802.11b/g wireless card

SAG-1010

User's Manual v0.2

For all the device

(15.21)
Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

15.19 (a)(3)
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.
The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION:

1. **To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.**
2. **This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.**

Table of Content

1. Product Introduction

1.1. Welcome!

Thank you for choosing the SAG-1010 series. The SAG-1010 is a compact easy-to-install Ethernet adapter. Implementing the IEEE 802.11g standard for wireless LAN (WLAN), the SAG-1010 is capable of up to 54Mbps data transmission rate using the Direct Sequence Spread Spectrum (DSSS) and the Orthogonal Frequency Division Multiplexing (OFDM) technologies.
The SAG-1010 supports Infrastructure and Ad-hoc modes giving you flexibility on your existing or future wireless network configurations.
To provide efficient security to your wireless communication, SAG-1010 comes with a 64-bit/128-bit Wired Equivalent Privacy (WEP) encryption and Wi-Fi Protected Access (WPA) features.
With these and many more, SAG-1010 is sure to keep you ahead in the world of wireless computing.

1.2. Package contents

Check the following items in your SAG-1010 package. Contact your retailer if any item is damaged or missing.

⊙ Range extension WLAN adapter
⊙ Power adapter
⊙ RJ-45 cable
⊙ USB Cable
⊙ Mounting set
⊙ Quick Installation Guide

Unless otherwise specified, the term "device" in this User Guide refers to the SAG-1010.

1.3. Features

The SAG-1010 employs the DSSS and OFDM technologies to transmit and receive signals through radio waves on the 2.4 GHz band.

Here are other SAG-1010 features:
• Reliable data transfer rates of up to 54Mbps
• Secure data transmission via Wired Equivalent Privacy (WEP) and WiFi Protected Access (WPA) encryptions
• Operating distance of up to 260ft (80m) indoors and 2000 ft (620m) outdoors
• Equipped with mounting set for window mount and wall installation
• Dual power mode (DC or USB bus-powered)
• Windows® 2000/XP, Vista compatible

1. Product Introduction

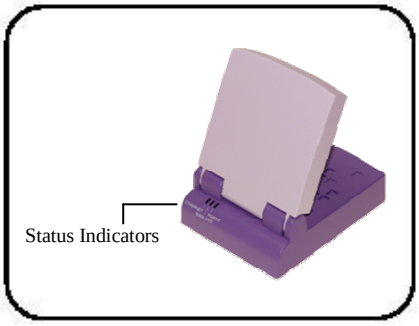
1.3.1. Top View

LEDs

The SAG-1010 comes with three LED indicators (Ethernet, Wireless, and Power).

Air vents.

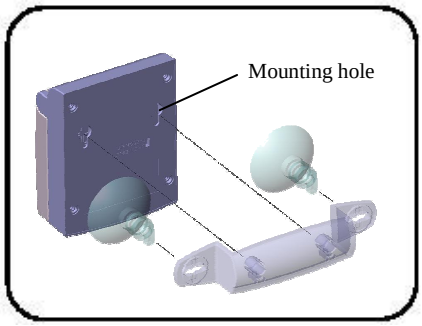
These vents provide ventilation to the device.



1.3.2. Bottom View

Mounting hook

Use the mounting hook to install the device on concrete or wooden surfaces using a roundhead screw.



1.3.3. Rear View

Ethernet port

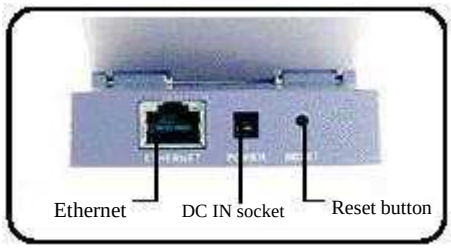
This port connects the supplied RJ-45 plug and cable.

Power socket

This socket connects the power adapter plug.

Reset button

Press this button for more than five seconds to load the default values. In Ethernet adapter mode, press this button for less than five seconds to connect to the first saved wireless connection in the profile table.



1.4. LED indicators

The SAG-1010 comes with a Ethernet, Wireless, and Power LED indicators. Refer to the table below for LED indications.

