

Wireless-G Notebook Network Card

User Manual (GWP512)





Welcome

Thank you for choosing IOGEAR® to serve your wireless needs. Soon, you will be sharing files or surfing the Internet wirelessly. We hope you will have as much fun using your IOGEAR® Wireless-G Notebook Network Card, as we had designing it.

Rest assured, your IOGEAR® Wireless-G Notebook Network Card is built rock-solid to ensure maximum up-time for you to stay up-and-running. If for any reason you have a problem, we stand behind our products with an industry-leading 3 year factory warranty, so you can have peace-of-mind with your current and future IOGEAR® purchases.

We want you to be happy with your purchase, so we have made every effort to ensure product quality, reliability, and ease-of-use.

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Package Contents

This package contains:

- IOGEAR® Wireless 802.11g PC Card
- CD ROM containing Driver, Configuration Utility, Odyssey Client for Marvel (client for WPA application) and User's Manual
- Quick Start Guide
- Acrobat Reader 6.0

Overview

IOGEAR®'s Wireless-G Notebook Network Card is a sleek and versatile device for both small and home office users. With IOGEAR®, you can surf the Internet, share files, chat with your friends, and....Wirelessly!

Our simple, easy-to-use, setup wizard will have you up-and-running in minutes. Moreover, our turn-key Firewall and Wireless Security packages keep you safe on the 'net.

Remember, IOGEAR®'s Wireless-G Notebook Network Card gives you the wireless connectivity all in a small, cost-effective, and reliable setup. Go with IOGEAR®, and go Wireless!

Features

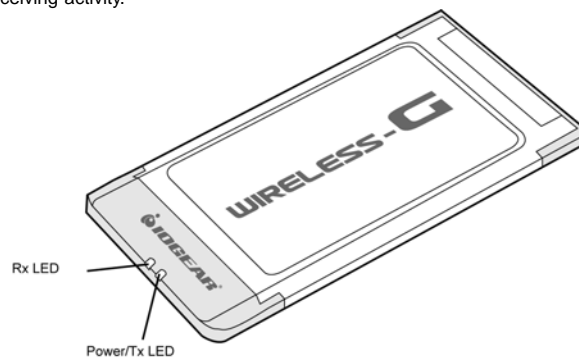
- 54 Mbps wireless connection speed - up to five times faster than previous 802.11b technology
- Sleek, compact antenna is designed for maximum agility
- Simple user setup & diagnostics utilities
- Odyssey security client (from Funk Software) included, for strong WLAN securities (supporting EAP-TTLS, EAP-PEAP, EAP-TLS, and LEAP).
- Compliant with FCC Part 15.247 for US, EN 300-328 for Europe, and RCR STD-33A and ARIB STD-T66 for Japan
- Backward compatible with 802.11b wireless networks, access points, hot spots and other devices
- Solid 3-year manufacturer warranty - built to last!

System Requirements

- Pentium® class notebook computers with one available CardBus slot
- Microsoft® Windows® 98SE, ME, 2000, XP
- CD-ROM drive
- Using Odyssey Client for Marvell, your computer must be running Microsoft Internet Explorer 5.5 or later.
- Using WPA function, make sure there is a WPA-enabled Access Points in the network environment.

Introduction


When the adapter card is not associated with any wireless network devices, the Power/Tx LED will stay solid green; Rx LED will be off. When both LEDs are blinking green, the adapter card is scanning/connecting to an wireless network. When the adapter card is associated, Power/Tx LED indicates transmitting activity; Rx LED indicates receiving activity.

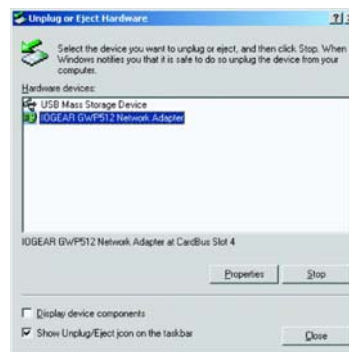


Introduction

Ejecting the Network Adapter

Please always disable the network adapter prior removing the adapter from the PCMCIA slot. The network adapter supports hot-swappable feature so you don't have to power off the notebook to remove the adapter.

1. Double click the **Unplug or Eject Hardware Icon**  resides on the Windows system tray and click **Stop** from the Unplug or Eject Hardware dialog box.



Introduction

2. Click **OK** to confirm that you are going to stop the adapter.
3. The following screen prompts that you can remove the adapter. Click **OK** button to close the dialog box.



Introduction

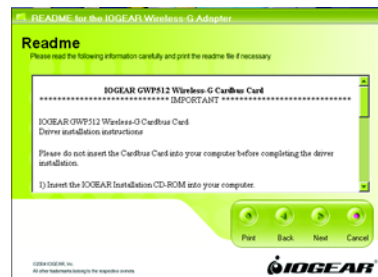
4. Push the lever of your notebook PCMCIA slot to eject the adapter now.

Note: Don't eject the network adapter when data transmission is taking place.

Driver Installations

If you have connected the notebook adapter to your computer, please remove it first.

1. Insert the Driver and Utility CD into CD Drive.
2. A series of introduction screens will show up.
It runs on Macromedia Flash. If your computer doesn't have the Flash player installed, please visit www.macromedia.com to download the plug-in
3. Next, a Read Me screen will be brought up.
Please read it through carefully, then click **Next**.



Installation

4. Click the button of "I accept the terms in the license agreement". Click **Next**



5. A Main Installation Menu will show.
Click the button of **IOGEAR GWP512 Driver Installation**.



Installation

6. When it completed, an information window will pop up. Please click **OK**, then it will return to main menu.



Note: The following procedures are operated in Windows 2000. The steps and screen shots are similar for the other supported OS (such as Win 98SE, ME and XP).

Installation

Installing the Network Adapter Driver

1. Insert the Network Adapter into the PC card slot.
Align the card properly.
2. When Windows 2000 recognizes the adapter, the **Found New Hardware Wizard** dialog box appears. Click **Next**.



3. Select the “**Search for a suitable driver for my device.**” and click “**Next**”.



Installation

4. Select the **“Specify a location”** checkbox. Click **Next**.



5. Click **“Browse”**, browse to the **X:\VOGEAR GWP512\Driver\Win2k** directory and click **OK**.

Note: X is the drive letter for user's CD-ROM drive.



