



WMR-200

Quick Installation Guide

Revision 1.0
August 22, 2008

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Notice

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Trademarks

LigoWave logo is trademark of LigoWave LLC.

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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 WMR-200 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.

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About This Guide

Purpose

The purpose of this guide is to provide a quick and easy explanation of getting started with the WMR-200. 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.

Access the WMR-200

The first connection to the WMR-200 can be made using a standard Ethernet cable connected directly to your PC. See next sections for the instructions on how to access the WMR-200 management interfaces.

Connection via WEB browser

The default IP address of the WMR-200 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 WMR-200 Ethernet interface in to the same physical network as your PC. Open the Web browser and type the default IP address of the WMR-200: <https://192.168.2.66/>



- Step 2** Enter the WMR-200 administrator login details to access the Web management:



The default administrator login settings for all WMR-200 are:
User Name: **admin**
Password: **admin01**

- Step 3** After successful administrator log on you will see the main page of the WMR-200 Web management interface. The WMR-200 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>

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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).