

WIRELESS GAMING ADAPTER

802.11b Wireless Gaming Adapter

GAME511WB

Instruction Guide



* Actual product may vary from photo

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FCC COMPLIANCE STATEMENT

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.

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Introduction

Thank you for purchasing a StarTech.com 802.11b wireless gaming adapter. The GAME511WB lets you wirelessly connect your Ethernet-enabled PlayStation®2, Xbox™, GameCube™ or any other game console to your existing wireless network. You'll be able to wirelessly play online games or use two GAME511WB for wireless head-to-head action, all without having to string any cables. The GAME511WB offers 11 Mbits/sec of wireless data transfer for lag-free gaming action and comes with many robust security features to keep your wireless activities private and protected.

Features

- Gives your wired network-enabled game console wireless LAN capabilities
- Supports PlayStation®2, Xbox™, GameCube™
- Offers both Online (Infrastructure) and Head to Head (Ad Hoc) gaming modes
- Complies with the IEEE 802.11b (DSSS) 2.4GHz specifications
- Provides high data rates of up to 11 Mbits/sec for lag-free gaming
- Uses auto rate fallback in case of obstacles or interference for uninterrupted gameplay
- Provides 64/128-bit WEP Data Encryption to protect wireless data transmissions
- Provides Windows Utility and Web-based configuration

Before You Begin

To ensure a quick and easy adapter installation, please read through this section carefully before attempting to install the adapter.

Requirements

- In order to use the GAME511WB, your game console (PlayStation®2, Xbox™, GameCube™, etc) must be equipped with Ethernet networking capabilities. Check with your game console manufacturer for details.

Package Contents:

- 1 x wireless gaming adapter
- 1 x power adapter
- 1 x driver/utility disk

Adapter Basics

Back Panel

- The 12VDC port is where you plug the power adapter.
- The Console port is where you connect your GAME511WB to your game console's network port.
- The Ad Hoc/Infrastructure button lets you switch between Head to Head (Ad Hoc) or Online (Infrastructure) game play modes.
- The Reset button can be used to reboot the adapter if it is experiencing problems. If you press and hold the reset button for **less** than four seconds, the adapter will reboot with your settings and configurations intact. If you hold the reset button for **more** than four seconds, the adapter will reset itself to the factory default settings and you will lose all your settings and configurations.
- The wireless port is where you attach the wireless antenna. The connector is a standard Reverse SMA connector. Any antenna with a Reverse SMA connector can connect to the Access Point.

Front Panel

The front panel LEDs are the best indication of the adapter's activity.



LED	Color	Status	Description
PWR	Green	On Flash Off	Adapter has power Adapter is booting up Adapter has no power
Status	Yellow Green	Flash On On	No access point detected PC configuration is required Adapter is ready for use
Head 2 Head	Green	On Off	Working in Head to Head (Ad Hoc) mode Working in Infrastructure mode
Console	Green	On Flash Off	A valid link is established Adapter is transmitting/receiving data No link is established

Simple Setup

Note: The procedures below allow you to setup and operate your GAME511WB with minimal configuration. If you are using Head 2 Head mode or are using an Infrastructure network with no security settings (i.e., your network does not use WEP encryption and broadcasts an SSID), the steps in Simple Setup section will be enough to get your GAME511WB working. If you are using an Infrastructure network with security settings, you will need to perform either a Windows Configuration (see page 6) or Web Configuration (see page 11). To protect your privacy and keep your network secure, it is recommended that you use security settings.

Hardware Installation

1. Using a standard UTP RJ-45 Ethernet cable, connect the Console port on the GAME511WB to the network port on your game console.
2. Plug the power adapter into the 12V port on the back of the GAME511WB. Plug the other end of the power adapter into an available power source.
3. Turn on your game console. The Power and Console LEDs on the game adapter should now be lit.

Head 2 Head Mode

Use Head to Head mode if you have more than one game console and want to use them together to play head to head.

Note: Head to Head (Ad Hoc) mode requires that both consoles have GAME511WB wireless adapters.

1. Make sure your GAME511WBs are properly connected to their consoles. Turn your game consoles on.
2. Check the "Head 2 Head" LEDs on each of the adapters. If the LED is lit, then the GAME511WB is already in Head to Head mode. If the "Head 2 Head" LED is not lit, press the "Head 2 Head/Infrastructure" button on the back of the adapter once. The "Head 2 Head" LED should now be lit.
3. With the GAME511WBs set to Head to Head mode, the "Status" LED on the front of each adapter should be lit and green.