Installation

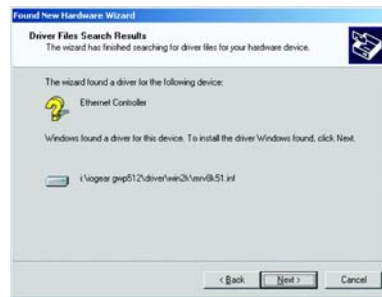
Note:

Windows 98SE users, please specify to **IOGEAR GWP512\Driver\Win98** directory.

Windows ME users, please specify to **IOGEAR GWP512\Driver\WinME** directory.

Windows XP users, please specify to **IOGEAR GWP512\Driver\WinXP** directory.

6. The wizard will display the location of the driver. Click on the **Next** button.



Installation

7. The **Microsoft Digital Signature Not Found** dialog box could appear at this point. A Microsoft digital signature is not required for the driver installation. Click **“Yes”** to continue.
8. After a while, the wizard will report that the hardware installation is complete. Click **Finish**.



Installation

Configuration Utility and Odyssey for Marvell Utility Installations

The Odyssey For Marvell Utility will be installed after the completion of Configuration Utility.

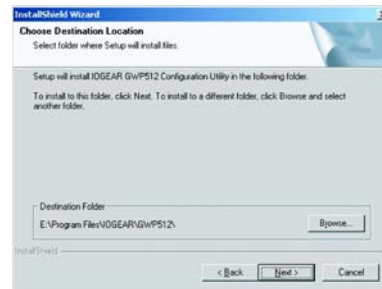
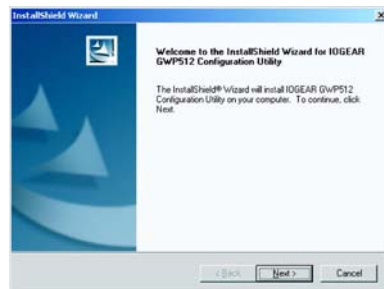
The Odyssey Client helps the user to configure the WPA function. WPA is an implementation based on a subset of the 802.11i standard and provides enhanced security for wireless networks when used with the Temporal Key Integrity Protocol (TKIP) and the Michael message integrity check (MIC) algorithms. Be sure there is an access point supports WPA in the network environment for using the Odyssey for Marvell utility.



1. Click on the button of **GWP512 Configuration Utility** and **Odyssey Client for Mavell** from Main Installation Menu.

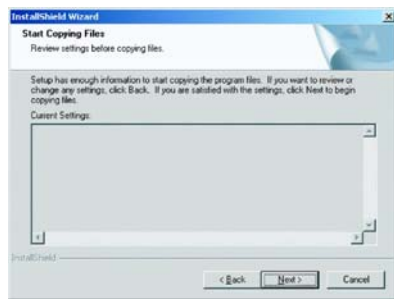
Installation

2. The InstallShield Wizard is preparing to install the configuration utility. Click **Next**.
3. In the *Destination Folder* screen, you are asked to confirm the *Destination Folder* for the application software. If you would like, you may change the destination folder to another location. Click **Next**.

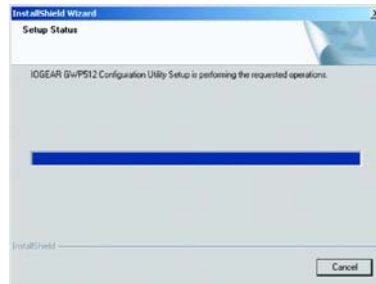


Installation

4. Select a program folder and click **Next**.

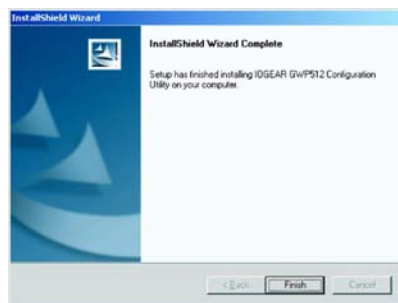


5. The InstallShield Wizard is installing utility.



Installation

6. Click **Finish** to complete the Utility installation.



7. The InstallShield Wizard continues to install the **Odyssey Client Manager for Marvell**. The Odyssey Client Installation Wizard window appears. Click **Next**. If you don't want to install the Odyssey for Marvell Utility, you can click **Cancel** to close the installation.



Installation

8. Select "I accept the terms in the license agreement". Click **Next**.



9. Enter a User Name and Organization in the Customer Information window. Click **Next**.

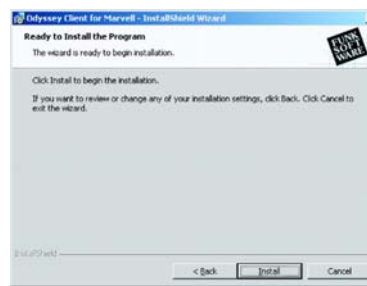


Installation

10. Select the button of Complete. Click **Next**

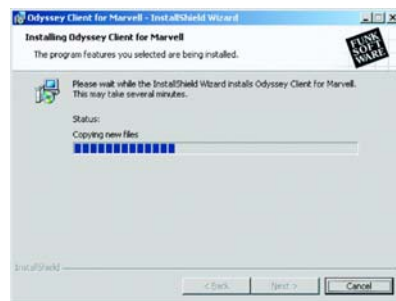


11. Click **Install** to install the program.

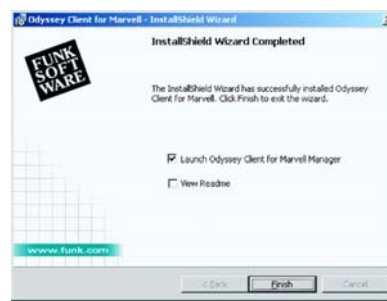


Installation

12. The InstallShield Wizard starts copying files to your PC.



13. When the installation is completed, the Wizard Completed window appears. Click **Finish**.



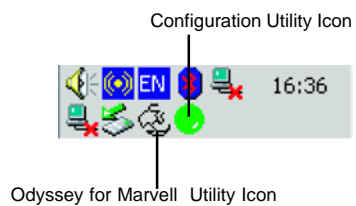
Installation

14. The Configuration Wizard window appears. Click **Next**.
15. Click **Finish** to complete the configuration Wizard.



Installation

16. The Odyssey for Marvell Utility icon will appear in the system tray automatically. If the network adapter plugged and connected with a wireless network, the Configuration Utility will launch automatically, and showing green icon in the system tray. If it does not launch and you cannot get wireless connection, please open the Configuration Utility from Windows **Start > Programs > IOGEAR GWP512 > IOGEAR GWP512 Configuration Utility**.



