

# Ositech Titan II Wireless Router User Manual

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## Revision History

DATE	REV	REASON
August 08, 2011	A	Initial Document Creation, supports V1.00.2.sub1 firmware – JC
January 25, 2012	B	Updated to support V1.00.3.sub1 firmware – JC

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# 1 INTRODUCTION

## 1.1 PURPOSE

This document is a detailed user manual for the Ositech Titan II Wireless Router.

Below, is an illustration of the Titan II Wireless Router including its protective enclosure. This manual will detail how to install and configure the Titan II Wireless Router prior to use with your Philips HeartStart MRx Monitor/Defibrillator.

Titan II Wireless Router with Enclosure



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## 2 DEFINITIONS

<i>3G</i>	–	<i>3<sup>rd</sup> Generation Cellular Data Transmission</i>
<i>APN</i>	–	<i>Access Point Name</i>
<i>DNS</i>	–	<i>Domain Name Server</i>
<i>ECG</i>	–	<i>ElectroCardioGram</i>
<i>ID</i>	–	<i>IDentification</i>
<i>INI</i>	–	<i>INItialization File</i>
<i>LED</i>	–	<i>Light Emitting Diode</i>
<i>MRx</i>	–	<i>Philips HeartStart MRx Monitor/Defibrillator</i>
<i>SIM</i>	–	<i>Subscriber Information Module</i>
<i>SSID</i>	–	<i>Service Set IDentifier</i>
<i>URL</i>	–	<i>Universal Resource Locator</i>
<i>USB</i>	–	<i>Universal Serial Bus</i>
<i>WEP</i>	–	<i>Wireless Encryption Protocol</i>
<i>WiFi</i>	–	<i>802.11 Wireless Fidelity (Wireless Networking)</i>
<i>WPA-PSK</i>	–	<i>802.11 WiFi Protected Access – Pre Shared Key</i>
<i>WPA2-PSK</i>	–	<i>802.11 WiFi Protected Access 2 – Pre Shared Key</i>

### 3 WINDOWS INSTALLATION

The Titan II Wireless Router configuration is accomplished thru various versions of Microsoft Windows using Internet Explorer. For the scope of this document, the installation process is illustrated for Windows XP, Vista, Windows 7 (32 and 64bit) and Windows 8 (32 and 64bit). Windows 95, 98, ME, NT, and 2000 are unsupported.

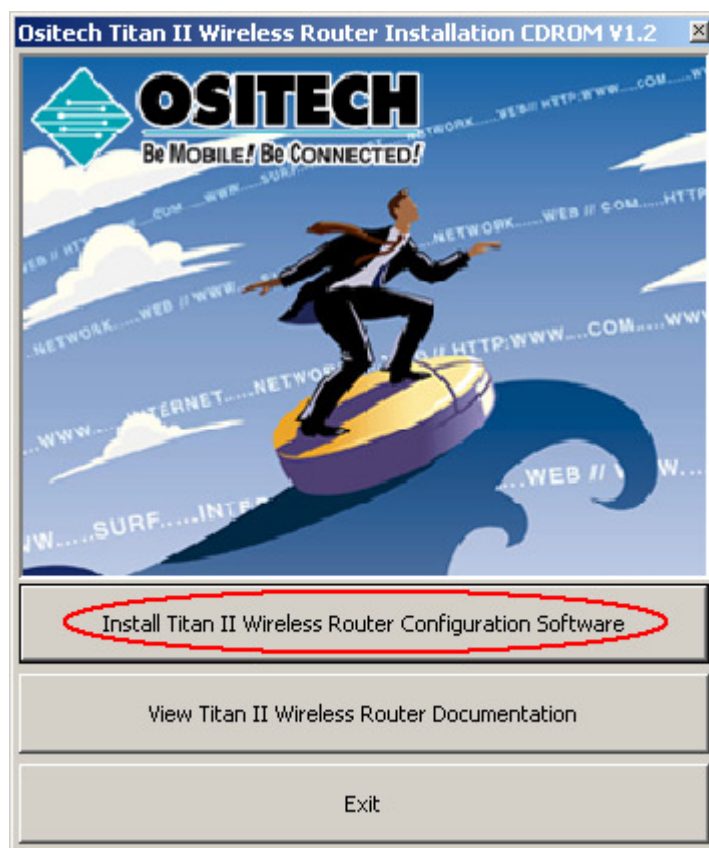
The Windows installation and configuration includes the installation of the Titan II Wireless Router and its USB drivers, and as well, its corresponding network connection that is automatically created by Windows.

Once your Titan II Wireless Router has been installed and configured under Windows, you are then ready for operations with your Philips HeartStart MRx Monitor/Defibrillator and the Philips Telemedicine System.

During the software installation, for your convenience, a link to the User Manual is created for you and provided thru your system Start Menu, as well as a link to the Status page. You must review the User Manual prior to configuring your Titan II Wireless Router, to familiarize yourself with its operations. Do not connect your Titan II Wireless Router until you have run the installation software.

#### 3.1 WINDOWS CONFIGURATION SOFTWARE INSTALLATION

Insert your installation CDROM that was provided as part of your kit. The Fastmenu system will appear. Click the “Install Titan II Wireless Router Configuration Software” button to begin the installation process. If you do not see the Fastmenu system appearing on your computer system, your CDROM Autostart feature is disabled. However, you can still launch the Fastmenu system by browsing the contents of the CDROM, and then double clicking the file Autorun.exe.

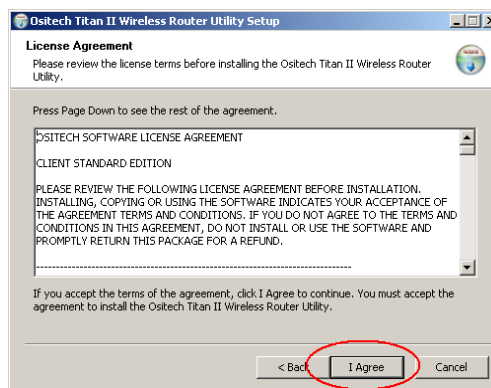


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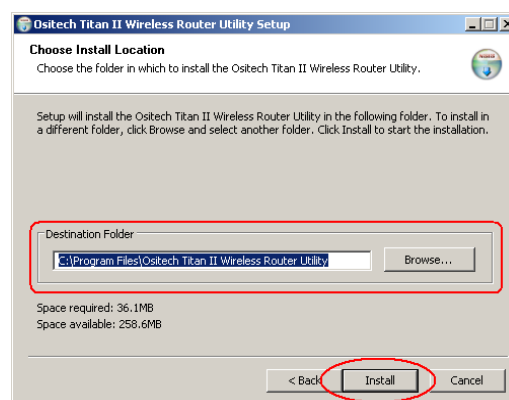
During this time, be patient while the Titan II Wireless Router Configuration Utility Setup Wizard launches, it may take a few moments. Once the Titan II Wireless Router Configuration Utility loads, click the Next button to continue.



At this point, you need to examine the software license agreement that is displayed. You must accept the software license agreement in order to continue. Once you have read and agree to the terms and conditions of the software license agreement, click the “I Agree” button to proceed.

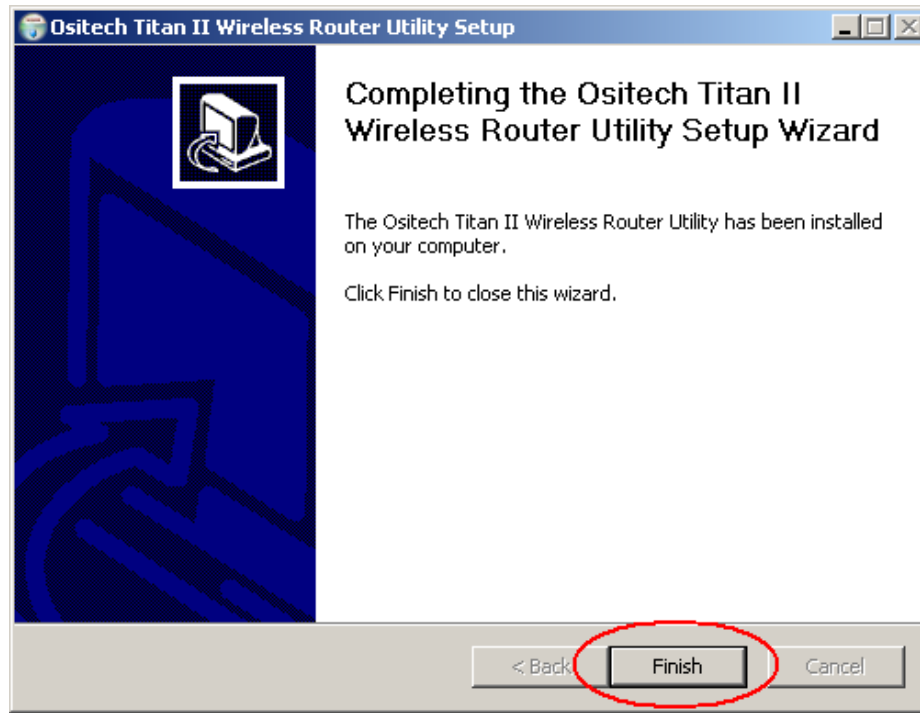


The setup wizard will now prompt you for the installation destination folder. If you are satisfied with the default installation path, simply click the Install button. However, if you choose to install to your choice of destination folders, click the browse button and select your destination folder of choice, then click the Install button to continue. You are advised to keep the default installation path that is shown.



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The setup wizard will now advise you that the Titan II Wireless Router Configuration Utility has been installed on your computer. Click the Finish button to exit the Titan II Wireless Router Configuration Utility Setup Wizard. The software for the Titan II Wireless Router is now fully installed and accessible via your Start button. You are now ready to install your Titan II Wireless Router device in Windows.



## 3.2 TITAN II DEVICE DRIVER INSTALLATION

### \*\* IMPORTANT NOTE \*\*

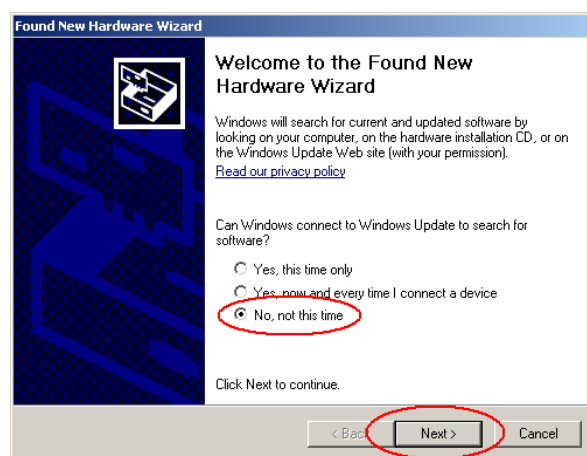
Since there are many ways and aspects of customizing Windows to your needs, please be advised that the following Windows installation directions and illustrations may not reflect your computer system exactly. The installation instructions are designed to guide you thru the device driver installation as closely as possible to your specific computer system.

### 3.2.1 WINDOWS XP USB DEVICE DRIVER INSTALLATION



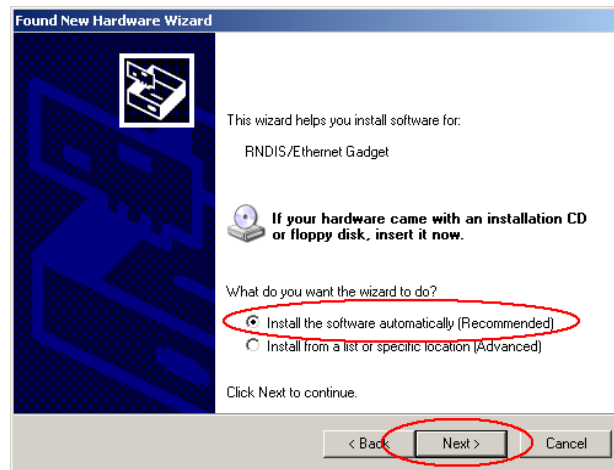
Start your computer system, and then connect the USB Cable to the Titan II Wireless Router and then insert the other end of the USB cable into any free USB port on your computer system. Your Philips HeartStart MRx Monitor/Defibrillator should not be connected at this time.

In a moment, Windows will detect the presence of new hardware, and accordingly Windows will launch the Found New Hardware Wizard. Please be patient during this time, as the Titan II Wireless Router requires a few seconds to start up normally. Since you do not need to connect to Windows Update to search for software, ensure your bullet is set to “No, not this time”, and then click Next to proceed. Please note, certain configurations of Windows XP may not display this screen, and if so, please continue to the next step.



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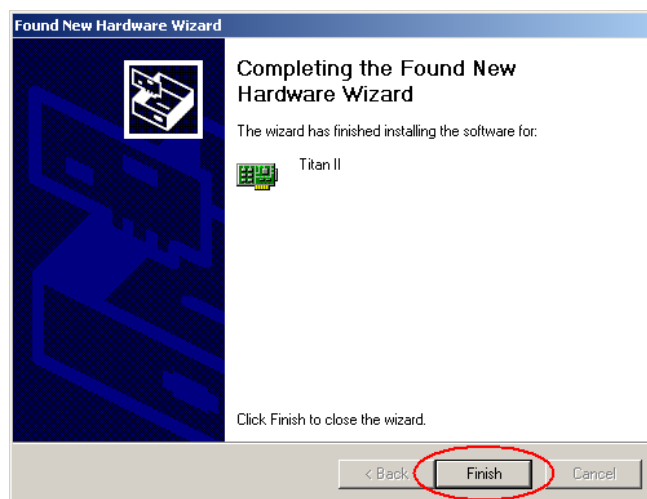
Ensure that your bullet is set to “Install the software automatically [Recommended]”, then click Next to continue with the USB installation.



You will now be advised that the Titan II device has not passed Windows Logo testing. You must click “Continue Anyway” to continue with the installation at this point. Please be assured that this software will neither impair nor destabilize your computer system. Please note, certain configurations of Windows XP may not display this screen, and if so, please continue to the next step.



The Found New Hardware Wizard should now advise you that it has completed installing your Titan II device. Click Finish to close the wizard.



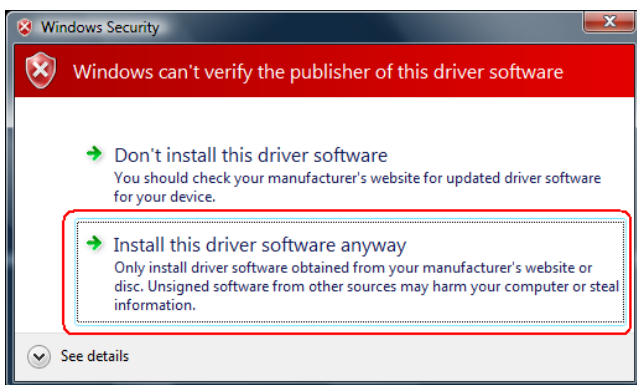
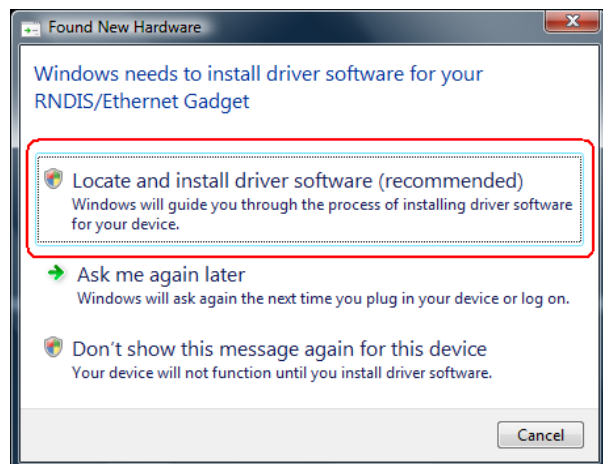


### 3.2.2 WINDOWS VISTA USB DEVICE DRIVER INSTALLATION



Start your computer system, and then connect the USB Cable to the Titan II Wireless Router and then insert the other end of the USB cable into any free USB port on your computer system. Your Philips HeartStart MRx Monitor/Defibrillator should not be connected at this time.

In a moment, Windows should detect the presence of new hardware, and accordingly Windows will launch the Found New Hardware Wizard. Please be patient during this time, as the Titan II Wireless Router requires a few seconds to start up normally. Please click “Locate and install driver software (recommended)” to proceed with the device driver installation.



You will now be advised that Windows can't verify the publisher of this driver software. You must click “Install this driver software anyway” to continue with the installation. Please be assured that this software will neither harm your computer nor steal information.

The Found New Hardware Wizard should now advise you (via your system tray) that it has successfully completed installing your Titan II Wireless Router.



### 3.2.3 WINDOWS 7 USB DEVICE DRIVER INSTALLATION

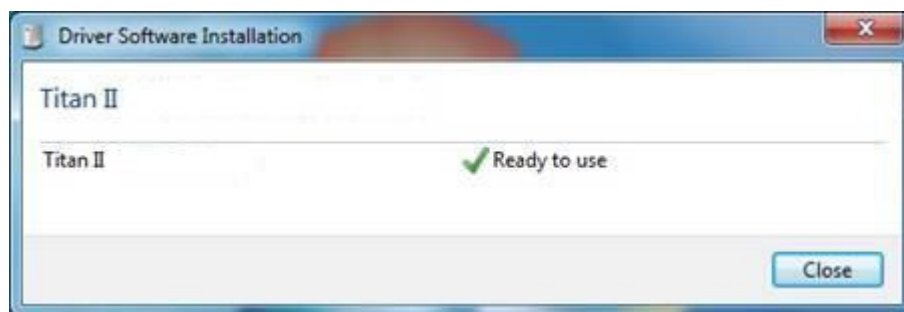


Start your computer system, and then connect the USB Cable to the Titan II Wireless Router and then insert the other end of the USB cable into any free USB port on your computer system. Your Philips HeartStart MRx Monitor/Defibrillator should not be connected at this time.

In a moment, Windows should detect the presence of new hardware, and accordingly Windows will launch the Found New Hardware Wizard. Please be patient during this time, as the Titan II Wireless Router requires a few seconds to start up normally.

At this point, Windows 7 will proceed to install the Titan II Wireless Router, without any further intervention on your behalf.

The Found New Hardware Wizard should now advise you (via your system tray) that it has successfully completed installing your Titan II Wireless Router.



### 3.2.4 WINDOWS 8 USB DEVICE DRIVER INSTALLATION

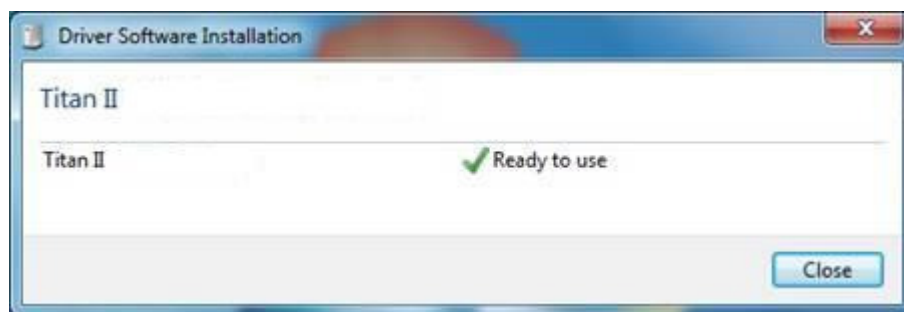


Start your computer system, and then connect the USB Cable to the Titan II Wireless Router and then insert the other end of the USB cable into any free USB port on your computer system. Your Philips HeartStart MRx Monitor/Defibrillator should not be connected at this time.

In a moment, Windows should detect the presence of new hardware, and accordingly Windows will launch the Found New Hardware Wizard. Please be patient during this time, as the Titan II Wireless Router requires a few seconds to start up normally.

At this point, Windows 8 will proceed to install the Titan II Wireless Router, without any further intervention on your behalf.

The Found New Hardware Wizard should now advise you (via your system tray) that it has successfully completed installing your Titan II Wireless Router.



## 4 TITAN II WIRELESS ROUTER CONFIGURATION UTILITY

This section describes the Titan II Wireless Router Configuration Utility in greater depth and detail. In order to have your Titan II Wireless Router functional for operations with your HeartStart MRx, it needs to be configured for your specific connection prior to use. This is accomplished using the Titan II Wireless Router Configuration Utility.

Before you begin, ensure that you have all the connection parameters for your WiFi and/or cellular connections handy. If you are unsure of these settings, please contact your network administrator accordingly. Before you begin, please ensure your Titan II Wireless Router is connected to your computer system via the USB cable, and that it has been installed properly.

**Note:** To access the Titan II Wireless Router Configuration Utility, your system must have Windows Internet Explorer version 6 installed, as a minimum.

Access to the Titan II Wireless Router Configuration Utility is made conveniently through your Start menu system. Click your Start button, and select your Program Files. Within your Program Files, locate folder Titan II Wireless Router Configuration Utility. From the Titan II Wireless Router Configuration Utility folder, select Titan II Wireless Router Configuration Utility. Windows will now launch the configuration utility.