You can now start to enjoy wireless head to head gaming action!

Online Mode

Use Online (Infrastructure) mode if you are playing games over the Internet.

Note: Infrastructure mode requires that you have an 802.11b wireless network already in place with access to the Internet.

1. Make sure that your GAME511WB is properly connected to your console. Turn your game console on.
2. Check the "Head 2 Head" LEDs on the adapter. If the LED is not lit, then the GAME511WB is already in Online/Infrastructure mode. If the "Head 2 Head" LED is lit, press the "Head 2 Head/Infrastructure" button on the back of the adapter once. The "Head 2 Head" LED should now be off.
3. With the GAME511WB is set to Online/Infrastructure mode, the "Status" LED on the front of the adapter should be lit and green.

You can now start to enjoy wireless Online gaming action!

Windows Setup Wizard

The GAME511WB provides a Windows setup wizard that can guide you through the configuration process step by step. To use the Windows Setup Wizard, you will need to plug the GAME511WB into an “administration” Windows PC.

1. Connect the Console port on the GAME511WB to the network port on your PC using a network cable.
2. Plug the power adapter into the 12V port on the back of the GAME511WB. Plug the other end of the power adapter into an available power source.
3. Insert your driver/utility disk into the disk drive. The installation program should be executed automatically. If the installation program is not executed automatically, you can manually execute the **setup.exe** file available on the disk.
4. From the Setup homepage, click **Setup Wizard**.



5. Click **Search**. The Setup Wizard will search for and show a list of all accessible GAME511WB adapters. Select the one you want to configure and click **Configure**.



6. If you want to play online games, select “Internet Gaming Mode (Infrastructure),” click **Next** and jump to step 7. In this mode, the GAME511WB connects to an access point and, through this access point, connects to the Internet.

If you want to play a head to head game, select “Head to Head Gaming Mode (Ad Hoc),” click “**Next**” and jump to step 9. In this mode, the GAME511WB peer-to-peer connects to another GAME511WB or other wireless devices with Ad Hoc mode.



7. In “Internet Gaming Mode (Infrastructure),” the GAME511WB has to connect to an access point in order to connect to the Internet. You can select “Scan For Your Local Wireless Network” to let the Wireless Gaming Adapter automatically scan for an available access point and go to step 8. Or if already know the SSID of the available access point, you also can select “Assign Your Wireless Network Manually,” enter the SSID of the access point and jump to step 11.



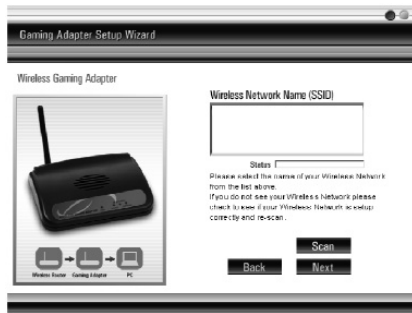
8. If you selected “Scan For Your Local Wireless Network,” the GAME511WB automatically scans for all available access points and lists their SSID. If the GAME511WB does not find any access points, click **Scan** to let it search again. When it has discovered all available access points, select one and access point and click **Next**. Jump to step 11.



9. In “Head to Head Gaming Mode (Ad Hoc),” the GAME511WB can peer-to-peer connect to another GAME511WB or other wireless devices with Ad Hoc mode. You can select “Scan For Your Local Wireless Network” to let the GAME511WB scan for all wireless devices available for connection and jump to step 10. Or if you already know the configuration of the wireless device you want to connect, select “Assign Your Wireless Network Manually” and enter the SSID and Channel number manually and jump to step 11. You also can select “Automatically Select Channel” to let the GAME511WB automatically scan and select a suitable channel.



10. The GAME511WB automatically scans for all available wireless devices, including other GAME511WBs, with Ad Hoc mode and lists their SSID. If the GAME511WB does not find any wireless devices, click **Scan** to let it search again. When it has discovered all other wireless devices, select one and access point and click **Next**. Jump to step 11.



11. The next screen lets you configure your GAME511WB's IP address settings. You can select "Automatically Obtain IP Settings (DHCP)" to let the Wireless Gaming Adapter get IP settings from a DHCP server, or you also can select "Set Your IP Manually" to manually assign static IP settings. If you select "Set Your IP Manually," you will have to enter an appropriate IP Address, Subnet Mask, and Gateway IP Address. If you want to use the Web-based configuration utility, you will need to assign a static IP address of the GAM5E11WB. Click **Next**.



