FCC RF Radiation Exposure Statement

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co- located or operating in conjunction with any other antenna or transmitter.

SAFETY CONCERNS

For product safety and correct operation, the following information must be given to the operator/user and shall be read before the installation and operation.

Conventions

Warning
This paragraph contains safety instructions that users must follow in order to avoid personal injuries.

This icon indicates a general caution.

Caution
This paragraph contains instructions that users must follow in order to avoid service failures or system damages.

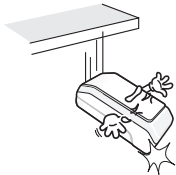This icon indicates specific actions that must be avoided when handling a product.

Note
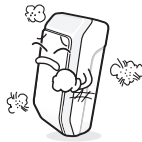This paragraph contains supplementary information that should be read as a reference.

This icon indicates specific actions that must be executed by the user.

⚠ **Warning**

|			
Be careful not to drop the product.	**Do not install the product in a humid or dusty area.**	**Do not install the product near heating apparatus (e.g. heater and cigarette fire).**	**Do not use or keep combustible sprays or flammable objects near this product.**
This is to prevent product damage.	This is to prevent electrocution and fire.	This is to prevent electrocution and fire.	This is to prevent electrocution and fire.
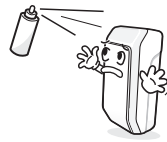
Do not place water cups, chemicals, or metals above the product.

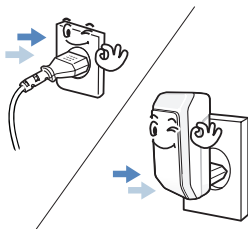This is to prevent electrocution and fire.
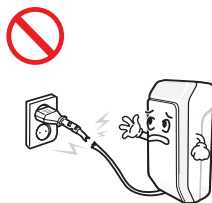
Do not pull or excessively bend the power cord, and do not use damaged power cables or loose sockets.

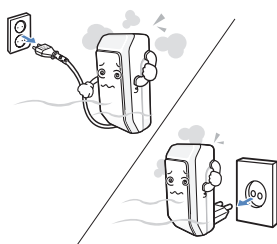This is to prevent electrocution and fire.
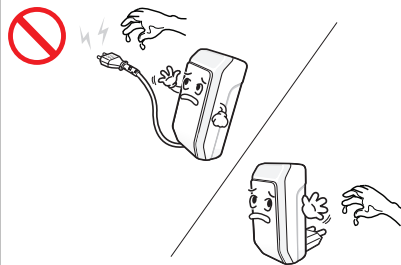
Do not touch the plug with wet hands.

This is to prevent electrocution and fire.
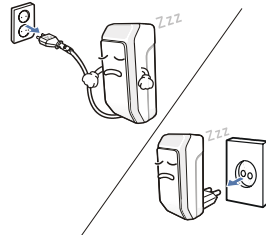
Insert the power plug fully and firmly into the outlet.

This is to prevent electrocution and fire.

If the product makes strange sound, smell, or smoke, unplug the power cable immediately and contact the service center.
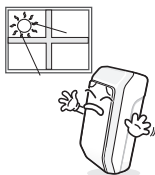
This is to prevent electrocution and fire.

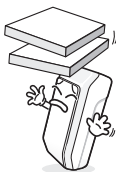**Unplug the power cable when not using the product for a long time.**

This is to prevent electrocution and fire.

⚠ Caution

Do not install the product under direct sunlight.

This is to prevent parts of the product from being damaged.

Do not place heavy objects on top of the product.

This is to prevent product damage.

**Do not clean the product with chemicals such as wax, benzene, alcohol, thinner, insecticide, air freshener, lubricant, and detergent.**

Doing so may discolor or damage the product.

Do not disassemble, repair or modify the product without proper authorization. Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.
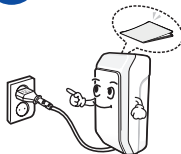
Please use the product properly according to the user manual.

This is to prevent malfunctions or a decrease in life span.
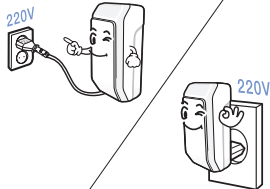
The power adaptor must be connected to a AC 220 V outlet. And the socket-oulet shall be installed near the equipment and shall be easily accessible.

