



Quick Installation Guide

OWL500/510 v1.00

Copyright Notice

This document is protected by USA copyright laws and other laws and is the property of 4IPNET, INC. You may not copy, reproduce, distribute, publish, display, perform, or modify any part of this publication in any form or by any means without prior written permission from 4IPNET, INC. You may not alter or remove any copyright or other notice from copies of the content. All other brand and product names are claimed or registered marks of their respective companies or organizations.

All rights reserved.

Note

The respective FCC ID for This document serves only as a sample manual and QIG for this sample unit. The respective FCC ID for OWL500/OWL510 will be VZ9090003, application in progress in July 2009.

Preface

The 802.11 b/g compliant **OWL500/510** is a Long Range Outdoor CPE/AP/Bridge device that can be used for dual purposes. First, it can be deployed as a traditional fixed wireless Access Point (AP). Secondly, it can be used as a Customer Premises Equipment (CPE) that connects to the outdoor wireless network of Wireless Internet Service Provider (WISP).

The metal sealed OWL500/510 is compact in size and weatherproof. Coming with a mounting kit, it can be mounted on a pole or wall. It is suitable for both indoor and outdoor usage with its 500mW output power, which is higher than a typical indoor AP (100mW).

This Quick Installation Guide (including FAQ Instruction Guide) provides instructions for getting started with OWL500/510.

Package Contents

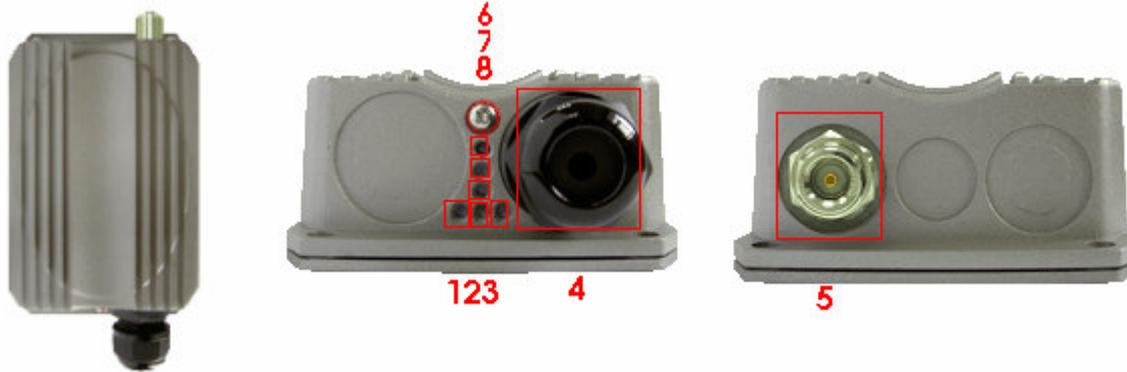
1. OWL500/510 x 1
2. Quick Installation Guide (QIG) x 1
3. CD-ROM (with User's Manual and QIG) x 1
4. Power Sourcing Equipment (PSE) with AC cable x 1
5. Mounting Kit x 1



It is recommended to keep the original packing material for possible future shipment when repair or maintenance is required. Any returned product should be packed in its original packaging to prevent damage during delivery.

System Overview

OWL500



1	WLAN	Green LED ON indicates system ready
2	Wireless Signal Strength	For showing the signal strength situation
3	Ethernet	Green LED ON indicates connection, OFF indicates no connection, and BLINKING indicates transmitting data.
4	PoE Connector	For connecting to the Power Sourcing Equipment (PSE)
5	N-type Connector	For connecting to an antenna
6	Power	Red LED ON indicates power on, and OFF indicates power off
7, 8	Wireless Signal Strength	For showing the signal strength situation (7: Yellow; 8: Green)

