

## Configuring Your Network's Security

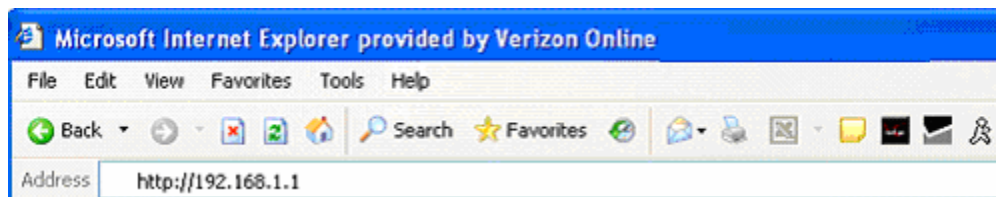
Security is an important issue when using a wireless home network. Because radio waves are used to transfer information between your networked computers, it's possible for hackers to intercept this information. Taking advantage of the security features built into your Actiontec router can make it more difficult for hackers to access your personal information.

Your Actiontec M1424WR router comes with an assigned ESSID and WEP encryption key to make installation easier and provide immediate protection for your home network. Review the type of data stored on your network computers to determine the level of protection you need. Regardless of the level of security protection you choose, it's very important to periodically change your security settings. It should be considered a normal maintenance task.

**Note:** The Actiontec security screens and prompts may vary slightly from the directions below, depending on when you purchased your Actiontec router and the version of the firmware loaded on it.

**To update your Actiontec security settings to provide increased protection:**

1. Open your Web browser and enter ***http://192.168.1.1*** in the **Address** field.



2. Enter your user name and password and click **Ok**.



- Enter the user name and password that were entered during the initial setup of your FiOS hardware.
- If you don't know the user name and password, you will need to [reset your Actiontec router to the factory default values](#).

3. Click the **Wireless Setup** icon at the top of the screen.



4. Confirm that **Enable wireless** is selected.

The image displays the 'Wireless Setup' configuration window. At the top, the title 'Wireless Setup' is centered. Below it, a section contains a checked checkbox labeled 'Enable Wireless', which is circled in red. Underneath, the 'Status' is shown as 'Connected' in green text. The 'SSID (Service Set Identifier is the name designated for a specific wireless network):' field contains the text '18TH7'. Below this, another checked checkbox is labeled 'SSID Broadcast'. The '802.11 Mode:' is set to 'Mixed' with a dropdown arrow. The 'Channel:' is set to '11 - 2.462GHz' with a dropdown arrow. The 'Encryption - WEP (Default WEP key to use, 40 BIT, 10 hexadecimal digits):' field contains the key '0FB3C01531'. At the bottom of the window are three buttons: 'OK', 'Cancel', and 'Advanced'.

5. If you are creating a new home network, it's recommended that you use the default SSID assigned by Actiontec and displayed in the **SSID** field. This simplifies network installation and makes troubleshooting easier.
  - The default SSID is displayed on the label attached to the bottom of your router for easy reference.
  - All hardware attached to your home network must use the same SSID.

If you're replacing the router on an established home network, you may want to change the default SSID to that of your previous network. This eliminates the need to change the SSID on all the wireless network adapters used to connect additional computers.

- If you change the SSID, it's important that you write it down for future reference. All hardware connected to your home network must use the same SSID.