Clean the product with a dry cloth after unplugging the power cord.

This is to prevent product damage.

Table of Contents

Things You Should Know

What is a Wireless LAN (WLAN) Repeater?

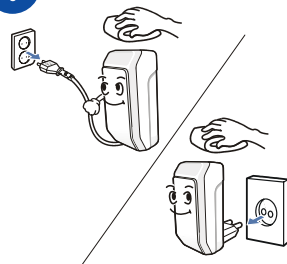Power of signals generated from an WLAN Access Point (AP) decreases as the signals reach further distances. To extend the transmission distance without attenuation of power, the frequency must be regenerated or the power must be increased by a separate device. A WLAN repeater is a device that regenerates and relays transmitted signals.

WAP−701 Functions and Installation Environment

WAP−701 is a wireless repeater that can be used for constructing a wireless network or as a wireless AP. Installed inside a cell area of an AP or repeater, the WAP−701 retransmits data received from wireless terminals, such as lap tops and wireless PDAs, located outside the cell area of a neighboring AP, to the AP. The figure below shows an example of installing WAP−701:
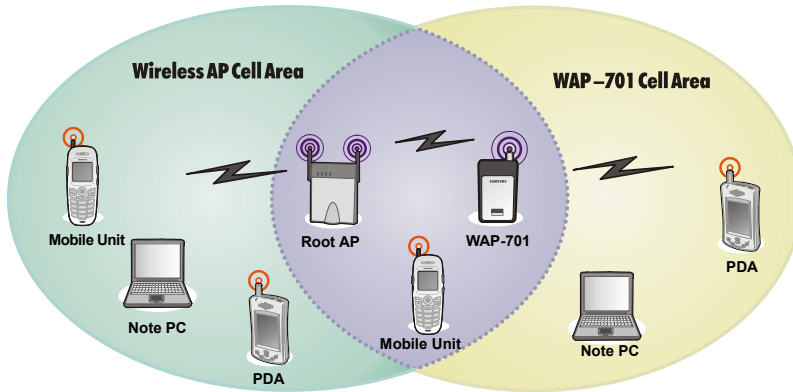
NOTE Cell

Cell refers to an area covered by frequency transmitted by an AP in a WLAN environment.

Selecting Location of Installation

The configuration of wireless cells must be determined in order to decide the installation location of WAP-701. Cell areas are affected by surrounding obstacles such as outer walls, windows and pillars of a building. Therefore, the product should not be installed in an area isolated from the surrounding environment, such as inside of a communication room or in a enclosed location. In addition, the product should be installed within a cell area not exceeding 30 ~ 40m from the nearest Root AP as shown in Figure 1.1.