OWL510

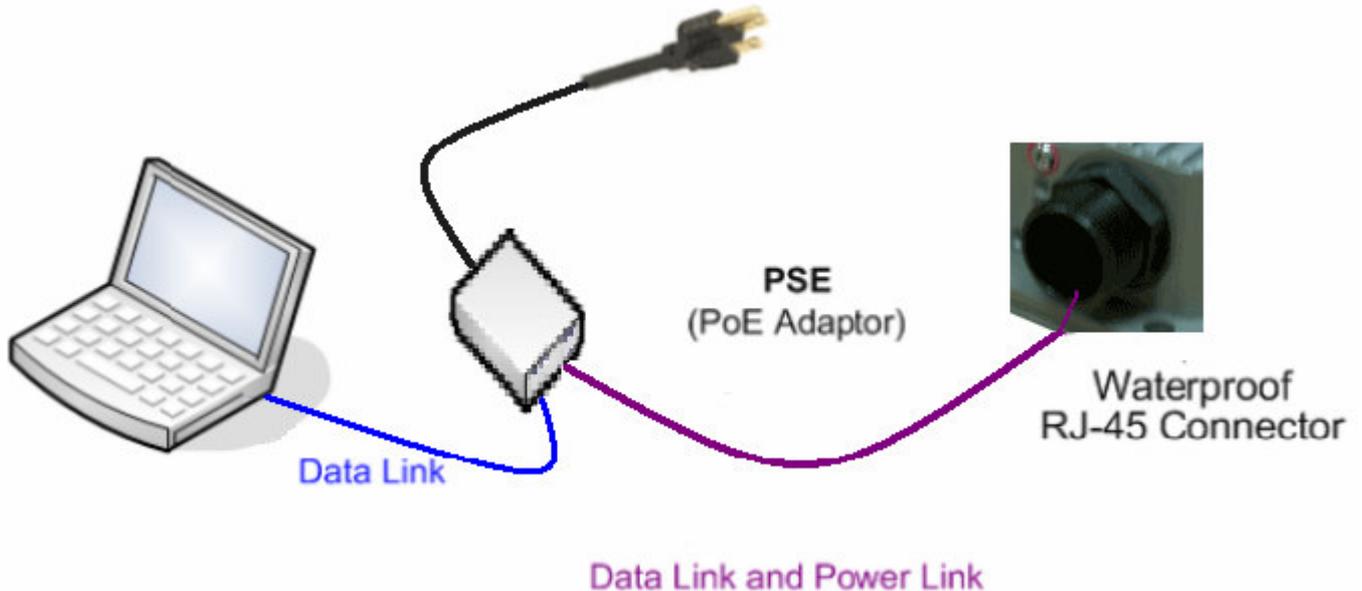


1	WLAN	Green LED ON indicates system ready
2	Wireless Signal Strength	For showing the signal strength situation
3	Ethernet	Green LED ON indicates connection, OFF indicates no connection, and BLINKING indicates transmitting data.
4	PoE Connector	For connecting to the Power Sourcing Equipment (PSE)
5	Built-in patch antenna	10 dBi (Horizontal: 110 degree; Vertical: 60 degree)
6	Power	Red LED ON indicates power on, and OFF indicates power off
7, 8	Wireless Signal Strength	For showing the signal strength situation (7: Yellow; 8: Green)

Hardware Installation

OWL500/510

The following diagram is a **basic network topology** which can be used for testing and configuring the OWL500/510.



Installation Steps:

- Step 1.** Connect an N-type antenna to the N-type connector (applicable for OWL500/510 only).
- Step 2.** Connect the PSE (POWER & DATA OUT) to the PSE 1 connector on the lower panel.
- Step 3.** Connect one end of an Ethernet cable to the PSE 2 connector on the lower panel and the other end to a computer.
- Step 4.** Connect the power cord to the PSE.
- Step 5.** Power on the PSE in order to supply power to the OWL500/510.

Getting Started

4ipnet OWL500/510 supports web-based configuration. OWL500/510 is a dual-mode system, **AP Mode** as the default mode for the first time entering the system, which also can be configured as either an access point (**AP Mode**) or a gateway (**CPE Mode**) based on your needs. It is required to follow the respective installation procedures provided to properly set up the desired mode for this system.

- **Default IP Address of Web Management Interface:**

The default IP address and Subnet Mask for the AP mode and CPE mode are as follows:

Mode	AP Mode	CPE Mode
IP Address	192.168.1.1	192.168.1.1
Subnet Mask	255.255.255.0	255.255.255.0

- **Default User Name and Password:**

There is only one management account for AP mode, **root**. In addition, there are two system management accounts for CPE mode to maintain the system, **root** and **admin**, and each has different levels of management capabilities. The **root** account is empowered with full privileges while the **admin** account is with partial ones.