LED	Status	Indication
Ethernet	**On** **Off**	The device is connected to an Ethernet network. The device is off or not connected to an Ethernet network.
Wireless	**Off** **Blinking**	The device is not associated with an AP or other wireless device. The device is transmitting or receiving data.
Power	**On** **Off**	The device is on and ready. The device is off or performing boot sequence.

1. Product Introduction

1.5. Recommended network settings

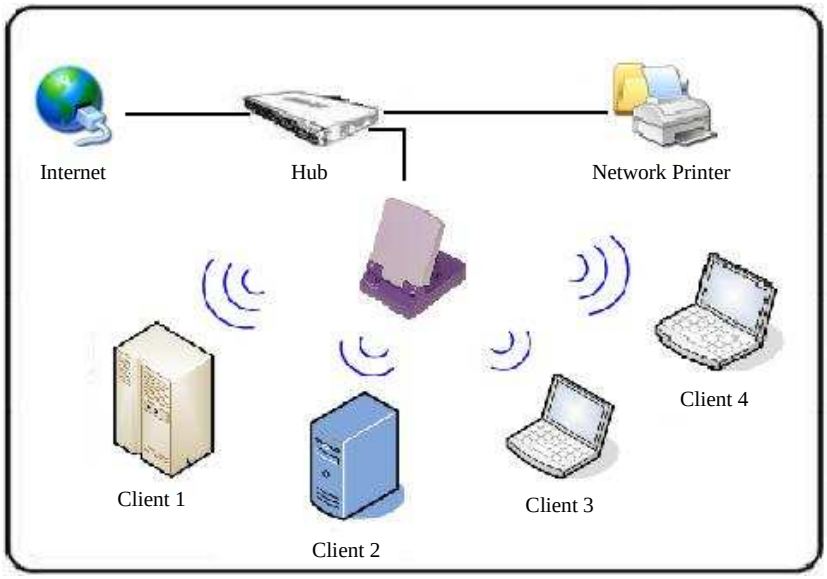
The SAG-1010 can be configured as a wireless Ethernet adapter. In Ethernet adapter mode, the device connects to:

1. A wireless device(s) (Ad-hoc mode), or
2. An access point (Infrastructure network type)

Determine your network settings before installing the SAG-1010. The following network settings are recommended.

1.5.1. Access Point mode

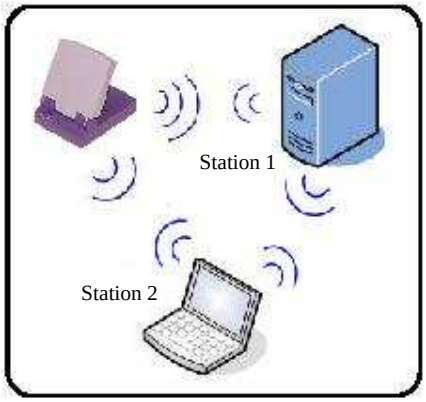
When in access point (AP) mode the SAG-1010 Pocket Wireless AP connects WLAN-enabled computers and/or devices to a wired or wireless LAN.



1.5.2. Ethernet adapter mode

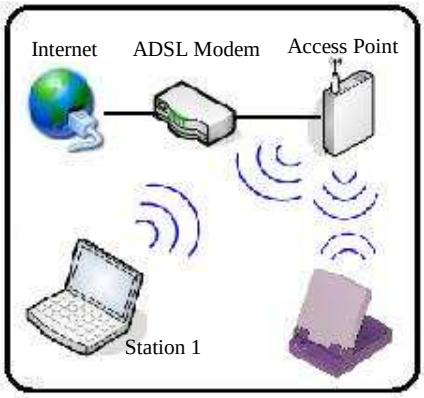
Ad-hoc network

When in Ad-hoc network, the SAG-1010 connects to another wireless device.
No access point (AP) is present in this wireless environment.



Infrastructure mode

When in Infrastructure mode, the wireless network is centered on an access point (AP) that provides a central link for wireless clients to communicate with each other or with a wired network. In this setup, the SAG-1010 connects to an AP using a single or multiple IP to establish connection to a wired or wireless LAN.

