OW-1000

Outdoor Wireless Access Point

User's Manual

► Contents

Chapter 1. *Introduction*

1.1 Introducing the OW-1000

The OW-1000 is fully interoperable with IEEE 802.11b/g compliant Outdoor Wireless Last-mile product. The OW-1000 operates in AP mode or remote bridge mode, and connects to OW-1000 AP/CB to construct point-to-point as well as point-to-multipoint topologies, for maximum flexibility in configuring building-to-building networks and WISP functions.

1.2 Product Features

- ➢ Outdoor enclosure in compliance with versatile industrial IP　Ingress Protection　level covering IP67, IP66, IP55 and IP50
- ➢ RF transmit power 802.11b mode @ 11Mbps data rate
- ➢ RF transmit power 802.11g mode @ 54Mbps data rate
- ➢ Embedded 9dBi patch directional antenna
- ➢ Support 48VDC 0.375A Power-over-Ethernet　PoE
- ➢ NAT/NAPT and Virtual Server Mapping support (Optional / RB only)
- ➢ MIB-I support
- ➢ MAC address based access control

Hint: IP　Ingress Protection

1.3 Package Contents

The product package contains the following items.

1. One (1) OW-1000 Outdoor Wireless Access Point / Client Bridge unit
2. One (1) 100~240VAC, 50~60Hz AC to 48V/0.375A DC switching adapter
3. One (1) 48VDC, 0.375A Inline Power Injector (PoE)
4. One (1) 30m RJ-45 CAT-5 Ethernet cable
5. One (1) 1.8m RJ-45 CAT-5 Cross Over Cable
6. One (1) 1.8m grounding wire (Optional)
7. One (1) User manual CD-disc
8. One (1) wall/mast mounting kit
9. One (1) band clamp

1.4 System Requirements

Installation of the OW-1000 Outdoor Wireless Access Point/Client Bridge requires the following:

1. A Windows-based PC/AT compatible computer PC system requirement : better than PIII 800 or other 100% compatible equipment , OS : windows 2000/XP) or Ethernet data device with an available RJ-45 Ethernet port to run the configuration program or with TCP/IP connection to the Ethernet network.

2. A 10/100Base-T Ethernet RJ-45 Ethernet cable is connected to Ethernet network.

3. An AC power outlet (100~240V, 50~60Hz) supplies the power.

1.5 Inline Power Injector (PoE)

The OW-1000 is equipped with an Inline Power Injector module. The Inline Power Injector (PoE) delivers both data and power to OW-1000 unit via a signal Ethernet cable, and gives the following benefits to improve the performance vs. installation cost ratio.

➢ This works great in areas where you may not have power , like house roof.

➢ This also allows you to place the OW-1000 unit closer to the antenna, to make installation easier more thus reducing signal loss over antenna cabling.

➢ Ethernet signal travels well over CAT 5 cable but 2.4GHz signal doesn't do as well over antenna cabling.

➢ Ethernet cabling is much cheaper than Antenna cabling.

Chapter 2. *Installation and Basic Configuration*

This chapter describes the procedures of installing the OW-1000.

2.1 Before You Start

After unpacking the system, make sure the following items are present and in good condition. Refer to below pictures for product image.

1. OW-1000 Outdoor Wireless Access Point/Client Bridge unit
2. 100~240VAC, 50~60Hz AC to 48V/0.375A DC switching adapter
3. Inline Power Injector (PoE) 48VDC, 0.375A
4. RJ-45 CAT-5 Ethernet cable 30 m
5. RJ-45 CAT-5 Cross-over Ethernet cable 1.8m
6. Grounding wire 1.8m
7. User manual CD-disc
8. Wall/mast mounting kit, including one (1) band clamp
9. Screws
10. 5dBi Oimi-type Antenna (for AP) if panel antenna(for CB), it must be installed into Unit.

1. Unit	2. Adapter	3. PoE	4. 30m cable
5. 1.8m cable	6. Grounding wire	7. CD	8. Wall mount
9. Screws	10. Antenna(for AP)		

## 2.2 Locate the OW-1000 and Inline Power Injector Ports

► **Interface on the OW-1000 Unit**
  ➢ **Ethernet Port 1** : for connecting the 30m RJ-45 CAT-5 Ethernet cable.