Verifying Driver Installation

1. Right-click mouse button on the **My Computer** icon on your Windows desktop, and select **Properties** from the pop-up menu.

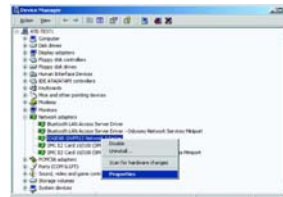


Installation

2. The **System Properties** screen will pop-up.
Under **Hardware** tab, click **Device Manager**.



3. After clicking **Device Manager**, the following screen will be shown.



Click on the + symbol in front of "**Network adapters**" and see if an item labeled **IOGEAR GWP512 Network Adapter** is visible. If you don't see the item below the network adapter icon but a "?" or "!" symbol is displayed, it means that the driver installation was unsuccessful. Highlight "**IOGEAR GWP512 Network Adapter**", right-click mouse button and select "**Properties**".

Installation

- Click the **General** tab, if the Device Status field reports that **"This device is working properly"**, it means that the driver has been installed successfully.



TCP/IP Setup Procedure

After the network adapter driver and configuration utility are installed, the TCP/IP address for the network adapter must be set up in order to communicate with other wireless LAN access points and clients, and to have Internet access.

- Right-click on **My Network Places** and select **Properties** from the pop-up menu.



Installation

2. Find the “**Local Area Connection**” that is associated with the Network Adapter. Right-click on the connection and select **Properties**.



3. Select “**Internet Protocol (TCP/IP)**” and click **Properties**.



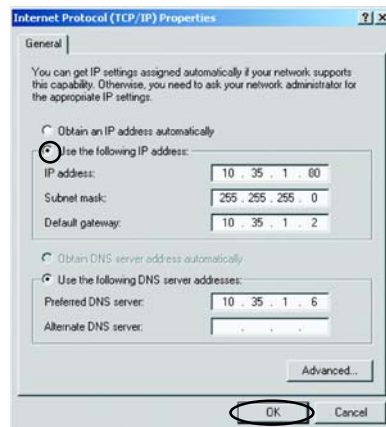
Installation

4. Select “**Obtain an IP address automatically**”, if the network adapter will be linked to a Wireless AP providing DHCP service. Or, please click “**Use the following IP address**” and input an IP address and subnet mask. IP configuration information (DHCP or assigned IP address, Gateway and DNS server IP addresses) is usually obtained from the corporate IT staff.

Note: The IP Address you assign to all computers must be in the same IP Address range, and the Subnet Mask must be the same for all computers on your network.

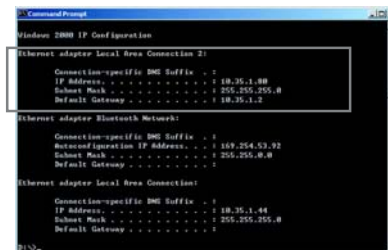
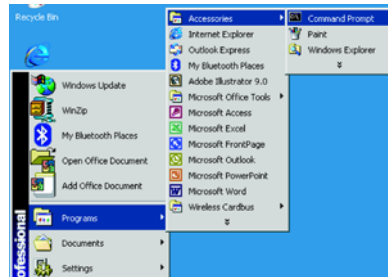
For example:

If the first computer is assigned an IP Address of 10.35.1.3 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP Address of 10.35.1.4 with a Subnet Mask of 255.255.255.0,... etc.



Installation

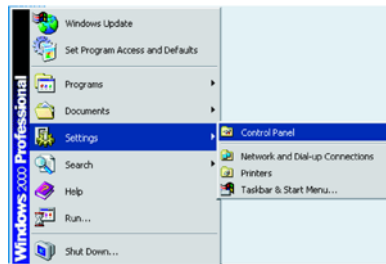
5. After completing IP configuration information, click **OK** to both "**Internet Protocol (TCP/IP) Properties**" and "**Local Area Connection Properties**" to complete the IP configuration.
6. Choose **Start > Programs > Accessories > Command Prompt** to open the DOS command prompt window.
7. Type "**ipconfig**" at the **D:\>** prompt to determine if the TCP/IP configuration has taken effect.



Uninstallation

Uninstalling the Network Adapter Driver

1. To remove the driver from the OS, go to **Start>Settings>Control Panel**.

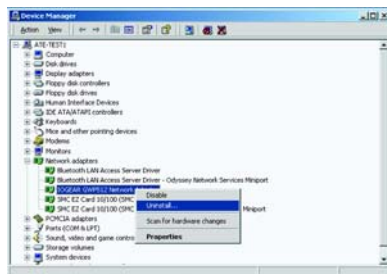


2. Double-click **System**.



Uninstallation

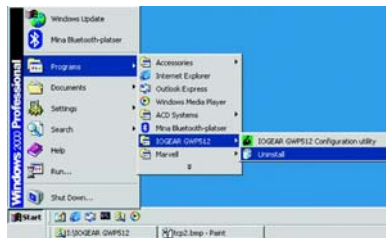
3. Under **Hardware** tab, click **Device Manager**. Double-click **Network adapters**. Right-click mouse button on "**IOGEAR GWP512 Network Adapter**", and choose **Uninstall**. Click **OK** to uninstall the device.
4. Click **OK** to confirm that you are going to uninstall the driver.



Uninstallation

Uninstalling the Network Adapter Configuration Utility

1. The user can uninstall the Configuration Utility from **Windows Start menu -> Programs -> IOGEAR GWP512-> Uninstall** to remove the configuration utility.



Configuration Utility

Network Adapter Configuration Utility

The Configuration Utility can be launched from **Windows Start -> Programs -> IOGEAR GWP512 -> IOGEAR GWP512 Configuration Utility**.

After launched, the utility icon will reside on the Windows system tray and provides at-a-glance feedback about the device's status by changing appearance.