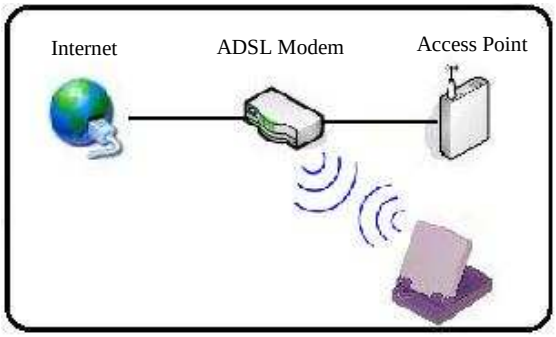


1. Product Introduction

Single IP bridge environment

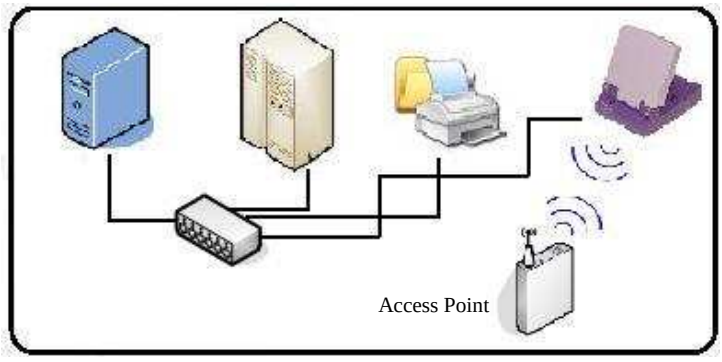
In a single IP bridge environment, the SAG-1010 connects to an access point using a single IP address.

In this setup, the MAC cloning feature may be enabled to support certain applications and devices, such as Xbox and PlayStation® game consoles, that use the MAC address to communicate with other devices. MAC cloning allows the SAG-1010 to communicate with other devices in a wireless network using the MAC address of the host computer instead of its own.



Multiple IP bridge environment

In a multiple IP bridge environment, the SAG-1010 connects two or more wired devices to a wireless network from a hub or a switch.



2. Hardware istallation

2.1 System requirements

Before installing the SAG-1010, make sure that your system/network meets the following requirements:

- An Ethernet RJ-45 port (10Base-T/100Base-TX)
- At least one IEEE 802.11b/g device with wireless capability
- An installed TCP/IP and Internet browser

2.2 Device installation

Follow these instructions to install the SAG-1010.

Connect the device to your computer, network hub, switch, or router.

2.2.1 Before you proceed

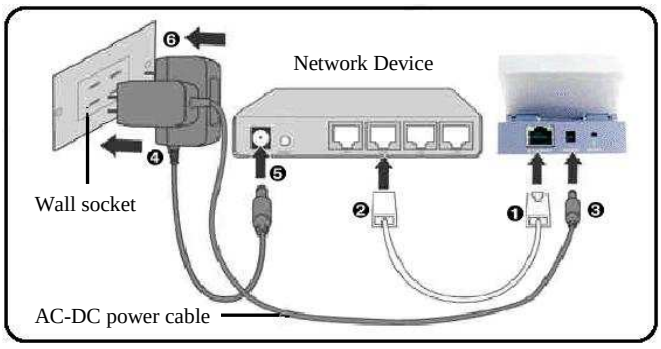
Take note of the following guidelines before installing the SAG-1010.

- The length of the Ethernet cable that connects the device to the network (hub, ADSL/cable modem, router, wall patch) must not exceed 100 meters.
- Place the device on a flat, stable surface as far from the ground as possible.
- Keep the device clear from metal obstructions and away from direct sunlight.
- Keep the device away from transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators, and other industrial equipment to prevent signal loss.
- Install the device in a central area to provide ideal coverage for all wireless mobile devices.
- Install the device at least 20cm from a person to insure that the product is operated in accordance with the RF Guidelines for Human Exposure adopted by the Federal Communications Commission.

