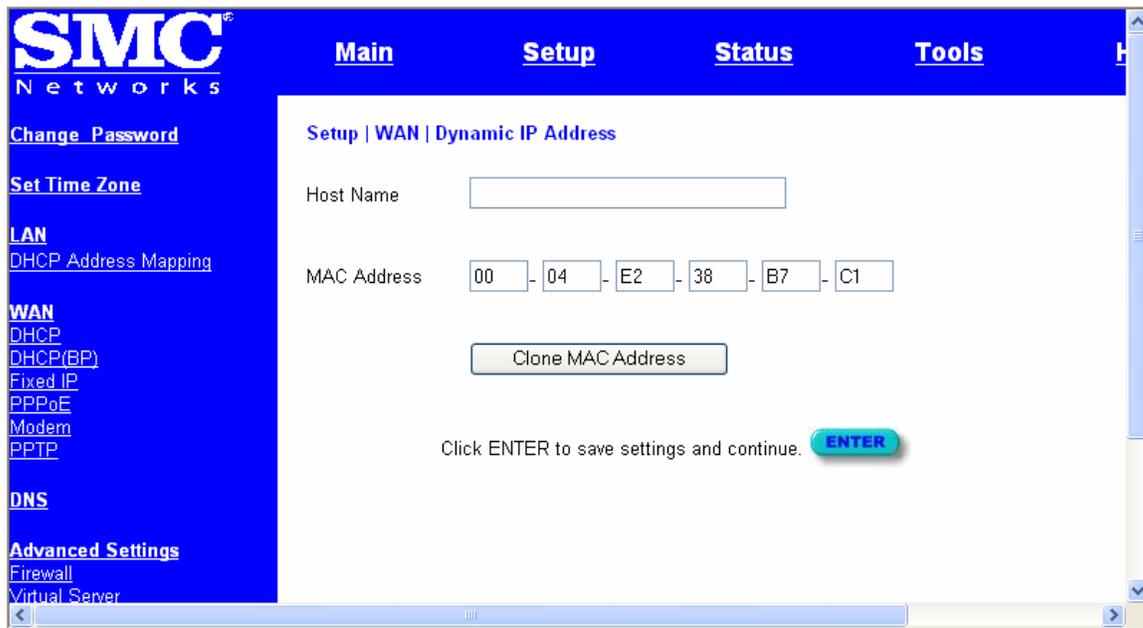
Click ENTER to save settings and continue. **ENTER**

## **Part C – Configuring Your Barricade for Dynamic IP Addressing.**

1. Select “Dynamic IP Address” and Click “More Configuration.



2. If you have a Host name provided by your ISP enter it here and Click “Enter” to continue.



3. Enter DNS Information as provided by your ISP and Click “Enter to finish the process.

The screenshot shows the SMC Networks web interface. The top navigation bar includes 'Main', 'Setup', 'Status', and 'Tools'. The left sidebar contains various configuration options: 'Change Password', 'Set Time Zone', 'LAN' (with sub-options like DHCP Address Mapping), 'WAN' (with sub-options like DHCP, DHCP(BP), Fixed IP, PPPoE, Modem, PPTP), 'DNS', and 'Advanced Settings' (with sub-options like Firewall, Virtual Server). The main content area is titled 'Setup | DNS' and contains the following text and form elements:

Has your Internet Service Provider given you a DNS address?