12. WEP is used to encrypt data communication on your wireless network. If you do not use WEP, select "Off" and click **Next**. If you want to use WEP to protect your wireless network, click "On" and select correct key length, 64 bit or 128 bit, and enter the encryption keys and then click **Next**. Note that the key length and the encryption keys must be the same as the other wireless network devices to make the wireless connection success.



13. The Setup Complete page shows all your configuration parameters. If all the settings are correct, click **Finish** to confirm the settings. You also can click **Back** to modify the previous settings.



The Windows-based configuration is now complete. See **Simple Setup** on page 4 for details on connecting and using your GAME511WB.

Web Configuration

Note: In order to use Web-based configuration, you need to know the IP address of the GAME511WB. By default, the GAME511WB will attempt to lease an IP address from a router or other DHCP server. You must be able to access your network's DHCP log to use Web configuration, unless you have previously configured a static IP address.

1. Make sure your wired station is in the same subnet as the GAME511WB. The initial IP Address and Subnet Mask of the GAME511WB will depend on the configuration of your network. If you need help determining this information, consult your documentation or computer professional.
2. Enter the IP address recorded in the DHCP log (i.e. 192.168.2.105) into your Web browser.
3. You will be requested to provide a user name and password. The defaults are as follows:

User Name: admin

Password: 1234

Click **OK**. You will now be on the GAME511WB's web configuration home page.

Status and Information

Wireless Gaming Adapter

- Home
- Wireless Setting
- Advanced Setting
- Encryption
- Site Survey
- System Utility
- Configuration Tool
- Upgrade
- Reset

Status and Information

You can use the information to monitor the Access Point's MAC address, runtime coils and hardware version.

System	
Alias Name	Wireless AP
Uptime	0day 0h:23m:12s
Runtime Code Version	1.1

Wireless Configuration	
Mode	Ad-hoc Client
ESSID	700E3A
Channel Number	11
WEP	Disabled
State	Scanning
ESSID	00:0E:30:0000:00

LAN Configuration	
IP Address	192.168.12.100
Subnet Mask	255.255.240.0
Default Gateway	0.0.0.0

The Status and Information page is a summary of your GAME511WB's configuration.

Wireless Settings

The Wireless Settings screen lets you choose whether or not your GAME511WB will operate in Infrastructure or Ad Hoc mode.



<i>Parameter</i>	<i>Description</i>
Mode	Choose either Ad Hoc (Head to Head) or Infrastructure (Online) mode.
Alias Name	Enter an alias name for this GAME511WB.
ESSID	Enter an ESSID for your GAME511WB. An ESSID is a unique name for a WLAN to prevent the unintentional merging of two WLANs. The GAME511WB must have the same ESSID as the other wireless device in your WLAN must have the same ESSID in order to communicate. The ESSID can be 31 printable ASCII characters. The default ESSID is default .
Channel	Select a channel for your GAME511WB to operate in. The GAME511WB must be on the same channel as the other wireless devices in your WLAN in order to communicate. Channel numbers differ from country to country: Channel 1-11 (North America) Channel 1-14 (Japan) Channel 1-13 (Europe)

Wireless Advanced Settings

The Wireless Advanced Settings screen lets you set advanced parameters for your GAME511WB. You should not change these parameters unless you are comfortable with networking and know what effect the changes will have on the GAME511WB.

Parameter	Description
Authentication Type	Choose the type of authentication for your wireless LAN: Open System: In Open System, wireless stations can associate with the wireless router without any WEP encryption. Shared Key: With Shared Key, only wireless clients with the same WEP encryption key will be able to associate with the router. In Shared Key mode, you will need to set up a WEP key (See Encryption on page 15 for details). Both: If you select Both, your wireless clients will be able to associate with the wireless access point using either authentication type.
Fragment Threshold	Specifies the maximum packet size for data transmission. If you set this value too low, it will result in bad performance.
RTS Threshold	Specifies the RTS threshold for data transmission. When a data packet is less than the specified RTS threshold, the wireless router will not use the RTS/CT mechanism to send the packet.
Beacon Interval	Specifies the amount of time between beacon broadcasts.
Data Rate	Specifies the data transmission rate for the wireless router. The wireless router will use the highest possible selected transmission rate to transmit the data packets.
Preamble Type	Defines the length of the CRC block in the frames during the wireless transmission. "Short Preamble" is appropriate for high traffic networks. "Long Preamble" provides more reliable communication for less busy networks.
Broadcast ESSID	When enabled, the Broadcast ESSID feature allows every wireless station located in the wireless router's coverage area to easily locate the wireless router. If you are building a public wireless network, you should consider enabling this feature. Disabling this feature provides better security.