**Wireless Setup**

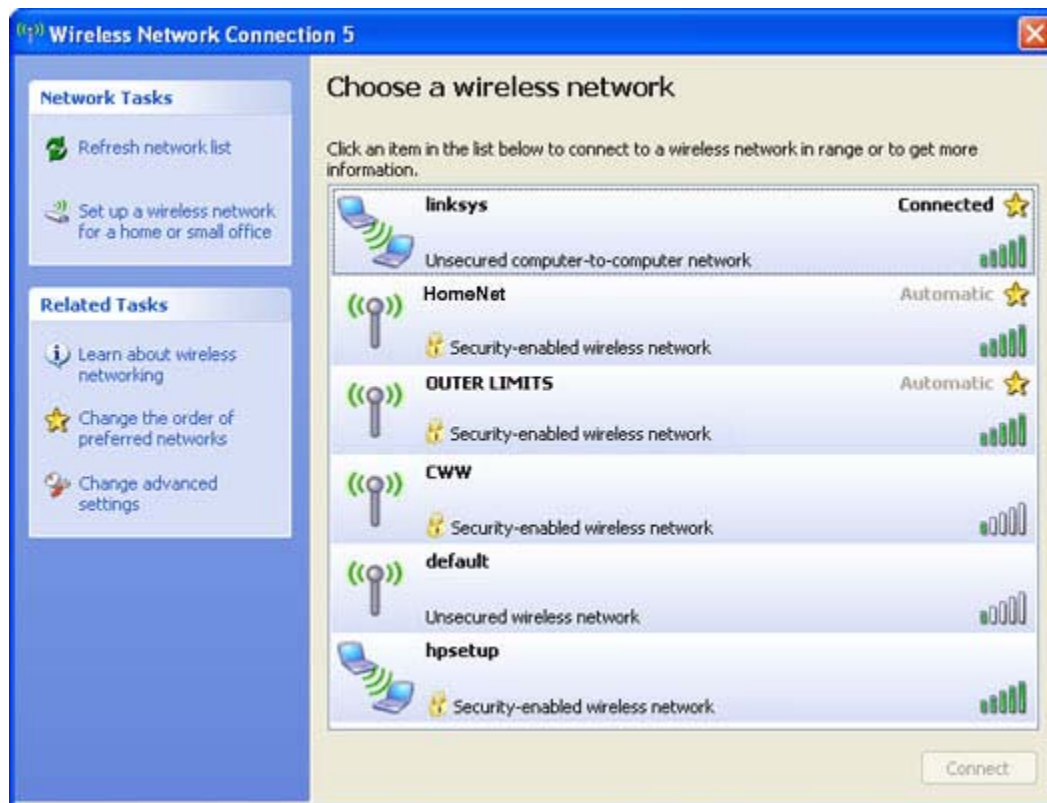
<input checked="" type="checkbox"/> Enable Wireless	
Status:	Connected
SSID (Service Set Identifier is the name designated for a specific wireless network):	HomeNet
<input checked="" type="checkbox"/> SSID Broadcast	
802.11 Mode:	Mixed
Channel:	11 - 2.462GHz
Encryption - WEP (Default WEP key to use, 40 BIT, 10 hexadecimal digits):	0FB3C01531

6. For greater security, make sure the **Broadcast SSID** box is *not* checked.

**Wireless Setup**

<input checked="" type="checkbox"/> Enable Wireless	
Status:	Connected
SSID (Service Set Identifier is the name designated for a specific wireless network):	HomeNet
<input type="checkbox"/> SSID Broadcast	
802.11 Mode:	Mixed
Channel:	11 - 2.462GHz
Encryption - WEP (Default WEP key to use, 40 BIT, 10 hexadecimal digits):	0FB3C01531

- If this box is selected, anyone within range of your network will be able to "see" your network in the list of available wireless networks.



- If it is not checked, your network is invisible to the casual user.
7. Select the appropriate mode from the **802.11 Mode** drop-down to indicate the type of hardware you're using.

### Wireless Setup

☒ Enable Wireless

Status: Connected

SSID (Service Set Identifier is the name designated for a specific wireless network):

☐ SSID Broadcast

802.11 Mode: Mixed

Channel:

Encryption - WEP (Default WEP key to use. 40 BIT, 10 hexadecimal digits):