Domain Name Server (DNS) Address

209	87	79	232
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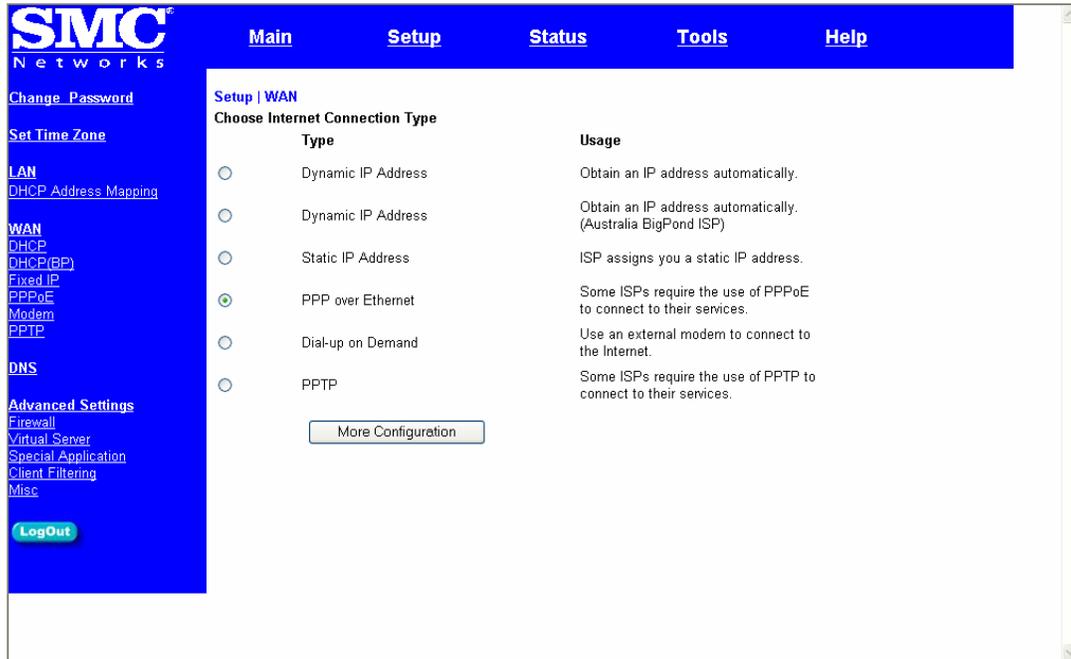
Secondary DNS Address (optional)

209	87	64	70
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Click ENTER to save settings and continue. **ENTER**

## **Part D – Configuring Your Barricade for PPPoE configuration.**

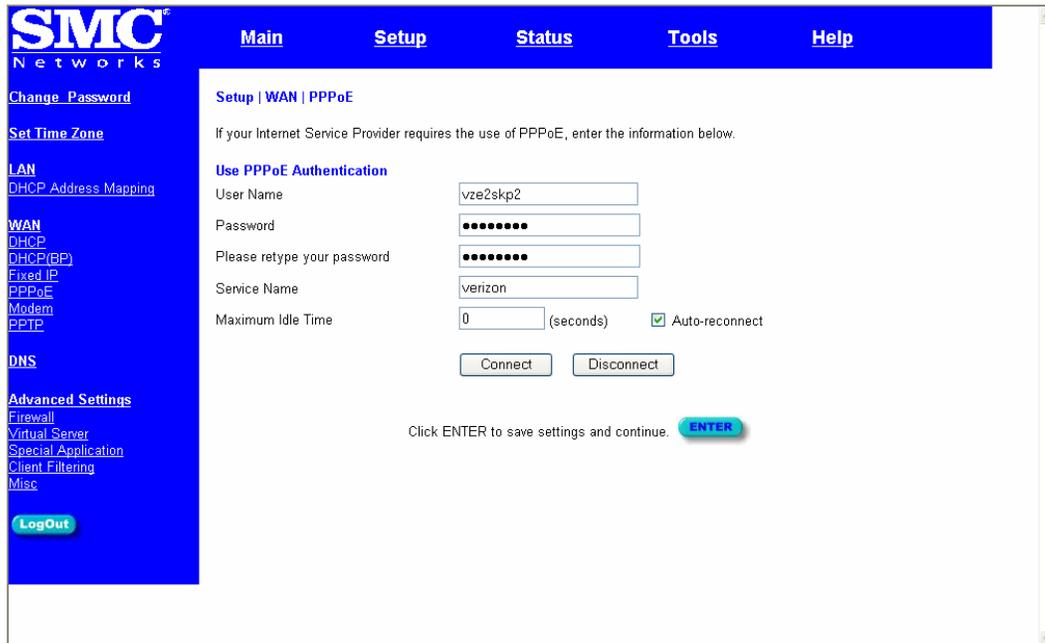
1. Select “PPP over Ethernet” and click on “More Configuration”