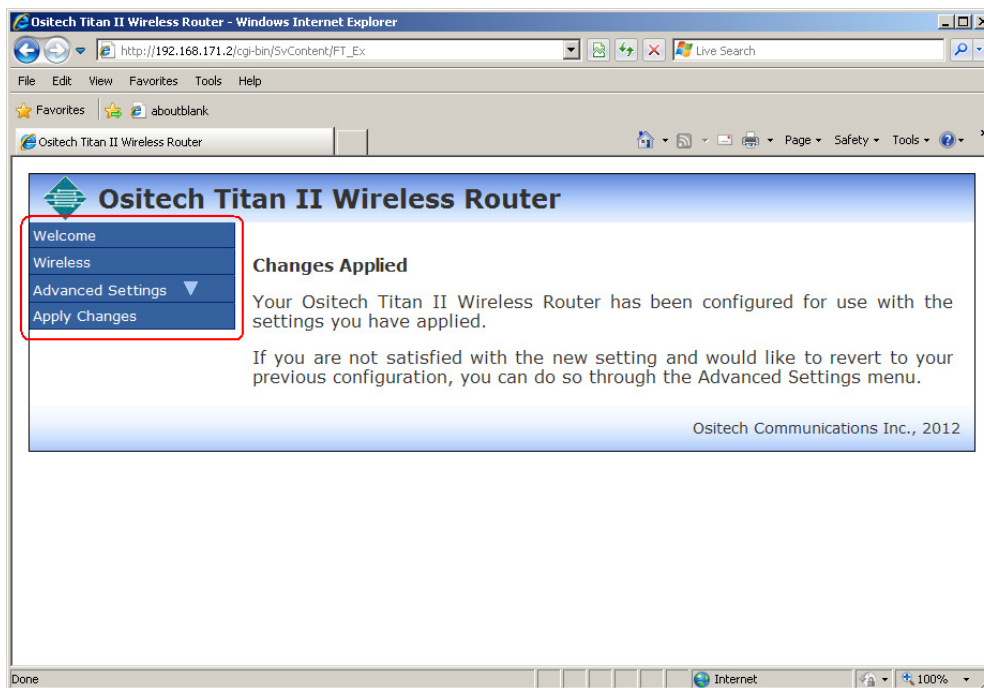
When the configuration utility opens, you will be challenged to login to the configuration utility. Your default username is “admin” and the accompanying password is also “admin”, of course without the quotation marks. Enter your username and password accordingly, and then click OK to login to your Titan II Wireless Router.



On the very first time you launch the configuration utility, it will load factory default settings. Please proceed to configure your Titan II Wireless Router for your specific operational environment, and then click “Apply Changes” to save your settings appropriately.



The main Titan II Wireless Router Configuration Utility has four sub areas on the left that are selectable; Welcome, Wireless, Advanced Settings, and Apply Changes.



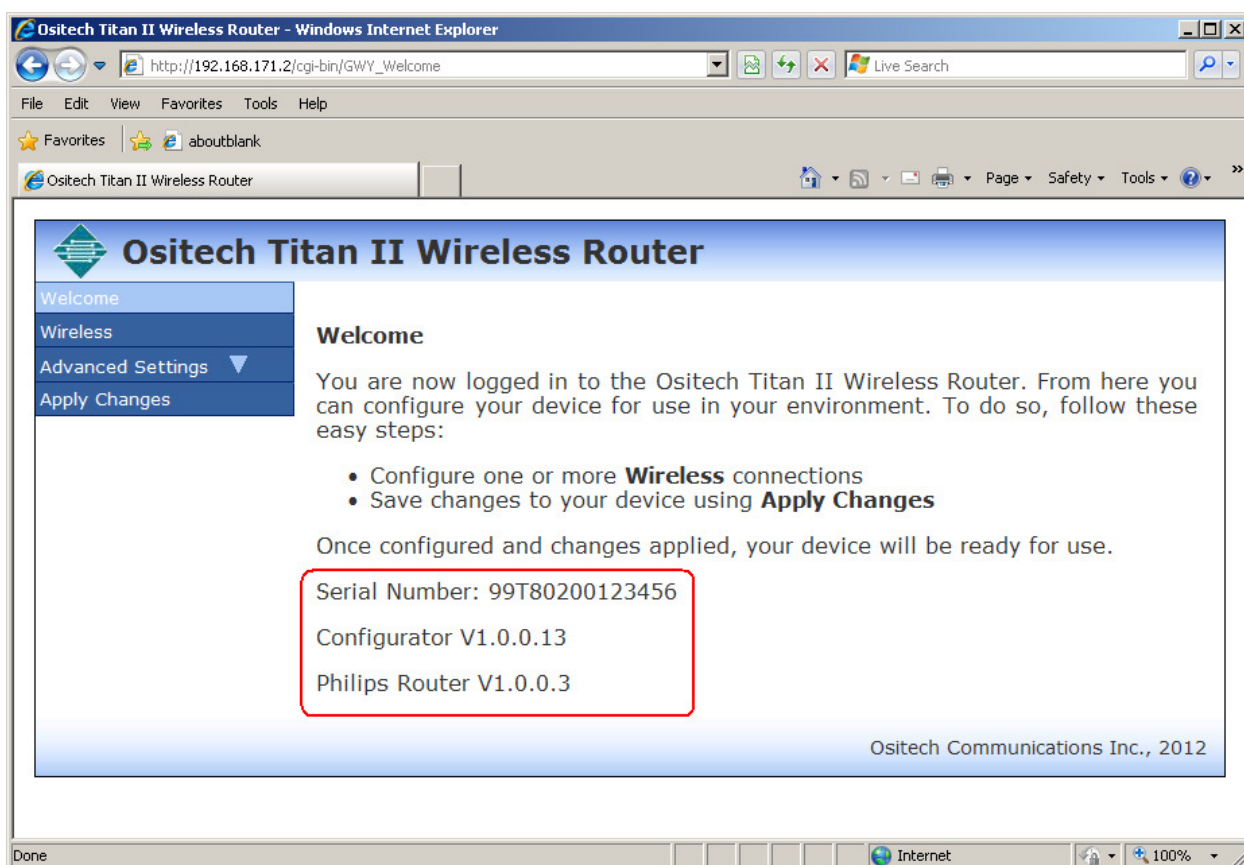


## 4.1 WELCOME

Whenever you launch the Titan II Wireless Router Configuration Utility, it will open to the Welcome screen.

The Welcome screen provides an easy avenue to determine version histories. Here you can view both the version of the Titan II Wireless Router firmware, the version of the configuration utility itself and the electronic serial number of your Titan II Wireless Router. This information is useful and required should you require or contact Technical Support.

From the illustration below (taken from the lower left quadrant of the illustration), you can determine the electronic serial number of the unit is 99T80200123456, the version of the actual Configurator utility itself is “Configurator V1.0.0.13”, and the version of the Philips Router firmware is “Philips Router V1.0.0.3”. Should you require technical support in the future, this information will be required. Your version details may differ from those illustrated below.



Generally speaking, when entering characters, you should NOT use the following characters. [ ] = . <sp>

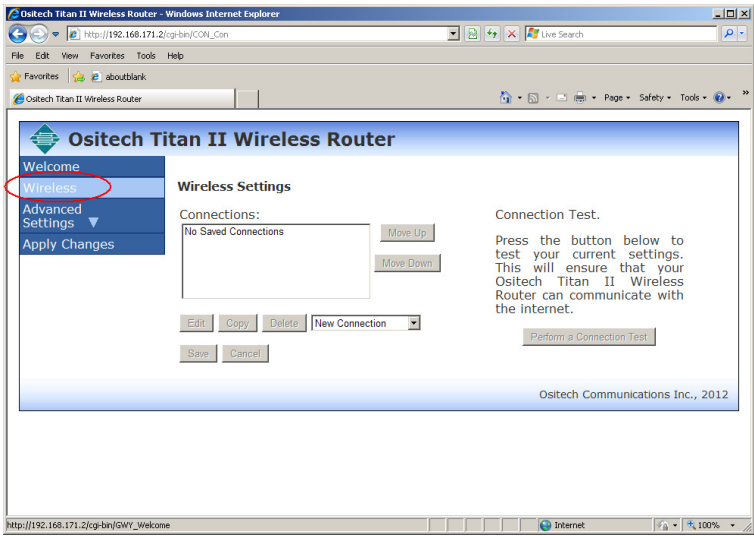
As an alternate to the space <sp>, we suggest that you use an underscore \_ for improved readability.

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4.2 WIRELESS SETTINGS

To access the Wireless Settings options, on the left side of the configuration utility, select Wireless Settings. You will now observe the Connection options that comprise the Wireless Settings.

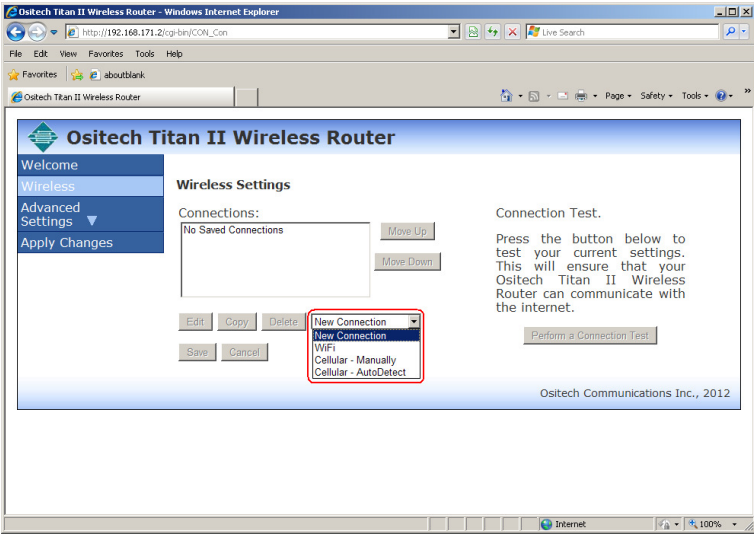
The Wireless Settings are a local function on the Titan II Wireless Router. These settings will determine how the Titan II Wireless Router will connect to the Internet to allow communications with the Philips Telemedicine System.



4.2.1 CONNECTIONS

4.2.1.1 New

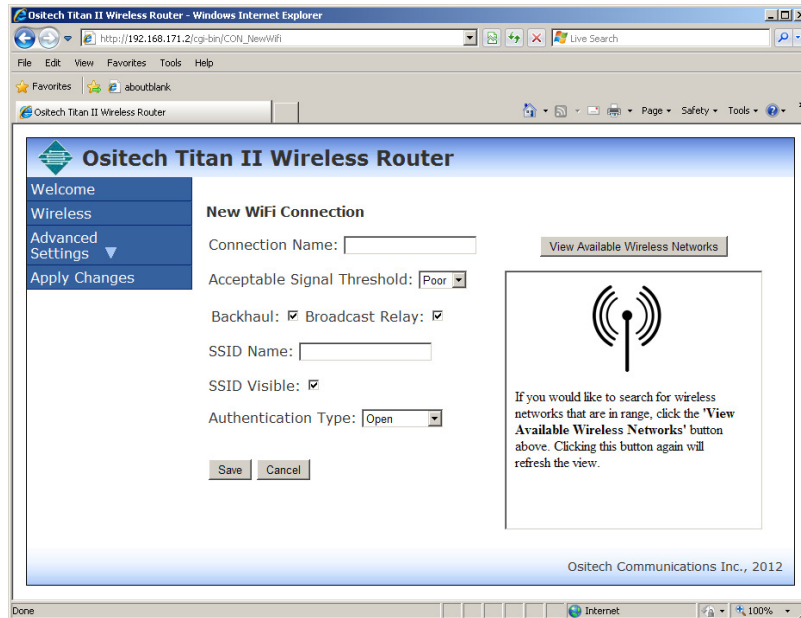
If you do not have any Connections created as yet, please click the New Connection selector. From the pull down menu, you will now have the option to create a WiFi connection, create a Cellular connection manually, or create a Cellular connection via AutoDetect. Make your selection to proceed.





#### 4.2.1.1.1 New WiFi Connection

The New Connection dialog will now appear. As part of your New Connection, the following fields comprise this connection. These include the Connection Name, Acceptable Signal Threshold, Backhaul Check enabling, Broadcast Relay enabling, SSID Name, SSID Visibility, Authentication Type, and an area to click to View Available Wireless Networks that are in your immediate range. The Key field will only become visible when an encryption type other than “Open” is selected.



##### 4.2.1.1.1.1 Connection Name

The Connection Name. This field is used to name and describe your connection. This field is limited to 48 characters in length. Spaces are not allowed in the connection name. It is recommended that you give the connection name a descriptive title representative of its location or environment.

Connection Name:	<input type="text"/>
------------------	----------------------

##### 4.2.1.1.1.2 Acceptable Signal Threshold

The Acceptable Signal Threshold. This setting defines the acceptable signal strength threshold, of which you can select Good, Fair, and Poor. The threshold that you select will determine whether or not a connection attempt will be made to the 802.11 access point defined by this connection. If the threshold is set to Good and the Titan II Wireless Router only detects signal strength of Fair or Poor, a connection attempt will not be made. Choose a threshold that you feel would be acceptable, see Appendix A for more details on how to choose an appropriate threshold level. The default setting is Poor, such that you have the broadest signal strength.

Acceptable Signal Threshold:	<input type="text" value="Poor"/>
------------------------------	-----------------------------------

#### 4.2.1.1.1.3 Backhaul

The Backhaul option allows you to either enable the Backhaul check or disable this feature. By default, this option should be checked, to verify your backhaul connection. This feature performs a backhaul check to verify your internet connection, and should remain selected. Unchecking this option should only be done under the guidance and direction of your local Philips Telemedicine support group.

Backhaul: ☒

#### 4.2.1.1.1.4 Broadcast Relay

The Broadcast Relay option allows either enabling Broadcast data packets or disabling this feature. By default, this option IS checked, for WiFi operations.

Broadcast Relay: ☒

#### 4.2.1.1.1.5 SSID Name

The SSID Name. This area is used to identify your SSID. This field is limited to 48 characters in length.

SSID Name:

#### 4.2.1.1.1.6 SSID Visible

This field will typically be checked as most 802.11 access points are visible. In cases where the access point is not visible, uncheck this option. Having this field unchecked also affects the way the Titan II Wireless Router uses the threshold level, see Appendix A for more details.

SSID Visible: ☒

#### 4.2.1.1.1.7 Authentication Type

The Authentication Type. This pull down list allows you to select which authentication method is being employed by the access point you wish to join. If you are unsure as to which authentication type is being used in your situation, please contact your I.T. department for further instructions. The options available to select include Open, WEP, WPA-PSK, and WPA2-PSK.

Authentication Type:

#### 4.2.1.1.1.8 Key

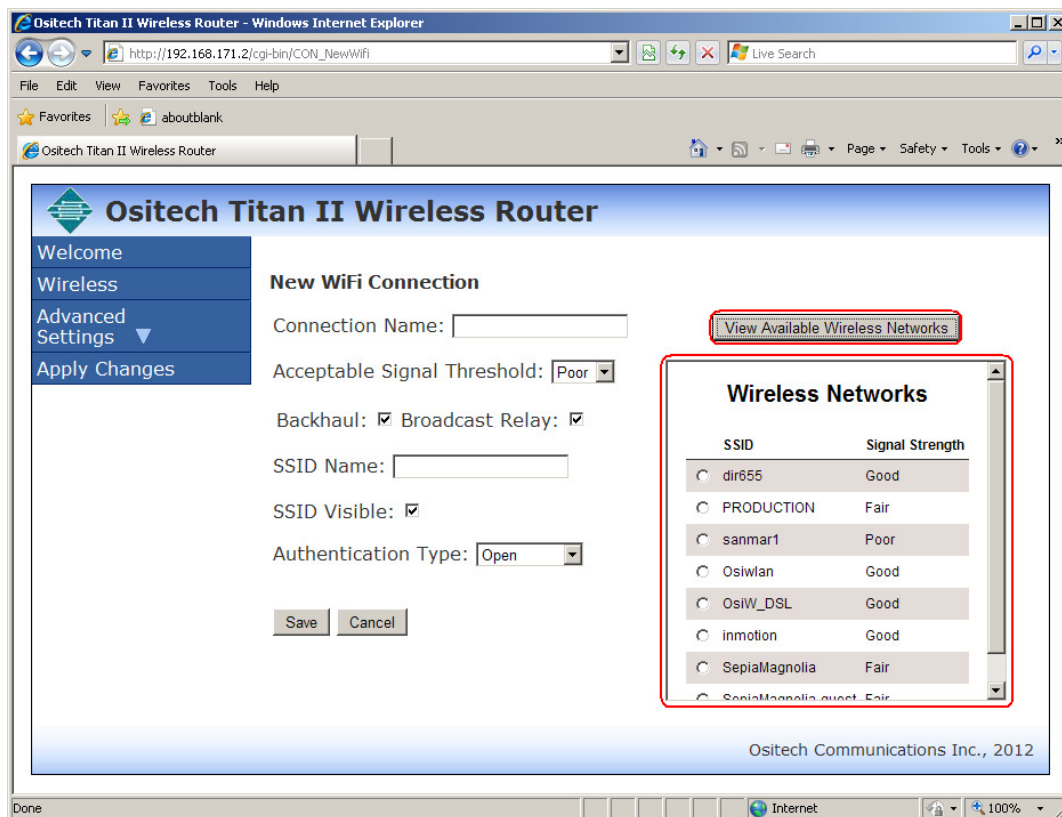
If the Authentication Type is set to WEP, WPA-PSK or WPA2-PSK, the Key field will also be required. The Titan II Wireless Router automatically handles key values; just enter the key as required by the associated access point.

Key:

#### 4.2.1.1.1.9 View Available Wireless Networks

Clicking this button will display a list of wireless networks in your vicinity. This feature is only useful if you are currently within the range of the wireless network(s) you wish the Titan II Wireless Router to be configured to use. This feature has been added to allow the user to display what wireless networks are visible to the Titan II Wireless Router for debugging purposes or in cases where the Titan II Wireless Router is in the vicinity of the wireless network to be configured.

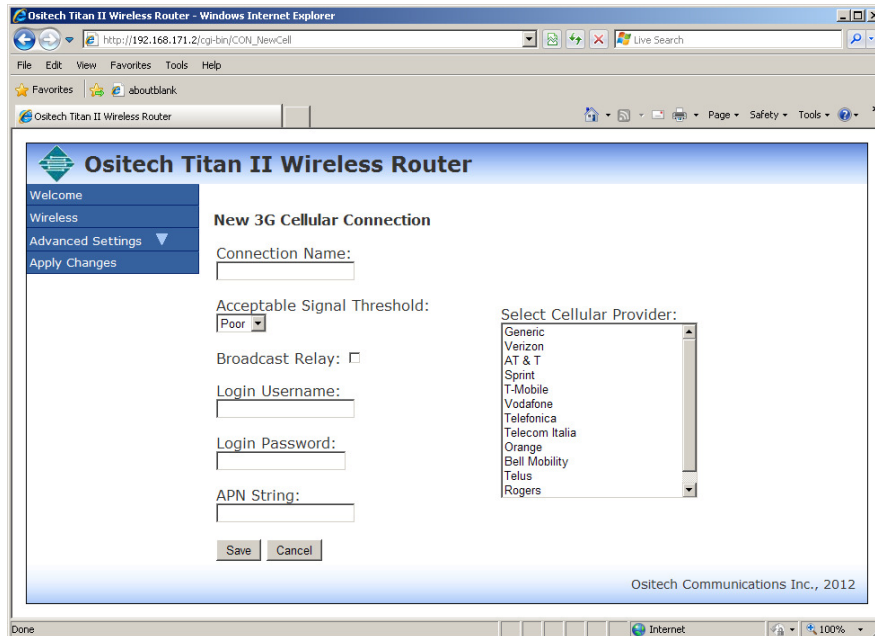
From the list of wireless networks that is displayed, please select the wireless network of your choice you wish to join with. Once you have made your selection, the SSID Name will now be that of your selected wireless network.



Remember, after you have completed configuring your new WiFi connection, click the Save button, and then Apply Changes.

#### 4.2.1.1.2 New Cellular Connection - Manually

The New 3G Cellular Connection dialog will now appear. As part of your New Connection, the following fields comprise this connection. These include the Connection Name, Acceptable Signal Threshold, Broadcast Relay enabling, Login Username, Login Password, APN String, and an area to pre-Select a Cellular Provider, which will populate its required connectivity parameters automatically.



The screenshot shows a web browser window titled "Ositech Titan II Wireless Router - Windows Internet Explorer". The address bar shows "http://192.168.171.2/cgi-bin/CON\_NewCell". The page has a blue header with the title "Ositech Titan II Wireless Router". On the left is a navigation menu with links: "Welcome", "Wireless", "Advanced Settings", and "Apply Changes". The main content area is titled "New 3G Cellular Connection" and contains the following fields: "Connection Name:" (text input), "Acceptable Signal Threshold:" (dropdown menu with "Poor" selected), "Broadcast Relay:" (checkbox), "Login Username:" (text input), "Login Password:" (text input), "APN String:" (text input), and "Select Cellular Provider:" (dropdown menu with a list of providers including Generic, Verizon, AT & T, Sprint, T-Mobile, Vodafone, Telefonica, Telecom Italia, Orange, Bell Mobility, Telus, and Rogers). At the bottom are "Save" and "Cancel" buttons. The footer of the page says "Ositech Communications Inc., 2012".