Product Content

Plug-In Type   Cable Type

WAP-701

LAN Cable

User Guide

Screw

Quick Guide

Antenn
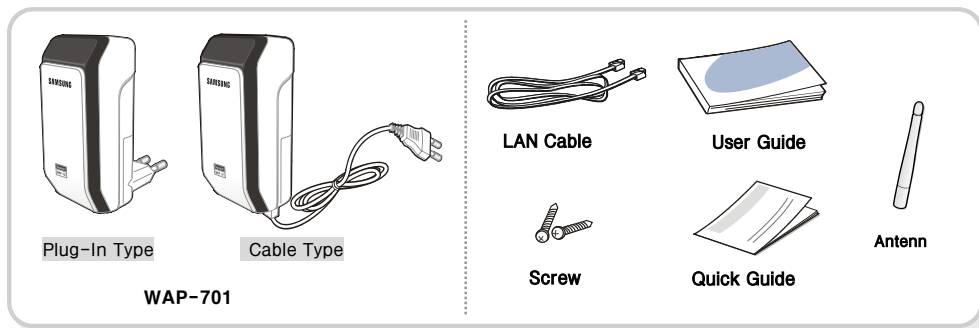
WAP-701 Specification

Category	Specification
Model Name	WAP-701
Power	AC 100 V ~ 240 V (50Hz ~ 60Hz)
Size	115h x 60w x 35d (mm)
Weight	148 g or less
Temperature (℃)	Operating Temperature : 0~40 ℃ Storage Temperature : -20~70 ℃
Humidity (%)	0~90 %
Wireless Interface Standard	IEEE 802.11b/g
Frequency Bandwidth	IEEE 802.11b/g : 2412~2472 MHz
Modulation	IEEE 802.11b : CCK IEEE 802.11g : OFDM
Transfer Rate	IEEE 802.11b : 1/2/5.5/11 Mbps IEEE 802.11g : 6/9/12/18/24/36/48/54 Mbps
Number of Wireless Devices that can be Registered	10
WAN (Ethernet)	10/100 Base-T

Preparation

Main Function

WLAN Access

WAP-701 provides a WLAN interface in accordance with the IEEE 802.11b/g standard, and can connect to wireless terminals that support this standard.

Security

WAP-701 supports Wired Equivalent Protocol (WEP) and WiFi Protected Access (WPA) encryption schemes for WLAN security. WAP-701 supports 64/128/152 bit key encryption for WEP, which conforms to the IEEE 802.11b/g standard. WPA supports an authentication scheme that satisfies Pre-Shared Key (PSK) and IEEE 802.1x, and supports encryption using TKIP(Temporal Key Integrity Protocol) and Advanced Encryption Standard (AES).

Ethernet Access

WAP-701 provides a DIX 2 interface in accordance with the IEEE 802.3 standard, and can access Ethernet

that supports this standard. WAP-701 can also perform Logical Link Control/Subnetwork Access Protocol (LLC/SNAP) functions when necessary.

Bridge

WAP-701 provides a IEEE 802.11D standard bridge function, which connects WLAN and Ethernet. MAC addresses of wireless terminals and Ethernet terminals can be registered to each port and updated every 5 seconds.

Inter-Access Point Protocol (IAPP)

This function is used to support roaming within a subnet by exchanging access information of a wireless terminal between APs. This function roams a mobile unit to another AP when the mobile unit moves from an area of one AP to that of another AP within a same subnet or when the AP to which the mobile unit is registered becomes inoperable.

NOTE

Roaming
When a mobile unit receiving service from an AP moves to another area outside the coverage of the AP, this function maintains the service by automatically registering the mobile unit to the AP of the new area.

DHCP Server/Relay

WAP-701 provides Dynamic Host Configuration Protocol (DHCP) server and relay function. If a mobile unit

needs to receive an IP address from a DHCP server located outside the subnet of the mobile unit, WAP-701 enables the mobile unit to receive the IP address by performing DHCP server or Relay Agent function.

Auto Channel Selection

WAP-701 can automatically select a channel that has the least frequency interference.

Transmission Power Control

WAP-701 supports transmission power control to enable efficient WLAN design. This function can be used to adjust the power level in accordance with the size of a cell.

AAA and Billing

By loading a Remote Authentication Dial In User Service (RADIUS) client function, WAP-701can perform authentication for IEEE 802.1X standard Extensible Authentication Protocol-Message Digest version 5 (EAP-MD5) and MAC. WAP-701also provides usage based, time based, and packet based billing schemes by supporting RADIUS Accounting function.

(Power off/Out of range/Deattachment) POD

If a the power of a mobile unit is turned off, if the WLAN card is separated from a mobile unit, or if a mobile unit moves out of a cell coverage, WAP-701detects the disconnection and stops the billing process.

Management

WAP-701 can be managed remotely through a remote server supporting SNMP standard or through the built-in WEB server function.

Management through Remote Server

WAP-701 can be managed from a remote server (Network Management Server: NMS) that supports SNMP standard. WAP-701 supports MIB I, II, 802.11 MIB standard.

Management through WEB Server

WAP-701contains a WEB server function that can be used for managing status and configuring functions through the WEB server connection.

Management through Telnet

You can also manage the status and configure functions of WAP-701through Telnet.

QoS

WAP-701 provides different priorities for various data types based on IEEE 802.11e, and can interwork with Type Of Service (TOS)/ Differentiated Services Code Point (DSCP). Users can set the interworking

relation with TOS/DSCP and the priority of a mobile unit based on the MAC Address.