► **Interface on the Inline Power Injector**
  ➢ **Data Input Port 2** : for connecting cross-over Ethernet Cable to PC or straight Ethernet cable to Hub Switch Router .
  ➢ **DC Input Port 3** : power adapter 48V, 0.375A DC input.
  ➢ **Power & Data Output Port 4** : for connecting the 30m RJ-45 CAT-5 Ethernet Cable.
  ➢ **Grounding Port 5** : for connecting grounding wire.

Device

POE picture1

POE picture2
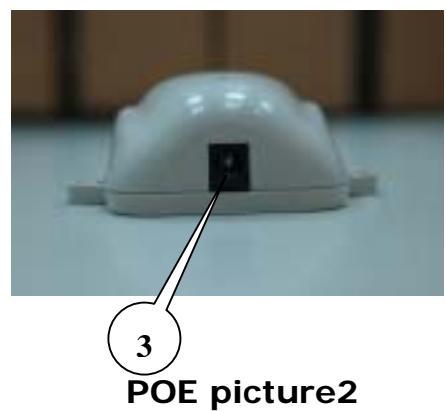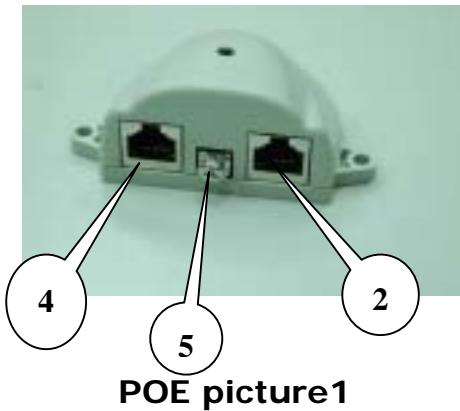
Figure 2-1

*Power and Data Interface location on the PoE denoted by numbers 1-6.*

6

► Mount OW-1000 on A Wall/Mast

The OW-1000 can be mounted on the wall, you can use the Wall Mount kit to mount the OW-1000 as shown in **Figure 2-2**.
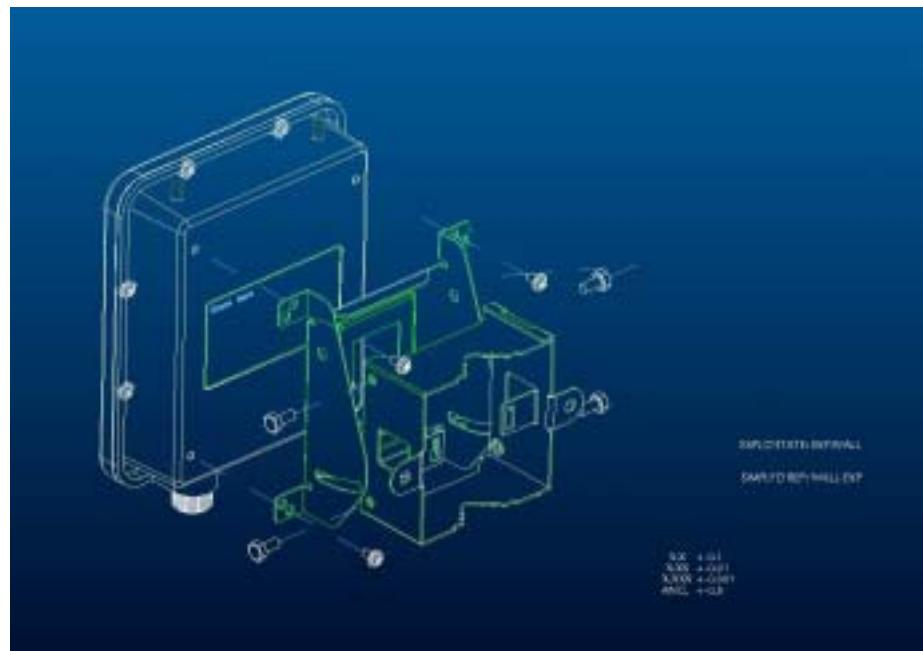
Figure 2-2