Encryption

The Encryption page lets you set up security for your wireless network. **If you set up an encryption key, you must use the same key for your GAME511WB and each of your wireless clients.**



<i>Parameter</i>	<i>Default</i>	<i>Description</i>
WEP Mode	Disable	If you enable WEP mode, you can choose either a 64-bit or 128-bit WEP key. The 128-bit key provides greater security, but a lower throughput. If you select Disable, your data will be transmitted without encryption.

If you select a 64-bit or 128-bit WEP key, you will need to enter the WEP key to encrypt your data. See the next page for details.

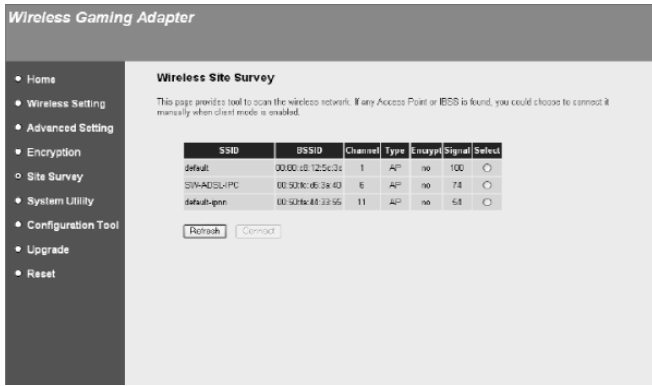
Encryption continued

<i>Parameter</i>	<i>Description</i>
Key Format	You can use either ASCII characters (alphanumeric format) or hexadecimal digits (in the A~F, a~f, and 0~9 range) to be the WEP key. For example: ASCII: guest Hexadecimal: 12345abcde
Key Length	Choose the length of your WEP encryption key.
Default Key	Select one of the four encryption keys to encrypt your data. Only the key you select in "Default Key" will take effect.
Key 1 ~ Key 4	Fill in the text box using the rules below: 64-bit WEP: Input a ten-digit hexadecimal value (example: 12345abcde) or a five-digit ASCII value (example: guest) 128-bit WEP: Input a 26-digit hexadecimal value (example: 0123456789abcdef0123456789) or a ten-digit ASCII value (example: guestlogin).

When you are satisfied with your encryption settings, click **Apply**.

Wireless Site Survey

The Wireless Site Survey searches for all available access points in your vicinity.



Wireless Site Survey

This page provides a tool to scan the wireless network. If any Access Point or BSS is found, you could choose to connect it manually when client mode is enabled.

SSID	BSSID	Channel	Type	Energy	Signal	Select
default	00:00:00:1256:00	1	AP	no	100	<input type="radio"/>
SW-ADSL-PC	00:50:00:06:3a:40	6	AP	no	74	<input type="radio"/>
default-gps	00:90:0a:4f:33:55	11	AP	no	58	<input type="radio"/>

You can use the **Refresh** button to get the latest information. To connect to an access point, select it by checking the Select box and then click **Connect**.

System Utility

The System Utility screen lets you change your administrative

<i>Parameter</i>	<i>Description</i>
Current Password	Enter the current password of the GAME511WB. The default password is 1234 .
New Password	Enter the new password (up to 15-digit alphanumeric string) you want to login to the adapter. Note that the password is case-sensitive.
Re-Enter Password	Re-enter the new password for confirmation.
Management IP	You can select "Obtain an IP address Automatically" to let the GAME511WB get an IP from the DHCP server. If you want to manually assign an IP to this Gaming Adapter, select "Use the following IP address." You will have to enter an IP address that is unique in your network, a subnet mask, and a gateway IP address.

Configuration Tools

The Configuration Tools screen allows you to save, restore, or reset the GAME511WB's current configuration settings.



<i>Parameter</i>	<i>Description</i>
Backup Settings	Clicking on the Save button will save the adapter's current configuration to a file named "config.bin".
Restore Settings	Click on the Browse button to locate the file and click Upload to re-load the saved configuration.
Restore to Factory Default	Click Reset to force the adapter to do a power reset that will clear all configurations and restore the original factory default settings.

Upgrade

StarTech.com may periodically offer firmware upgrades as a download on our website. Visit www.startech.com and click on the Downloads link to check for possible firmware upgrades for this product. If there is an upgrade available, download the file according to instructions on the website and then proceed with the following steps.