Easy Software Upgrade

Users can easily upgrade the WAP-701 software by downloading firmware through the FTP server or TFTP client.

Additional Functions

MAC Filtering and NAT are provided as additional functions.

MAC Filtering

You can enable or disable service for a terminal whose MAC address is registered to WAP-701.
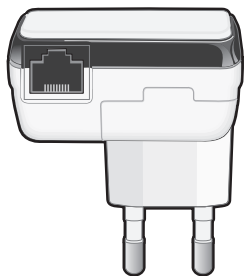
NAT

This function is used for converting an internal IP address to a public IP address for sending packets from an internal network that does not use public IP addresses to an external network.
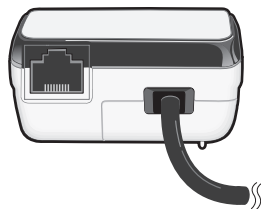
Shape

Front View

Plug-In Type
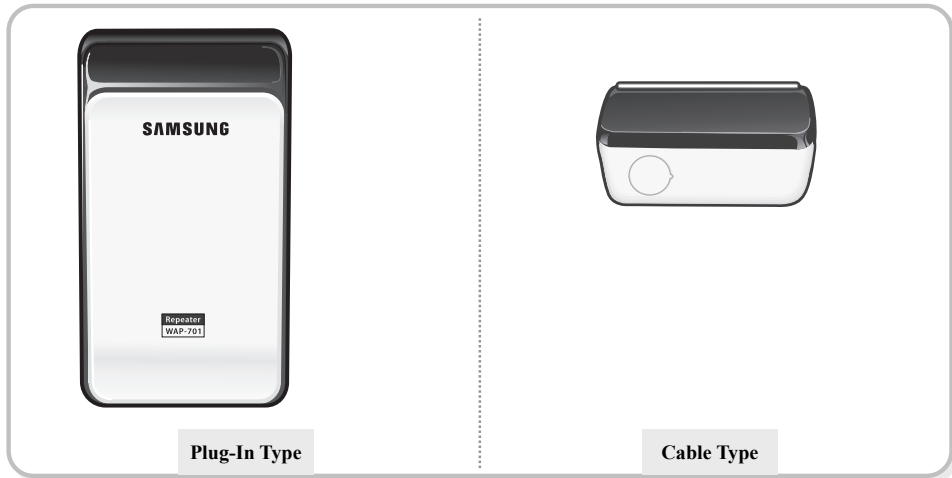
Cable Type
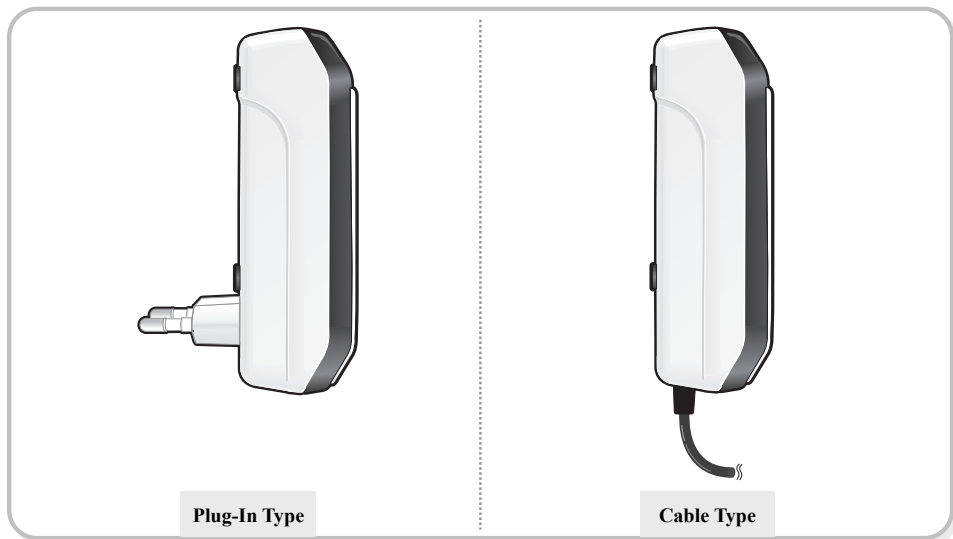
Bottom View