You can also mount the OW-1000 to the mast as shown in **Figure 2-3**.
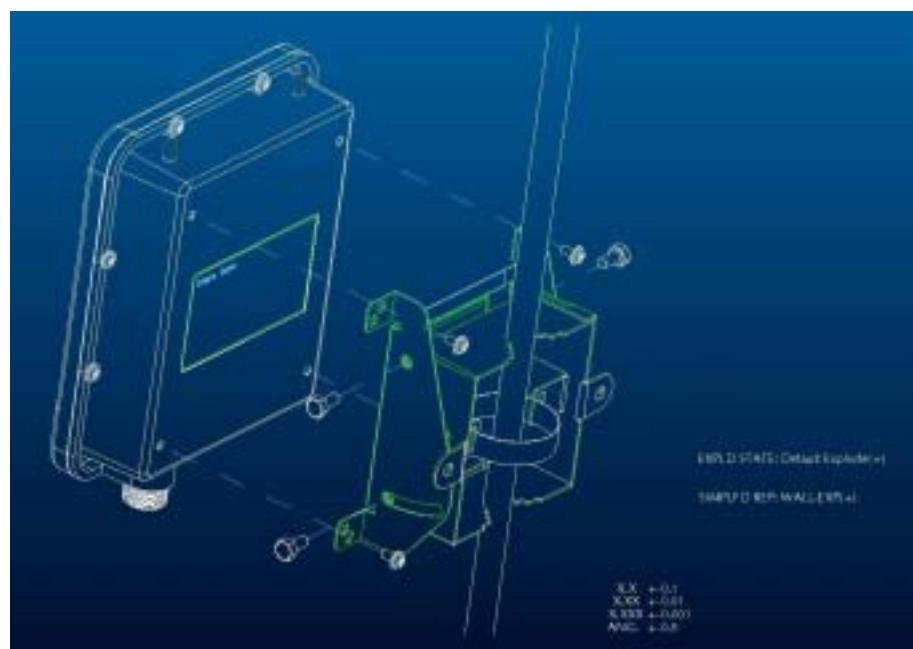
Figure 2-3

2.3   Preparing Installation

Before installing OW-1000 for outdoor application or hard-to-reach location, we recommend configuring and test all the devices first.

For configuring the OW-1000, please follow the quick steps below to power up the OW-1000.   Refer to **Figure 2-4** for steps 1 through 5.
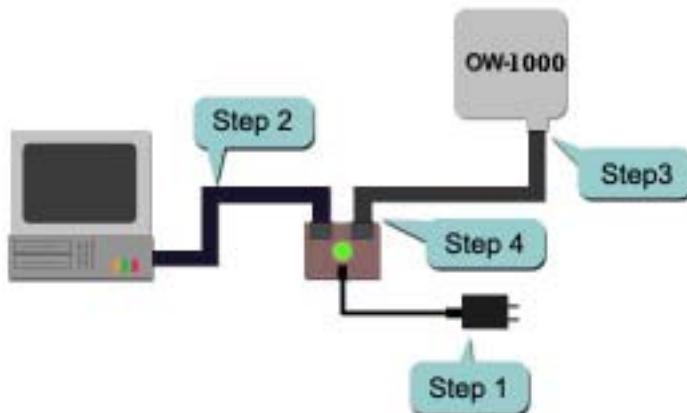
Figure 2-4

Step1 : Connect the DC plug of the AC/DC power adapter into the **DC Input Port** of Inline Power Injector and the wall-mount plug into a power outlet or power strip (refer to **page 6**). The Power LED on the Inline Power Injector will light up.

Step2 : Run the cross-over type uplink Ethernet cable from **Data Input Port** (refer to **page 6**) to the Ethernet port on a PC.

Step3 : Connect the 30m CAT 5 Ethernet cable into the OW-1000 unit.   Hand tighten the connector.

Step4 : Connect the remaining end of the 30m CAT 5 cable into the PoE labeled AP/Bridge.   This is the power side of the PoE that will power up the OW-1000.

When the OW-1000 receives power over the Ethernet cable, the OW-1000 will start its boot up sequence and the **Active** LED on the Inline Power Injector will light up.

You can configure the OW-1000 via HTML browser, such as Microsoft Internet Explorer or Netscape Navigator from a remote host or PC.