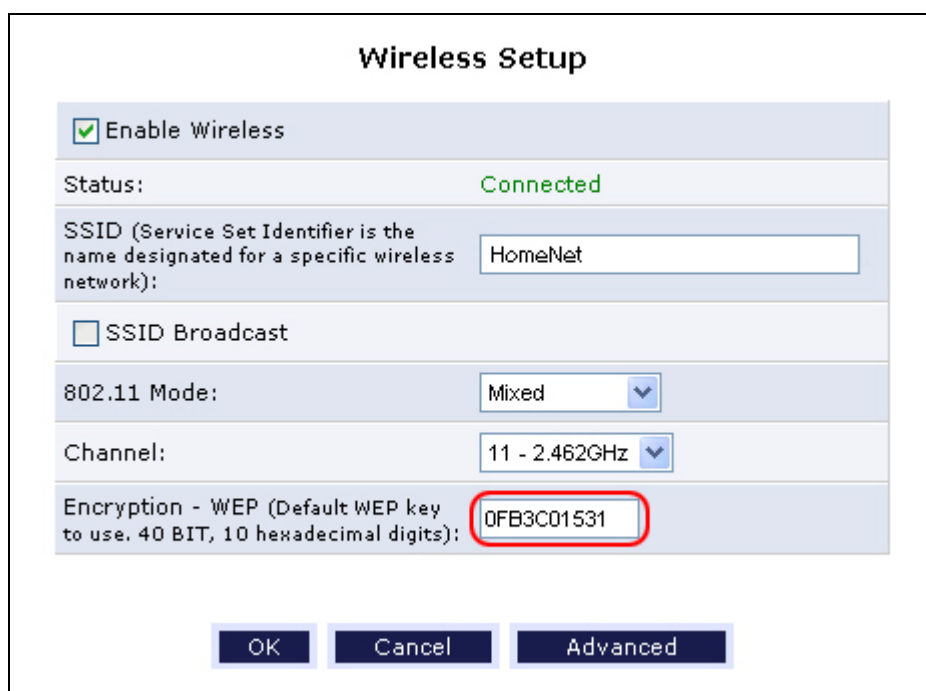
OK
Cancel
Advanced

- If all of your hardware is 802.11g, select 802.11g Only

- If all of your hardware is 802.11b, select 802.11b Only
  - If you have some hardware that is 802.11g and some that is 802.11b, select Mixed
8. Leave the Channel set to 11 - 2.462 GHz
  9. If you are creating a new home network, it's recommended that you use the default WEP 64/40 bit encryption assigned by Actiontec and displayed in the **Encryption – WEP** field. This simplifies network installation and makes troubleshooting easier.
    - The default WEP encryption key is displayed on the label attached to the bottom of your router for easy reference.
    - All hardware attached to your home network must use the same WEP key.

If you're replacing the router on an established home network, you may want to change the default WEP to that of your previous network. This eliminates the need to change the WEP key on all the wireless network adapters used to connect additional computers.

- **Note:** The WEP encryption key should be entered with hexadecimal characters (0-9 and A-F). 40/64-bit WEP encryption requires that you enter 10 characters. For example, a WEP key in hexadecimal format could be 45B89CA71DF.
- If you change the WEP key, it's important that you write it down for future reference. All hardware connected to your home network must use the same WEP key.



The image shows a 'Wireless Setup' dialog box with the following fields and controls:

- Enable Wireless:** A checked checkbox.
- Status:** Displays 'Connected' in green text.
- SSID (Service Set Identifier is the name designated for a specific wireless network):** A text box containing 'HomeNet'.
- SSID Broadcast:** An unchecked checkbox.
- 802.11 Mode:** A dropdown menu set to 'Mixed'.
- Channel:** A dropdown menu set to '11 - 2.462GHz'.
- Encryption - WEP (Default WEP key to use. 40 BIT, 10 hexadecimal digits):** A text box containing '0FB3C01531', which is highlighted with a red rectangular border.
- Buttons:** 'OK', 'Cancel', and 'Advanced' buttons at the bottom.

10. You can provide additional security for you network by clicking [Advanced](#) to access the advanced wireless settings.
11. If you aren't going to use the additional security features, you can continue with Step 5.

## Supporting Documents

### Resetting the user name and password to the default values

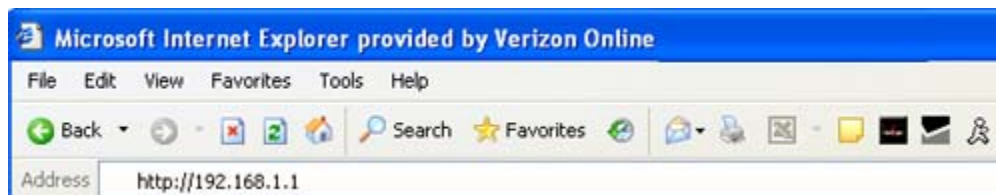
If you don't know the user name and password that were defined when your FiOS account was installed, you can reset them to the default values and then enter a new user name and password.

#### To reset your Actiontec router:

1. With the power on (Power LED on front panel should be lit green), use the pointed end of a paper clip to press and hold the Reset button for 10 seconds.



2. Release the Reset button. The Actiontec router will automatically reboot itself.
3. Wait 15 seconds before resuming setup.
4. Open your Web browser and enter ***http://192.168.1.1*** in the **Address** field.



5. Enter **admin** in the **User Name** field and **password** in the **Password** field. These are the default values. A new screen will display, and you will be required to enter a new user name and password.




### Login Setup

We now require you to change your default login User Name and Password. Please select a new login User Name and Password and type it into the appropriate fields below, then click OK.