2. Hardware istallation

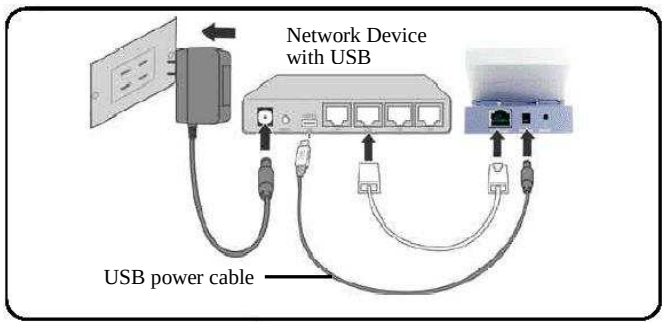
2.2.2 Using DC power

1. Insert one end of the supplied RJ-45 cable to the SAG-1010 Ethernet port.
2. Insert the other end of the RJ-45 cable to a network hub, switch, router, or wall patch Ethernet port.
3. Connect the power adapter plug to the SAG-1010 Power socket.
4. Connect the SAG-1010 power adapter to a wall socket.
5. Connect the network hub, switch, or router power adapter plug to the Power socket of the device.
6. Connect the network hub, switch, or router power adapter to a wall socket.



2.2.3 Using USB bus power

Replace the AC-DC power cable with a USB power cable and insert into an available USB port on any device (computer, notebook, network hub, switch, or router) and turn ON that device.

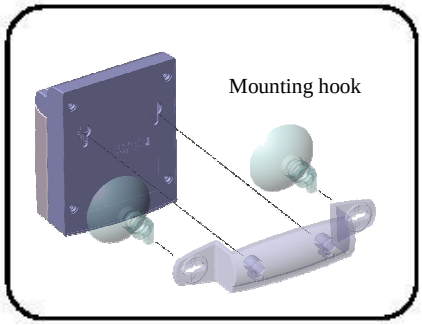


2. Hardware istallation

2.3 Placement

2.3.1 Wall mounting

Aside from desktop placement, you can install the SAG-1010 vertically on a wall using the mounting hook at the bottom side of the device.



To mount the device on a wall:

1. Tighten a screw on the wall until only 1/4 inch is showing.
2. Latch the mounting hook on the screw.

2.3.2 Window mounting

Using the window mount sets, SAG-1010 can be installed on flat window class, and receive wireless signals from either side of the window.

To mount the device on a window class:

1. Compose window mount set. Reverse the suck discs, if the signal is from the other side of the window.
2. Compose the window mount set on the middle of the bottom of the device.
3. Press both suck discs onto the window class. Make sure the device does not fall before leave you hands.

Adjust the screw if you cannot latch the device or if the device is too loose.

2.4 Operating range

2.4.1 Range

The SAG-1010 range is dependent on the operating environment. Every home or office layout varies in obstacles, barriers, or wall types which may reflect or absorb radio signals. For example, two 802.11b devices in an open space may achieve an operating distance of up to 1000 meters, (3280 feet) while the same devices may only achieve up to 300 meters (984 feet) of range when used indoors.

The device automatically adjusts the data rate to maintain an operational wireless connection. A wireless device that is close to an AP may operate at higher speeds than a device far from the AP. You can configure the data rates that a device uses. If you limit the range of data rates available to an AP, you may reduce the effective range of the wireless LAN coverage.

2.4.2 Site Survey

A site survey (utility provided with the SAG-1010) analyzes the installation environment and provides users with recommendations for equipment and its placement. The optimum placement differ depending on the device design and specifications.

3. Configuration

3.1. Web Configuration

The Web Configuration utility allows you to configure the SAG-1010 using a web browser on your computer. The following sections provide information on how to launch and use this utility.

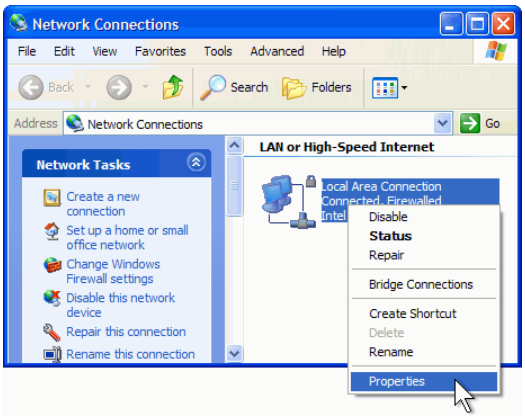
3.3.1 Adjusting the TCP/IP settings

By default, the IP address of the SAG-1010 is 192.168.1.1, and the Subnet Mask is 255.255.255.0. To access the configuration utility, assign a different IP address to the network adapter where the SAG-1010 is connected.