2.4　Basic Configuration

2.4.1　Basic Configuration Steps

This section describes a two-step <u>BASIC </u>configuration procedure to setup OW-1000.

Step1 : Modify the factory-default parameters on the web page "/**BASIC/LAN/**", and click `Save Settings` to save the changes, than click `Continue` .

Step2 : Modify the factory-default parameters on the web page "/**BASIC/Wireless/**", and click `Save Settings` to save the changes, than click `Reboot the Device` to take effect on the previous configuration changes.

2.4.2　Logging into the Web Interface

The OW-1000 supports access to the configuration system through the use of an HTTP Interface.

► Web Configuration
Before configuring OW-1000, the user needs to know the IP Address assigned to the unit. When shipped from the factory, the IP Address **192.168.1.1** was assigned to the OW-1000 by default. **To start a web connection, use http://192.168.1.1**

► Web Access Procedures
Once you identify the IP Address assigned to OW-1000, use web browser to configure OW-1000 through the HTTP Interface. The following procedure explains how to configure each item.

Step1 : Open your browser and enter the IP Address

Step2 : Press <**ENTER**> key and the OW-1000 **Login** screen appears as shown in **Figure 2-5**.

Figure 2-5

Step3 : Enter "**admin**" in the **Username** and **Password** fields, and click Log In
to enter the web configuration user interface screen as shown below.
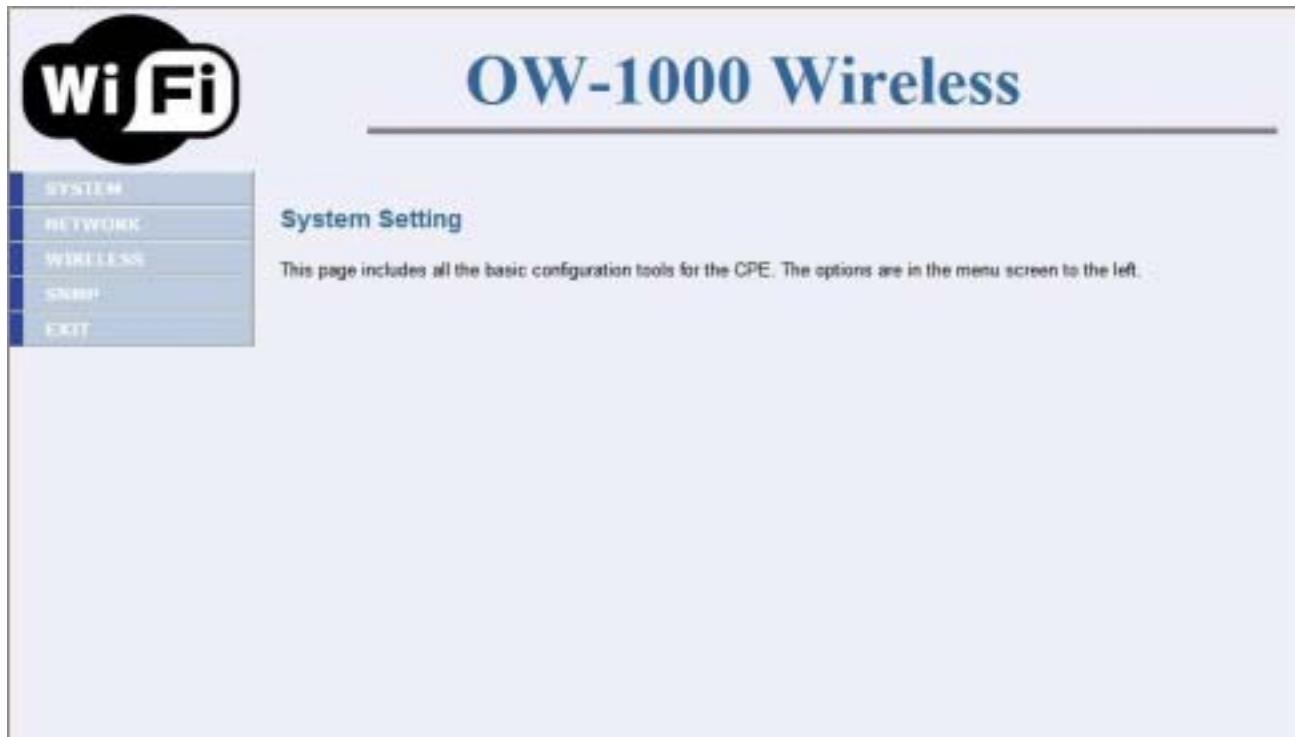
Figure 2-6

► **Web Configuration Structure**

The web configuration user interface shown above in **Figure 2-6** is grouped into
a tree structure, and contains the following settings or information.