The screenshot shows the SMC Networks web interface. The top navigation bar includes 'Main', 'Setup', 'Status', 'Tools', and 'Help'. The left sidebar contains various configuration options: 'Change Password', 'Set Time Zone', 'LAN' (with sub-links for DHCP and Address Mapping), 'WAN' (with sub-links for DHCP, DHCP(BP), Fixed IP, PPPoE, Modem, and PPTP), 'DNS', and 'Advanced Settings' (with sub-links for Firewall, Virtual Server, Special Application, Client Filtering, and Misc). A 'LogOut' button is at the bottom of the sidebar. The main content area is titled 'Setup | WAN' and 'Choose Internet Connection Type'. It features a table with two columns: 'Type' and 'Usage'. The 'PPP over Ethernet' option is selected with a radio button. Below the table is a 'More Configuration' button.

Type	Usage
<input type="radio"/> Dynamic IP Address	Obtain an IP address automatically.
<input type="radio"/> Dynamic IP Address	Obtain an IP address automatically. (Australia BigPond ISP)
<input type="radio"/> Static IP Address	ISP assigns you a static IP address.
<input checked="" type="radio"/> PPP over Ethernet	Some ISPs require the use of PPPoE to connect to their services.
<input type="radio"/> Dial-up on Demand	Use an external modem to connect to the Internet.
<input type="radio"/> PPTP	Some ISPs require the use of PPTP to connect to their services.

2. Enter the User Name and Password for the account provided to you by your ISP in the appropriate fields. Click “Enter” when finished.



The screenshot shows the SMC Networks web interface at the 'Setup | WAN | PPPoE' page. The top navigation bar and left sidebar are identical to the previous screenshot. The main content area is titled 'Setup | WAN | PPPoE' and includes the instruction: 'If your Internet Service Provider requires the use of PPPoE, enter the information below.' Under the heading 'Use PPPoE Authentication', there are several input fields: 'User Name' (containing 'vze2skp2'), 'Password' (masked with dots), 'Please retype your password' (masked with dots), and 'Service Name' (containing 'verizon'). Below these is a 'Maximum Idle Time' field set to '0' seconds, with a checked 'Auto-reconnect' checkbox. There are 'Connect' and 'Disconnect' buttons. At the bottom, a message says 'Click ENTER to save settings and continue.' followed by a green 'ENTER' button.

Use PPPoE Authentication

User Name:

Password:

Please retype your password:

Service Name:

Maximum Idle Time:  (seconds)  Auto-reconnect

Click ENTER to save settings and continue.

## **Part E – Upgrading the Firmware in Your Barricade.**

Upgrades for your Barricade Broadband are readily available on the Internet at [www.smc.com](http://www.smc.com). They are stored in compressed format to minimize the time it takes to download. The files take one of two forms.

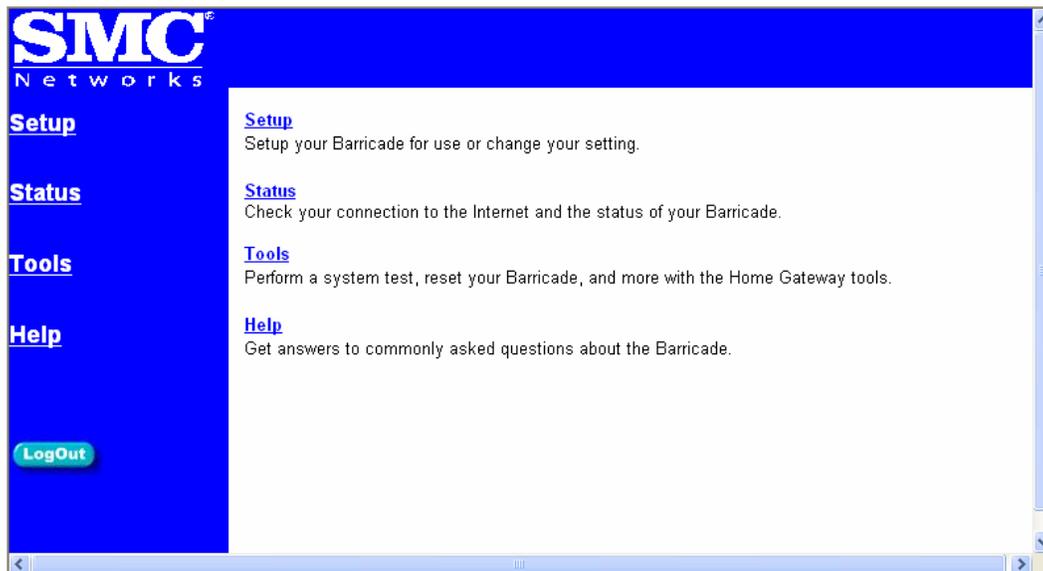
1. “Zipped” format – this format requires you to have special software in order to extract the update files.
2. “Self-extracting” format – this format does not require any special software in order to extract the files.