User Name:	<input type="text" value="admin"/>
New Password:	<input type="text"/>
Retype New Password:	<input type="text"/>

6. Enter a new user name in the **User Name** field.
7. Enter a password that contains at least six characters. Your password must contain a combination of numbers and letters.



### Login Setup

Please configure Actiontec Home Router's username and password:

User Name:	<input type="text" value="admin"/>
New Password:	<input type="password" value="*****"/>
Retype New Password:	<input type="password" value="*****"/>

8. Enter your password a second time to confirm it was entered correctly.
9. Return to the [login](#) instructions.

### **Advanced Security Settings**

Although disabling the SSID broadcast and setting up WEP encryption on the initial Wireless Setup screen provides some security for your network, you can add a second level of protection by using the advanced features of your Actiontec router.

- [MAC filtering](#) increases your network security as you create a list of computers that can access your network. All other computers are denied access.
- Increasing the WEP encryption level to [128/104 bit encryption](#) makes it harder for hackers to break into your home network.

**Note:** Change only the MAC filtering and WEP encryption settings on this page unless you are experienced in configuring networks.



## MAC Filtering

You can use MAC filtering to help control who can connect to your wireless network by specifying the computers that are allowed to connect to your network. You will enter the MAC Address (also called the Physical Address) of each computer you are permitting to connect to your home network. Computers that are not included in your list are denied access.

1. Go to the "Wireless Access Point" section of the screen.

Wireless Access Point	
SSID (Service Set Identifier is the name designated for a specific wireless network):	<input type="text" value="HomeNet"/>
<input type="checkbox"/> SSID Broadcast	
802.11 Mode:	<input type="text" value="Mixed"/>
Channel:	<input type="text" value="11 - 2.462GHz"/>
Network Authentication:	<input type="text" value="Shared Key Authentication"/>
MAC Filtering Mode:	<input type="text" value="Disable"/>
<b>MAC Filtering Settings</b> <a href="#">New MAC Address</a>	

2. Verify that the settings you entered on the initial wireless settings page are displayed correctly.
  - The new SSID you entered is displayed in the **SSID** field.
  - The **SSID Broadcast** checkbox is not checked.
  - The correct mode is displayed in the **802.11 Mode** field.
  - The **Channel** field is set to **11 - 2.462 GHz**.
3. Change the **Network Authentication** field to **Shared Key Authentication**.

Wireless Access Point	
SSID (Service Set Identifier is the name designated for a specific wireless network):	<input type="text" value="HomeNet"/>
<input type="checkbox"/> SSID Broadcast	
802.11 Mode:	<input type="text" value="Mixed"/>
Channel:	<input type="text" value="11 - 2.462GHz"/>
Network Authentication:	<input type="text" value="Shared Key Authentication"/>
MAC Filtering Mode:	<input type="text" value="Disable"/>
<b>MAC Filtering Settings</b> <a href="#">New MAC Address</a>	

4. Change the **MAC filtering Mode** field to **Allow**. Only the computers that you specify will be allowed to connect to your home network.

Wireless Access Point	
SSID (Service Set Identifier is the name designated for a specific wireless network):	HomeNet
<input type="checkbox"/> SSID Broadcast	
802.11 Mode:	Mixed
Channel:	11 - 2.462GHz
Network Authentication:	Shared Key Authentication
MAC Filtering Mode:	Allow
<a href="#">MAC Filtering Settings</a> <a href="#">New MAC Address</a>	




5. Click **New MAC address** to access the MAC Filtering Settings screen.

### MAC Filtering Settings

MAC Address: 00 : 15 : 05 : EC : 01 : B6

OK
Apply
Cancel

6. Enter the MAC address of the first computer you are allowing to access your home network and click **OK**. Each time you enter a new MAC address, the new entry displays under "MAC Filtering Settings."

MAC Filtering Settings	
MAC Address	Action
00:15:05:ec:01:b6	 
<a href="#">New MAC Address</a>	

- If you don't know the MAC address of the computers on your home network, you can use the command prompt in your Windows operating system to find it.