SYSTEM
    Administrator
    Firmware
    Configuration
    Status
    Log
    System Time
    Reboot

NETWORK
    Network

WIRELESS
    Access Control
    Wi-fi 1
    Wi-fi 2
    Wi-fi 3
    Wi-fi 4
    Wi-fi 5
    Wi-fi 6
    Wi-fi 7
    Wi-fi 8
    Wi-fi 9
    Wi-fi 10

SNMP
    Agent Settings

EXIT

Move through the tree by clicking on an icon to expand or collapse the tree. The nodes on the tree represent web pages that allow viewing and modifying the parameters.

2.4.3 Set Operating Mode, IP Address, Subnet Mask, Default Route IP, DNS Server IP of OW-1000

► LAN Settings

These are the settings of the LAN (Local Area Network) interface for the Access Point. The Access Point's local network (LAN) settings are configured based on the IP Address and Subnet Mask assigned in this section. The IP address is also used to access this Web-based management interface. This option is available in the "/**NETWORK/ NETWORK /**" page as shown in **Figure 2-7**.
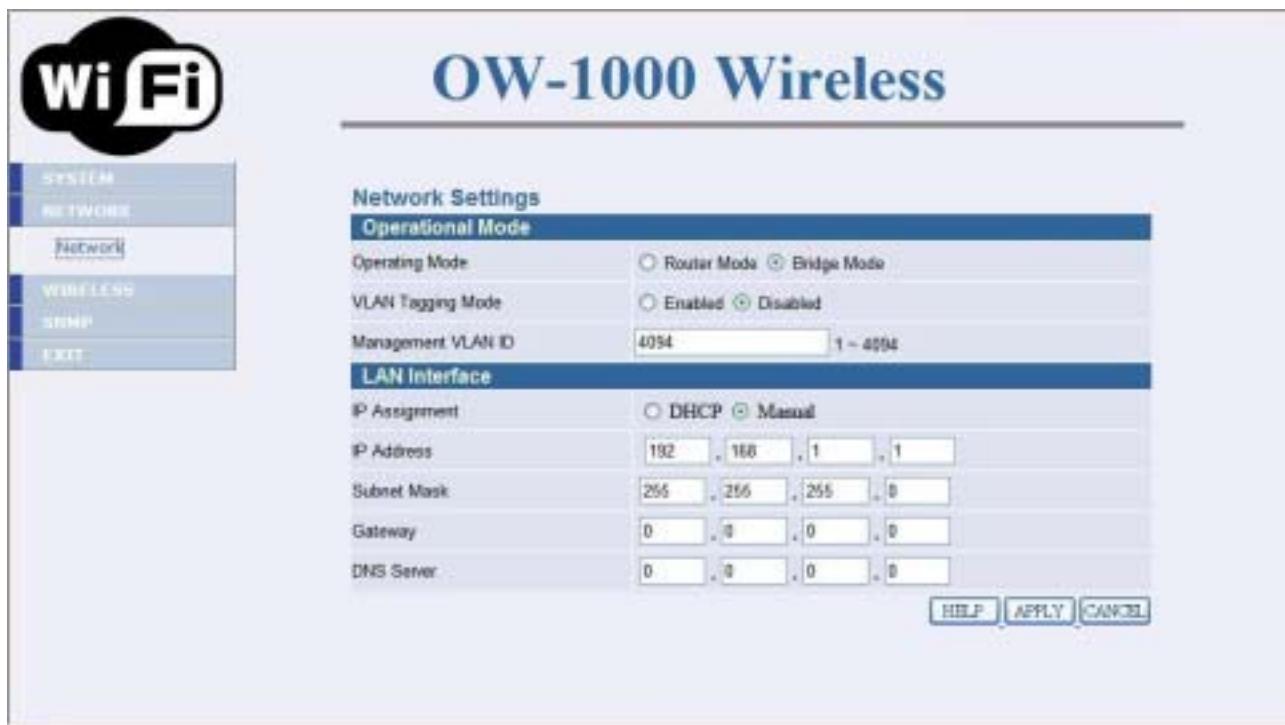
Figure 2-7

► Get LAN IP From

Choose "DHCP (Dynamic)" if your router supports DHCP and you want the router to assign an IP address to the AP. In this case, you do not need to fill in the following fields. Choose "Static IP (Manual)" if your router does not support DHCP or if for any other reason you need to assign a fixed address to the AP. In this case, you must also configure the following fields.