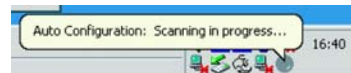
Status 1:

The wireless network adapter is not plugged in.



Status 2:

The wireless network adapter is trying to associate with other network devices in service range.

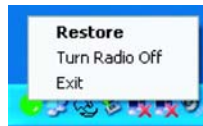


Configuration Utility

Status 3:

The wireless network adapter is associated with a network device.

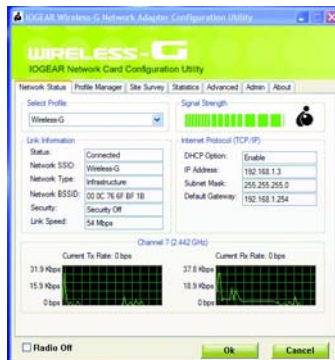
Right-click mouse button on the icon, there will be a shortcut menu.



- **Restore:** Select this option and the Utility Main screen will appear on the top of all Windows applications you have opened.
- **Turn Radio off:** Click the Turn Radio Off will power off the network adapter.
- **Exit:** Close the utility and the icon will exit from the system tray, too.

Configuration Utility

Utility Main Window

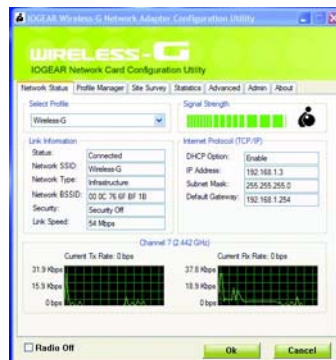


The Configuration utility is separated into seven categories:

- **Network Status:** Display the status of the network you are connecting to.
- **Profile Manager:** Display the current profile and allows you to create, modify and delete profiles.
- **Site Survey:** List all available network devices in range.
- **Statistics:** You can view the information of wireless receiving and transmitting data.
- **Advanced:** Allows you to perform advanced configuration.
- **Admin:** Allows you to import or export profiles.
- **About:** Shows the firmware and utility versions and MAC address of the network adapter.

Configuration Utility

Configuration Utility – Network Status Tab



Select Profile

Displaying the name of the profile in use. Click the down-arrow button to select profiles you have created previously. You may modify, create and delete profiles through the **Profile Manager** tab.



Configuration Utility

Link Information

Contains information of current connection.

- **Status:**

- **Connected:** Indicates the adapter is connected with a wireless network.
- **Card Unplugged:** Card not plugged in, or plugged in but not recognized.
- **No Connection:** Card plugged in but can't find a wireless network.
- **No Radio:** Card plugged in but the radio is turned off.

- **Network SSID:** Indicates the SSID of the connected wireless device.

- **Network Type:** Indicating the current network type the adapter uses. It could be **Ad hoc** or **Infrastructure**.

- **Network BSSID:** Shows the associated device's MAC address in the form of hex digits.
- **Security:** Indicates whether the connected device has the WEP function enabled or not.
 - **Security OFF:** It means that the connected device isn't using enable WEP function.
 - **WEP:** It means that the connected device uses the WEP function.
- **Link Speed:** Current link speed.

Link Information	
Status:	Connected
Network SSID:	AP-600
Network Type:	Infrastructure
Network BSSID:	00 20 A6 4F 45 5C
Security:	Security Off
Link Speed:	1 Mbps

Configuration Utility

Internet Protocol

Display information of Internet protocol.

Internet Protocol (TCP/IP)	
DHCP Option:	Enable
IP Address:	169.254.128.148
Subnet Mask:	255.255.0.0
Default Gateway:	

Signal Strenth

The green color bar indicates the signal is weak or strong. The longer the color bar, the better connection.



Configuration Utility

Channel

Radio Off

Display the channel in use and the dynamic diagram shows the Transmit (TX) and Receiving (RX) rate being monitored. Click the checkbox and the adapter will be turned off.

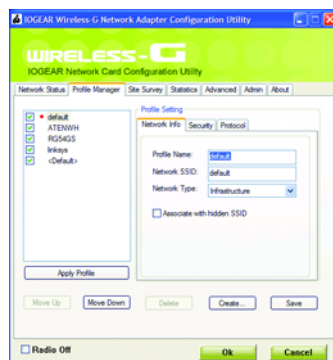


☐ Radio Off

Configuration Utility

Configuration Utility – Profile Manager Tab

The profile manager tab allows you to modify, create or delete profiles.



Profile List Window

List all available profiles.

If the Default box is checked, it means the profile is used in auto-configuration mode when the connection is lost. If unchecked, the profile will be excluded in auto-configuration.

- **Apply Profile:** Apply the selected profile. The buttons below are used to control the window.
- **Move Up/Down:** Move the selected profile up or down.
- **Delete:** Delete a profile.
- **Create:** Create a new profile. Click the **Create** button and follow on-screen description to create a new profile.
- **Save:** Save changes you have made to a selected profile.

Profile Setting

The profile setting displays information of the selected profile.
It is divided into three sub-tabs.

Network Info:

- **Profile Name:** name of the selected profile.
- **Network SSID:** the connected network SSID.
You can type a specific Network SSID in this field to limit the link to an access point or other computer equipped with a wireless LAN adapter.
If you leave this field blank, the wireless LAN adapter will try to build the link with any wireless device that has better signal and link quality.

The screenshot shows a 'Profile Setting' dialog box with three tabs: 'Network Info', 'Security', and 'Protocol'. The 'Network Info' tab is active. It contains three input fields: 'Profile Name' with the value '<Default>', 'Network SSID' with the value '<ANY SSID>', and 'Network Type' with a dropdown menu showing 'Infrastructure'. Below these fields is a checkbox labeled 'Associate with hidden SSID' which is currently unchecked.

Configuration Utility

- **Network Type:** the type of network environment to which you are connected. It could be infrastructure or ad-hoc. **Infrastructure** – This type of network connection needs an access point in range. All communication is done through this access point. **Ad hoc** – A peer-to-peer mode of operation. This type of link is established from client to client without any access point.

Security Tab:

The Security tab provides WEP (Wired Equivalent Privacy) function to ensure a securer networking communication and prevent unauthorized access to your wireless network. The WEP keys configured for your wireless device must be same as those configured for the access point or wireless LAN adapter it associates with.

