



WBD-500

Quick Installation Guide

Revision 1.0
August 5, 2008

Copyright © 2008 LigoWave www.ligowave.com

Copyright

© 2008 LigoWave

This user's guide and the software described in it are copyrighted with all rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means without the written permission of LigoWave.

Notice

LigoWave reserves the right to change specifications without prior notice.

While the information in this manual has been compiled with great care, it may not be deemed an assurance of product characteristics. LigoWave shall be liable only to the degree specified in the terms of sale and delivery.

The reproduction and distribution of the documentation and software supplied with this product and the use of its contents is subject to written authorization from LigoWave.

Trademarks

LigoWave logo is trademark of LigoWave LLC.

All other registered and unregistered trademarks in this document are the sole property of their respective owners.

FCC Warning

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 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.

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.

FCC Caution

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Radiation Exposure Statement

To comply with FCC RF exposure requirements in section 1.1307, a minimum separation distance of 3.9 feet is required between the antenna and all occupational persons, and a minimum separation distance of 8.7 feet is required between the antenna and all public persons.

Antenna Installation

WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply), only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

FCC Antenna Compliance

The WBD-500 has been tested and certified with the following antennas:

2.4GHz

Type	Model	Gain (dBi)	Power	EIRP	Operation Mode
Grid	HyperGain HG2424G	24	24	48	PTP
Panel	ARC-IA2419B02	19	25	44	PTP
Omni	Hwayaotek OA-2450-12	12	24	36	PTMP

Any antenna of same make and lower gain than those listed above may be used in compliance with certification.

The maximum FCC EIRP limits are listed above with given antennas. In order to use above antennas, transmitter power settings may need to be adjusted in software to meet given EIRP limits.

Contents

Copyright	2
Notice	2
Trademarks	2
FCC Warning.....	3
FCC Caution	3
FCC Radiation Exposure Statement	3
Antenna Installation	3
FCC Antenna Compliance	4
CONTENTS.....	5
ABOUT THIS GUIDE	6
Purpose	6
Definitions, Acronyms and Abbreviations.....	6
LigoWave Technical Support	6
INSTALLATION	7
Package Contents	7
Hardware Introduction	7
General Overview	7
Connectors.....	8
ACCESS THE WBD-500	9
Connection via WEB browser	9
Resetting to Factory Defaults.....	10

About This Guide

Purpose

The purpose of this guide is to provide a quick and easy explanation of getting started with the WBD-500. This is only a starter guide and full documentation may be found at our online wiki:

<http://www.ligowave.com/wiki>

Definitions, Acronyms and Abbreviations

The following typographic conventions and symbols are used throughout this document:



Additional information that may be helpful but which is not required.



Important information that should be observed.

LigoWave Technical Support

If you encounter problems when installing or using this product, please consult the LigoWave website at www.ligowave.com for:

- Direct contact to the LigoWave support centers.
- Frequently Asked Questions (FAQ).
- Download area for the latest software, user documentation and product updates.

Installation

This chapter provides installation instructions for the hardware and software components of the WBD-500. It also includes the procedures for the following tasks:

- Hardware Introduction (LEDs, Connectors)
- Mounting WBD-500
- Connecting the device

Package Contents

The WBD-500 comes with the following:

Component Name	Quantity
60 Degree Mounting Bracket	1
CAT5 Connector Cap	1
Integrated 18V PoE Power Supply & Injector	1
#10 1/2 inch Type B Screws	4



If any of these items are missing or damaged, please contact your reseller or LigoWave sales representative.

Hardware Introduction

General Overview

The WBD-500 is housed in a plastic enclosure and includes an N-Female type antenna connector for use with external antennas.

The bottom panel of the WBD-500 contains:

- **Data/Power connection** in the form of passive PoE through standard Ethernet cable
- **N-Female** type antenna connector

The label of the WBD-500 contains:

- **Model** name. The official model name is **WBD-500**.
- **FCC ID**. This unit contains FCC ID V2V-WBD500

Connectors

The WBD-500 has several connectors on the bottom and side panels.

Descriptions of the connectors are given in the following table:

Connector	Description
PoE	For insertion of power and data through Ethernet cable using passive PoE
Antenna	External antenna connector (type N-Female)

Access the WBD-500

The first connection to the WBD-500 can be made using a standard Ethernet cable connected directly to your PC. See next sections for the instructions on how to access the WBD-500 management interfaces.

Connection via WEB browser

The default IP address of the WBD-500 is 192.168.2.66 with a subnet mask of 255.255.255.0.

- Step 1** Configure your PC with a static IP address on the 192.168.2.0 subnet with mask 255.255.255.0. Connect the WBD-500 Ethernet interface in to the same physical network as your PC. Open the Web browser and type the default IP address of the WBD-500: <https://192.168.2.66/>



- Step 2** Enter the WBD-500 administrator login details to access the Web management:



The default administrator login settings for all WBD-500 are:
User Name: **admin**
Password: **admin01**

- Step 3** After successful administrator log on you will see the main page of the WBD-500 Web management interface. The WBD-500 now is ready for configuration. For further instructions on Web management refer to the respective document at the LigoWave wiki at <http://www.ligowave.com/wiki>

:

Resetting to Factory Defaults

LigoWave products have the capability of being reset to defaults by pinging the device with a certain packet size when the radio is booting.

During the startup of the device, when the drivers of the ethernet interfaces are loaded, the discovery daemon is started. The daemon suspends startup process for 3 seconds and waits for ICMP *"echo request"* packet of length 369 bytes. If the packet received, the discoveryd resets the device to default configuration.

Steps to reset to default settings:

Step 1. Power off the device.

Step 2. Obtain the device MAC address.

Step 3. Connect a PC to the same physical subnet as the device.

Step 4. Execute 'arp -s' command to assign the IP address (IP address should be from the same subnet as PC) to the device MAC address:

```
arp -s <IP address to assign> <device MAC address>
```

Step 5. Start pinging the device:

For linux users:

```
ping <IP address> -s 369
```

For Windows users:

```
ping <IP address> -l 369 -t -w 0.2 -S <Computer IP address>
```

Step 6. Power up device and wait about 30sec or more (depends from device hardware).