SERIOUS MARINE

Wi-fi

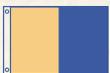## MWB-250

PORT NETWORKS
www.portnetworks.com

MWB-250
MARINE WIRELESS BRIDGE

Quick Start Guide

▶ Connects one or more computers to any Wi-Fi network, at up to 54Mbps

▶ 32x more powerful than most Wi-Fi adapters, for better long-range links

▶ Weatherproof transmitter unit with one thin cable for both data and power

PORT NETWORKS

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Thank you for purchasing this Marine Wireless Bridge from Port Networks. We designed the MWB-250 to help boat owners connect to wireless networks more easily, and we hope it will serve you well in that regard. This Quick Start Guide provides the information you will need to get the most out of your Marine Wireless Bridge. If you have any questions that aren't answered by this Guide, please send an email to support@portnetworks.com, or call us at (410) 637-3707.

What You Should Have

Please check that you have received the following items:

MWB-250 Base Unit

110V Power-Over-Ethernet Injector with AC power cord

OR

12V Power-Over-Ethernet Injector with DC power cord

Ethernet Power/Data Cable

Ethernet Data Cable

Mounting Bracket & Screws

WARNING!

The Wi-Fi transmitter inside the MWB-250 generates significant heat while operating. Because of the unit's weatherproof design, this heat is dissipated through the outer case, rather than through air flow out of the unit. As a result, the case may become warm or even hot to the touch. Please exercise care while handling the MWB-250 if it has been operating long enough for the case temperature to be elevated. When the MWB-250 is not in use, it can be powered off by disconnecting its network cable from the power injector unit.

How it Works

A wireless bridge acts as an intermediary between your computer and a wireless network. The MWB-250 will connect to almost any Wi-Fi network, and almost any computer with an Ethernet port can connect to the MWB-250.

To perform this role, the MWB-250 performs two tasks simultaneously. In order to connect to the Internet, it uses its transmitter and antenna to look for an available wireless network. When it finds one, it asks for an Internet Protocol (IP) address. (An IP address is similar to a street address, in that it tells servers where a web page or an email should be sent in order to reach you.) Once it has an IP address, the MWB-250 has a wireless connection to the Internet.

At the same time, the MWB-250 monitors whether any computers are connected to its Ethernet port. If one is, and it requests an IP address of its own, the bridge gives out an address from its own list, and the computer then has a wired connection to the MWB-250.

Once these two connections are in place, any data that the computer tries to send to the Internet is received by the MWB-250 and passed on through the wireless network to the Internet, and any data sent back to the computer is received by the MWB-250 from the wireless Internet, and passed back through its Ethernet cable.

Setting Up the MWB-250

Setting up your new Marine Wireless Bridge should take only a few minutes. Please follow these steps:

1. Using the supplied bracket, mount the MWB-250 on a bulkhead or other vertical surface, as close as possible to the antenna, with the connectors on the bottom. (A pole mount is available separately.)

2. Connect a low-loss antenna cable to the N-style connector on the bottom of the unit, and to an externally mounted antenna (external antenna kit available separately).

3. Locate the black waterproof connector at the end of the Ethernet power/data cable. Plug that end of the Ethernet power/data cable into the black connector on the botom of the MWB, then screw the waterproof connector over the cable end. Make sure the sealing nut further down the cable is tight around the cable.

4. Run the Ethernet power/data cable to the location of your computer, switch, or access point. Install the Power Injector near that location, and connect the free end of the Ethernet power/data cable to the port labeled "MWB" on the Power Injector.

5. Connect the Ethernet data cable from the port labeled "DATA" on the Power Injector to the Ethernet port on your computer, or to an open port on your network switch or hub, or to the WAN or Internet port on your router or access point.

6. Plug the power cord into the Power Injector, then plug the other end into a properly-grounded 100V-240V AC outlet (110V Injector) or 12V cigarette-lighter style outlet (12V Injector).

IMPORTANT NOTE: *Both types of power injector must be properly grounded! For the 12V power injector, connect a 16AWG (or better) ground wire between the grounding bolt on the injector (top right) and the power system ground. For the 110V power injector, connect the supplied power plug only to a grounded three-prong outlet. DAMAGE CAUSED BY FAILURE TO PROPERLY GROUND YOUR SYSTEM IS NOT COVERED BY OUR WARRANTY.*
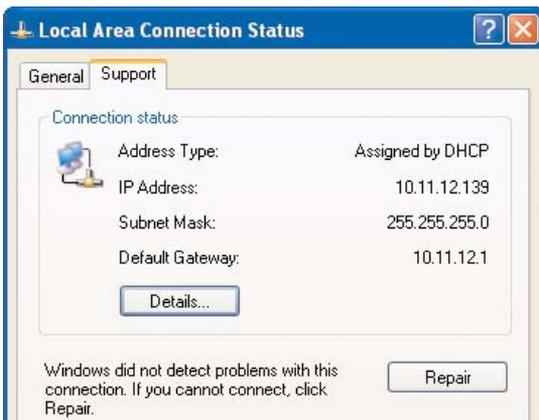
Configuring a Windows XP Computer

