Introduction

The Marquee Bridge (MB) is a complete 5 GHz wireless point-to-point (p-p) or point-to-multipoint (p-mp) system that links two Ethernet LANs together. It consists of two high-gain directional antennas and a pair of OFDM radios in a rugged outdoor enclosure. They connect to the LAN's Ethernet Switch on each end with an outdoor-rated Ethernet cable ordered separately. It is ideal for connecting two office LANs together, or for linking a WIPOP site to an Internet backbone. The Marquee Bridge uses the YDI-Fi software which supports VLAN bridging (802.1q protocol).

The Marquee Bridge will accommodate virtually an unlimited number of client MAC addresses on each side of the link. With 5 non-overlapping channels available, up to 5 bridges can be co-located at a site.

The Marquee Bridge is available in four versions:

- Standard version with an integrated one-foot flat panel antenna (MB-INT-ST) for operation in the UNII Band II (5.250 – 5.350 GHz)
- Standard version with an N-type connector for an external antenna (MB-EXT-ST) for operation in the ISM Band (5.725 – 5.850 GHz)
- High Power version with an integrated one-foot flat panel antenna (MB-INT-HP) for operation in the ISM Band (5.725 – 5.850 GHz)
- High Power version with an N-type connector for an external antenna (MB-EXT-HP) for operation in the ISM Band (5.725 – 5.850 GHz)

This manual applies to the Marquee Bridge version that operates in the UNII Band II (MB-INT-ST).

Marquee Bridge Kit Contents

1. Two outdoor radios with built-in 23 dBi one foot FP antenna and mounting hardware
2. Two Cat 5 DC Power Injectors (surge protected Power Injectors are available as an option)
3. Two 110/240 VAC to 48 VDC power supplies
4. Windows-based YDI AP Manager software

YDI EtherAnt outdoor Ethernet cables must be ordered separately. Available lengths are 50, 100, 200, or 300 ft.

Figure 1 – Marquee Bridge Kit Contents
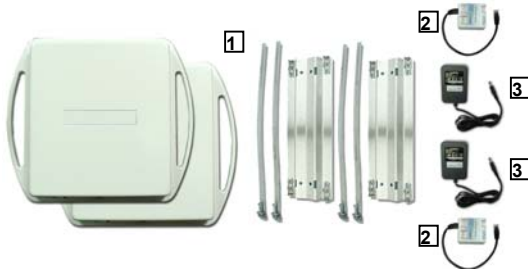
The Marquee Bridge MB-INT-ST is intended for professional installation only on fixed outdoor structures and p- p operation in the UNII Band II. Please review the entire manual before powering up or deploying these units.

Installation

NOTE: All connectors must be properly water-proofed with all-weather electrical tape, Permagum, or equivalent. Do not use Silicon glue.

The Marquee Bridge radio unit is installed by means of a pole mount adaptor bracket that is secured to the pole using two metal hose type clamps. Figure 1 shows the hardware provided to mount the outdoor RF Unit.

1. Install the outdoor unit pole mount adaptor bracket using the supplied metal hose type clamps (see Figure 2).

Figure 2 – Detail Showing Outdoor Unit Pole Mount Bracket
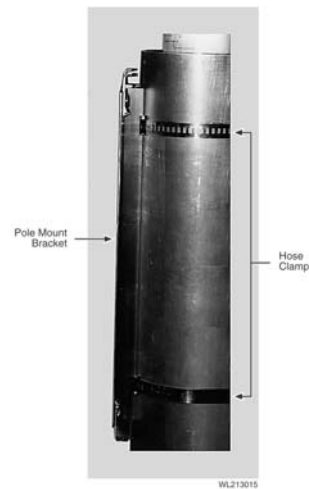
2. Align the four mounting studs on the outdoor unit with the bracket holes (see Figure 3) and secure to the bracket by pushing down the latches as shown in Figures 4a and 4b.

Figure 3 – Attaching the Marquee Bridge Outdoor Unit to the Pole Mount Bracket
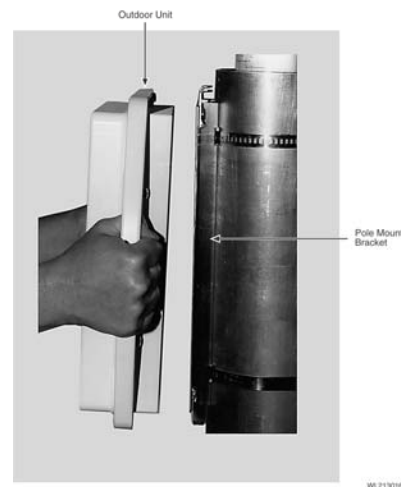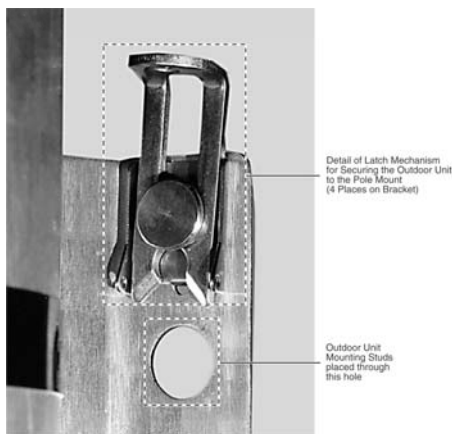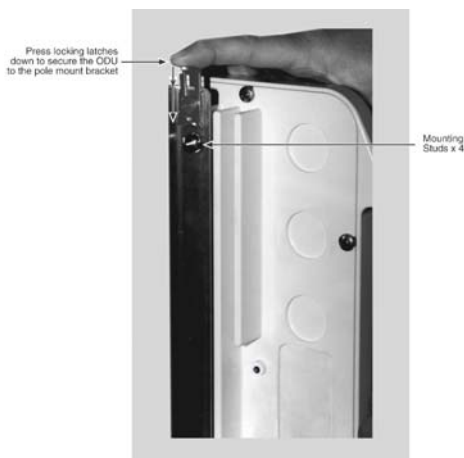
Figure 4a – Latching Bracket to Pole Mount