- [Windows XP or 2000](#)

7. Enter the MAC address of each computer you are allowing to access your network.

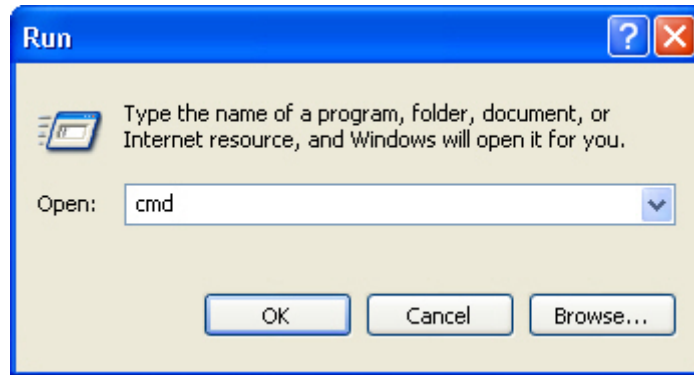
**Note:** If you add computers to your home network at a later date, you must return to this

screen to add the MAC address of the new computers. Otherwise, they won't be able to access your home network.

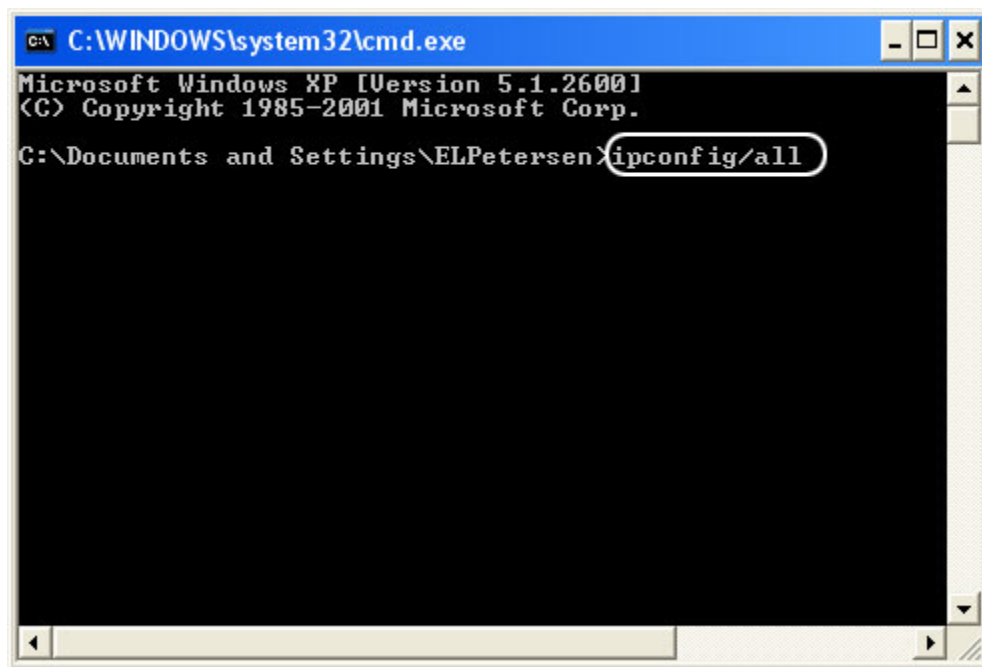
8. Return to the [Advanced Security](#) section.

### **Finding Your MAC Address in Windows 2000 or XP**

1. Click **Start** in the lower left taskbar.
2. Select **Run** from the Start menu.
3. Enter **Cmd** in the **Open** field of the Run window.



4. Enter ipconfig/all



5. Write down the Physical Address. This is another name for the MAC address. It should be 12 characters separated by hyphens. You will enter this MAC address without the hyphens when you set up the MAC address filtering.

```

C:\WINDOWS\system32\cmd.exe

Windows IP Configuration

Host Name . . . . . : Dad's desktop
Primary Dns Suffix . . . . . :
Node Type . . . . . :
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : verizon.net


Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : verizon.net
    Description . . . . . : Intel(R) PRO/1000 MT
    Physical Address. . . . . : 00-07-E9-4D-4A-85
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IP Address. . . . . : 192.84.163.170
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.84.163.254
    DHCP Server . . . . . : 192.84.163.203
    DNS Servers . . . . . : 192.84.163.202
                           192.84.163.203
    Primary WINS Server . . . . . : 192.84.163.203
    Secondary WINS Server . . . . . : 192.84.163.202
                                   208.52.213.154
                                   199.180.2.3
  
```

6. Enter **exit** to close the Command window.

```

C:\WINDOWS\system32\cmd.exe

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : verizon.net
    Description . . . . . : Intel(R) PRO/1000
    Physical Address. . . . . : 00-07-E9-4D-4A-85
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IP Address. . . . . : 192.84.163.182
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.84.163.254
    DHCP Server . . . . . : 192.84.163.203
    DNS Servers . . . . . : 192.84.163.202
                           192.84.163.203
    Primary WINS Server . . . . . : 192.84.163.202
    Secondary WINS Server . . . . . : 192.84.163.203
                                   208.52.213.154
                                   199.180.2.3

C:\Documents and Settings\ELPetersen>exit
  
```

7. Return to [MAC Filtering](#).

## Increasing WEP Encryption

Although increasing the level of WEP encryption can slow network data transmission rates, you may want to increase your security by using 104/128-bit WEP encryption.