The preferred form to download is “Self-extracting”. This will eliminate the necessity of having special software to extract the files.

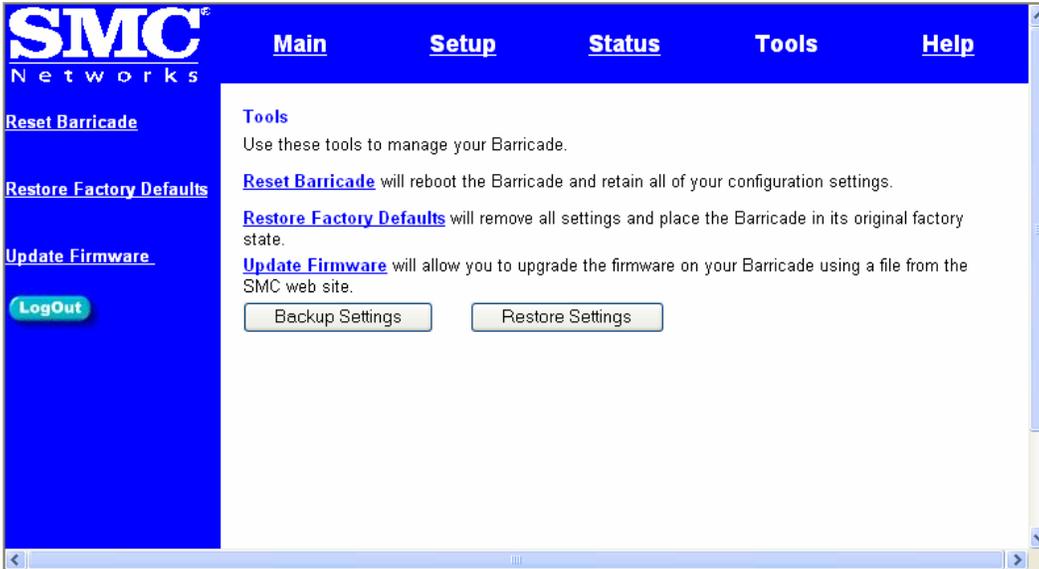
When you downloaded the latest update you execute the self-extracting file and it will create a directory with the name “SMC” and place the extracted files in this directory. The actual update file has the extension of .DLF This will be important later on in this process.

Once you have completed the download and extraction process you can start the Firmware Update Process.

1. To Upgrade the Firmware in your Barricade you must Login to the Barricade and begin from the main menu screen. Select “Tools” from the menu.



2. Select “Update Firmware” to begin the update process.



3. The current version of Firmware that resides in the Barricade will be displayed. If you did not download the latest update from the SMC Website you may do so at this time. Normally you should simply Click "Enter" to start the process.