- **Encryption Method:** Click the down-arrow button to select Security Off or WEP.
- **Authentication Mode:** Click the down-arrow button to select one. The authentication type should be same among those connected devices.
- **Open system:** With this setting, any station in the Wireless LAN can link with the Access Point.

Configuration Utility

- **Shared Key:** only stations using a shared key encryption identified by the Access Point are allowed to associate.

• **WPA** – Wi-Fi Protected Access. Please Refer to Page.67 for WPA function configuration.

• **WEP Key Setting:** The WEP key setting is available only when the WEP is activated. Click **Configure WEP Keys** button to configure the WEP settings.

- **Key Format:** This utility supports both Hexadecimal and ASCII key formats. Click the down-arrow button to choose one format. Only digits 0-9 and letters A-F are valid entries if you select hexadecimal format.

- **Key Size:** Click the down-arrow button to select 40-bit or 104-bit key size.

The screenshot shows the 'Profile Setting' window with the 'Security' tab selected. Under 'Authentication Mode', 'Open System' is chosen. The 'Encryption Method' dropdown menu is open, showing 'Open System', 'Shared Key', and 'WPA'. Below this, the 'WEP Key Setting' section contains four radio buttons: 'Key 1 is not set', 'Key 2 is not set', 'Key 3 is not set', and 'Key 4 is not set'. A 'Configure WEP Keys' button is located at the bottom of this section.

Configuration Utility

- **Transmit Key 1-4:** These four fields allow you to set four different 40-bit or 104-bit keys for encryption. This item is a very convenient and useful function when you want to match the WEP keys with different APs. After setting the WEP keys for specific AP or wireless LAN card, instead of entering the WEP key every time, you can just click the button in front of WEP key to enable the association.



Protocol:

- **Do not change settings:**

If the box is checked, then, all settings on this tab can't be change.

- **Use below settings:**

- **Power Save Mode:** This field provides two options of power management: **Continuous Access** and **Max Power Save**. Click the pull-down menu to select the mode you desire.

- **Preamble (802.11b):** Select Auto or Long. The default setting is Auto.

- **Transmit Rate:** This field provides options for selecting data-transmitting rate of the wireless LAN adapter. You can click the down-arrow button to select one option. By default, the data rate is set to **Auto** allowing Tx rate to the highest possible rate. It's recommended that you select the Auto option.

Configuration Utility

- > **Fragment Threshold:** This field is to define the maximum data frame size this wireless LAN adapter will transmit and to improve the efficiency of data transmitting.
- > **RTS/CTS Threshold:** This field is to set the packet size at which the AP issues a Request-To-Send (or Clear-To-Send) frame before sending the packet. Type the value in this field and the effective range is from 0 to 2347.
- > **Rest Button:** Click Reset button returns the protocol settings to their default values.

The screenshot shows the 'Profile Setting' window with the 'Protocol' tab selected. It contains a checkbox for 'Do not change settings' which is checked. Below it, the text 'Use below settings' is displayed. There are five settings listed: 'Power Save Mode' set to 'Continuous Access', 'Radio Preamble' set to 'Auto', 'Transmit Rate' set to 'Auto', 'Fragment Threshold' set to '2346', and 'RTS/CTS Threshold' set to '2346'. A 'Reset' button is located at the bottom right of the settings area.

Setting	Value
Power Save Mode	Continuous Access
Radio Preamble	Auto
Transmit Rate	Auto
Fragment Threshold	2346
RTS/CTS Threshold	2346

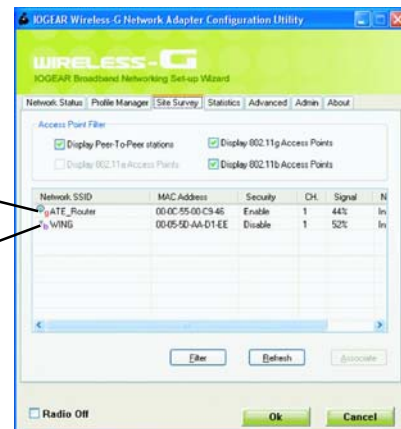
Configuration Utility

Site Survey Tab:

Click the **Site Survey** tab and the following screen will be displayed.

Connected 802.11g
access point icon

802.11b
Access point icon



Configuration Utility

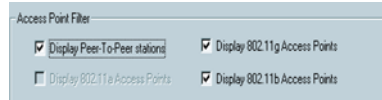
From the Site Survey page, you can search all access points and network adapters that are within the service range of the network adapter. Click **Refresh** button, and the network adapter will start to search access points and WLAN adapters and show the result on the list.

The list includes information about the Network SSID and MAC address of the access point and WLAN adapter, the signal strength, the channel where the access point and WLAN adapter operates, and whether or not WEP encryption is used. You can highlight the access point or WLAN adapter you want to associate and click **Associate** or double click on your choice to connect that device.

In the figure, you can see there are one 802.11b access point and one 802.11g access point within the service range of the network adapter. You may click the **Refresh** button to update this list and use the scroll bar to see more information.

Access Point Filter

This option lets you customize which sites will be displayed in the site survey list. Check the checkbox to enable individual wireless mode.



The image shows a dialog box titled "Access Point Filter". It contains four checkboxes arranged in a 2x2 grid. The top-left checkbox is checked and labeled "Display Peer-to-Peer stations". The top-right checkbox is checked and labeled "Display 802.11g Access Points". The bottom-left checkbox is unchecked and labeled "Display 802.11a Access Points". The bottom-right checkbox is checked and labeled "Display 802.11b Access Points".

Access Point Filter	
<input checked="" type="checkbox"/> Display Peer-to-Peer stations	<input checked="" type="checkbox"/> Display 802.11g Access Points
<input type="checkbox"/> Display 802.11a Access Points	<input checked="" type="checkbox"/> Display 802.11b Access Points

Configuration Utility

Advanced Filter

Click the **Filter** button and the **Advanced Filter** dialog box will be brought up. It helps you take more control of searching AP or network adapter in range.

Network SSID:

- **Any SSID:** If selected, any SSID will be used.
- **Find network with this SSID:** The utility will search the specific SSID.