##### 4.2.1.1.2.1 Connection Name

The Connection Name. This field is used to name and describe your connection. This field is limited to 48 characters in length. Spaces are not allowed in the connection name. It is recommended that you give the connection name a descriptive title representative of its location or environment.



A close-up of the "Connection Name:" label and its corresponding text input field.

##### 4.2.1.1.2.2 Acceptable Signal Threshold

The Acceptable Signal Threshold. This setting defines the acceptable signal strength threshold, of which you can select Good, Fair, and Poor. The threshold that you select will determine whether or not a connection attempt will be made to the cellular provider defined by this connection. If the threshold is set to Good and the Titan II Wireless Router only detects signal strength of Fair or Poor, a connection attempt will not be made. Choose a threshold that you feel would be acceptable, see Appendix A for more details on how to choose an appropriate threshold level. The default setting is Poor, such that you have the broadest signal strength.



A close-up of the "Acceptable Signal Threshold:" label and its corresponding dropdown menu, which currently shows "Poor" selected.

#### 4.2.1.1.2.3 Broadcast Relay

The Broadcast Relay option allows either enabling Broadcast data packets or disabling this feature. By default, this option is NOT checked, for cellular operations.

Broadcast Relay: ☐

#### 4.2.1.1.2.4 Login Username

The Backhaul option allows you to either enable the Backhaul check or disable this feature. By default, this option should be checked, to verify your backhaul connection. This feature performs a backhaul check to verify your internet connection, and should remain selected. Unchecking this option should only be done under the guidance and direction of your local Philips Telemedicine support group.

Login Username:

#### 4.2.1.1.2.5 Login Password

The Large Upload option allows either enabling Audio transmissions or disabling this feature. This option does NOT affect ECG transmissions. By default, this option should be checked.

Login Password:

#### 4.2.1.1.2.6 APN String

Clicking this button will display a list a wireless networks in your vicinity.

APN String:

#### 4.2.1.1.2.7 Select Cellular Provider

This pull down box contains a list of all the popular North American cellular service providers, including any extra cellular provider profiles that you may have created. Pull down this list, and select the cellular service provider of your choice.

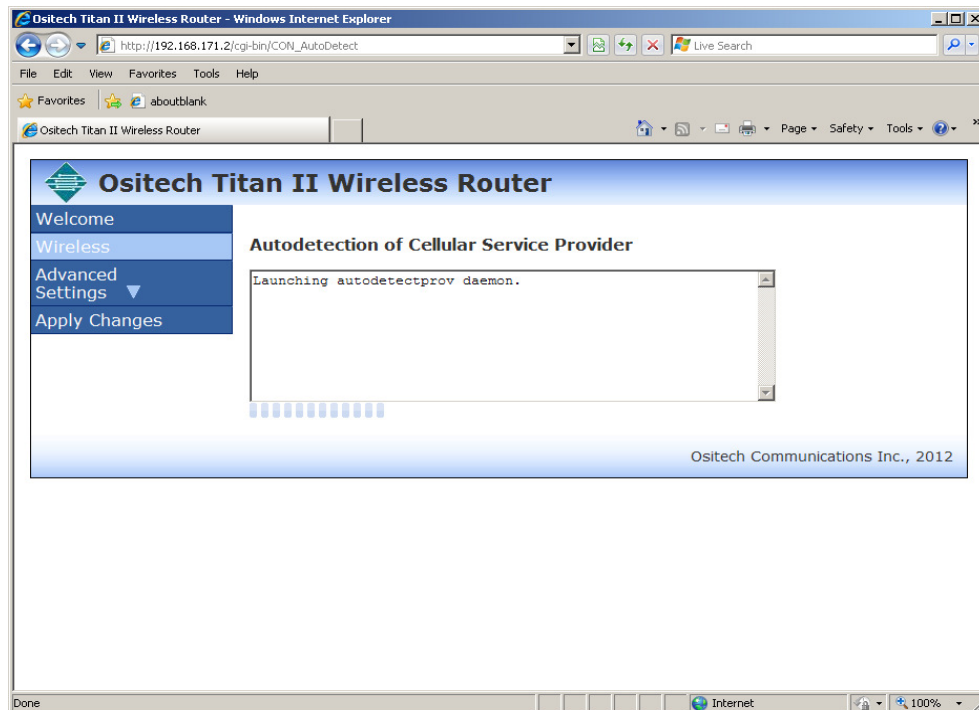
Select Cellular Provider:

- Generic
- Verizon
- AT & T
- Sprint
- T-Mobile
- Vodafone
- Telefonica
- Telecom Italia
- Orange
- Bell Mobility
- Telus
- Rogers

Remember, after you have completed configuring your new manual WiFi connection, click the Save button, and then Apply Changes.

#### 4.2.1.1.3 New Cellular Connection - AutoDetect

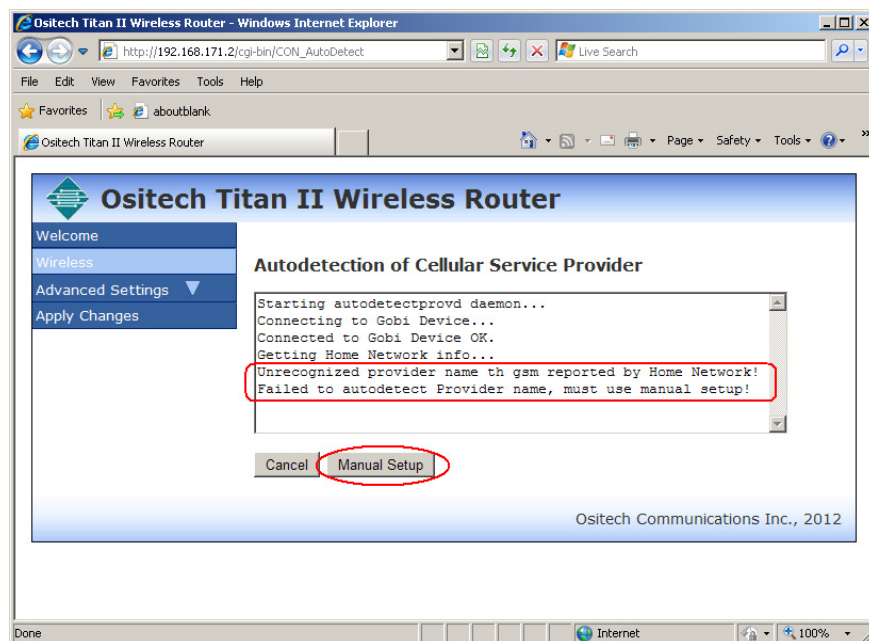
The Auto detection of Cellular Service Provider dialog will now appear. Be patient during this time, as the auto detection process may take a few moments.



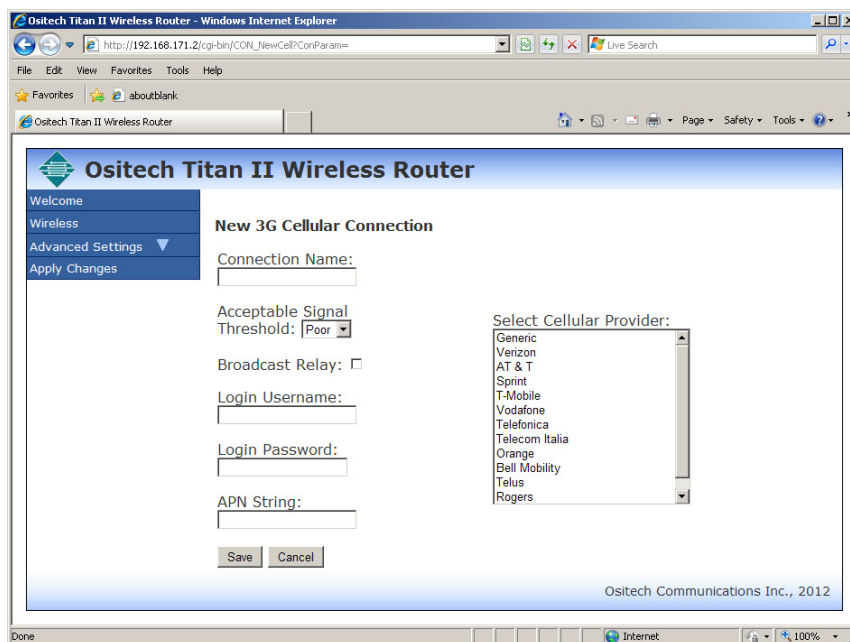
In a moment, if the auto detection of your SIM card was successful, the auto detection daemon will populate the appropriate connection parameters for your convenience. If however, you feel the need to override the connection parameters, feel free to alter any that you wish accordingly to meet your needs.

Remember, after Titan has successfully detected your SIM, click the Save button, and then Apply Changes.

Alternatively, if the auto detection daemon did not auto detect the SIM card, you will then be prompted to select your provider manually and/or configure the connection parameters accordingly to meet your needs. The illustration below indicates what you will observe if your SIM card was not auto detected. If this is your situation, click the Manual Setup button to proceed.



The New 3G Cellular Connection window will now appear. Follow section 4.2.1.1.2 for instructions regarding how to create a manual cellular connection.

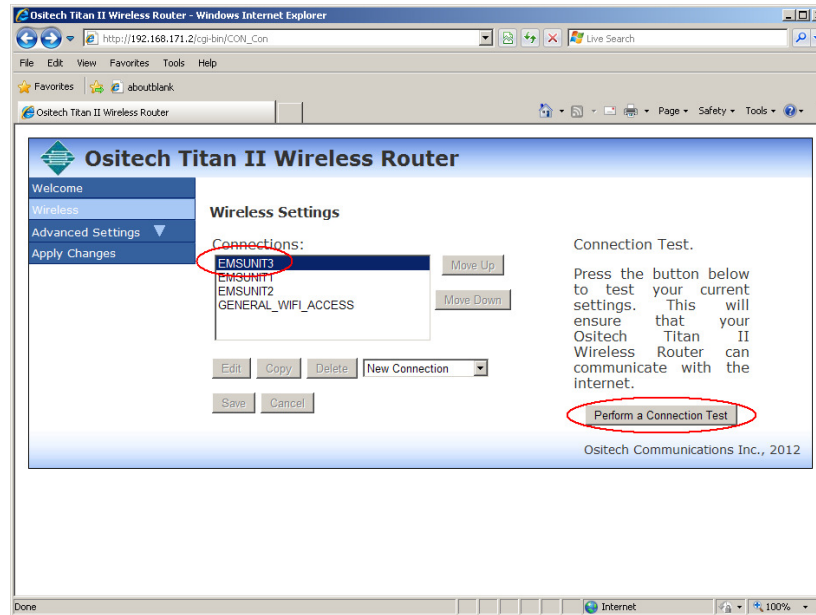


Remember, after you have completed configuring your new manual Cellular connection, click the Save button, and then Apply Changes.

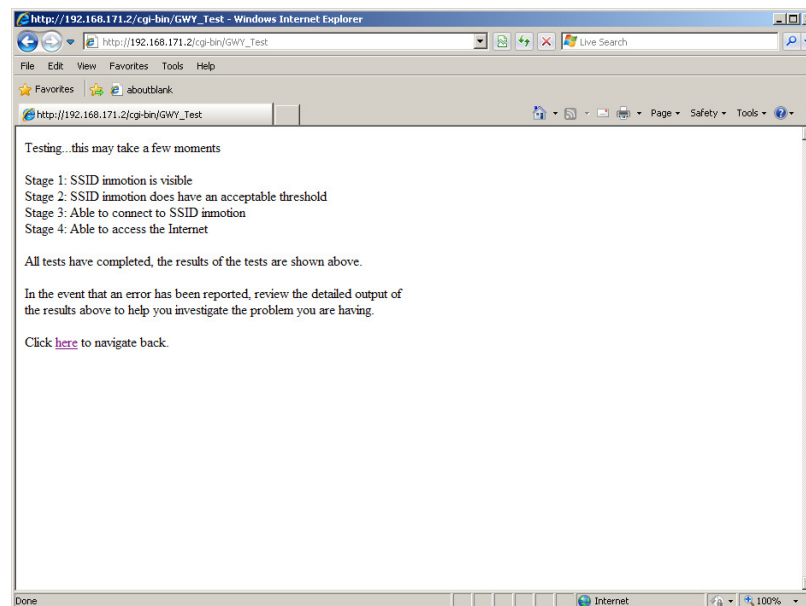
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### 4.2.1.2 Connection Test

Once you have created at least one or more connections, you can now perform a live connection test to determine whether your connection(s) are indeed functional. When ready to perform the connection test, click the “Perform a Connection Test” button to begin. Please be patient during the test, as this may take a few moments to complete.



Once the test has completed, you will be shown a summary screen that will show you the detailed results of the various stages of your connection test. As well, you will observe an option to navigate back to the configuration utility, and when you're ready, click [Here](#) to navigate back. See Appendix D (Troubleshooting Failed Connections) for more complete details regarding a failed test.

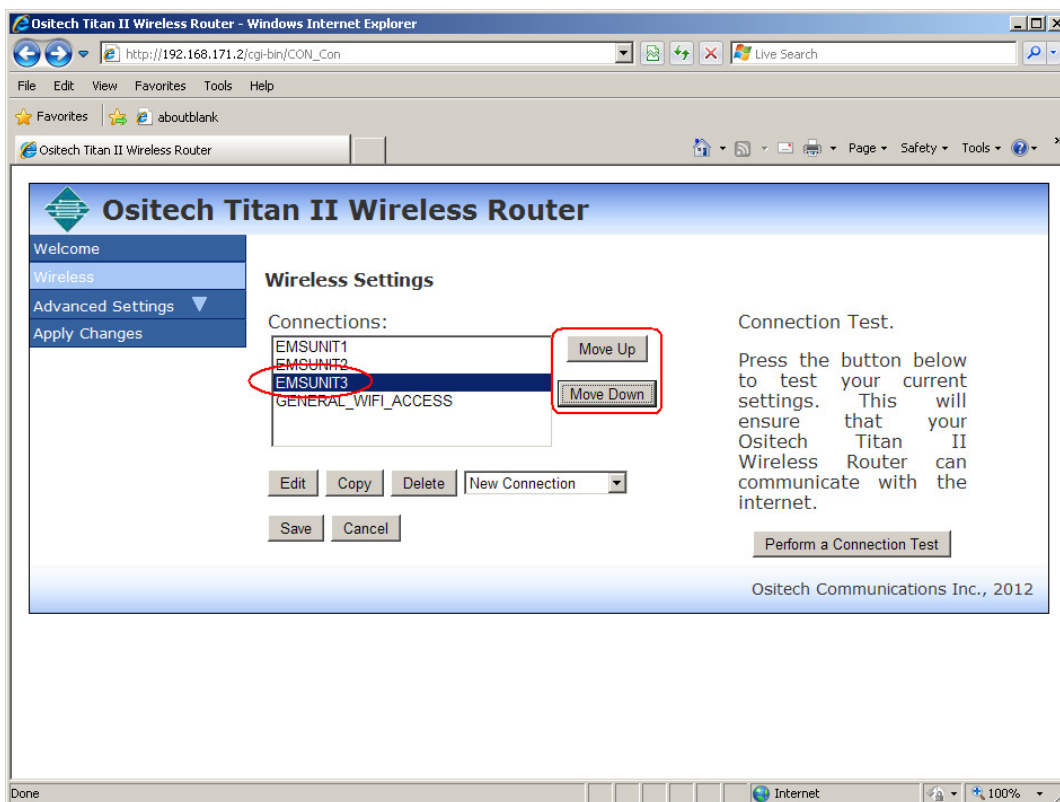




### 4.2.1.3 Connection Management

When you have two or more Wireless connections, you may feel the need to manage these connections. The connections listed below are merely illustrations, as your connections listed may be and most probably are different.

In order to manage your connections, please select a connection you wish to manage. You will now be able to prioritize your connections, and/or edit, delete, copy or create a new connection.

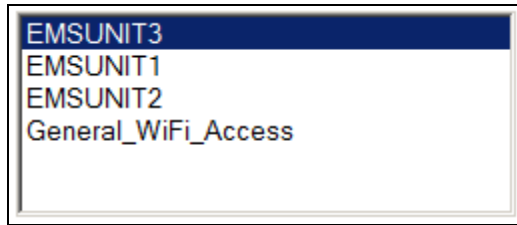


#### 4.2.1.3.1 Connection Prioritization

If you have multiple connections, and you choose to prioritize them accordingly, simply select which connection you wish to prioritize. Now, either click the “Move Up” button to increase the priority, or click “Move Down” to decrease its priority. This feature is important if you have multiple access points available within the same vicinity, however you only wish to join with a select access point. Prioritizing your connections will permit you to customize the order which wireless networks that you wish to join with.



Now, you will observe the connection titled “EMSUNIT3”, reprioritized to be the first connection to be attempted, should the wireless network be in range.

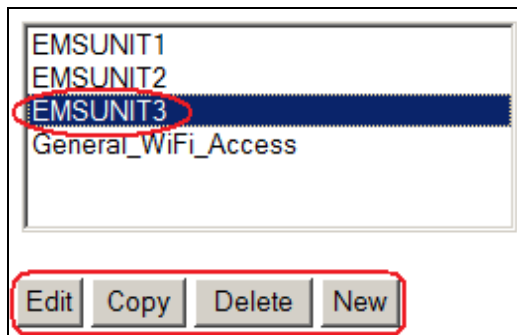


Always remember to click the Save button, after you made your changes. Then, once ALL your changes have been made, click Apply Changes (from left side options) to apply these to your Titan II Wireless Router.

#### 4.2.1.3.2 Connection Manipulation

Once you have created a connection(s), you may need to manipulate these accordingly from time to time. Such options to manipulate your connections include the options to Edit a connection, Copy a connection to a new connection, Delete a current connection, or create a New connection.

Before you may manipulate any of your connections, you must first select which connection you wish to manipulate.

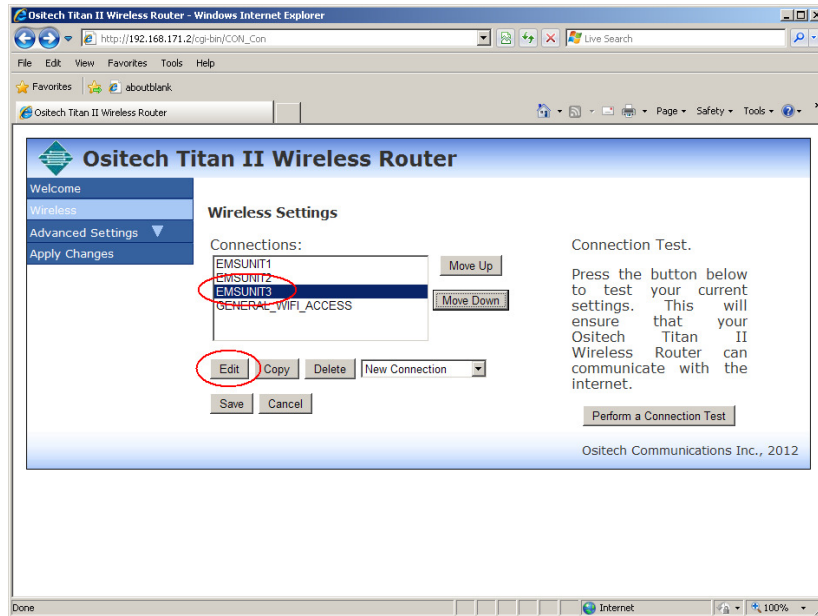


Once you have selected which connection you wish to manipulate, you now have the option to either click the Edit button to edit the details of this connection, or click Copy and this will create a copy of the existing selected connection, or click Delete to remove the selected connection from your list, or lastly, Click New to create a new connection.