Note that you cannot choose "DHCP (Dynamic)" if you have enabled the "DHCP Server" option on the DHCP page; the AP cannot be both a DHCP client and a DHCP server.

► IP Address

The IP address of the AP on the local area network. Assign any unused IP address in the range of IP addresses available for the LAN. For example, 192.168.1.1.

► Subnet Mask

The subnet mask of the local area network.

► Gateway

The IP address of the router on the local area network.

► DNS Server

This entry is optional. Enter a DNS Server for the local network.

2.4.4 Set Wireless SSID for Wireless Interface

► Wireless Network Name   Also called the SSID

When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name. This option is available in the "/**WIRELESS/Wi-Fi 1/**" page as shown in **Figure 2-8.(**Note : "Radio Channel" only supports channel 1 to channel 11. Even "Auto Select", it only auto-select the channel between channel 1 to channel 11 **)**

Figure 2-8

2.4.5   Set Wireless Encryption for Wireless Interface

The OW-1000 supports 64-bit and 128-bit WEP encryption.

For **64-bit** WEP encryption, an encryption key is 10 hexadecimal characters (0-9 and A-F) or 5 ASCII characters.

For **128-bit** WEP encryption, an encryption key is 26 hexadecimal characters or 13 ASCII characters.

Modify the WEP encryption parameters on the web page "/**WIRELESS/Wi-Fi 1/ Security** ". Choice "**WEP**" Enter 1~15 characters into the **WEP Key** field, than click **Apply**   "/**SYSTEM/Reboot** "**Reboot**. page as shown in **Figure 2-9**

Figure 2-9

15
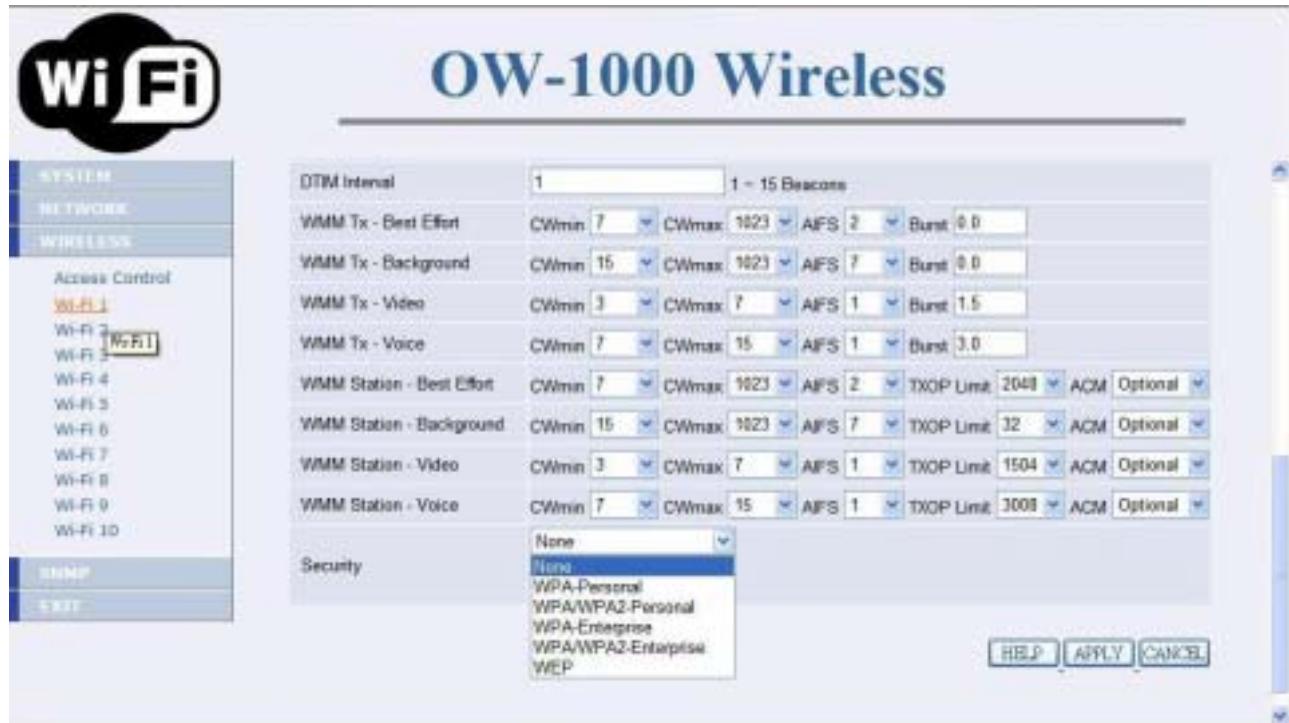
2.4.6   Change Supervisor Account & Password