The default user name and password for both the **root** and **admin** account are as follows:

Mode	AP Mode	CPE Mode	
Management Account	Root Account	Root Account	Admin Account
User Name	root	root	admin
Password	admin	admin	admin

<AP Mode—Default Mode>

Step 1: IP Segment Setup for Administrator PC

Set a static IP address on the same subnet mask as OWL500/510 in TCP/IP of the administrator PC, such as the following example. Do not duplicate the IP address used here with the IP address of OWL500/510 or any other devices within the same network.

>> Example of IP Segment:

The valid range of IP address is 1 ~ 254. However, **1** must be avoided as it is already used by OWL500/510. Below depicts an example of using **100** (the underlined value can be changed as desired).

IP Address: 192.168.1.100

Subnet Mask: 255.255.255.0

Step 2: Launch Web Browser

Launch a web browser to access the web management interface of AP mode by entering the default IP address, **http://192.168.1.1/**, in the URL field, and then press **Enter**.



Using an incorrect default IP address will result in no Login page shown in the web browser. Please make sure a correct IP address is used for the desired mode.

Step 3: System Login

The system manager Login Page will then appear.

Enter “**root**” in the *User name* field and “**admin**” in the *Password* field, and then click **OK** to log in.



Step 4: Login Success

After a successful login to OWL500/510, a **System Overview** page of web management interface will appear, To logout, simply click on the **Logout** button at the upper right hand corner of the interface.

The screenshot shows the web management interface with a top navigation bar containing 'System', 'Wireless', 'Utilities', and 'Status' buttons. Below this is a sub-menu with 'System Information', 'Operating Mode', 'Network', and 'Management'. The main content area is titled 'System Information' and contains the following fields:

- Name:** OWL
- Description:** 4IPNET, INC.
- Location:** CA, US

Below the System Information section is the 'Time' configuration section:

- Device Time:** 2000/01/01 11:22:57
- Time Zone:** (GMT-08:00)Pacific Time(US&Canada),Tijuana
- Synchronization:** NTP Enabled Set Date & Time
- Set Date:** --- Year -- Month -- Day
- Set Time:** -- Hour -- Min -- Sec

At the bottom of the configuration area are three buttons: 'SAVE', 'APPLY', and 'CLEAR'.

►► **Note:**

By default, AP mode is enabled. Therefore, the administrator must access the system via the AP mode login page for the first time. The administrator is then able to switch between modes afterwards.

<CPE Mode>

Step 1: Launch Web Browser

Launch a web browser to access the web management interface of CPE mode by entering the default IP address, **http://192.168.1.1/**, in the URL field, and then press **Enter**.



Step 2: System Login

The system manager Login Page will then appear.

Enter "**root**" in the *User name* field and "**admin**" in the *Password* field, and then click **OK** to log in. Below depicts an example of using the **root** manager account.



Step 3: Login Success

After a successful login to OWL500/510, a **System Overview** page of web management interface will appear. To logout, simply click on the **Logout** button at the upper right hand corner of the interface.


System


Wireless


Firewall


Utilities


Status

System Overview

Event Log

DHCP Lease

UPnP

[Home](#) > [Status](#) > System Overview

System Overview



System

System Name	OWL
Firmware Version	10.00.00
Build Number	1.52-1.2074
Location	CA, US
Site	EN-A
Device Time	
System Up Time	0 days, 1:19:12
Operating Mode	CPE



Radio Status

Status	Connected
SSID	Cip-
MAC Address	0A:11:A3:09:BF:46
Channel	11
Signal Strength	35
Security	None



LAN Interface

MAC Address	00:99:00:06:25:03
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled



WAN Interface

Mode	DHCP
MAC Address	00:99:00:06:25:04
IP Address	
Subnet Mask	255.255.0.0
Gateway	
Bandwidth	Down: Unlimited UP: Unlimited

Common Settings

<AP Mode – Default Mode>

Step 1: Mode Confirmation

The screenshot shows the web interface navigation menu with 'System', 'Wireless', 'Utilities', and 'Status' buttons. The 'Status' button is highlighted with a red border. Below the menu, the 'Overview' tab is selected, and the breadcrumb path is 'Home > Status > System Overview'. The main content area is titled 'System Overview' and contains three sections: 'System', 'Radio Status', and 'LAN Interface'. The 'System' section includes fields for System Name (OWL), Firmware Version (1.00.00), Build Number (1.1-1.2074), Location (CA, US), Site (EN-A), Device Time, System Up Time (0 days, 19:24:12), and Operating Mode (AP). The 'Radio Status' section includes MAC Address (00:09:00:06:29:04), Band (N/A), Channel (N/A), and TX Power (N/A). The 'LAN Interface' section includes MAC Address (00:09:00:06:29:03), IP Address, Subnet Mask (255.255.0.0), and Gateway. The 'Operating Mode' field in the System section is highlighted with a red box.