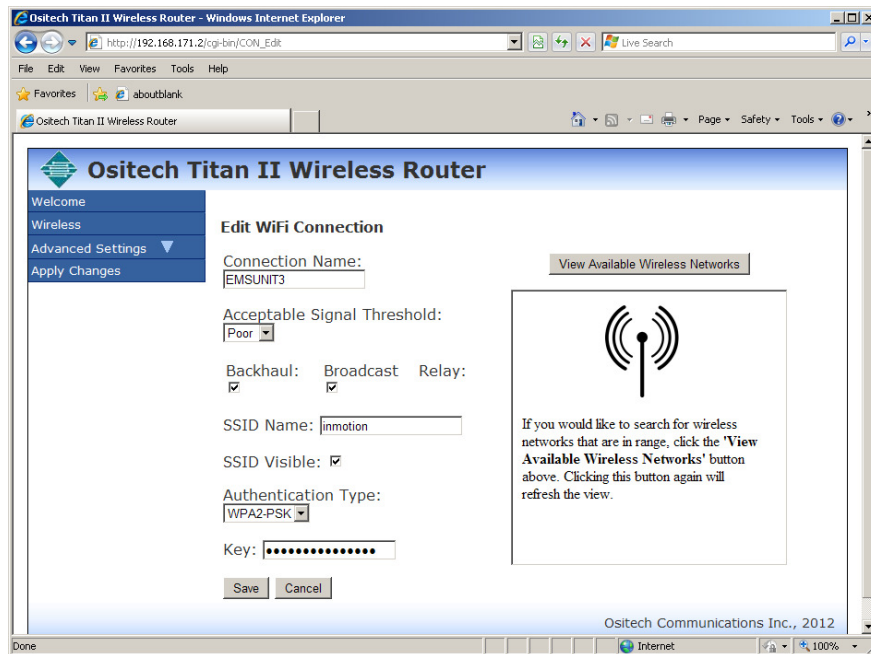
Always remember to click the Apply Changes button (on the left hand side of the configuration utility), after you have finished making ALL your changes. If you do make changes to any of your connections, it is advised that you test each to ensure they are fully functional.

#### 4.2.1.3.2.1 Edit Connection

If you wish to edit an already existing connection, click on the Wireless Connection of your choice to highlight it, and then click the Edit button.



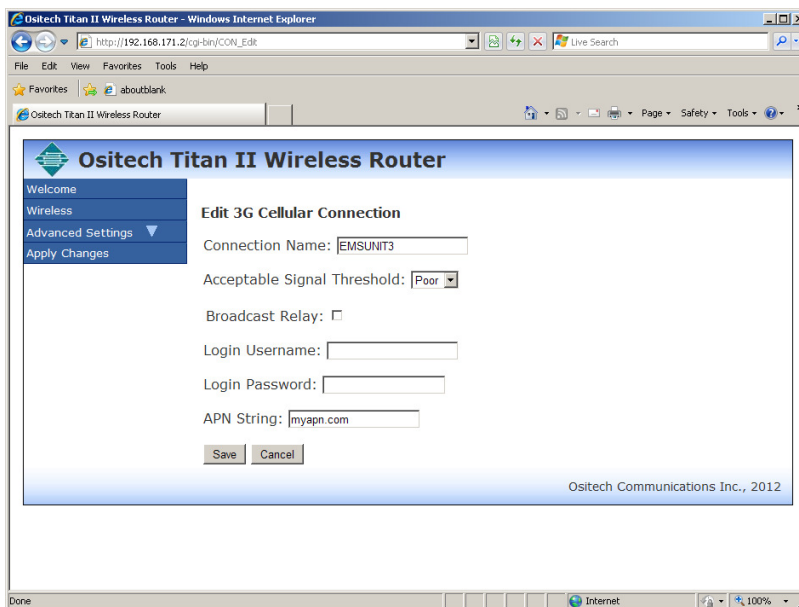
Now, if the Wireless Connection you had selected for editing was a WiFi based connection, you will observe its WiFi parameters accordingly.



You may now edit any of the user alterable parameters, however the Connection Type, in this case Cellular, is non editable. Once you have made any changes, click the Save button to store the new settings, and then click Apply Changes to program the Titan II Wireless Router accordingly.

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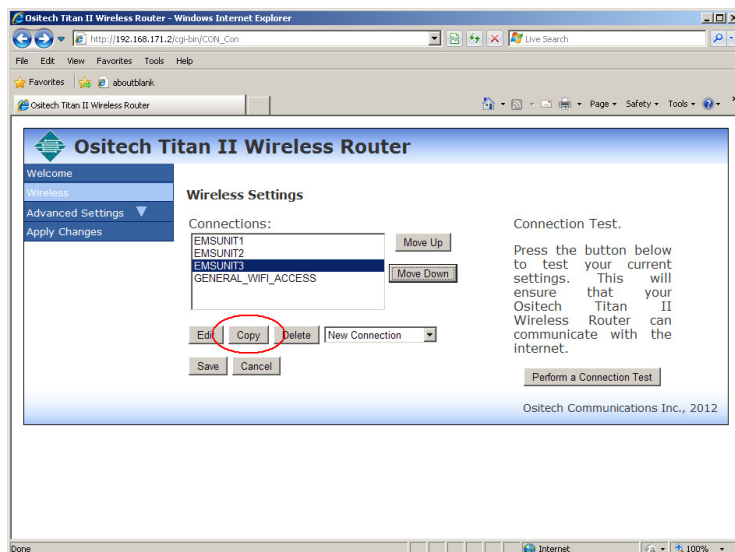
However, if the Wireless Connection you had selected for editing was a Cellular based connection, you will then see its Cellular parameters (see below).



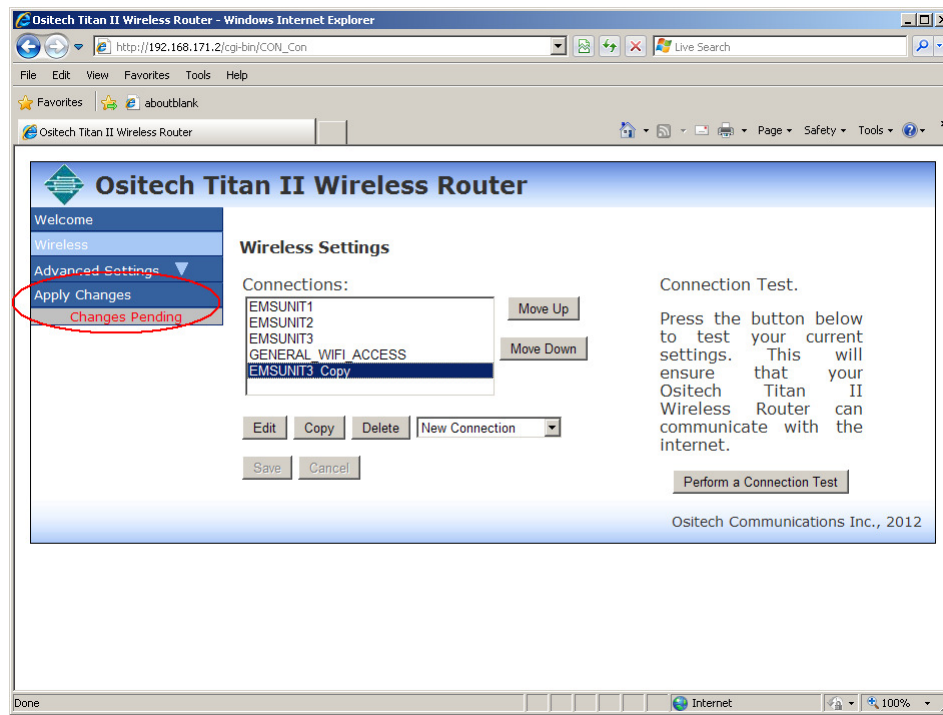
You may now edit any of the user alterable parameters. Once you have made any changes, click the Save button to store the new settings, and then click Apply Changes to program the Titan II Wireless Router accordingly. However, if your chosen changes include changing the cellular service provider, you must delete the connection and recreate it, thus selecting the new cellular service provider of your choice.

#### 4.2.1.3.2.2 Copy Connection

If you wish to copy an already existing connection, click on the Wireless Connection of your choice to highlight it, and then click the Copy button. In the example below, the user has selected the connection titled "EMSUNIT3" for copying. Only WiFi connections may be copied, since you are only permitted one cellular connection only.



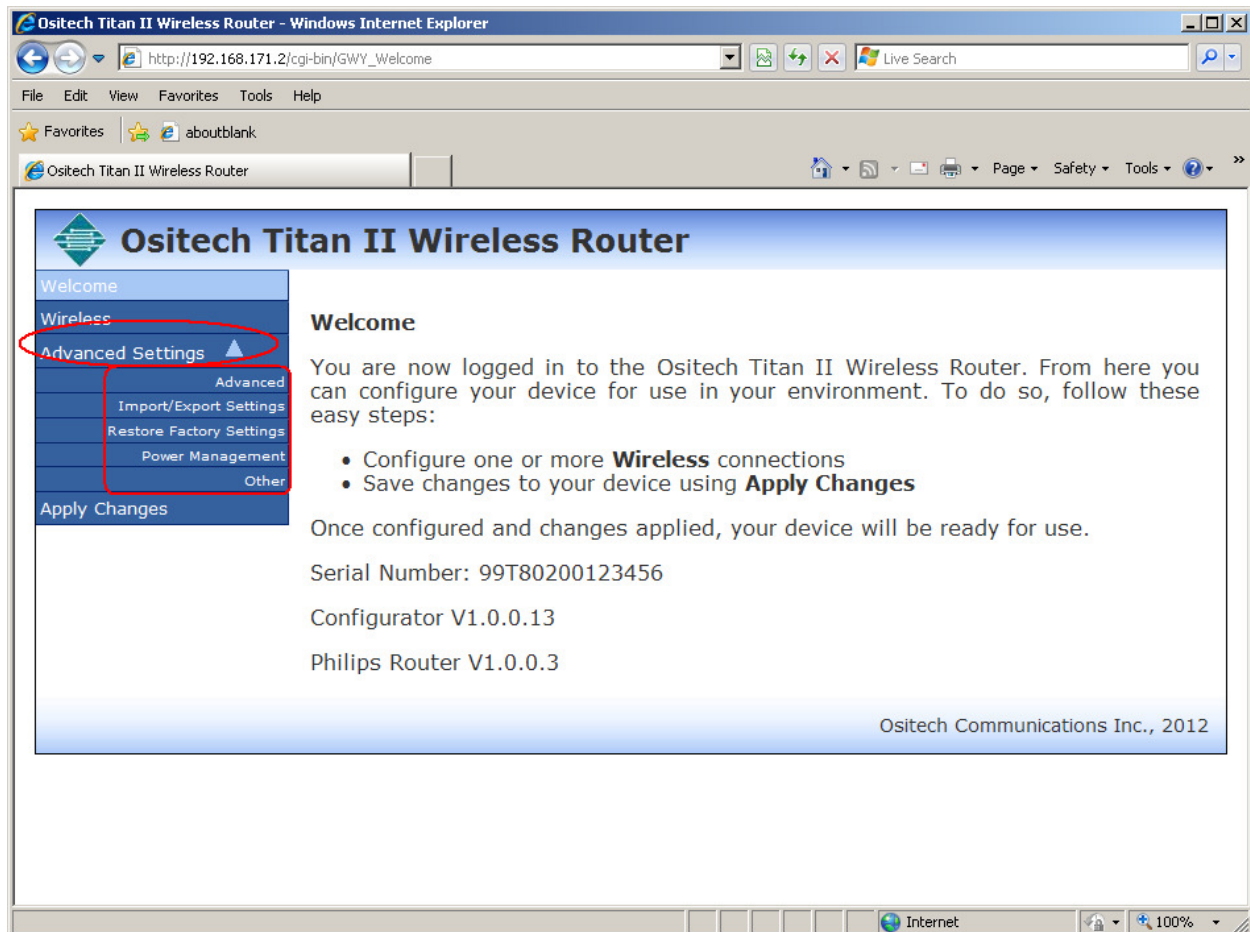
The configuration utility will now copy your selection connection, and it will append “\_Copy” as part of the new connection name. In the example below, you will observe that the copied connection is now named “EMSUNIT3\_Copy”. The connection details are identical to the original wireless connection that was used to create the copy.



Remember to click Apply Changes when done, to apply your new settings to the Titan II Router.

## 4.3 ADVANCED SETTINGS

To access the Advanced Settings options, on the left side of the configuration utility, click Advanced Settings. You will now observe the five sub options that comprise the Advanced Settings; Advanced, Import/Export Settings, Restore Factory Settings, Power Management, and Other.



### 4.3.1 ADVANCED

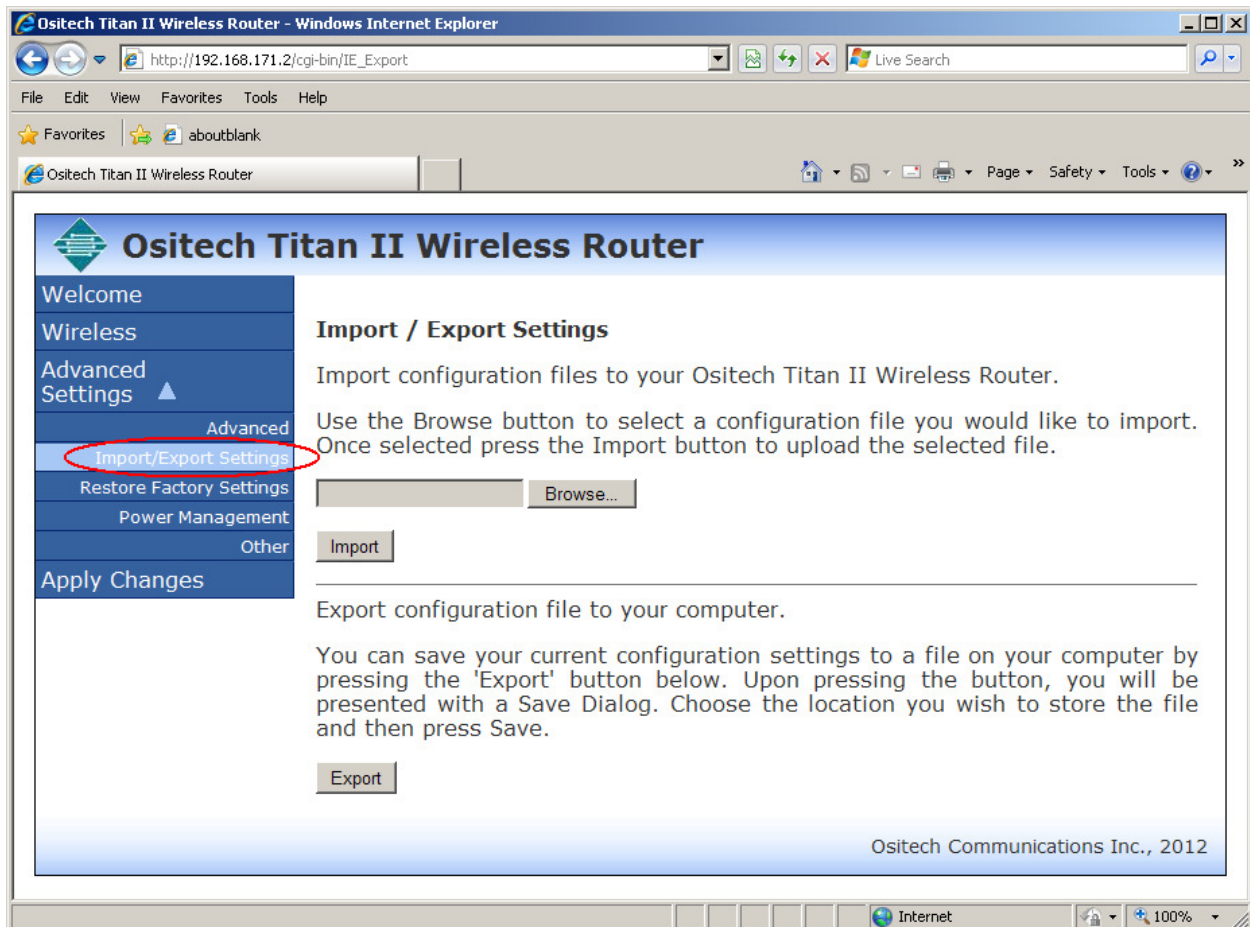
This area defines the Threshold levels for both WiFi and Cellular connections. For each type of connection, there is Good, Fair, and Poor Threshold setting. The numeric values listed here represent dBm's. DO NOT ALTER any of these settings without the guidance of technical support or your local Philips Telemedicine support group.

The screenshot shows a web browser window titled "Ositech Titan II Wireless Router - Windows Internet Explorer". The address bar shows the URL "http://192.168.171.2/cgi-bin/GWY\_Advanced". The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The Favorites bar shows "Ositech Titan II Wireless Router" and "about:blank". The main content area has a blue header with the "Ositech Titan II Wireless Router" logo and title. On the left is a navigation menu with links: Welcome, Wireless, Advanced Settings (selected), Advanced, Import/Export Settings, Restore Factory Settings, Power Management, Other, and Apply Changes. The main content area is titled "Advanced Settings" and contains six threshold settings, each with a text label and a numeric input field: Cellular Good Threshold (70), Cellular Fair Threshold (80), Cellular Poor Threshold (90), Wifi Good Threshold (70), Wifi Fair Threshold (80), and Wifi Poor Threshold (90). The footer of the page reads "Ositech Communications Inc., 2012". The browser's status bar at the bottom shows "Internet" and a zoom level of "100%".

Advanced Settings	
Cellular Good Threshold:	<input type="text" value="70"/>
Cellular Fair Threshold:	<input type="text" value="80"/>
Cellular Poor Threshold:	<input type="text" value="90"/>
Wifi Good Threshold:	<input type="text" value="70"/>
Wifi Fair Threshold:	<input type="text" value="80"/>
Wifi Poor Threshold:	<input type="text" value="90"/>

### 4.3.2 IMPORT/EXPORT SETTINGS

To access the Import/Export Settings options, on the left side of the configuration utility, under the Advanced Settings, select Import/Export Settings.

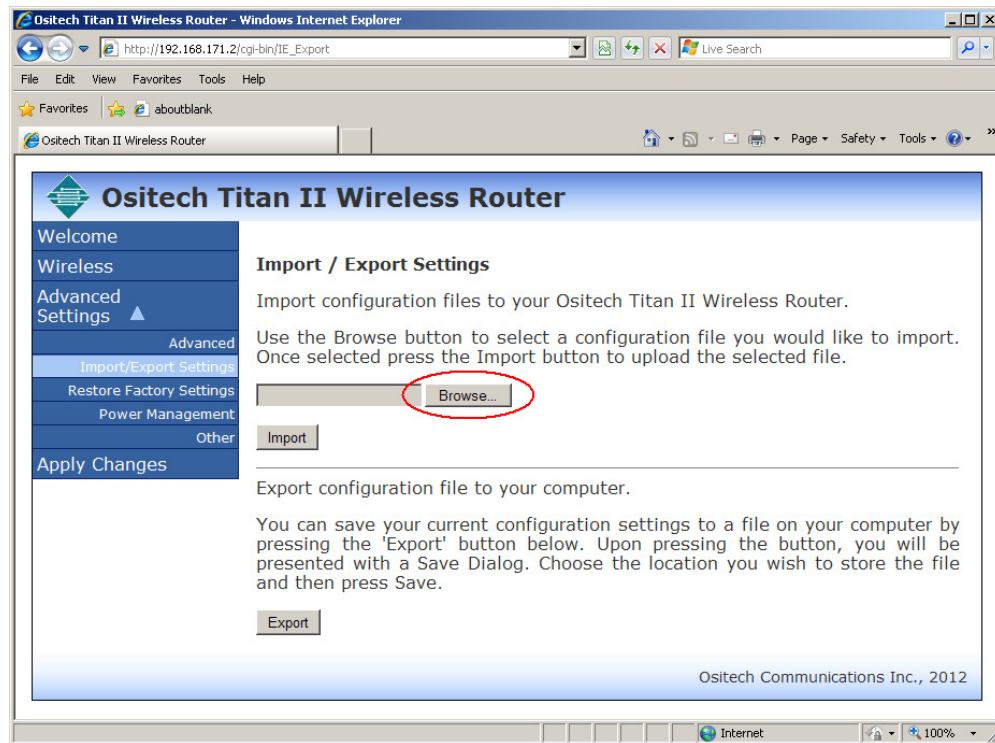


The Import/Export functionality will allow you to save Titan II Wireless Router configurations to your hard drive, allowing you to make it easier to configure a group of Titan II Wireless Routers, and also to restore your saved configurations back to your Titan II Wireless Router.