Enter the **SYSTEM** > **Administrator** page. **Figure 2-10** below shows the
SYSTEM / Administrator page.
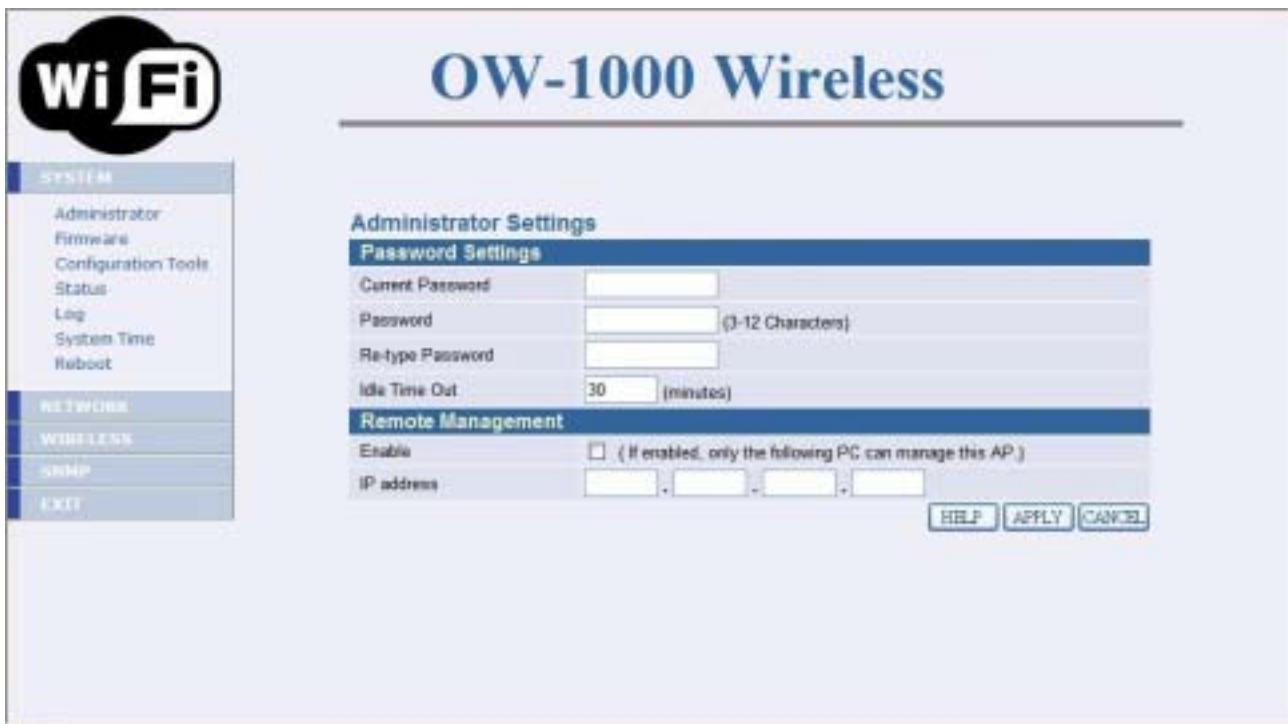
Figure 2-10

▶ **ADMIN PASSWORD**

Key in current password in the **SYSTEM / Administrator / Password Setting
Current Password** field. Change the ADMIN PASSWORD's password in the
**SYSTEM / Administrator Password Setting Password and Re-type
Password** fields, and click **APPLY**   than   "/**SYSTEM/Reboot** "**Reboot**.