To communicate with the MWB-250, your computer(s) must be set to request an IP address automatically. Most computers are set this way by default, but here are instructions for confirming or switching to this configuration:

1. From the Start Menu, choose *Control Panels*, then *Network Connections*.

2. Look for the network connection that uses your computer's Ethernet port. This is usually labeled *Local Area Connection*.

    Note: although you are trying to connect to a wireless network, you do not want to change the configuration on any Network Connection labeled "Wireless." You will be connecting to the MWB-250 using your computer's Ethernet port.

3. Right-click on *Local Area Connection* (or its equivalent) and select *Properties* from the pop-up menu. In the Properties window that opens, there will be a list under the heading *This connection uses the following items.* Scroll to the bottom of this list and double-click on *Internet Protocol (TCP/IP).*

4. In the next Properties window, click the round buttons next to *Obtain an IP address automatically* and *Obtain DNS server address automatically.* Click *OK* to close the Properties windows.

5. Right-click again on the *Local Area Connection* (or its equivalent) and select *Status* from the pop-up menu. Choose the *Support* tab on the Status window that opens. If your IP Address is 10.11.12.xxx, you have successfully connected to the MWB.
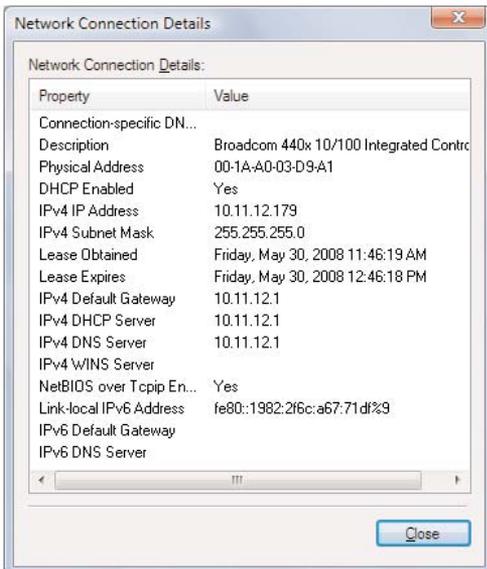
Configuring a Windows Vista Computer

1.   From the Start Menu, choose *Control Panels*, then *Network and Internet*, then *Network and Sharing Center*, then *Manage network connections*.

2.   Look for the network connection that uses your computer's Ethernet port. This is usually labeled *Local Area Connection*.

   Note: Although you are trying to connect to a wireless network, you do not want to change the configuration on any Network Connection labeled "Wireless." You will be connecting to the MWB-250 using your computer's Ethernet port.

3.   Right-click on *Local Area Connection* (or its equivalent) and select *Properties* from the pop-up menu. In the Properties window that opens, select *Internet Protocol Version 4 (TCP/IPv4)* and click *Properties*.

4.   In the next Properties window, click the round buttons next to *Obtain an IP address automatically* and *Obtain DNS server address automatically.* Click *OK* to close the Properties windows.

5.   Right-click again on the *Local Area Connection* (or its equivalent) and select *Status* from the pop-up menu. Click the *Details* button on the Status window that opens. If your IPv4 IP Address is 10.11.12.xxx, you have successfully connected to the MWB.
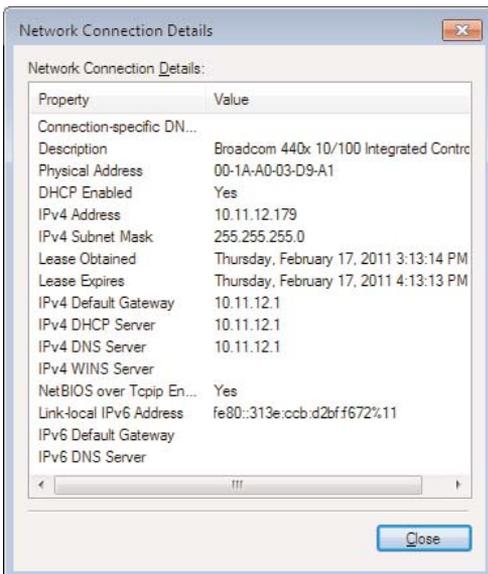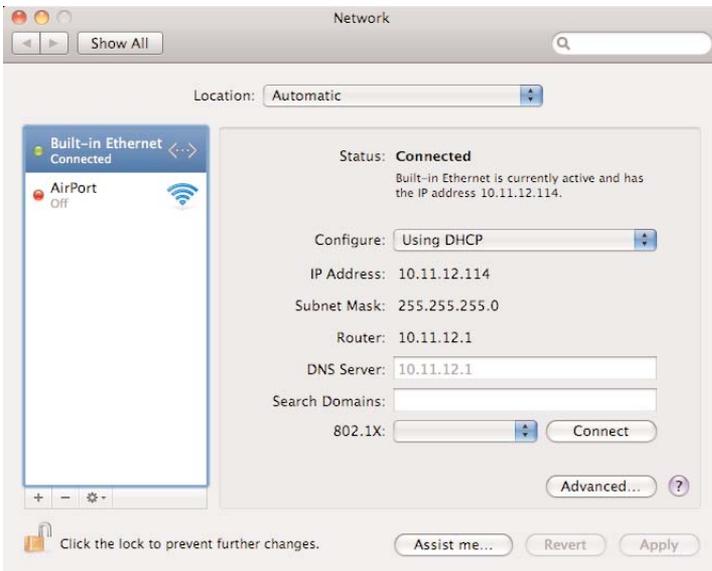
Configuring a Windows 7 Computer