<i>Parameter</i>	<i>Description</i>
Firmware Upgrade	Browse to the location of the firmware upgrade and click the Apply button. You may have to wait a few minutes for the upgrade to complete.

Reset

You can reset the router if you are experiencing any problems. Performing this step will not change any of your current settings.



Click on the **Apply** button to reset the adapter. You will be asked to confirm your decision. The reset will be complete when the Power LED stops blinking. Once the reset process is complete, you can start using the adapter again.

Appendix A: Wireless Installation Considerations

There are some things to keep in mind when attempting to set up a wireless connection. The wireless signal range can be limited by the number, location, thickness, and material of ceilings, walls or similar that the signal must pass through. To maximize your wireless range, keep the following considerations in mind when positioning your antenna:

- Try to minimize the number of walls, ceilings, and similar between your wireless devices. Each wall or ceiling the signal must cross can reduce the signal range by up to 90 feet (30 m). Position your receiving devices so that the path between them is as unobstructed as possible.
- The type of material the wireless signal must cross through also affects its range. A solid metal door or concrete wall can decrease the signal's range. Whenever possible, position the adapters so that the signal can pass between drywall or open doors.
- Make sure that you are aware of the line the signal must take to travel between devices. The angle that the signal is on as it travels through a door, wall, or ceiling affects how thick the obstruction is. For example, if a wall is 1.5 feet thick and the signal passes through it at a 45-degree angle, the signal must pass through 3 feet (1m) of wall. At a 2-degree angle, the wall appears to be 42 feet (14m) thick. Always try to position your devices so that the signal can travel at 90-degree angles.
- Electrical devices or appliances that generate RF noise (such as microwaves, electric motors or computer monitors) can interfere with the wireless signal. Try to keep your adapter at least 3-6 feet (1-2 m) away from these types of devices.

Troubleshooting

If you are experiencing connection difficulties, first check your cables:

- Make sure that all cables are in their proper ports and firmly seated.
- Check to see if your power adapter is plugged into a functioning power source and that your Power LED is on.
- Avoid interference. Network cabling can be run under floors, around office dividers, or over dropped ceilings. When planning your wiring layout, try to keep cables away from power outlets, florescent lighting fixtures, uninterruptible power supplies, and other sources of strong electromagnetic interference.

If you are having trouble with your wireless connections, check the following:

- Make sure all your wireless clients are equipped with 802.11b-compatible wireless adapters.
- Make sure that your wireless gaming adapter and all your wireless clients have the same ESSID and are on the same channel.
- If you have enabled encryption options, make sure that the same encryption key has been entered on each device. Make sure that the key selected on your wireless gaming adapter is the same key entered on the other wireless device you want to connect to.
- If you are experiencing intermittent network connections, try re-orienting the adapter. See Appendix A: Installation Considerations for more details.

Technical Specifications

Standards	IEEE 802.11b (Wireless), IEEE 802.3 (Wired)
Data Rate	11/5.5/2/1Mbps/sec auto fallback
Security	64/128-bit WEP Data Encryption
Frequency Band	2.400~2.4835GHz (Industrial Scientific Medical Band)
Modulation	CCK@11/5.5Mbps, DQPSK@2Mbps and DBPSK@1Mbps
Radio Technology	Direct Sequence Spread Spectrum (DSSS)
Antenna	External detachable dipole antenna (with RP-SMA connector)
Connectors	10/100Mbps/sec RJ-45 x 1
Power	12VDC, 0.5A
Transmit Power	18dBm (Typical)
LEDs	Power, LAN Link/Activity, Wireless Activity
Dimension (HxWxD)	1.2 x 5.0 x 3.8" (30 x 127 x 96 mm)

Technical Support

The following technical resources are available for this StarTech.com product:

On-line help:

We are constantly adding new information to the *Tech Support* section of our web site. To access this page, click the *Tech Support* link on our homepage, www.startech.com. In the tech support section there are a number of options that can provide assistance with this product.

Knowledge Base - This tool allows you to search for answers to common issues using key words that describe the product and your issue.

FAQ - This tool provides quick answers to the top questions asked by our customers.

Downloads - This selection takes you to our driver download page where you can find the latest drivers for this product.

Call StarTech.com tech support for help:

USA/Canada: 1-800-265-1844

UK/Ireland/Europe: 00-800-7827-8324

Support hours: Monday to Friday 9:00AM to 5:00PM EST (except holidays)

Warranty Information

This product is backed by a one-year warranty. In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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