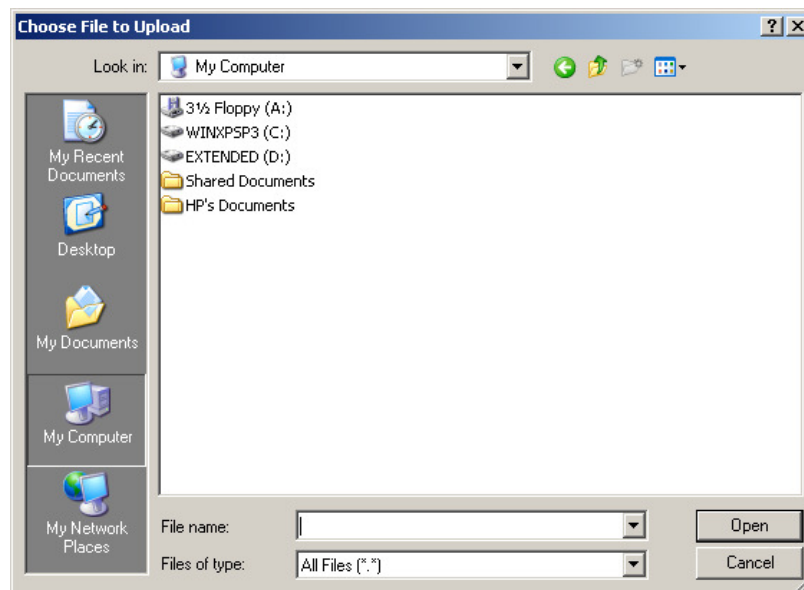


### 4.3.2.1 IMPORT CONFIGURATION

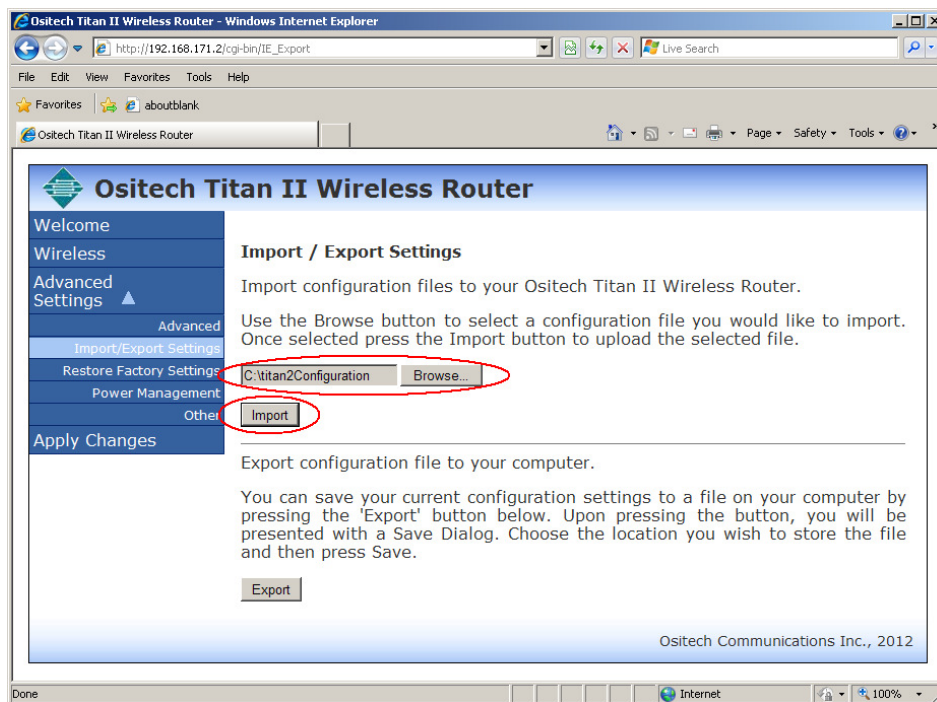
If you wish to import an external, previously saved, Titan II Wireless Router configuration file, click the Browse button to begin.



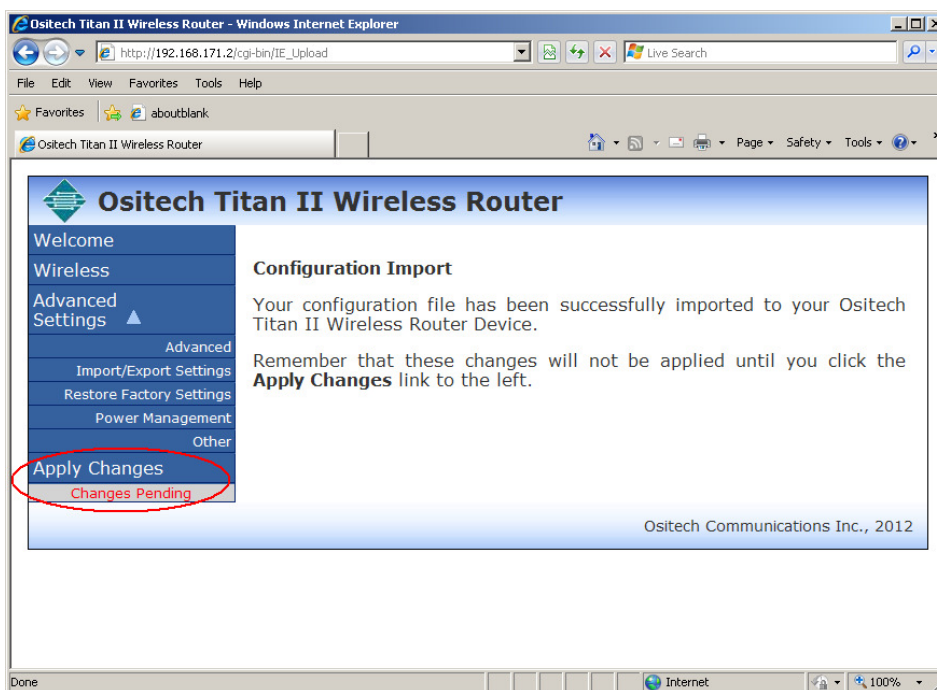
At this point, you must now select the external configuration file to import. Locate the external configuration file on your computer system, and then click the Open button.



You will now observe the configuration file that you have selected is ready to be imported. Click the Import button, and the configuration file you have selected will now be imported.



Your selected configuration has now been successfully imported. However, remember that these changes have not yet been applied, hence, ensure you click Apply Changes from the left side of the configuration utility.

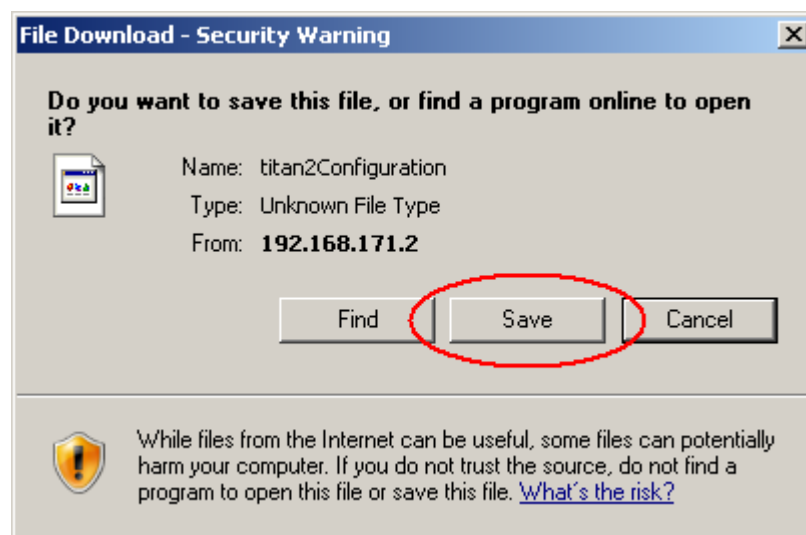


### 4.3.2.2 EXPORT CONFIGURATION

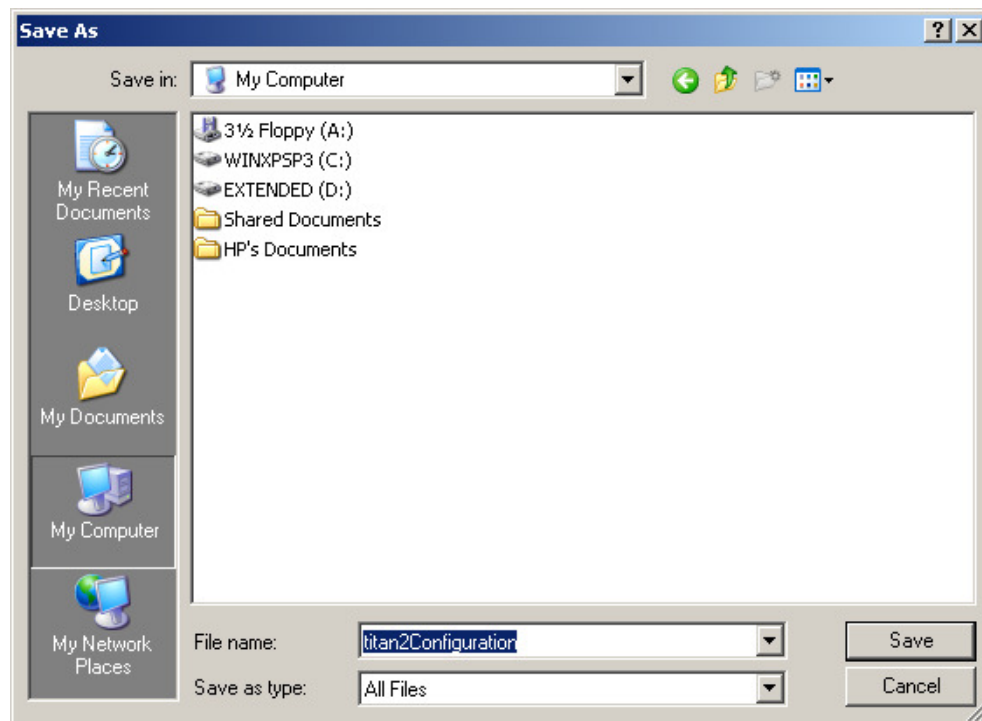
If you wish to export a Titan II Wireless Router configuration to an external file, click the Export button to begin.



Windows will now prompt you to save the configuration file. Click the Save button to continue.



You will now be prompted to select the location where you wish to save the configuration file on your computer system. Feel free to select to the location of your choice, and when ready, click the Save button to actually save the file. You can create a number of export files, each one being uniquely named to identify its contents.

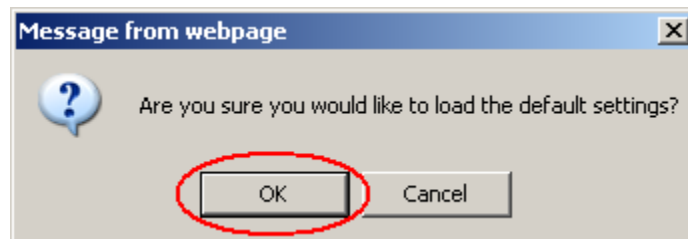


### 4.3.3 RESTORE FACTORY SETTINGS

If you wish to restore the factory settings, from the left side of the configuration utility, under Advanced Settings, please click “Restore Factory Settings”. This option is useful if you wish to load the factory default options and start your configuration fresh.



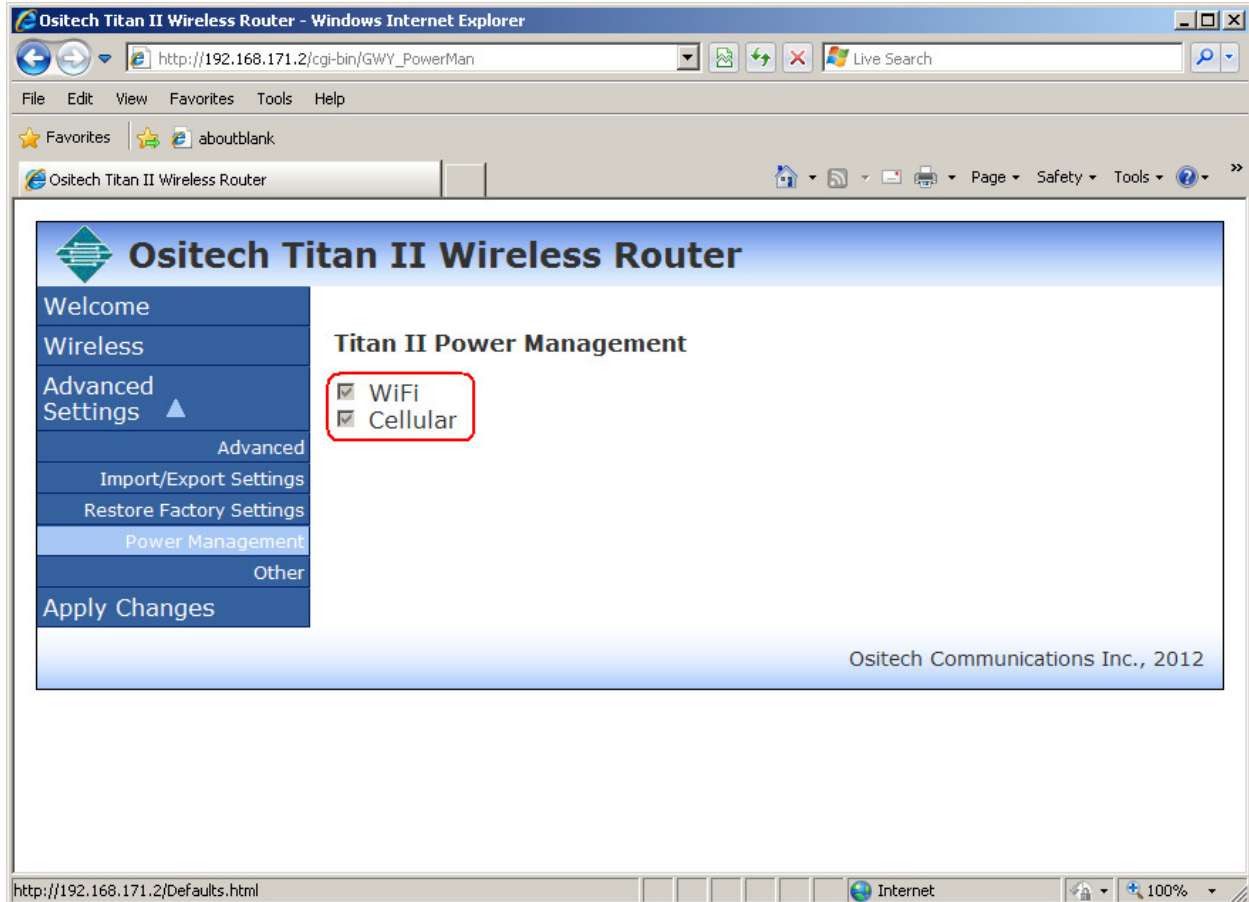
At this point, you will be prompted to verify you would like to load the default setting. Click OK to load the default settings. The default settings are now loaded; however these have not been applied.



However, remember that since these changes have not yet been applied, ensure you click Apply Changes from the left side of the configuration utility.

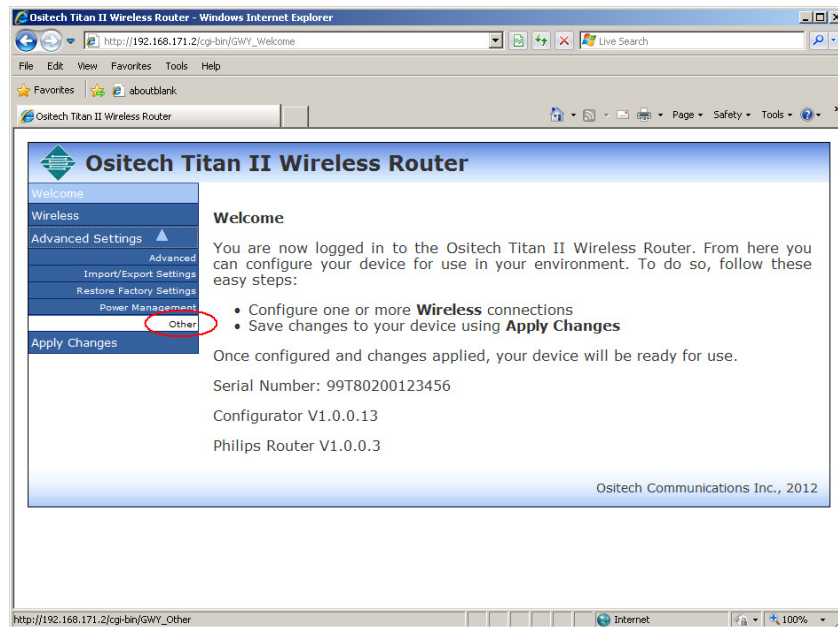
### 4.3.4 POWER MANAGEMENT

To view the Power Management options, please select Power Management from the left side menu. This area will allow you to selectively enable/disable power management for either WiFi or Cellular. Currently, this area is NOT user selectable, and is merely informative in nature.

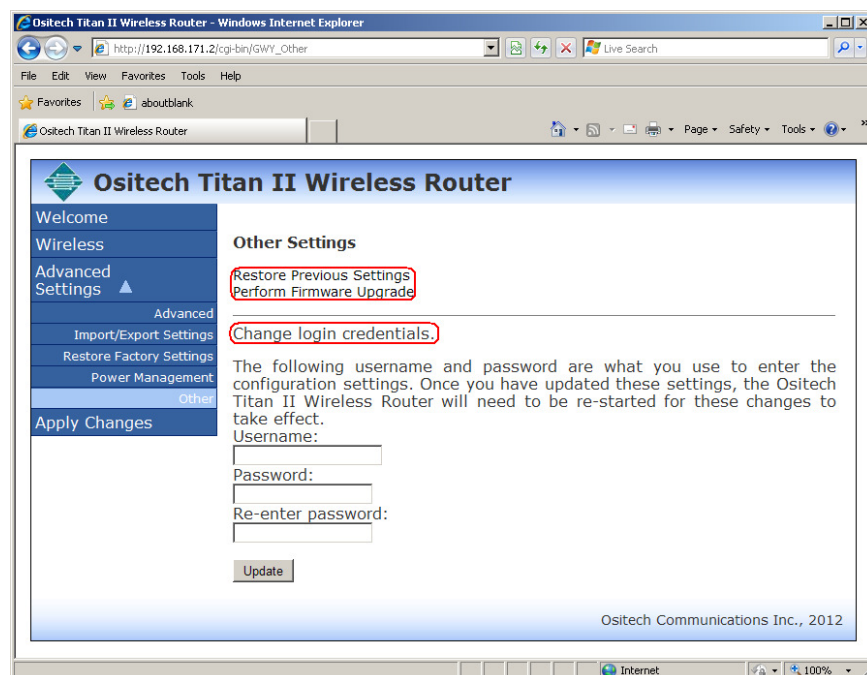


### 4.3.5 OTHER

To access the Other functions, from the left side of the configuration utility, under the Advanced Settings, click Other.



Some of the Other functions available include the options to restore previous settings, perform a firmware upgrade on the Titan II Wireless Router, and as well, the ability to change your login credentials.

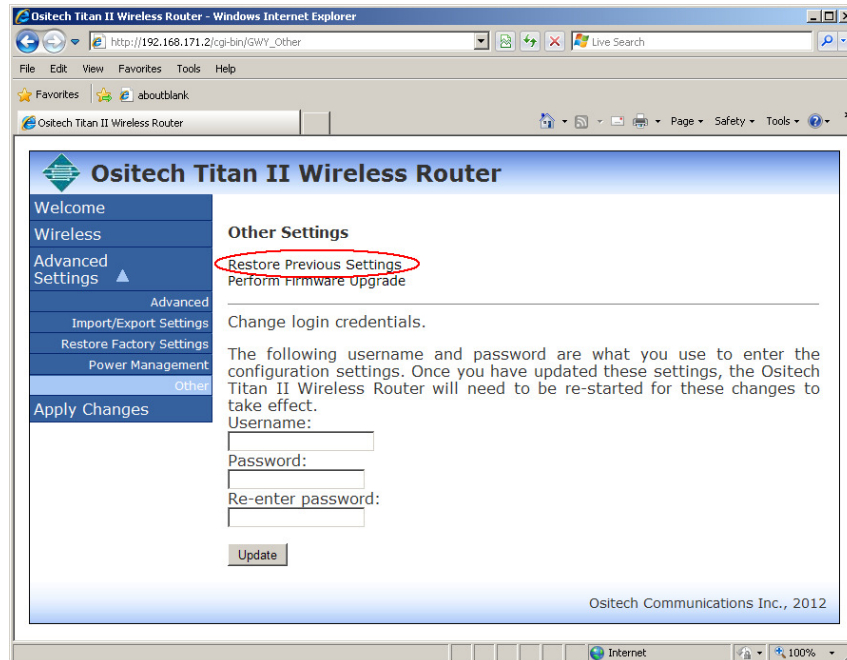




### 4.3.5.1 Restore Previous Settings

To restore the previous applied settings on your Titan II Wireless Router, from the last Apply Changes state, click the Restore Previous Settings option. There will be no previous settings if none are initially applied, or after restoring previous settings once prior to.

This feature can be useful if your Titan II Wireless Router was running, however after a configuration change, it is no longer able to successfully send a transmission.