1. From the Start Menu, choose *Control Panels*, then *Network and Internet*, then *Network and Sharing Center*.

2. Look for the network connection that uses your computer's Ethernet port. This is usually labeled *LAN*.

    Note: Although you are trying to connect to a wireless network, you do not want to change the configuration on any Network Connection labeled "Wireless." You will be connecting to the MWB-250 using your computer's Ethernet port.

3. Right-click on *LAN* (or its equivalent) and select *Properties* from the pop-up menu. In the Properties window that opens, select *Internet Protocol Version 4 (TCP/IPv4)* and click *Properties*.

4. In the next Properties window, click the round buttons next to *Obtain an IP address automatically* and *Obtain DNS server address automatically.* Click *OK* to close the Properties windows. Click *OK* again to close the LAN Properties window, but don't close the LAN Status window.

5. Click the *Details* button on the LAN Status window that is already open. If your IPv4 IP Address is 10.11.12.xxx, you have successfully connected to the MWB.

Network Connection Details		
Network Connection Details:		
Property	**Value**	
Connection-specific DN...		
Description	Broadcom 440x 10/100 Integrated Contrc	
Physical Address	00-1A-A0-03-D9-A1	
DHCP Enabled	Yes	
IPv4 Address	10.11.12.179	
IPv4 Subnet Mask	255.255.255.0	
Lease Obtained	Thursday, February 17, 2011 3:13:14 PM	
Lease Expires	Thursday, February 17, 2011 4:13:13 PM	
IPv4 Default Gateway	10.11.12.1	
IPv4 DHCP Server	10.11.12.1	
IPv4 DNS Server	10.11.12.1	
IPv4 WINS Server		
NetBIOS over Tcpip En...	Yes	
Link-local IPv6 Address	fe80::313e:ccb:d2bf:f672%11	
IPv6 Default Gateway		
IPv6 DNS Server		

Close

Configuring a Macintosh Computer

1.   From the Apple Menu, choose *System Preferences*, then *Network*.

2.   From the list of network interfaces, choose *Built-In Ethernet* and click
      Configure. The *TCP/IP* tab should be highlighted. If the lock on the
      lower right is closed, you must open it to make changes.

      Note: although you are trying to connect to a wireless network, you do
      not want to change the configuration on any Airport adapter that may
      already be installed in your computer. You will be connecting to the
      MWB-250 using your computer's Ethernet port.

3.   From the pull-down menu labeled *Configure IPv4* choose *Using DHCP*
      and then click *Apply Now.*

4.   Click on the *PPPoE* tab, and make sure the box that is labeled *Connect
      using PPPoE* is unchecked. If you made a change, click *Apply Now.*

5.   Close the Network system preferences panel.

Configuring the MWB-250

Once your computer is connected to the MWB-250, you can configure the unit by opening a web browser (Internet Explorer, FireFox, etc.) and in the address bar, entering http://10.11.12.1 (the IP address of the MWB-250). The default username is *admin* and the password is *mwb,* but you can change these settings on the *System* tab. Once you sign in, your computer will load a set of configuration pages from the MWB-250. You may want to bookmark this IP adddress for future use.

On the Main page, you will see the wireless network to which the MWB is trying to connect, along with the status of its wireless link. At the bottom are the unit's Wide Area and Local network settings.

At startup, the MWB-250 will automatically attempt to connect to the strongest, unsecured network. If it's successful, and that network is properly configured to provide you with Internet access, you will not need to make any changes to the MWB-250 configuration pages.