Network BSSID:

- **Any BSSID:** If selected, any BSSID is used.
- **Find network with this BSSID:** The utility will search the specific BSSID.

- **Select Channel:** You can check individual channel, all channels or clear all channels.

The screenshot shows the 'Advanced Filter' dialog box with the following settings:

- Network SSID:** ☒ Any SSID, ☐ Find network with this SSID: [text box]
- Network BSSID:** ☒ Any BSSID, ☐ Find network with this BSSID: [text box]
- Select Channel:** Checkboxes for channels 1 through 14 are all checked. Below the checkboxes are 'Check All' and 'Clear All' buttons.
- At the bottom are 'OK' and 'Cancel' buttons.

Configuration Utility

Statistics Tab:

Click the **Statistics tab** and the following screen will be displayed.

The statistics window is divided into two parts – **transmit** and **receive**. From the window, you can view the instantaneous wireless receive and transmit data information.



Configuration Utility

AdvancedTab:

Click the **Advanced** tab and the following screen will be displayed.



The tab provides more advanced protocol control of the wireless network adapter

Wireless Card

Display the current network adapter.



Configuration Utility

Protocol

- **Power Save Mode:** Click the down-arrow button to select one option.
- **Radio Preamble:** Click the down-arrow button to select Auto or long.
- **Transmit Antenna:** Click the down-arrow button to set the transmit antenna mode, either Antenna 1, antenna2 or diversity.
- **Receive Antenna:** Click the down-arrow button to set the receive antenna mode, either diversity On or diversity Off.
- **Transmit Rate:** the range of the data rate depends on the type of AP the card is connected to. The default value is Auto.
- **Fragment Threshold:** Set the fragmentation threshold and the default value is 2346.

- **RTS/CTS Threshold:** Set the packet size at which the AP issues a Request To Send (or Clear-To-Send) frame before sending the packet.

*Don't forget to click **Apply Changes** to make your configuration take effect.*

Protocol

Power Save Mode:	Continuous Awake	Transmit Rate:	Auto
Preamble (802.11b):	Auto	Fragment Threshold:	2346
Transmit Antenna:	Antenna 2	RTS/CTS Threshold:	2346
Receive Antenna:	Diversity On		

Apply Changes Default

Configuration Utility

Link loss or no connection

Check the item, whenever a link loss or no connection, the auto-configuration feature will try to build a connection according to the checked profiles in the Profile Manager.



AdminTab:

Click the **Admin** tab and the following screen will be displayed.



Configuration Utility

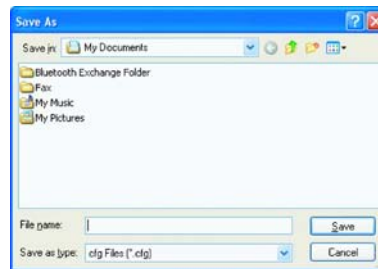
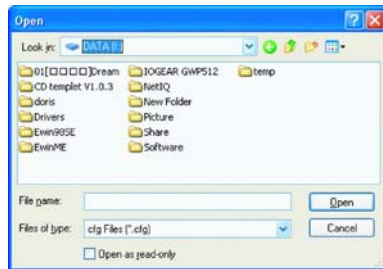
You can import or export profiles through this tab.

To import a profile:

- Click the **Import Profiles** button.
- Select the path and file name of the profile.
- Click **Open**.

To export a profile:

- Click the **Export Profiles** button.
- Select the path and file name of the profile.
- Click **Save**.



Configuration Utility

About Tab:

Click the **About** tab and the following screen will be displayed.

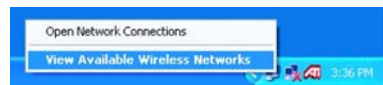


From the **About** tab, you can view the product version including the driver version, utility version and firmware version. The MAC address of the wireless LAN adapter and the regulatory domain are also shown on this page.

WinXP Zero Configuration Utility

After you have properly installed the wireless network adapter driver, you may...

1. Right-click mouse button on the network connection icon residing on the system tray, and click "**View Available Wireless Networks**".



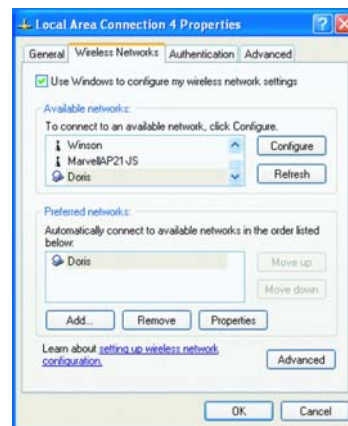
2. The following **Connect to Wireless Network** dialog box will be displayed. You can click **Connect** to start the wireless connection or click **Advanced** button to do further configuration.



WinXP Zero Configuration Utility

3. Click the **Advanced** button and the Local Area Connection Properties dialog box will be displayed. Click the **Wireless Networks** tab from the **Wireless Network Connection Properties** dialog box. Select the box of “**Use Windows to configure my wireless network settings**” to enable automatic wireless network configuration.

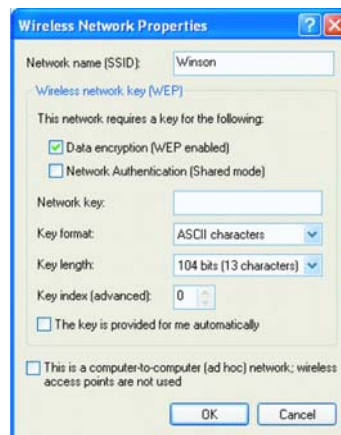
Note: If you want to use the configuration utility we provide, you have to clear the check of “Use Windows to configure my wireless network settings” item.



WinXP Zero Configuration Utility

Infrastructure Mode Setup Procedure

1. From the **Wireless Network** tab, click **Refresh** button to update all the available network devices in range.
2. Click the network name under the “**Available networks**” and click **Configure**. The Wireless Network Properties dialog box will be displayed.