4. Enter the fully qualified location of the update file that was extracted from the Internet Download. i.e. C:\SMC\7008ABR\_FWv1001008.DLF



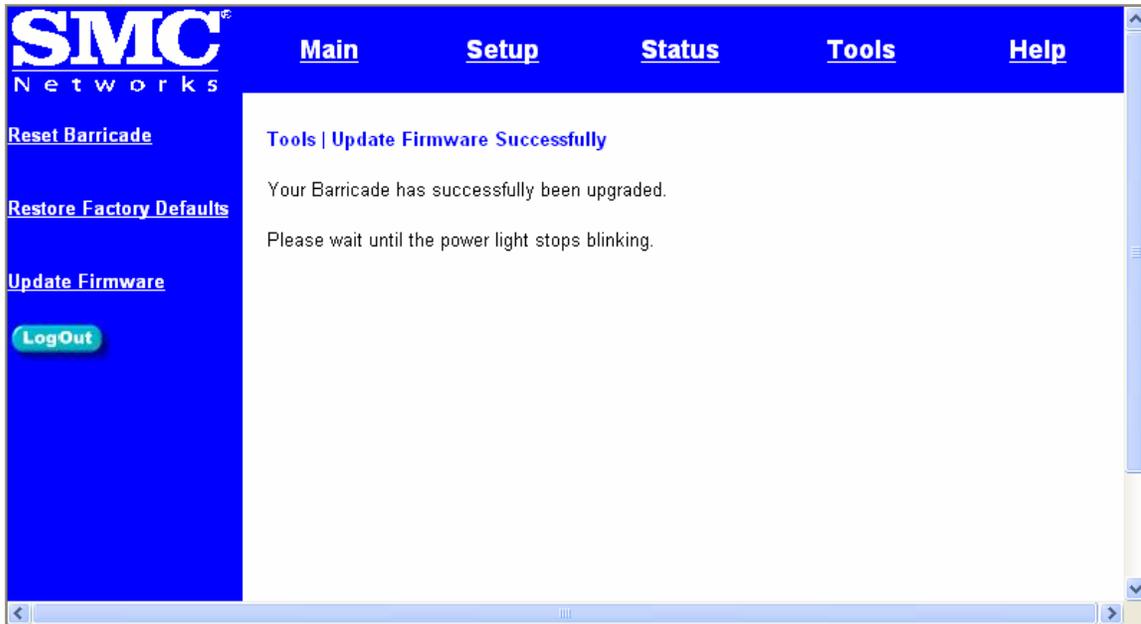
5. You will be asked to confirm the upgrade. Click “OK” to continue



6. This is the final confirmation for the upgrade.



7. This is the final screen when the Barricade is updated.



## **Part E – RESET of router to recover from lost password.**

### **How do you reset the Barricade to factory defaults?**

To reset your Barricade 7008-ABR to factory defaults please follow the steps below:

1. Power off the router for about 30 seconds and then turn it on.
2. Wait for the router to sync up (about 10 secs)
3. Depress the RESET\* button for 8 seconds and release it. To verify a successful reset, the power light will flash rapidly, all 8 port lights will turn on shortly, and then the router will return to its normal state.

\* Note: The RESET button is located on the left side of the front panel.

## **Part F – Adjusting MTU Value**

### **MTU, Partial Loss of Internet Connection, and Performance**

- MTU (Maximum Transmission Unit) is the largest packet a network device transmits. The best MTU setting for equipment is often just the default value. MTU is sometimes presented as something that can be easily changed to improve performance, but in practice this may cause problems. **You need to follow this procedure in order to prevent problems**

with the VPN connection. This will manifest itself as severe performance problems such as chronic disconnects.

- **Setting MTU size is a process of trial-and-error: start with the maximum value of 1500, then reduce the size until the problem goes away.**

In order to find the optimum size for the MTU setting you will need to utilize the extended portions of the PING command. (The parameters are case sensitive!)

```
PING -f -l 1500 fpnet.galileo.com
```

-f Set Don't Fragment flag in packet  
-l size Send buffer size (**lowercase L**)

If you have a problem with the packet size the following message will be returned:  
Packet needs to be fragmented but DF set.

Reduce the size of the send buffer until the reply message comes back normally.  
Reply from 12.17.202.11: bytes=1500 time=36ms TTL=59

To make the changes on the workstation you will need to go to <http://www.dslreports.com/>, Select Tests + Tools. Then select Dr. TCP. You will need to download & install the latest copy of this program (DR.TCP). This program will allow you to make the necessary changes to the MTU size on each workstation. Change the MaxMTU value, Click Apply and then reboot the workstation.