Plug-In Type

Cable Type

Side View

Plug-In Type

Cable Type

Installation

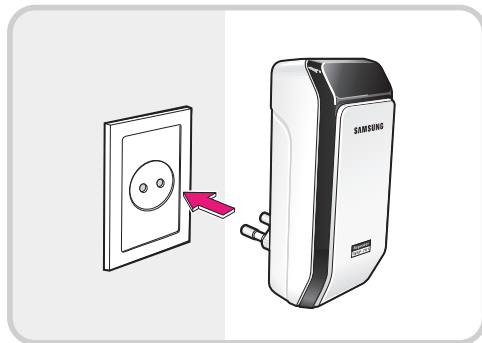This section describes the procedure for installing WAP-701.

Installing WAP-701

Install WAP-701 according to the following procedure:

**1.** Install and power the product according to the product type as described below:

Plug-In Type

Insert the power plug on the rear panel
of WAP-701 into a 220V outlet.

Cable Type

To install the product on a wall, refer to the screw location diagram presented in the last chapter of this manual and mark the locations of screws on the wall before installation.


Screw location diagram
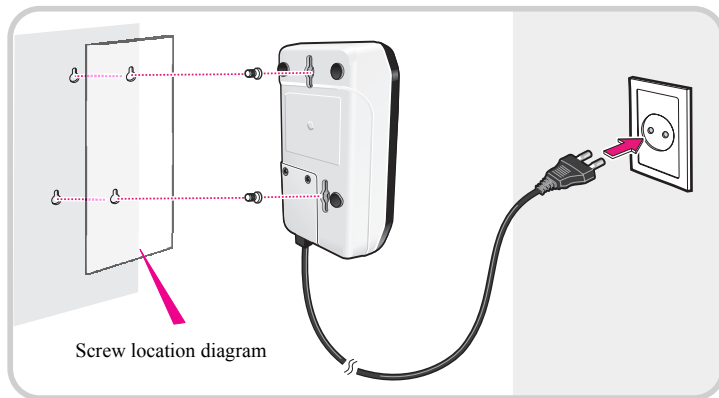
3. Configure the network and function through the WEB server.

• Refer to 'Function Configuration' for detailed descriptions on configuring functions.

WAP-701 Cable Connection

Connect the LAN cable and the power adapter as described below:

LAN Cable

Use a LAN cable to connect the LAN port on the undersurface of the product to a hub or a modem for Internet connection. Use the LAN cable provided with the product or use a RJ-45 LAN cable.
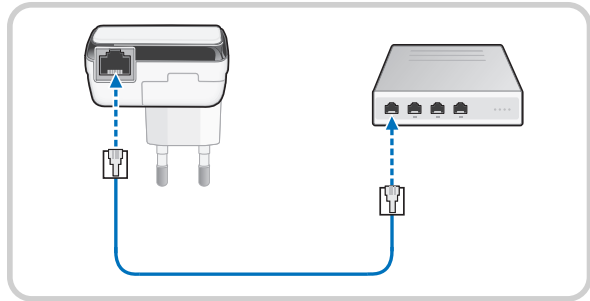
WAP-701 Antenna Installation

Install the antenna as described below:

You can install the antenna provided with
the product. First, you should open and
remove the rubber cap on the product.
Then install the antenna.

Open the rubber cap

Checking WAP-701 LED Status

Based on the front view, the left LED lights up when the power is on, and the right LED lights up when a LAN
cable is connected.

Troubleshooting

This section provides solutions to problems that may occur while using AP. If a problem not metioned in this section occurs, please visit the after-sales service centor or our homepage for assistance.

?! **Wireless access to AP is disabled.**

- First, check the IP address of the AP. The IP address is set to 192.168.111.10 by default but can be changed by users.
- Check the SSID of the AP.
- Check if the Security function of the AP is enabled by selecting 'Security' from the 'Wireless' menu.
- Check if the terminal attempting connection to AP is too far from the AP or in a shadow area.
- If the above items are all normal, check if the AP and antenna are properly connected.

Screen Location Diagram

Top

Bottom

Cut along this dotted line.