To adjust the TCP/IP settings of the network adapter:

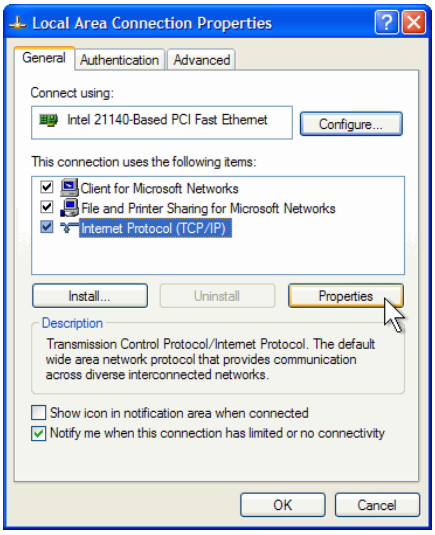
1. Right-click the **Network Connections** icon in the Windows® desktop, then select **Properties** from the pop-up menu. The **Network and Dial-up Connections** window appears.

2. Right-click the network adapter used by the the SAG-1010, then select **Properties** from the pop-up menu. The **Local Area Connection Properties** window appears.

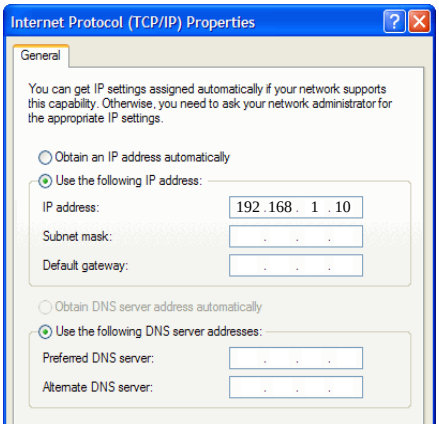


3. Configuration

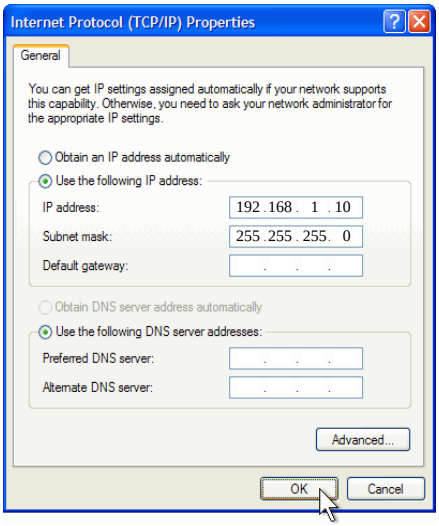
3. Double-click the **Internet Protocol (TCP/IP)** item to display the **Internet Protocol (TCP/IP) Properties** window.



4. Check the **Use the following IP address** option, then enter the IP address for the network adapter. The **IP address** must be **192.168.1.X.**
(**X** can be any number between 2 and 254 that is not used by another device.)



5. Set the **Subnet Mask** to 255.255.255.0. Click **OK** when finished.



Changing the TCP/IP settings may require system restart.

Switch on the SAG-1010 immediately after rebooting.

3.3.2 Launching the Web Configuration

Using an Internet browser

To launch the Web Configuration utility using an Internet web browser:
1. Open a web browser.
2. Disable your proxy settings, if any.
3. Type **http://192.168.1.1** on the address bar of the browser, and then press <Enter>.
4. Log on to the configuration window using the user name (**admin**) and password (**admin**), then click **OK**.

This option requires you to change the IP address of the LAN adapter where the SAG-1010 is connected. Make sure the IP address of the SAG-1010 and your computer is on the same subnet.

3.3.3 Changing the Access Point (AP) Configuration

Simple Setup Page

The Simple Setup page displays the default AP settings of the SAG-1010.
Use this page to set the AP channel, operation mode, and security.
Clicking the select button displays available options for that field. If you wish to load the default settings, press the device reset button for more than five seconds, and then refresh your browser to display the default values.

SSID (Service Set Identifier). This field displays the SSID of the device.
Enabling the **Response to Broadcast SSID requests** option allows the device to broadcast its SSID in a wireless network. This allows other wireless devices to scan and establish communication with the device.
Un-checking this option hides the SSID to prevent other wireless devices from recognizing and connecting to the device.