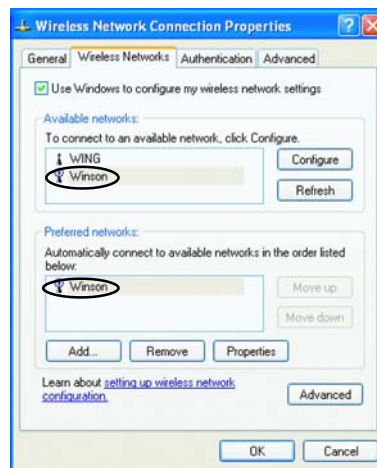
WinXP Zero Configuration Utility

3. If the network you select requires WEP key, then the **"Data encryption (WEP enabled)"** check box is selected by default. Select the **"The key is provided for me automatically"** check box if the WEP key is automatically provided for you. The driver will then use the Default Encryption key. If not, you have to clear the check and manually enter the network key. In this example, you have to type the WEP keys. After you enter the WEP keys, you can click **OK** to close the Wireless Network Properties dialog box and the system will take you back to Wireless Network Connection Properties dialog box.
4. Click **OK** to save your configuration and the Wireless Network Connection Properties will be closed.
5. When the network connection you have configured is available, the following bubble message will be shown on the system tray.



WinXP Zero Configuration Utility

6. Right-click on the network icon and select **"View Available Wireless Network"**. Click **Advanced** button from the **Connect to Wireless Network** dialog box and you can find that there is a blue circle on the ESSID: Winson you have configured in Wireless Network Connection Properties dialog box. It means that you have successfully built the connection. You may refer to the section of how to do TCP/IP setup to configure your wireless LAN adapter. After the TCP/CP configuration is done, you can access the Internet through the wireless connection you have built.



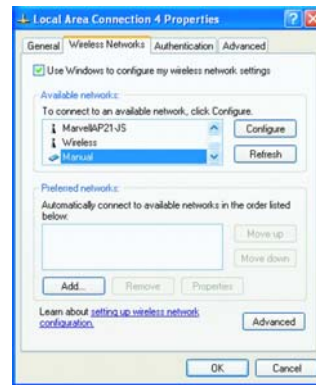
WinXP Zero Configuration Utility

7. Furthermore, you can highlight a network connection and click **Move up** or **Move down** to change the order of the wireless networks in the **Preferred networks**. For Windows XP, it will always choose the first one in the **Preferred networks** to connect. To remove a wireless network from the list of preferred networks, select the wireless network that you want to remove, and then click **Remove**.

WinXP Zero Configuration Utility

Ad-hoc Mode Setup Procedure

1. Click **Refresh** button to update all available devices in range from Wireless Network Connection.
2. Select the ad hoc network name under “**Available networks**” in the **Wireless Networks** tab, and click **Configure**.



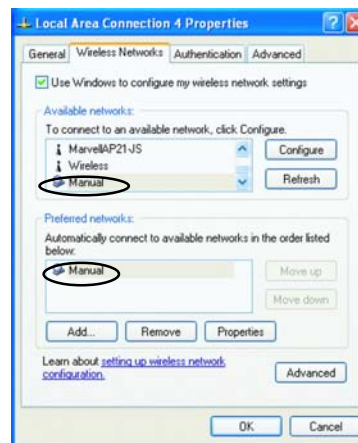
WinXP Zero Configuration Utility

3. In the Wireless Network Properties dialog box, the "This is a computer-to-computer (ad hoc) network; wireless access points are not used" check box is selected by default.
4. If the network adapter you want to connect has enabled the WEP function and then the "Data encryption (WEP enabled)" check box is checked. You can select the **"The key is provided for me automatically"** check box if the WEP key is automatically provided for you. The driver will then use the Default Encryption key. If not, you have to clear the check and manually enter the network key. In this example, you have to type the WEP keys. After you enter the WEP keys, you can click **OK** to close the Wireless Network Properties dialog box and will go back to Wireless Network Connection Properties dialog box.



WinXP Zero Configuration Utility

5. Click **OK** to save your configuration and close the Local Area Connection Properties dialog box. Right-click mouse button on the network icon on the system tray and open the Connect to Wireless Network dialog box again. Click **Advanced** button, and you can see that there is a blue circle on the wireless network adapter icon.

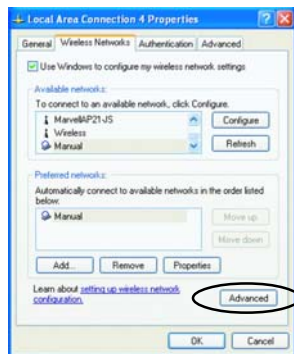


WinXP Zero Configuration Utility

- [illegible]

Network Operating Mode Selection

1. Click "**Advanced**" button from the Local Area Connection dialog box, and you can select network operating mode you want to use.



2. If you want to connect to an ad hoc network only, you can click the button of "**Computer-to-computer (ad hoc) networks only**". Click the button of "**Access point (infrastructure) networks only**", and only the available access points in range will be displayed in the available networks box. You can click the button of "**Any available network (access point preferred)**", and then both access points and wireless network adapters will be displayed in the available networks box.



WPA Configuration

WPA Configuration

There are two configuration utilities to setup wireless connectivity with an AP that supports WPA – Windows XP: Zero Configuration Utility and Odyssey For Marvell Utility.

For Windows XP operating system, use the Windows built-in Zero Configuration Utility when associating with a WPA-enabled AP. The user must ensure Service Pack #2 and WPA Hotfix Q815485 is installed. (Please see note.)

For Windows 2000, 98SE and ME operating system, please use the Odyssey For Marvell utility when associating with a WPA-enabled AP. The Odyssey For Marvell Utility provides two ways of WPA operations:

- connect with a RADIUS server.
- connect with a WPA-pre-shared key (WPA_PSK) configuration.

Note:

The WPA client for Windows XP can be found in the Microsoft Knowledge Base Article 815485 (<http://support.microsoft.com/default.aspx?scid=kb:en-us:815485>) or downloaded directly from Microsoft <http://www.microsoft.com/downloads/details.aspx?FamilyID=009d8425-ce2b-47a4-abec-274845dc9e91&displaylang=en>

After installed, the Windows WPA Client will update the wireless network configuration dialog boxes to support new WPA options.

WPA Configuration

1. Click **Connect To>Wireless Network Connection** to bring up the dialogue window of **Wireless Network Connection Status**. Click the **Properties** box to bring up next dialogue window.