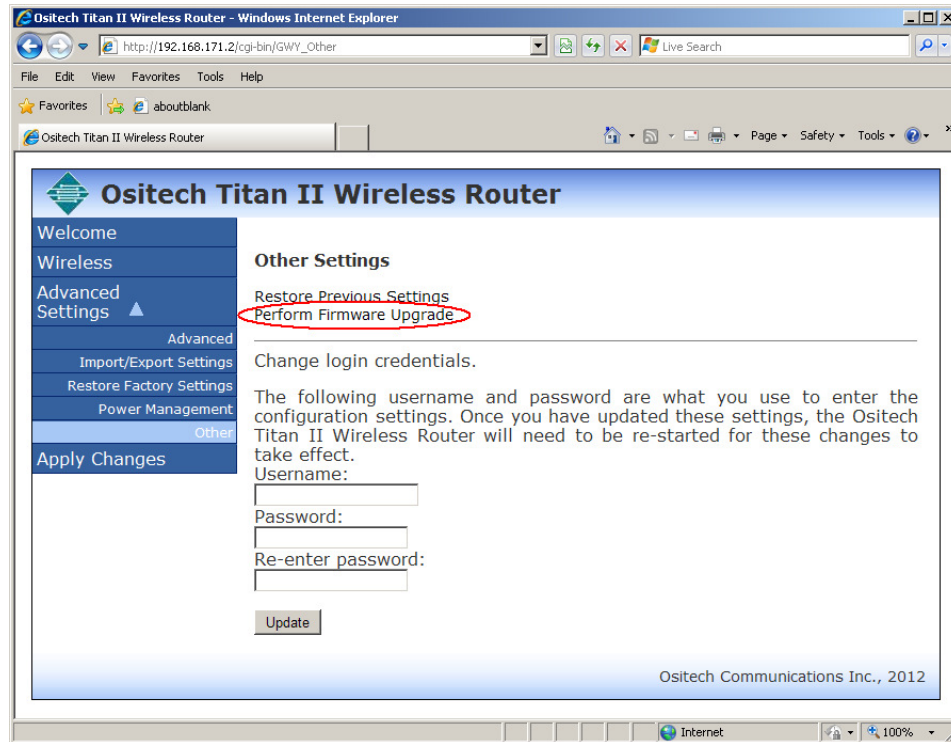
You will now be advised that your previous settings, from your last Apply Changes states, have been restored.



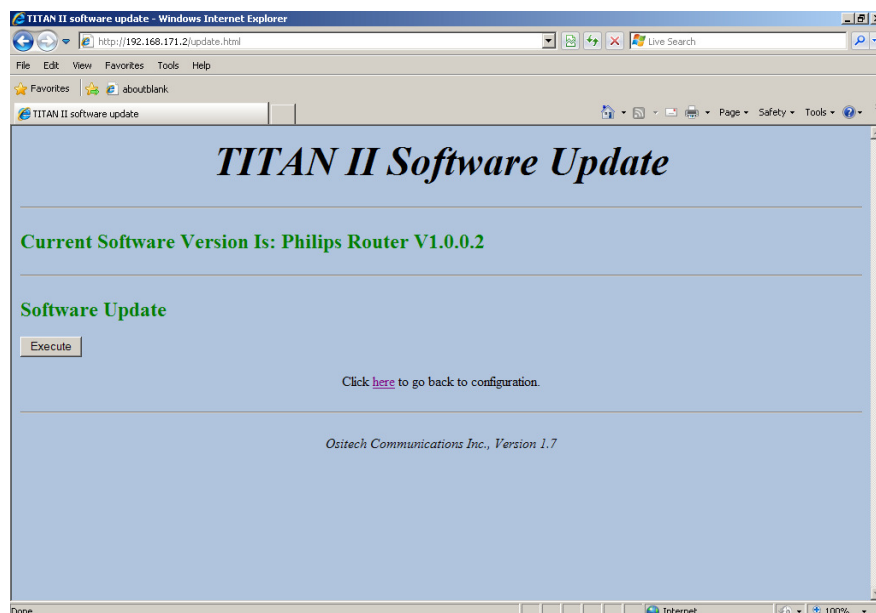


### 4.3.5.2 Perform Firmware Upgrade

Should you be advised that a firmware upgrade is available, you will be able to upgrade your Titan II Wireless Router without returning your unit. To perform a firmware upgrade, under the Other options, click the Perform Firmware Upgrade option to begin.

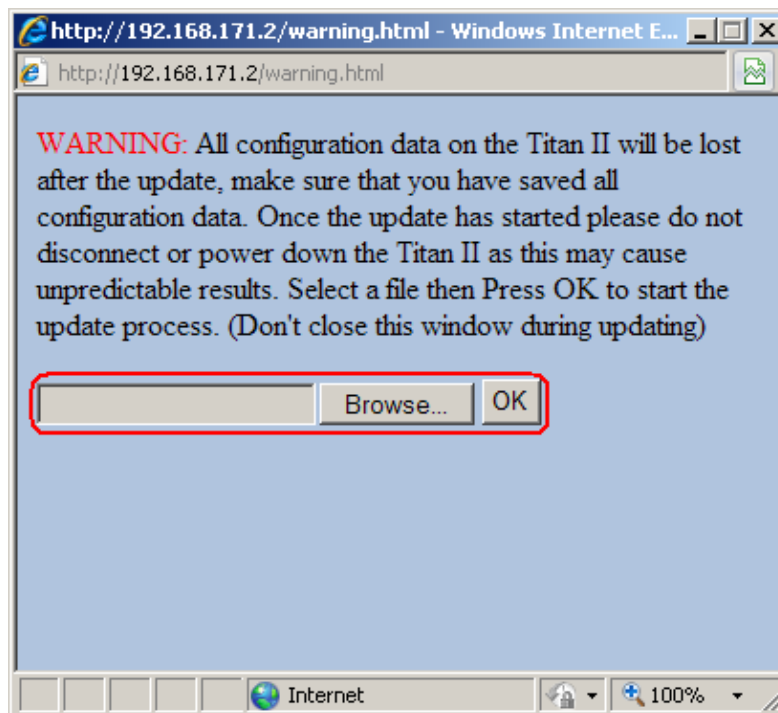


Once you have clicked to perform a firmware upgrade, the configuration utility will launch the Titan II Software Update feature. To begin the software update process, click the Execute button.

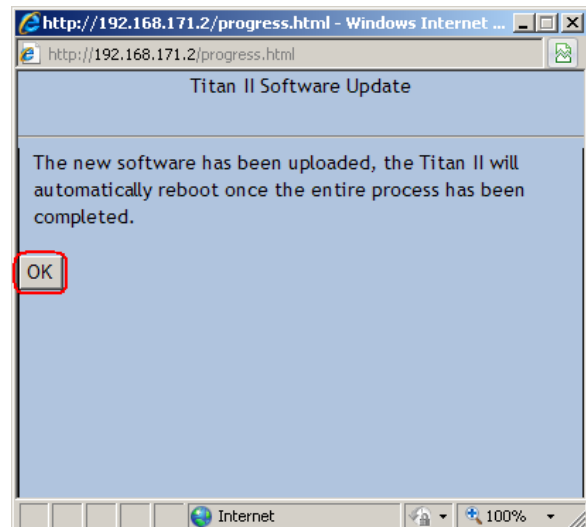
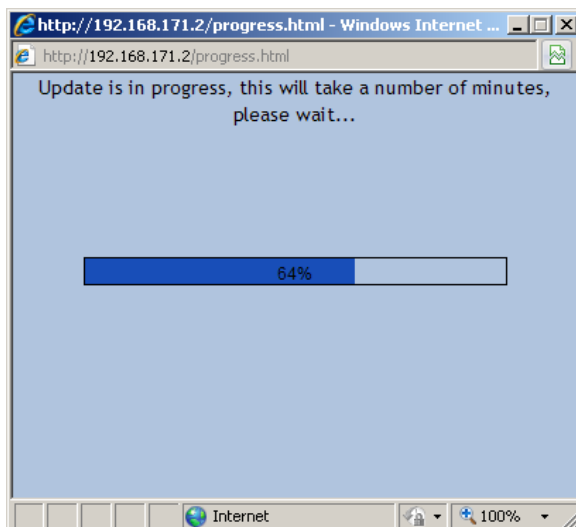


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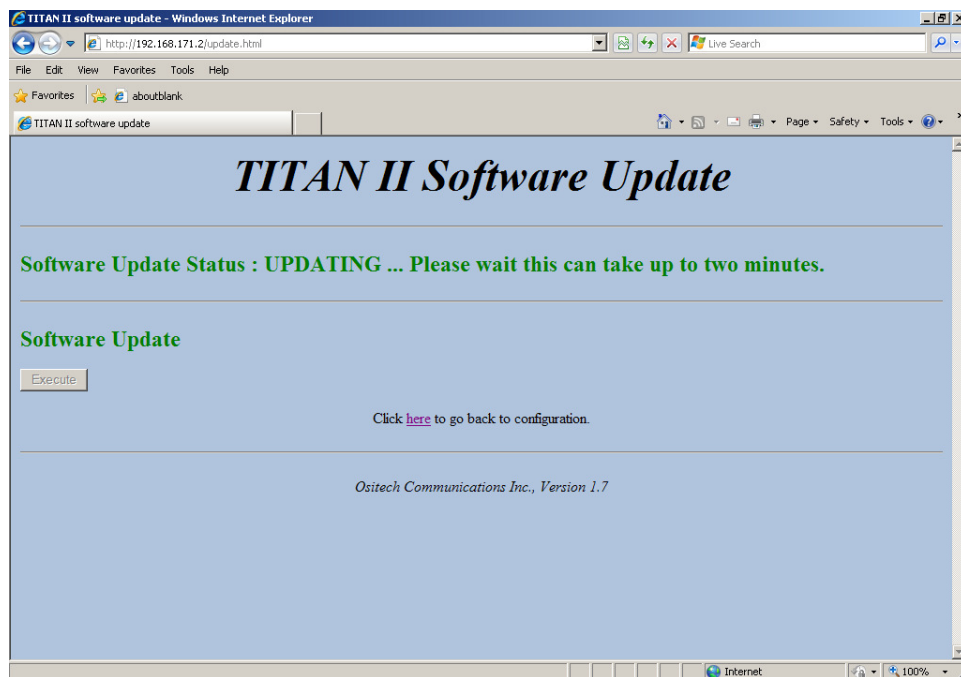
A new dialog window will now appear. At this point, click the Browse button, and then locate and select your firmware upgrade file. Once you have selected the firmware upgrade file, click the OK button to proceed. Once you do click the OK button, DO NOT close this Window during the update process!



While the update is in progress, you will observe its progress, and then when the software has been uploaded to the Titan II, click the OK button to continue.



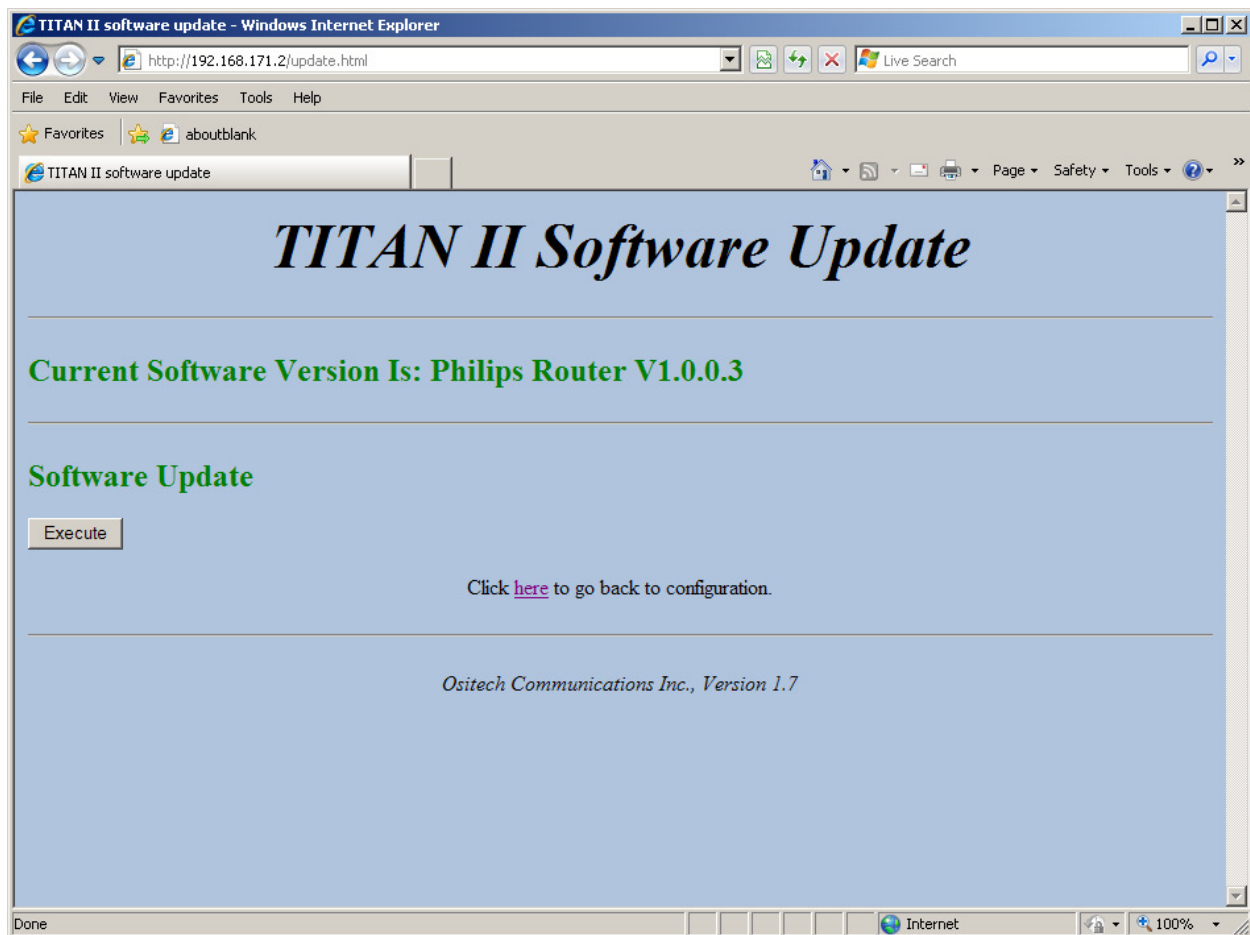
Once you click OK, the small Window will close, and the main Titan II Software Update page will display its status indicating “UPDATING”. Please be patient during this time, as this process can take approximately two minutes to complete.



Once the update has completed, you will then be advised that the status is now SUCCESS.



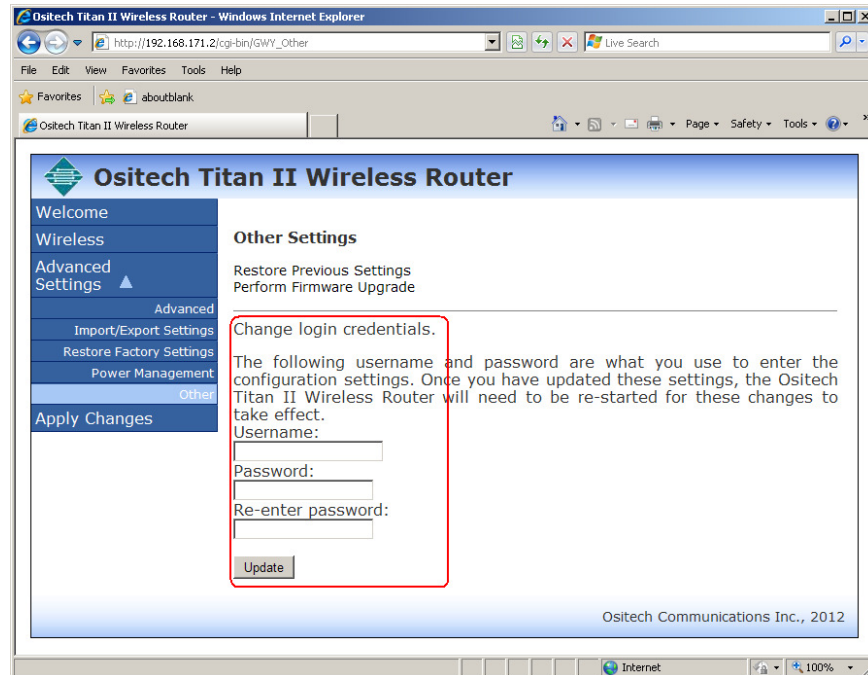
Once you have observed the success status, after about 20 seconds have elapsed, your browser will now display the current software version that you have just upgraded to. At this point, you need to reconfigure your Titan II Wireless Router for further use, as all previous stored information was erased during the update process.



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### 4.3.5.3 Change Login Credentials

If you prefer, you may change your login credentials to something more unique from the factory defaults. If you do decide to make these changes, please make note of your new login credentials, as you will require these for any future login attempts.



Please enter the new Username of your choice appropriately, and then also, enter the new Password of your choice to compliment your new Username. Finally, Re-enter your password as a security check. Then, click Update to apply your new Username and Password.

Username:  
EMSTEAM  
Password:  
••••  
Re-enter password:  
••••  
Update

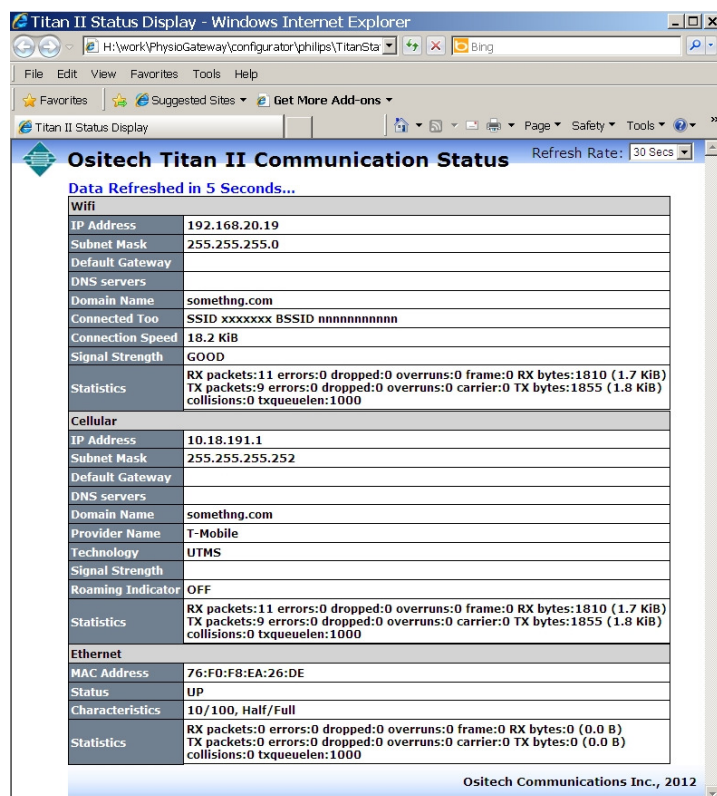
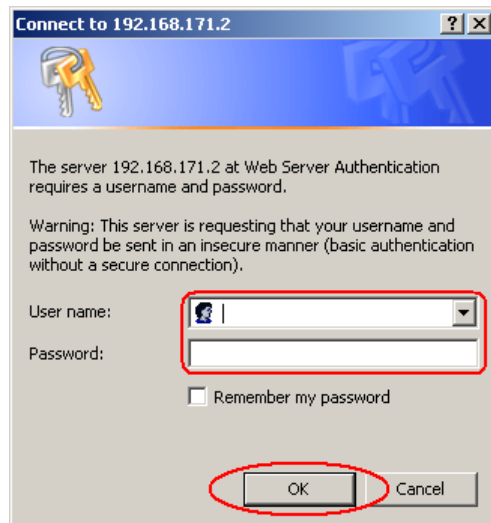
You will now be advised that your username and password have been updated, and it will take effect the next time Titan II is restarted. Please disconnect power from the Titan II Wireless Router, and then reapply power. The next time you login to the Titan II Wireless Router, you will now use your newly assigned username and password.



## 5 TITAN II STATUS PAGE

Access to the Titan II Status Page is made conveniently through your Start menu system. Click your Start button, and select your Program Files. Within your Program Files, locate folder Titan II Wireless Router Configuration Utility. From the Titan II Wireless Router Configuration Utility folder, select Titan II Wireless Router Status. Windows will now launch the configuration utility. Alternatively, you may access the status page directly with the following URL; <http://192.168.171.2/status>.

When the status page opens, you will be challenged to login to the configuration utility. Your default username is “admin” and the accompanying password is also “admin”, of course without the quotation marks. Enter your username and password accordingly, and then click OK. However, if you already have the Titan II Configuration Utility open in another instance of your web browser, or your data is cached, you will NOT be challenged to login accordingly.



Ositech Titan II Communication Status	
Data Refreshed in 5 Seconds...	
<b>Wifi</b>	
IP Address	192.168.20.19
Subnet Mask	255.255.255.0
Default Gateway	
DNS servers	
Domain Name	something.com
Connected Too	SSID xxxxxxxx BSSID nnnnnnnnnnn
Connection Speed	18.2 KiB
Signal Strength	GOOD
Statistics	RX packets:11 errors:0 dropped:0 overruns:0 frame:0 RX bytes:1810 (1.7 KiB) TX packets:9 errors:0 dropped:0 overruns:0 carrier:0 TX bytes:1855 (1.8 KiB) collisions:0 txqueuelen:1000
<b>Cellular</b>	
IP Address	10.18.191.1
Subnet Mask	255.255.255.252
Default Gateway	
DNS servers	
Domain Name	something.com
Provider Name	T-Mobile
Technology	UTMS
Signal Strength	
Roaming Indicator	OFF
Statistics	RX packets:11 errors:0 dropped:0 overruns:0 frame:0 RX bytes:1810 (1.7 KiB) TX packets:9 errors:0 dropped:0 overruns:0 carrier:0 TX bytes:1855 (1.8 KiB) collisions:0 txqueuelen:1000
<b>Ethernet</b>	
MAC Address	76:F0:F8:EA:26:DE
Status	UP
Characteristics	10/100, Half/Full
Statistics	RX packets:0 errors:0 dropped:0 overruns:0 frame:0 RX bytes:0 (0.0 B) TX packets:0 errors:0 dropped:0 overruns:0 carrier:0 TX bytes:0 (0.0 B) collisions:0 txqueuelen:1000

The Status Page will now appear. From here, you can graphically view the various statistics related to your Titan II Wireless Router.