- Ensure the *Operating Mode* is currently in **AP** mode.
- Click on the **Status** button and then select the **System Overview** tab. The *Operating Mode* is at the **System** section on the **System Overview** page.

Step 2: Change Password

System Wireless Utilities Status

Change Password Network Utilities Config Save & Restore System Upgrade Reboot

Home > Utilities > Change Password

Change Password

Name : root

Old Password :

New Password : *up to 32 characters

Re-enter New Password :

SAVE APPLY CLEAR

- Click on the **Utilities** button and then select the **Password** tab.
- Enter a new password in the *New Password* field and retype it in the *Re-enter New Password* field.
- Click **Save** to save the changes.

Step 3: Network Settings

Home > System > Network

Network Settings

Mode : Static DHCP

IP Address : 192.168.1.1 *

Netmask : 255.255.0.0 *

Gateway : 192.168.1.254 *

Primary DNS Server : 192.168.1.254 *

Secondary DNS Server :

Layer2 STP : Disable Enable

SAVE APPLY CLEAR

【Settings here are for example only】

- Click on the **System** button and then select the **Network** tab.
- Enable *Static*, and then enter the related information in the fields marked with red asterisks.
- Click **Save** to save the settings.

Step 4: SSID Settings

System Wireless Utilities Status

VAP Overview General VAP Config Security Repeater Advanced Access Control Site Survey

Home > Wireless > General

General Settings

Band : 802.11b+802.11g

Super G : Bursting Fast Frames Dynamic Turbo

Short Preamble : Disable Enable

Channel : 6

Max Transmit Rate : Auto

Transmit Power : Auto

SAVE CLEAR

- Click on the **Wireless** button and then select the **General** tab.
- **Band:** Select an appropriate band from the drop-down list box.

System Wireless Utilities Status

VAP Overview General VAP Config Security Repeater Advanced Access Control Site Survey

Home > Wireless > VAP Config

VAP Configuration

Profile Name : VAP-1

Enable VAP : Disable Enable

Profile name : VAP-1

ESSID : OWL-AP

VLAN ID : Disable Enable

VLAN ID : * (1 - 4094)

SAVE APPLY CLEAR

- Click on the **Wireless** button and then select the **General** tab.
- **Band:** Select an appropriate band from the drop-down list box.
- **SSID:** Enter a SSID for the system in the *SSID* field or use the default. **SSID (Service Set Identifier)** is a unique identifier used for networking devices to get associated with OWL500/510.

► **Note:** **Band** and **SSID** are required; other fields are optional.

► Click **Save** to save the settings.

Step 5: Security Settings

Home > Wireless > Security

Security Settings

Profile name :

Security Type :

Note! The WEP keys are global setting for all virtual APs. The key value will apply to all VAPs.

802.11 Authentication: Open System Shared Key Auto

WEP Key Length : 64 bits 128 bits 152 bits

WEP Key Format : ASCII Hex

WEP Key Index :

WEP Keys :

1

2

3

4

- Click on the **Wireless** button and then select the **Security** tab.
- Select the desired *VAP Profile and Security Type* from the drop-down list boxes. The above figure depicts an example of selecting VAP-1 and **WEP**.
- Enter the information required in the blank fields.



You must use the same information provided here to configure the network devices that are to be associated with OWL500/510.

- Click **Apply** to activate all settings configured so far.

Congratulations!

The AP mode is now successfully configured.

<CPE Mode>

Step 1: Mode Confirmation

Home > Status > System Overview

System Overview

System

System Name	OWL
Firmware Version	10.00.00
Build Number	1.52-1.2074
Location	CA, US
Site	EN-A
Device Time	
System Up Time	0 days, 1:19:12
Operating Mode	CPE

Radio Status

Status	Connected
SSID	Cip
MAC Address	0A:11:A3:09:BF:46
Channel	11
Signal Strength	35
Security	None

LAN Interface

MAC Address	00:99:00:06:25:03
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled

WAN Interface

Mode	DHCP
MAC Address	00:99:00:06:25:04
IP Address	
Subnet Mask	255.255.0.0
Gateway	
Bandwidth	Down: Unlimited UP: Unlimited

- Ensure the *Operating Mode* is currently in **CPE** mode.
- Click on the **Status** button and then select the **System Overview** tab. The *Operating Mode* is at the **System** section on the **System Overview** page.