2.4.7 Upgrade the Firmware

► **Update the Firmware**

Enter the **SYSTEM** > **FIRMWARE** page as shown in **Figure 2-11** to upgrade OW-1000. Here, user must select which file you want to upgrade it (**Program image**), then click **APPLY** button to start the upgrade process.

Hint: It takes about 15 min, to complete the restart process.
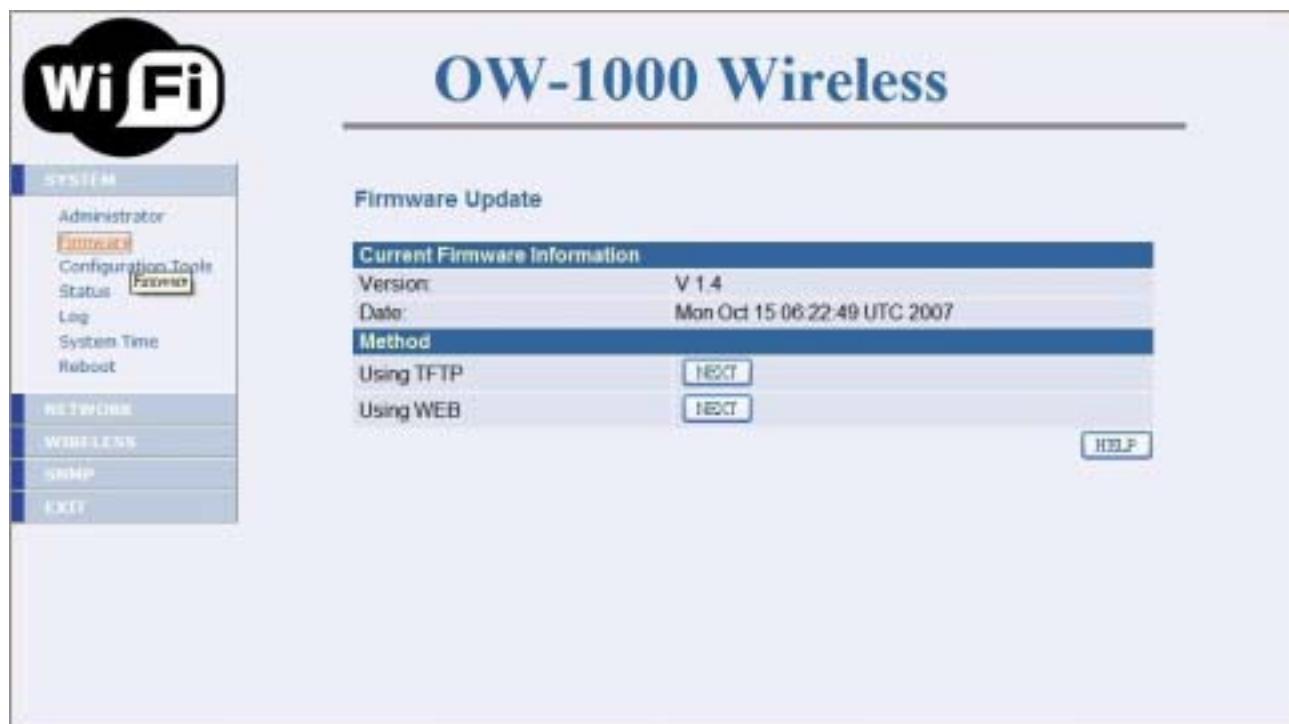
Figure 2-11

> ⚠ **Caution**   The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency when using integrated antennas. Any changes or modification to the product not expressly approved by Original Manufacture could void the user's authority to operate this device.

> ⚠ **Caution**   To meet regulatory restrictions and the safety of the installation, this product MUST be **professionally installed**. End user can't install this device by themselves.

Antenna Type	Antenna Gain
Patch	9dBi
Omni	5dBi