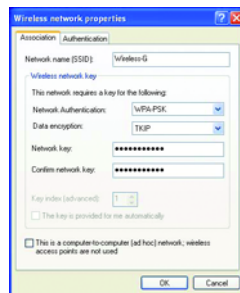


2. In the **Wireless Network Connection Properties** window, under **Wireless Networks** tab, please check the box of **"Use Windows to configure my wireless network settings"** to turn on the Wireless Zero Configuration service. Select the wireless access point you want to associate to, then click **Configure** box at the right side to bring up next dialogue window.



WPA Configuration

3. Set up your WPA configuration by selecting the **Network Authentication** mode and **Data encryption**, and input same **Network key** as you input at the Wireless-G Broadband Gateway. Then, you are served by a more secured wireless network.



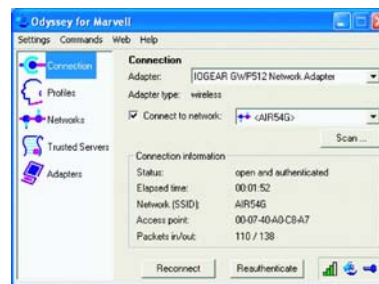
WPA Configuration

Odyssey for Marvell Configuration Utility

The Odyssey for Marvell configuration utility can be launched from the **Windows Start menu > Programs > Marvell > Odyssey Client for Marvell > Odyssey Client Manager for Marvell**. The main screen will show up.

You can click the **Help** menu and select **Help Topics** to browse more information regarding the operation of the Odyssey for Marvell Utility. The following section describes how to configure the WPA through RADIUS server and WPA-PSK.

1. Uncheck the **Connect to network** box.



2. Click **Scan**.
3. Select an AP to be associated with in the **Network Connection Properties** box.
4. Configure the WPA in the **Network Properties** box.

WPA Configuration

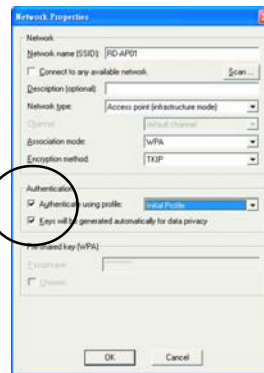
WPA-PSK

To connect with an AP using the Pre-shared key configuration (WPA-PSK), uncheck items in Authentication box. In the Passphrase box, enter the configuration key. The key should match the one set in AP.



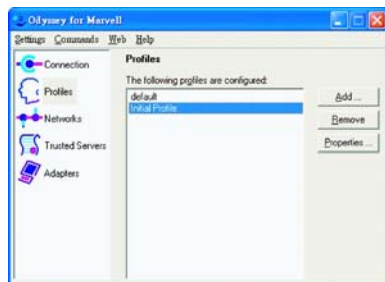
WPA

To connect with an AP through RADIUS server, click the items in **Authentication** box.



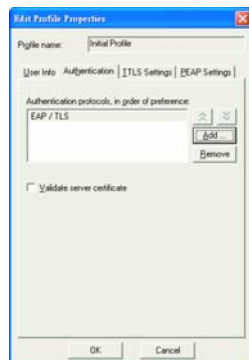
WPA Configuration

1. Click **OK**.
2. RADIUS Server Client Manager, click the **Profile** box.
3. Click **Properties**. In the Edit Properties screen. Click the User Info tab. Uncheck the Permit login using password box. Check **Permit login using my certificate**.

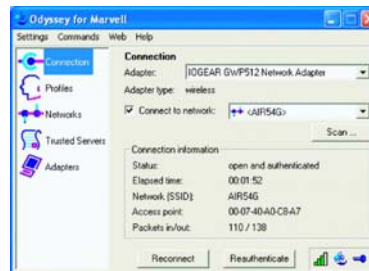


WPA Configuration

4. Click the **Authentication** tab. Uncheck the box of **Validate server certificate**. Choose authentication protocol from inside the box.
5. Click **Add** and choose EAP/TLS from the list. Click **OK**.



6. In the Client Manager main screen, choose **Connection**.



7. Check the **Connect to network** box.
8. The network adapter now connects to the WPA-enabled AP through the RDAIUS server.

Specification

Specification	
RF Technology	Direct Sequence Spread Spectrum
Operating Frequency	2400-2497MHz ISM band
Modulation Schemes	DQPSK, DBPSK and CCK
Channel Numbers	IEEE 802.11b/g compliant 11 channels for United States 13 channels for Europe 14 channels for Japan
Data Rate	11Mbps(CCK) with fall back rates of 5.5, 2, and 1Mbps 54Mbps with fall back rates of 48/36/24/18/12/9 Mbps (OFDM)
Media Access Protocol	CSMA/CA with ACK
Transmitter Output Power	18 dBm typically
Receiver Sensitivity	Typical -68dBm for 54Mbps @ 10% PER (Packet Error Rate) Typical -86dBm for 2Mbps @ 8% PER (Packet Error Rate)
Range Coverage	Indoor: 35 - 100 meters (depends on environment) Outdoor: 100 - 300 meters (depends on environment)
LED Indicator	Power & Link status
Antenna Type	Printed-on-board antenna
Operating Voltage	5V DC +/- 10% (3.3V option)
Current Consumption	250mA at transmit mode typically 200mA at receive mode typically 5mA at sleep mode typically
Form Factor and Interface	PC Card Type II
Temperature	0 ~ 55 °C in operating -20~75 °C in storage
Humidity	10% ~ 90% Non-condensing
Dimension	115mm x 54mm x 5mm

Technical Support

If you need technical support, please check out our IOGEAR Tech Info Library (T.I.L.) at **www.iogear.com/support** for the latest tips, tricks, and troubleshooting. The IOGEAR T.I.L. was designed to provide you with the latest technical information about our products. Most of the answers to your questions can be found here, so please try it out before contacting technical support.

Technical support is available Monday through Friday from 7:30 am to 5:30 pm PST and can be reached at (949) 453-8782 or by email **support@iogear.com**.

Radio & TV Interference Statement

WARNING!!! This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK OR ITS DOCUMENTATION EXCEED THE PRICE PAID FOR THE PRODUCT.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and especially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or updates. For further inquiries please contact your direct vendor.

Regulatory Compliance FCC Warning

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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



Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

1). *This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.*



Contact info.

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