Step 2: Change Password

Home > Utilities > Change Password

Change Password

Name : root

Old Password :

New Password : *up to 32 characters

Re-enter New Password :

Name : admin

New Password : *up to 32 characters

Re-enter New Password :

- Click on the **Utilities** button and then select the **Password** tab.
- **Change Root Account Password**
 - Enter the old password in the *Old Password* field; default password is “**admin**”.
 - Enter a new password in the *New Password* field and retype it in the *Re-enter New Password* field.
- **Change Admin Account Password**
 - Enter a new password in the *New Password* field and retype it in the *Re-enter New Password* field.
- Click **Save** to save the changes.

Step 3: Site Survey

Home > Wireless > Site Survey

Scan Result

[Scan Again!](#)

SSID	MAC Address	Channel	Rate	Signal	Security	Setup / Connect
EAP700-1-Dex		1	54	33	None	Connect
Cip-AP		6	54	33	None	Connect
Cip-Cherry		6	54	34	WPA-PSK	Setup
Cip-AP		11	54	34	None	Connected

【 The scan result displayed here is an example only. 】

- Click on the **Wireless** button and then select the **Site Survey** tab.
- The system will automatically scan and display all APs in its coverage area.
- Click **Scan Again** if the APs to be associated with are not listed on the **Scan Result** list.

Step 4: Select AP to be Associated

- Select an AP to be associated with from the **Scan Result** list provided in **Step 3**.

Step 5: Security Settings

General Advanced Security Site Survey

Home > Wireless > Site Survey

Scan Result

[Scan Again!](#)

SSID	MAC Address	Channel	Rate	Signal	Security	Setup / Connect
EAP700-1-Dex		1	54	33	None	Connect
Cip-AP		6	54	33	None	Connect
Cip-Cherry		6	54	34	WPA-PSK	Setup
Cip-AP		11	54	34	None	Connected

Pre-shared Cipher : TKIP ▾

Pre-shared Key Type :
 PSK(Hex) *(64 chars)
 Passphrase *(8 - 63 chars)

Pre-shared Key :

[Connect](#)

- The above figure depicts an example of selecting **AP2** (encrypted via WEP security type).
- Click **Setup** of **AP2**, and then a related encryption configuration box will appear.
- Enter the information required in the configuration box. Information to be entered must be exactly the same as configured in this **AP2**.
- Click **Save** to save the settings.

Step 6: Network Interface Configuration

System Information | Operating Mode | **Network** | Management

Home > System > Network

WAN Configuration

Mode : Static DHCP

IP Address : 192.168.1.1 *

Netmask : 255.255.255.0 *

Gateway : 192.168.1.254 *

Primary DNS Server : 168.95.1.254 *

Secondary DNS Server :

Bandwidth Limit : Download : Unlimited Upload : Unlimited

Dynamic DNS

DDNS : Disable Enable

Provider :

Host Name :

User Name / E-mail :

Password / Key :

LAN Configuration

IP Address : 192.168.1.1 *

Netmask : 255.255.255.0 *

【Settings here are for example only】

- Click on the **System** button and then select **Network** tab.
- Enable *Static*, and then enter the related information in the fields marked with red asterisks.
- Click **Save** to save the settings.

Step 7: LAN Configuration

- Click on the **System** button and then select the **Network** tab.
- The **LAN Configuration** section is on the same page as the **WAN Configuration** section.
- Enter the *IP Address* and *Netmask* of the LAN port.
- Click **Apply** to activate all settings configured so far.

Congratulations!

The CPE mode is now successfully configured.



After OWL500/510's network configuration completes, please remember to change the IP Address of your PC Connection Properties back to its original settings in order to ensure that your PC functions properly in its real network environments.

- ***It is strongly recommended to make a backup copy of configuration settings.***
- ***For further configuration and backup information, please refer to the User's Manual.***

P/N: V10020090920