1. Confirm that the **Wireless Security Enabled** check box is selected.
2. Go to the "Wireless Security Section" at the bottom of the "Configure LAN Wireless 802.11g Access Point" screen.

Wireless Security		<input checked="" type="checkbox"/> Enabled	
Stations Security Type:		Non-802.1X WEP ▼	
Active	Encryption Key	Entry Method	Key Length
<input checked="" type="radio"/> 1	0FB3C01531	Hex ▼	64/40 bit ▼
<input type="radio"/> 2		Hex ▼	64/40 bit ▼
<input type="radio"/> 3		Hex ▼	64/40 bit ▼
<input type="radio"/> 4		Hex ▼	64/40 bit ▼
Internet Connection Firewall		<input type="checkbox"/> Enabled	
Additional IP Addresses		New IP Address	

3. Select the circle next to the "2" to activate key 2.

Wireless Security		<input checked="" type="checkbox"/> Enabled	
Stations Security Type:		Non-802.1X WEP ▼	
Active	Encryption Key	Entry Method	Key Length
<input type="radio"/> 1	0FB3C01531	Hex ▼	64/40 bit ▼
<input checked="" type="radio"/> 2		Hex ▼	64/40 bit ▼
<input type="radio"/> 3		Hex ▼	64/40 bit ▼
<input type="radio"/> 4		Hex ▼	64/40 bit ▼
Internet Connection Firewall		<input type="checkbox"/> Enabled	
Additional IP Addresses		New IP Address	

- **Note:** Entering the new WEP encryption information in key 2, makes it easy to return to the default WEP key, if you choose. All you have to do is select the circle by key 1 to return to the default.
4. Select **Hex** or **ASCII** in the "Entry Method" column to indicate what format you are using for the encryption key.

Wireless Security <input checked="" type="checkbox"/> Enabled			
Stations Security Type:		Non-802.1X WEP ▼	
Active	Encryption Key	Entry Method	Key Length
<input type="radio"/> 1	0FB3C01531	Hex ▼	64/40 bit ▼
<input checked="" type="radio"/> 2		Hex ▼	64/40 bit ▼
<input type="radio"/> 3		Hex ▼	64/40 bit ▼
<input type="radio"/> 4		Hex ▼	64/40 bit ▼
Internet Connection Firewall <input type="checkbox"/> Enabled			
Additional IP Addresses		New IP Address	

5. Select **128/104 bit** in "Key Length" column.

Wireless Security <input checked="" type="checkbox"/> Enabled			
Stations Security Type:		Non-802.1X WEP ▼	
Active	Encryption Key	Entry Method	Key Length
<input type="radio"/> 1	0FB3C01531	Hex ▼	64/40 bit ▼
<input checked="" type="radio"/> 2		Hex ▼	128/104 bit ▼
<input type="radio"/> 3		Hex ▼	64/40 bit ▼
<input type="radio"/> 4		Hex ▼	64/40 bit ▼
Internet Connection Firewall <input type="checkbox"/> Enabled			
Additional IP Addresses		New IP Address	

6. Enter the new WEP encryption key in the **Encryption Key** field of key 2.

Wireless Security <input checked="" type="checkbox"/> Enabled			
Stations Security Type:		Non-802.1X WEP ▼	
Active	Encryption Key	Entry Method	Key Length
<input type="radio"/> 1	0FB324DE75	Hex ▼	64/40 bit ▼
<input checked="" type="radio"/> 2	0FB38C152AD4E528BD2348CA	Hex ▼	128/104 bit ▼
<input type="radio"/> 3		Hex ▼	64/40 bit ▼
<input type="radio"/> 4		Hex ▼	64/40 bit ▼
Internet Connection Firewall <input type="checkbox"/> Enabled			
Additional IP Addresses		New IP Address	

- If you're entering the key in Hex format, the encryption key must have 24 characters. The characters can include the numbers 1-9 and the letters A-F.

- If you're entering the key in ASCII format, the encryption key must have 24 characters and is limited to numeric characters.
7. Return to the [Advanced Security](#) section.