Choosing a Wi-Fi Network

If you do want to select a different wireless network, move to the Link Setup tab and click on *Select Network.* The MWB-250 will display a Site Survey list showing each of the available access points, with its MAC Address (a unique network "serial number"), Network Name (also known as the SSID), Security Method, Signal Strength, Frequency, and Wi-Fi Channel.

To connect to a particular network, simply click the button next to it in the list, and then click *Select This Network.* Once the Site Survey window closes, click *Save Changes* and then *Apply.*

IMPORTANT NOTE: *You may not be able to connect to all of the networks you find with the Site Survey. Network operators can block new connections through the use of encryption, MAC address filtering, and other techniques. Before calling us for support, please confirm that the network to which you are trying to connect is openly available for your use.*

Using Encryption Keys

Some wireless networks use encryption to prevent unauthorized users from connecting to their access points. In order to connect to one of these networks, you need to first have an encryption "key" – a code that identifies you as an authorized user.

For obvious reasons, most public Wi-Fi networks don't use encryption. If you should need to connect to an encrypted network, though, you can enter an encryption key into the MWB-250 by moving to the *Link Setup* tab and entering the necessary information in the *Wireless Security* section

Choose the security method and authentication type (Open or Shared Key) used by the access point to which you want to connect, then enter details in the fields below. For WEP security, you will need a key length and key. For WPA, you will need to specify an authentication system and a preshared key or username/password.

After you have finished entering information, click on *Save Changes* at the bottom of the page, then click *Apply* to use the new settings.

Advanced Settings

The MWB-250 is capable of a high degree of customization and includes a wide array of advanced features, but few of these will be meaningful to the boat owner who simply wants to connect to a local Wi-Fi network. If you would like to learn more about the advanced settings of the MWB-250, please visit www.portnetworks.com, then choose Support > Marine Wireless Bridges.

Troubleshooting

If you have followed the instructions in this Guide and cannot connect to the Internet, please follow these steps:

1. Check your computer's IP address. To do this on a Windows XP computer, go to the *Start Menu*, choose *Control Panels*, then *Network Connections*, and right-click on *Local Area Connection*. Choose *Status* and then click the *Support* tab. The IP address will be listed on the second line. Using Windows Vista, go to the *Start Menu*, right-click *Network*, then choose *Properties.* In the *Network and Sharing Center* , click on *Local Area Connection > View Status,* then click *Details* and look for *IPv4 Address.* On a Macintosh computer, go to the Apple menu, choose *System Preferences*, then *Network*. Select *Built-In Ethernet* and click the *TCP/IP* tab, where the IP address will be listed.

    Your computer should have an IP address of 10.11.12.xxx (where xxx could be any number between 100 and 250). If you do not have an IP address or have a different one, repeat the procedure in this Guide for setting up your computer to receive an IP address, and follow Step 2 to confirm that you are connected to the MWB-250.

2. Check that you are connected to the MWB-250. Begin by making sure that all Ethernet cables and power cords are plugged in tightly. Make sure that the Link light for the Ethernet port on your computer, switch, or access point comes on when you insert the Ethernet data cable.

    From your computer, open a web browser and enter the IP address http://10.11.12.1 in the address bar. If the MWB-250 settings pages come up, you are connected to the MWB-250. If not, check connections.

3. Confirm that the MWB-250 is connected to a Wi-Fi network. In the Network Settings section of the Main configuration page, check that the unit has a *WLAN MAC address* and *WLAN IP Address*. If it does not, repeat the procedure in this Guide for connecting to a Wi-Fi network.

4. Confirm that the MWB-250 is set to request an IP address. On the *Network* configuration page, make sure *WLAN IP Address* is set to *DHCP*.

5. Confirm that the Wi-Fi network to which you are connected is available. There are many reasons a Wi-Fi network may be unavailable, even if it appears to allow open connections. Some private access points are set up with filters that only allow traffic to pass through to pre-approved computers. Some access points are set up with authentication pages that load slowly or don't load at all. Some access points are simply so

overloaded that they will not pass traffic to a new client, even though they allow new clients to connect. If you aren't sure whether a particular Wi-Fi network is available, try connecting to a different network. If you can successfully connect to the Internet through a different network, the first network you were trying to connect to is probably unavailable.

Standard Settings

To reset the unit to its original configuration, open the MWB enclosure while the unit is powered on, and locate the small black reset button next to the cable connections on the circuit board. Depress the reset switch for 10 seconds. When you release the reset switch, the unit will reboot with standard settings.

Support

If you have any questions that aren't answered by this Guide, please send an email to support@portnetworks.com, or call us at (410) 637-3707. Our support staff is available weekdays 9am to 9pm, and weekends 12pm to 6pm, Eastern Time.