## 6 PHILIPS HEARTSTART MRx MONITOR/DEFIBRILLATOR OPERATIONS

This section will illustrate how to use the Titan II Wireless Router in a real world scenario, in conjunction with a Philips HeartStart MRx Monitor/Defibrillator. In order to begin, you need to ensure you have the proper credentials to access the wireless network and/or cellular service provider that you intend to join. Section 4 of this document details the full operations of the configuration utility in depth for your convenience.

To begin, collect the login credentials (SSID, Encryption type and Key, if required) to join the wireless network(s) that will be used at your locations. As well, if you are using a cellular connection, then you will also need your cellular provider credentials.

Launch the Titan II Wireless Router Configuration Utility, from your Start Menu. Click your Start button, and then choose the program group Titan II Wireless Router Configuration Utility, and then select the Titan II Wireless Router Configuration Utility. When the configuration utility opens, you will be challenged to login to the configuration utility. Your default username is “admin” and the accompanying password is also “admin”, of course without the quotation marks. Enter your username and password accordingly, and then click OK to login to your Titan II Wireless Router.



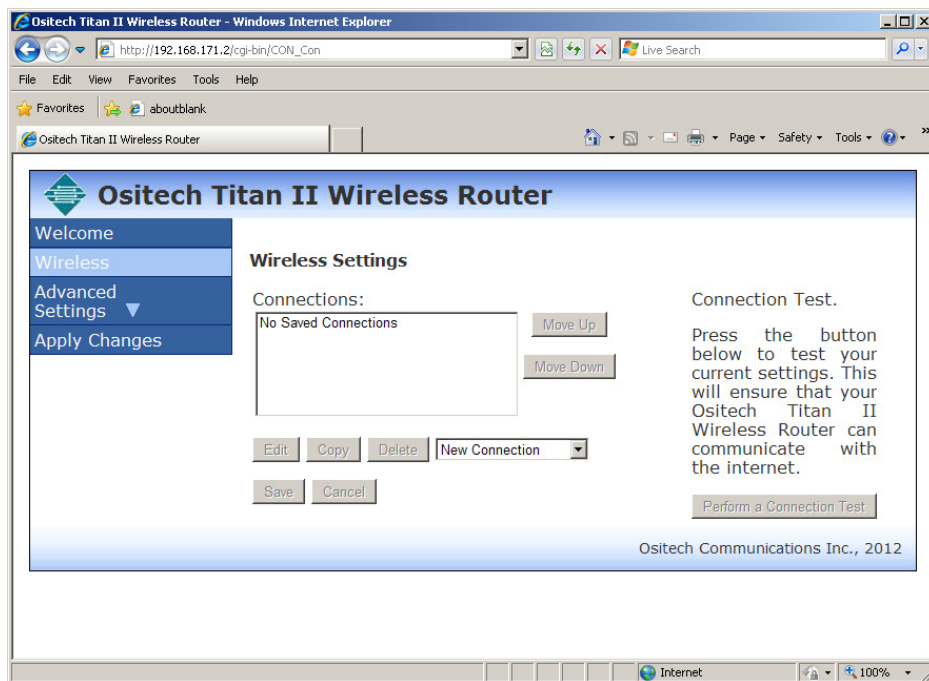
If you are having difficulty accessing the Titan II Wireless Configuration Utility, please contact Technical Support accordingly, or your local Philips Telemedicine support group.

**Note:** To access the Titan II Wireless Router Configuration Utility, your system must have Windows Internet Explorer version 6 or higher installed.

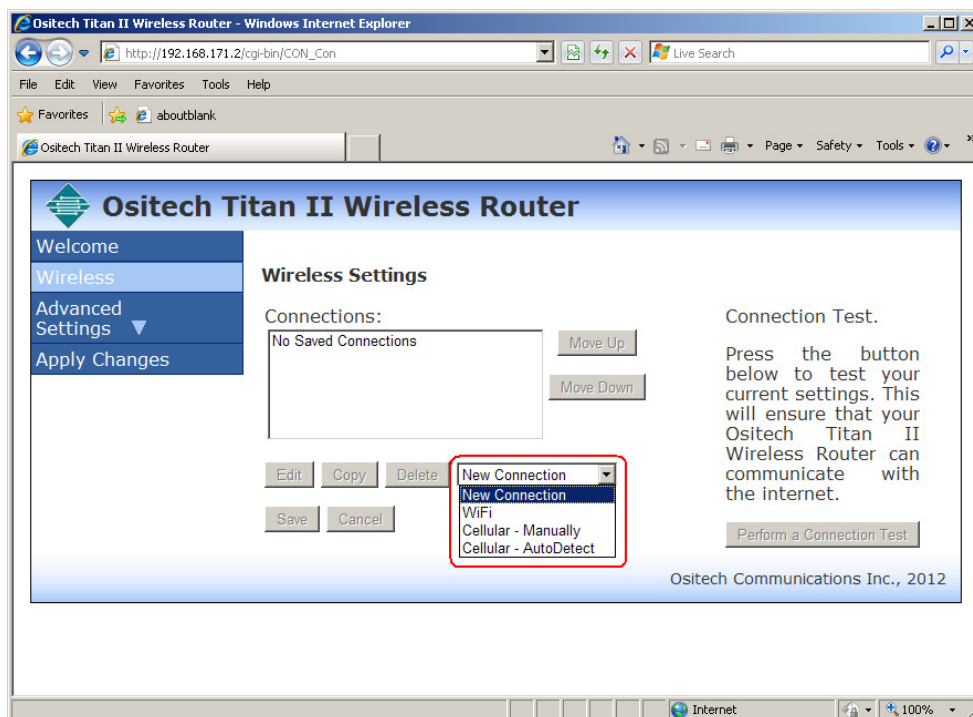
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The configuration utility will now appear and you will be greeted by the Welcome page. On the left side of the configuration utility, click **Wireless**, to access the Wireless Settings page. Here, you will create your WiFi and/or Cellular Connections.



Next, you need to configure your wireless connection(s). Click the **New** button, and make your selection to begin to create your first wireless connection custom to your specific needs.

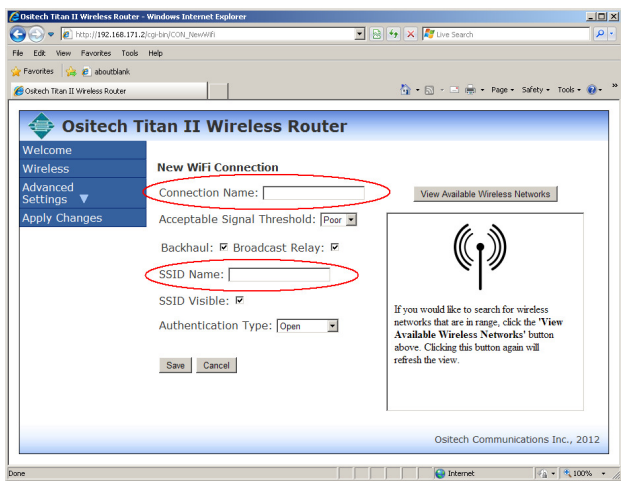


## 6.1 Create WiFi Connection

If you have chosen to create a WiFi connection, enter a friendly descriptive name for the Connection Name which allows you to easily identify what this connection is for or its location (e.g. Hospital\_A, Truck1\_wifi, please note that spaces are not permitted as part of the Connection name, refer to section 5.2.1.1 for more details).

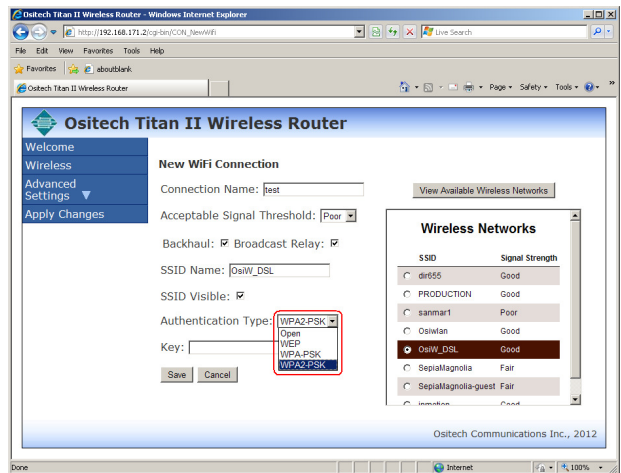
The next step in your wireless connection configuration is to determine the SSID you wish to join with. If you know the specific name of your appropriate SSID, please enter it now. If, however, you do not know your SSID, but you are within the range of your Wireless Network, you may click “View Available Wireless Networks”. This feature will present you a list of Wireless Networks that has been detected within your range. As well, please note that for each found Wireless Network, you will observe its associated signal strength.

You will be presented a list of hot spots in your vicinity. From your list, please select the appropriate Wireless Network you wish to join. Your list will, of course, be different from that illustrated.



Once you have chosen your selected wireless network, you will observe that the SSID name will automatically be inserted now.

You will now have to select the correct Authentication Type for this wireless network. If you are unsure of the authentication type for your network, please see your I.T. department. Please select the correct Authentication Type from the pick list, and then enter the appropriate Key, if required, for this network. When entering your Key, please keep in mind that you must enter it absolutely correctly without errors. As well, note that Open networks should not require any key.



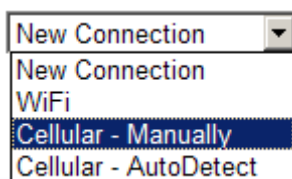
As well, to allow broader connections based on your threshold settings, it is recommended to set your acceptable signal threshold to POOR, which is the default selection.

Further, you are advised to leave the Backhaul and Broadcast Relay options selected as illustrated below, as these are the default selections. The Backhaul option, when selected, performs a backhaul check to verify your internet connection, and should remain selected. Unchecking this option should only be done under the guidance and direction of your local Philips Telemedicine support group.

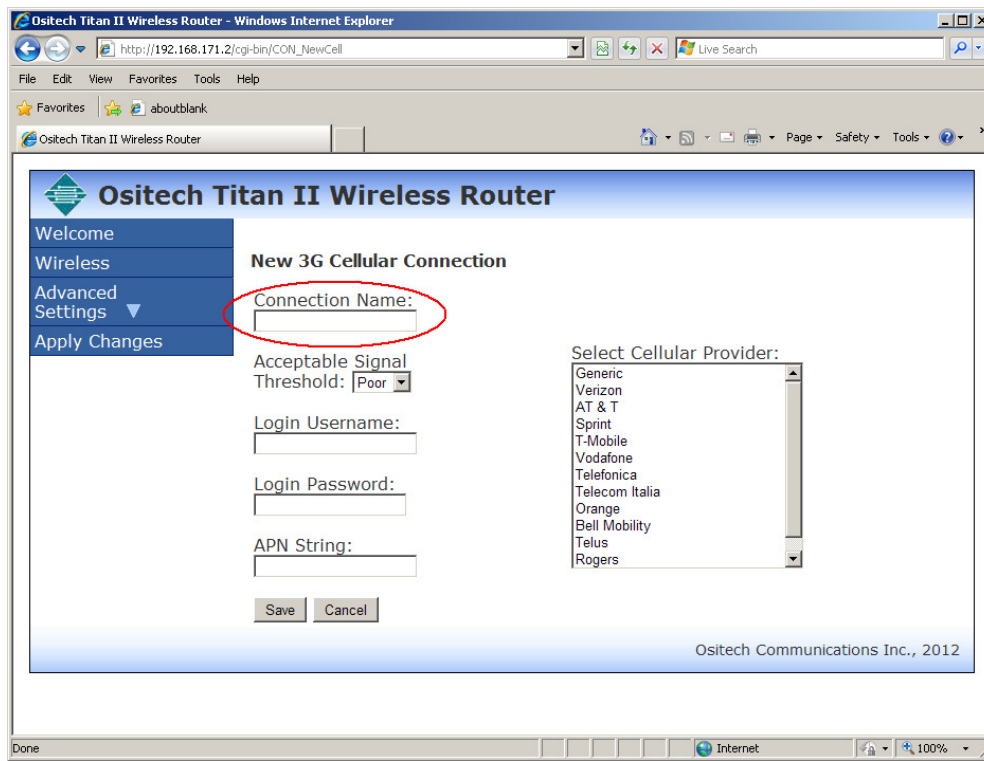
When complete, click the Save button.

## 6.2 Create Cellular Connection - Manually

If you wish to create a Cellular Connection - Manually, firstly, select Cellular - Manually in order to proceed.



The New 3G Cellular Connection dialog will now appear. Enter a friendly descriptive name for the Connection Name which allows you to easily identify what this connection is for or its location (e.g. Hospital\_A, Truck1\_cell, please note that spaces are not permitted as part of the Connection name, refer to section xxxx for more details).



Next, select your Cellular Provider. If your Cellular Provider is part of the predefined list, please select it accordingly, and it will populate the connection parameters automatically.

Ositech Titan II Wireless Router - Windows Internet Explorer

http://192.168.171.2/cgi-bin/CON\_NewCell

File Edit View Favorites Tools Help

Ositech Titan II Wireless Router

**Ositech Titan II Wireless Router**

Welcome  
Wireless  
Advanced Settings  
Apply Changes

**New 3G Cellular Connection**

Connection Name: test

Acceptable Signal Threshold: Poor

Login Username:

Login Password:

APN String:

Save Cancel

Select Cellular Provider:

- Generic
- Verizon
- AT & T
- Sprint
- T-Mobile
- Vodafone
- Telefonica
- Telecom Italia
- Orange
- Bell Mobility
- Telus
- Rogers

Ositech Communications Inc., 2012

Once you have chosen your Cellular Provider, the cellular parameters will automatically be populated for your convenience. If the cellular parameters are correct, click the Save button.

Ositech Titan II Wireless Router - Windows Internet Explorer

http://192.168.171.2/cgi-bin/CON\_NewCell

File Edit View Favorites Tools Help

Ositech Titan II Wireless Router

**Ositech Titan II Wireless Router**

Welcome  
Wireless  
Advanced Settings  
Apply Changes

**New 3G Cellular Connection**

Connection Name: test

Acceptable Signal Threshold: Poor

Login Username:

Login Password:

APN String: ISP.CINGULAR

Save Cancel

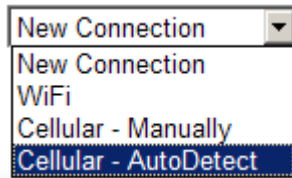
Select Cellular Provider:

- Generic
- Verizon
- AT & T
- Sprint
- T-Mobile
- Vodafone
- Telefonica
- Telecom Italia
- Orange
- Bell Mobility
- Telus
- Rogers

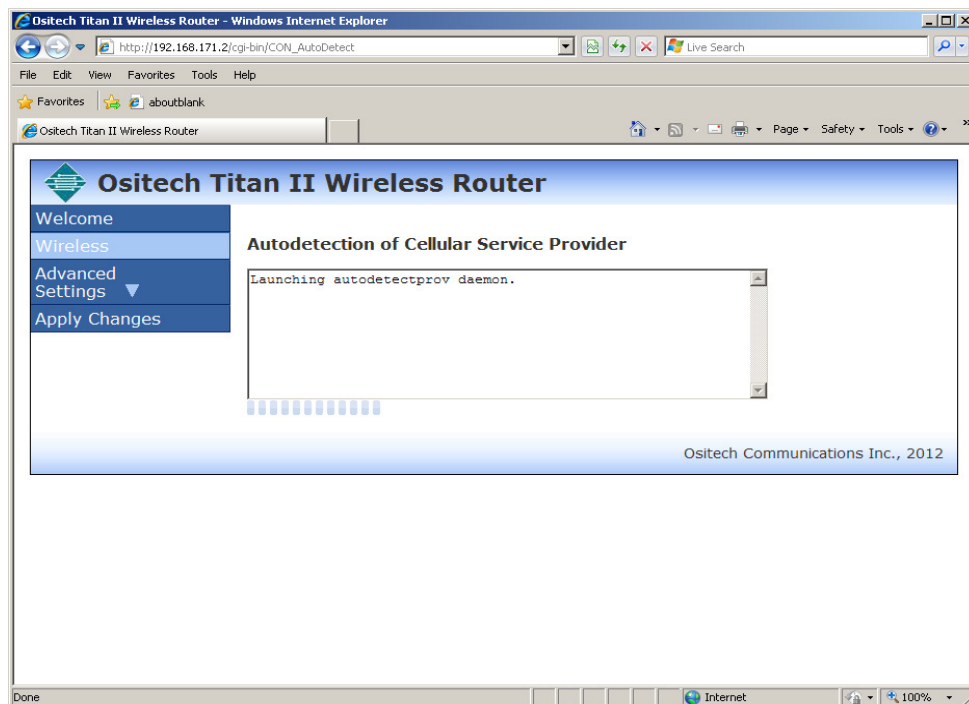
Ositech Communications Inc., 2012

### 6.3 Create Cellular Connection – AutoDetect

If you wish to create a Cellular Connection - AutoDetect, firstly, select Cellular - AutoDetect.



The Auto detection of Cellular Service Provider dialog will now appear. Be patient during this time, as the auto detection process may take a few moments.



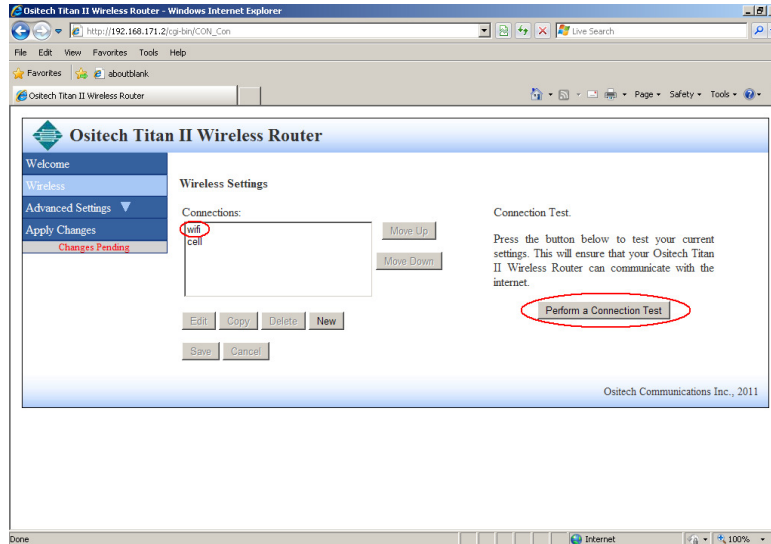
In a moment, if the auto detection of your SIM card was successful, the auto detection daemon will populate the appropriate connection parameters for your convenience. If however, you feel the need to override the connection parameters, feel free to alter any that you wish accordingly to meet your needs.

Alternatively, if the auto detection daemon did not auto detect the SIM card, you will then be prompted to select your provider manually and/or configure the connection parameters accordingly to meet your needs.

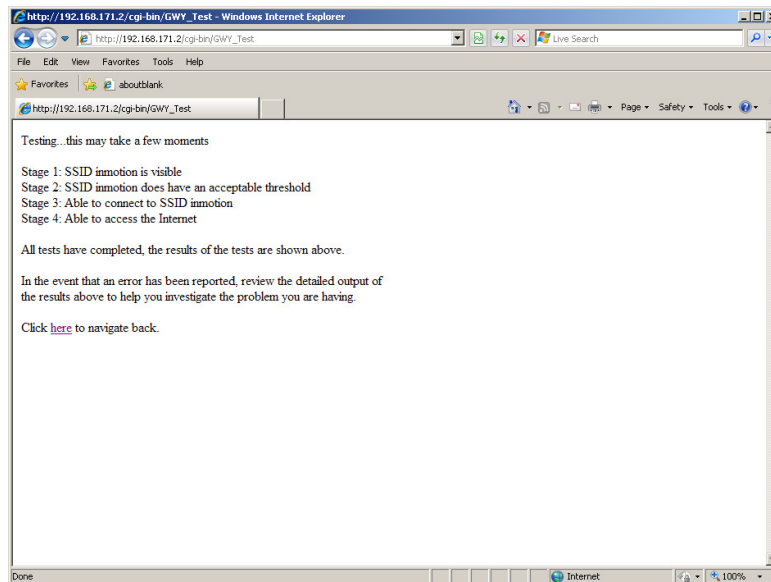
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## 6.4 Test Connectivity

You will now be returned to the Wireless Settings window, of which you should now observe your newly created wireless connection. You are recommended to test your newly created connection to verify its overall connectivity, however, please be aware, to perform this test, you need to be within range of your Access Point. To proceed with the connection test, highlight the connection first, and then click the “Perform a Connection Test” to begin.



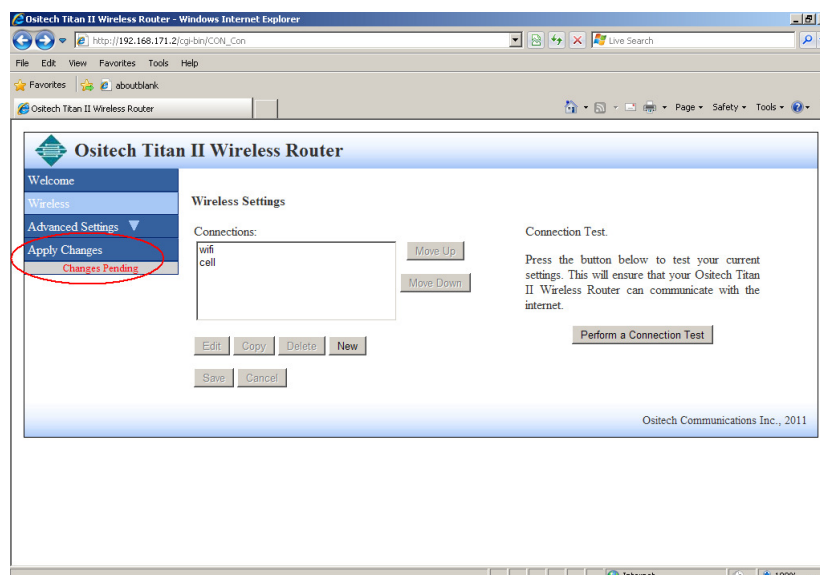
Your Titan II Wireless Router will now perform a test with the connection you have just created. Please be patient during the actual test, as this may take a few moments. Once the test has completed, you will observe the results. If the tests have completed successfully, your new connection is fully functional, and at this time you should apply these changes to your Titan II Wireless Router. Click to navigate back.



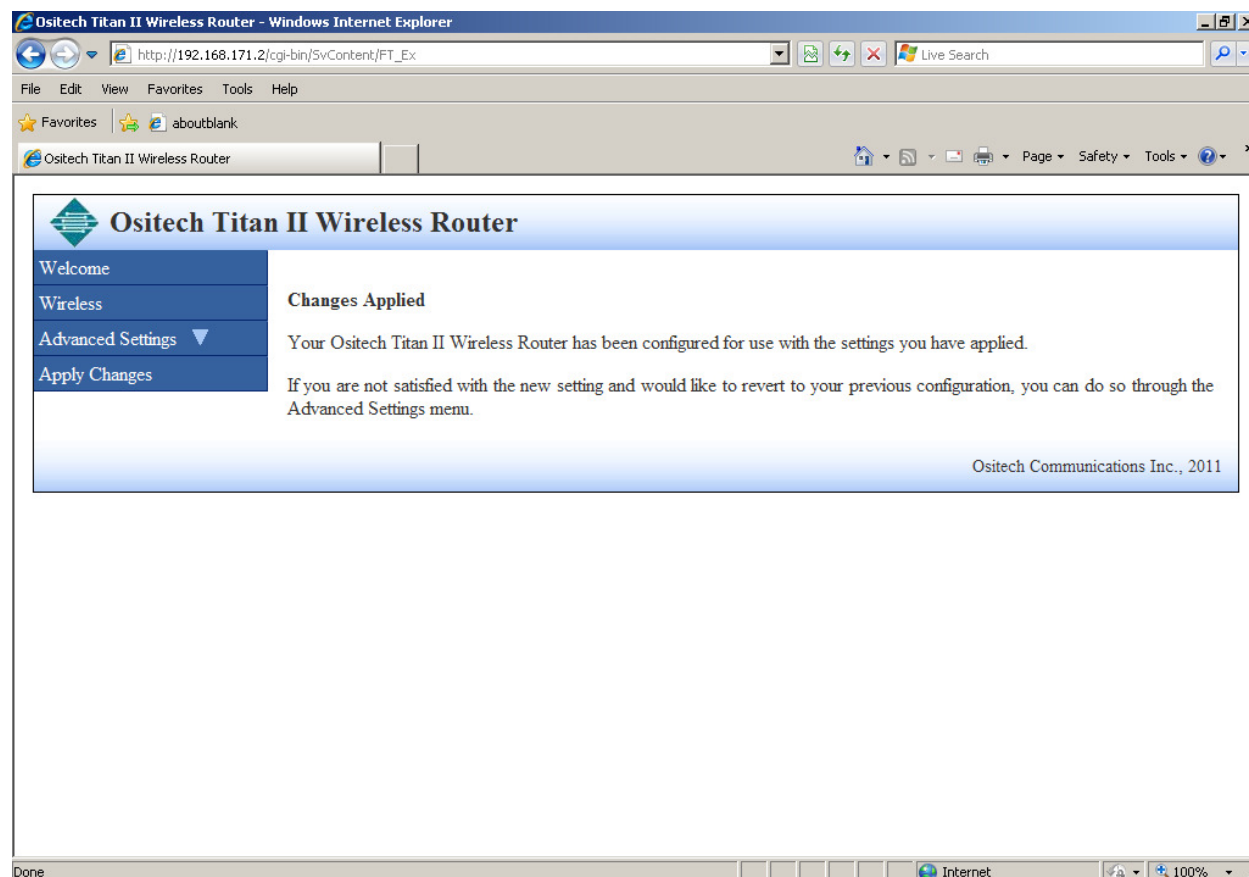
If however, your connection test has failed, you need to go back and alter your settings accordingly. Refer to Appendix D on tips to troubleshoot your connections, using the results from your connection test as a guideline as to which stage has failed the test.

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The configuration, at this point, needs to be applied to your Titan II Wireless Router. On the left side of the configuration utility, please select Apply Changes.



You should now observe the configuration utility advise that your changes have been applied, and the gateway is ready for use at this time.



At this point, you may now exit the configuration utility, since your Titan II Wireless Router is now fully configured with your settings for your environment.

Disconnect the USB Cable to your computer system, and as well, disconnect the USB Cable from your Titan II Wireless Router. Please connect the Ethernet cable from the Titan II Wireless Router to the rear of your Philips HeartStart MRx's Ethernet port and place the Titan II in the left outer most bag location (refer to the placement guide for more details). Turn on the Philips HeartStart MRx.

Prior to commencing a transmission, you need to ensure that you have a site(s) defined within your Philips HeartStart MRx that will connect to the Philips Telemedicine System. Please contact Technical Support, or your local Philips Telemedicine support group to verify your transmission site(s) setup.

On your MRx, acquire your 12 lead patient data. Once you have acquired your 12 lead patient data, proceed to the Start Data Transmit menu, and initiate transmission to your selected Telemedicine server.

During the transmission process, visually observe the Philips HeartStart MRx monitor to provide your indication of the completed transmission.

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## 7 TECHNICAL SUPPORT

Should you require any technical assistance with your Titan II Wireless Router, or if you have any questions or concerns, feel to contact Technical Support at your convenience.

The hours for live technical support are from 9am to 5pm Eastern Time, Monday through Friday. The number for Technical Support is 1-800-563-2386, Extension 401.

Alternatively, if you would prefer to send an email to Technical Support, the email address is [support@ositech.com](mailto:support@ositech.com).

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## APPENDIX A: WIRELESS OPERATION AND THRESHOLD VALUES

In order to allow you to configure the Wireless Settings best suited to your application, this appendix will further detail how the Titan II Wireless Router uses the wireless configuration settings to establish a wireless connection. The Titan II Wireless Router will base its decision on two key factors; first the order of the connection in the list of connections; and second the threshold value if the SSID. The Titan II Wireless Router will then start with the first connection in the list of connections, if the connection indicates that the SSID is visible, the threshold level will be used to determine if a connection attempt should be made. If the SSID is not visible, a connection attempt will be made regardless of the threshold level setting. Remember that the threshold level determines the minimum acceptable level, which means Fair will encompass Good but will exclude Poor. The order in which the connection is processed can be adjusted by moving the connection up or down the list of connections.

The following examples will demonstrate the Titan II Wireless Router operation. Only the significant Wireless Settings will be noted to simplify the example.

### Example

#### Connections

##### In\_Vehicle\_802.11

- Threshold - Good
- SSID is Visible

##### Hospital

- Threshold – Good
- SSID is not Visible

##### EMS\_Office\_802.11

- Threshold – Fair
- SSID is Visible

Using the above settings, the Titan II Wireless Router will only attempt a connection to the In\_Vehicle\_802.11 if in the vicinity and the signal threshold was Good. If the In\_Vehicle\_802.11 is not in the vicinity, or the signal threshold is not Good, or a connection attempt is made but for some reason not successful the Titan II Wireless Router would then move on to the next connection on the list, which in this case is Hospital. If a connection attempt is successfully made to In\_Vehicle\_802.11 the Titan II Wireless Router will use this connection to communicate with the Philips Telemedicine System. Only if the Titan II Wireless Router is powered off or if the connection is lost will the Titan II Wireless Router restart the entire connection process over again.

If the Titan II Wireless Router did not make a successful connection with In\_Vehicle\_802.11, the next connection on the list to be processed is Hospital. Hospital does not have a visible SSID; a connection attempt will be made regardless of the signal threshold setting. If a connection attempt is not successful the Titan II Wireless Router will then move on to the next connection, EMS\_Office\_802.11. As with the In\_Vehicle\_802.11 the EMS\_Office\_802.11 needs to be in the vicinity and the signal threshold as a minimum needs to be Fair before a connection attempt is made.

Note: In some environments such as a corporate environment where multiple access points with the same SSID can be in the same vicinity, the Titan II Wireless Router handles this situation.

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## APPENDIX B: FCC INFORMATION TO USERS

**Caution:** Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 1 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning off the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

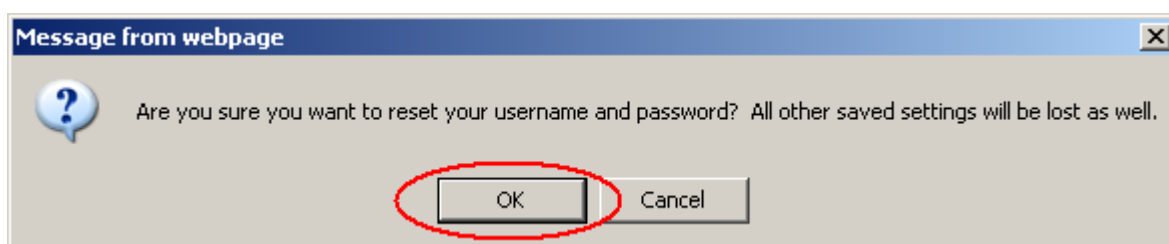
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## APPENDIX C: HOW TO RESET USERNAME AND PASSWORD

Should you encounter yourself in a situation where you have misplaced and/or forgotten your login credentials (Username and Password); there is a feature that you can take advantage to restore the default Username and Password. As a warning though, resetting your Username and Password to their default values, will also result in the restoration of the factory defaults of the Titan II Wireless Router.

If however, you wish to proceed to reset the Username and Password back to their default values, you need to launch your Internet Explorer. When you have opened Internet Explorer, please open the following URL:  
<http://192.168.171.2/reset>

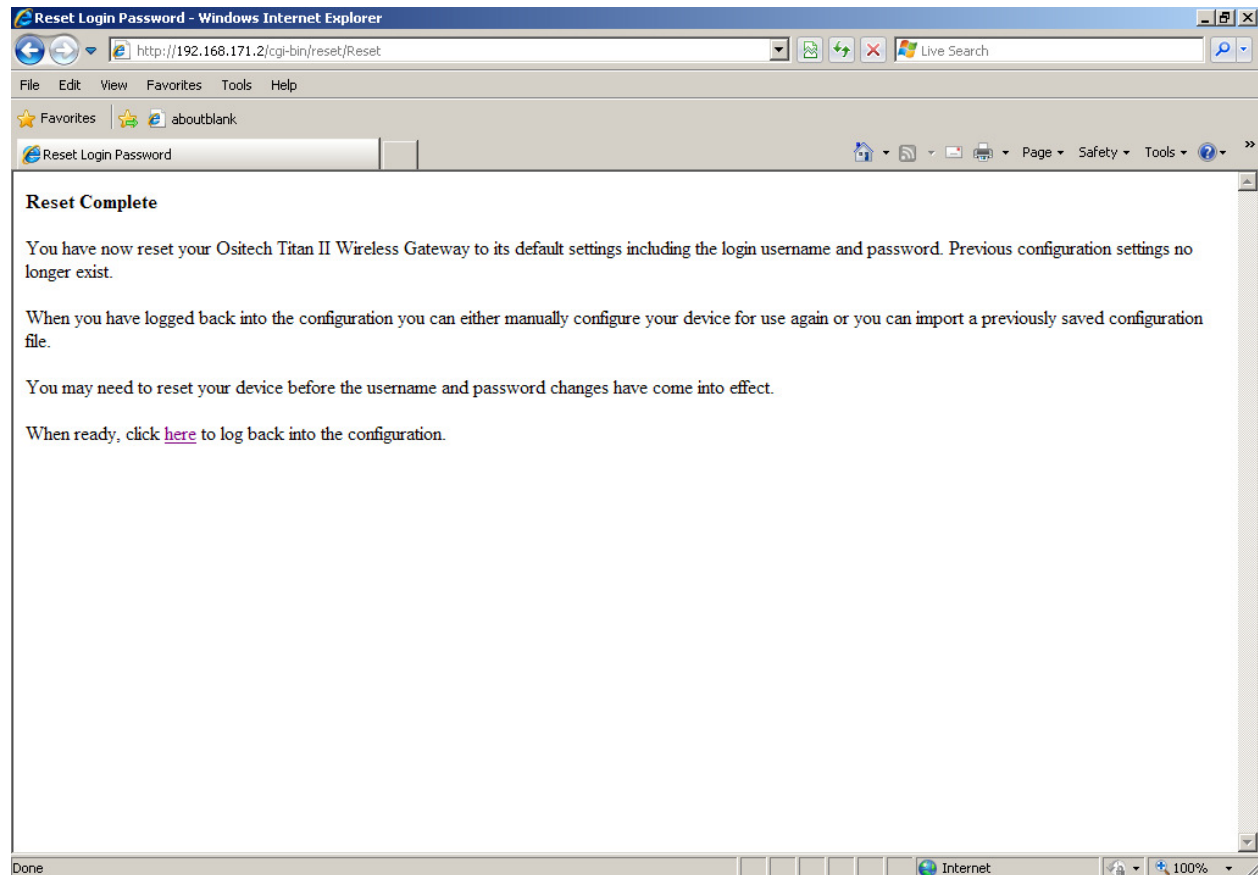
Once the URL is opened, you will observe a dialog box asking if you are sure you want to reset your username and password, as well as all other stored settings. If you wish to proceed, click OK.



At this point, you will now be challenged to login into the Titan II Wireless Router; however, since you have requested to reset the username and password, you need to enter "reset" as both the username and password in order to continue with the reset process. Once you entered "reset" for both username and password, click the OK button.



Once you have logged in using the reset credentials, you will be advised that the reset is complete. At this point, you will need to re-configure your Titan II Wireless Router for further use. It is advisable that you import your previously saved configuration, for more ease of use. After a reset, the default username reverts back to “admin” and as well, the password reverts back to “admin” (without the quotation marks).



## APPENDIX D: TROUBLESHOOTING FAILED CONNECTIONS

This area will help you to diagnose your failed connection tests. Please refer to your failed test to determine which stage of the test needs to be diagnosed further.

**Stage 1.** This stage of testing involves the wireless access point, and verifies that it is visible. If your SSID is not visible, this test will be skipped.

If you encounter a failure from this stage, you need to examine if your entered SSID name is indeed correct.

**Stage 2.** This stage of testing involves the wireless access point once again, however for this stage, it will test the range of your wireless access point, based on your threshold settings.

If you encounter an error from this stage, you need to examine the acceptable threshold of your wireless connection. If your acceptable signal threshold is set for GOOD, you should reduce this by one level to FAIR. Similarly, if your wireless connection acceptable signal threshold is set for FAIR, reduce this by one level to POOR, thus giving you the broadest threshold for the best range possible.

**Stage 3.** This stage of testing will verify that you can successfully join with your selected wireless access point.

If you encounter an error from this stage, the possible areas to examine include the authentication type and/or the key if required. Verify your authentication type chosen is indeed correct, and then re-enter your key appropriately if required

**Stage 4.** This stage of testing verifies that you can successfully access the Internet thru your wireless access point.

The failure here is indicating the Titan II Wireless Router is able to join with your wireless Access Point, however it cannot access the Internet. The possible areas to examine include the settings of your wireless Access Point itself, and/or if its backhaul connection is physically connected (i.e. the WAN cable is connected).

**Stage 5.** This stage of testing verifies that you can successfully communicate with the Philips Telemedicine System.

If you encounter a failure from this stage, you need to examine your transmission settings related to the Philips Telemedicine System, on the Philips HeartStart MRx itself.

**Stage End.** This is the end of the connection test

This stage will indicate whether or not the Titan II Wireless Router was able to login and communicate with the Philips Telemedicine System.

Once the connection test has completed running the results are displayed as shown below, your results will not be identical, as this is dependant on the configuration and the test environment. You will note that the stages repeat themselves, this is an indication that more than one connection has been defined. The connection test duplicates how the Titan II Wireless Router will attempt to make a connection to the Philips Telemedicine System. It will start with the highest priority connection and work its way down to the lowest priority connection. If a connection attempt fails at Stage 1 thru Stage 5 the connection test will start anew with the next connection in the priority list. By reviewing the connection test results you will be able to determine what has caused a specific connect attempt to fail before moving on to the next connection.

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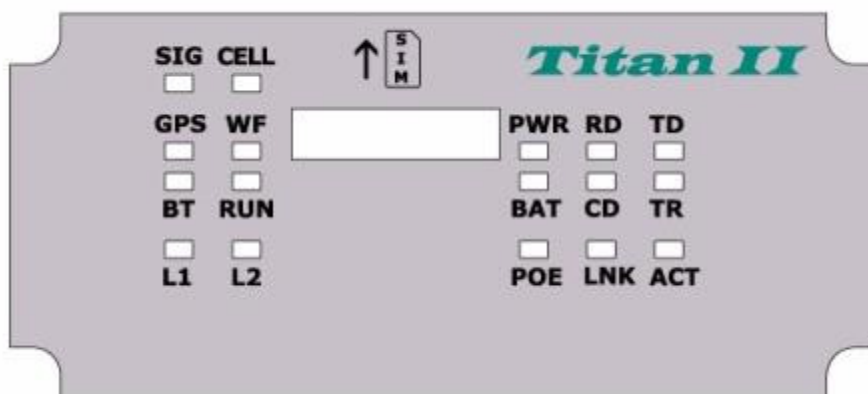
If you are trying to verify a newly created connection and other connections already exist, you should move this connection to the top (highest priority) of the connection list. Make sure that you click the Save button to save the priority change. In this way an existing connection is not attempted before the newly created connection, if the existing connection is successful the newly created connection will not be tested.

Always make sure that you review the results carefully and that it reflects the current test environment. If you know that SSID's are currently not in range or the threshold is not acceptable, the test results should indicate this.

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## APPENDIX E: FRONT PANEL LED'S

The Titan II Wireless Router front panel, shown below, has a number of LED's to help assist in determining the state of the unit. Not all the LED's are used for the Titan II Wireless Router functionality, those that are used are described below.



### CELL

The CELL LED represents the state of the Cellular connection from the Titan II Wireless Router to the cellular provider.

Off	No Cellular connection
400 mS. On, 100mS Off	No service or not authenticated / registered
5 sec On, 200 mS. Off	Registered on cellular network
Solid	Cellular connection actively ready for data transmission

### WF

The WF LED represents the state of the WiFi connection from the Titan II Wireless Router to an access point.

Off	No WiFi connection
Solid	WiFi connection with GOOD signal strength
¼ sec On, ¼ sec Off	WiFi connection with FAIR signal strength
1 sec On, 1 sec Off	WiFi connection with POOR signal strength

### RUN

Whenever the Titan II Wireless Router is operating normally the RUN LED will flash On and Off every one second. If the RUN LED is always Off or always On this is an indication that the Titan II Wireless Router is in an unknown state.

### PWR

The PWR LED will be On whenever power has been applied to the Titan II Wireless Router.



CD

The CD LED works in conjunction with the WF LED.

LNK

The LNK LED represents Ethernet link. When a valid Ethernet connection between the Titan II Wireless Router and the MRx is present, this LED will illuminate.

ACT

The ACT LED works in conjunction with the LNK LED. After LNK is detected, the ACT LED will flash to indicate Ethernet data communications are in progress.