Figure 4b – Securing the Latches to the Pole Mount Bracket

3. Ensuring that there is no DC power applied to the DC Power Injector, plug the round connector of the outdoor Ethernet cable into the rear jack of the unit (Fig. 5), making sure the notch is correctly aligned with the tab on the jack as shown in Figure 6, then turn the round locking nut clockwise as you push in until it securely fastens onto the jack.

WARNING: *Please verify that the round connector is properly plugged into the rear jack of the antenna prior to connecting DC power because it is possible to push it in the wrong way if enough force is used. If DC Power is applied while you are attempting to insert the round connector into the jack, it is possible that, as you rotate the plug in an effort to find the key, DC power pins will momentarily touch the Ethernet pins* **If this happens the Ethernet circuitry on the board will be damaged**. *Any harm caused by this action will* **not** *be covered by the factory warranty and will be a billable repair.*

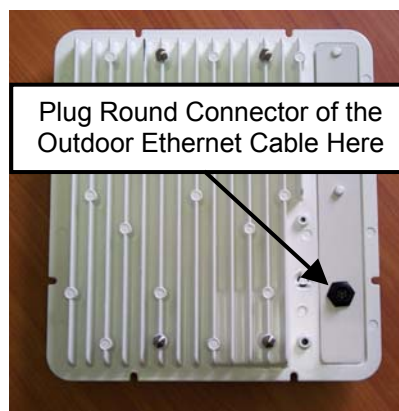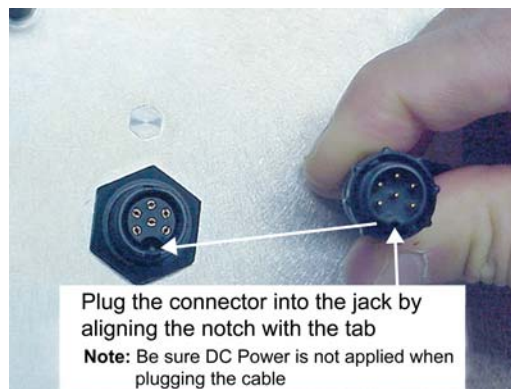*Figure 5 – Connecting the Outdoor Ethernet Cable*

Figure 6 – Plugging the Round Connector

4. Attach the other end of the outdoor Ethernet cable to the Cat 5 DC Power Injector at port RJ-45 labeled "To ANT."

NOTE: The Cat 5 DC Power Injector is not in a waterproof enclosure and must be protected from the weather. It can be permanently mounted to a surface using the double stick tape found on the back of it.

5. Connect the Ethernet cable labeled "To PC or Router" from the Cat 5 DC Power Injector to your router, switch or hub. If you connect to a computer or PC, a crossover cable or adapter will be needed.

6. If your unit is placed on a non-metal pole or structure, install a #6 AWG insulated ground cable (not provided) to the ground connector in the back of the radio as shown in Figure 7. Use a self-threading screw and a flat washer to fasten the earth lug. This provides safeguard against lightning. For maximum protection, YDI also recommends the use of its optional surge protected DC Injector available from your YDI dealer (part No. 304-800620-002). This DC Injector has an additional wire to be connected to ground as shown on Fig. 8.

Figure 7 – Detail Showing Ground Cable Connection (this provides maximum lightning protection)

Figure 8 – Installation of the Optional YDI Surge Protected DC Injector
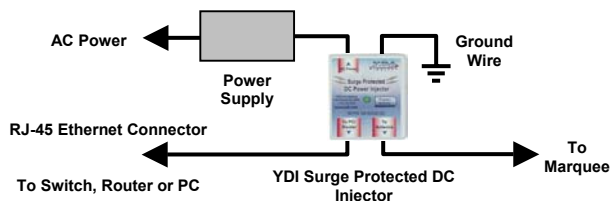
NOTE: The regular DC injector supplied with your kit is connected the same way but it does not have a ground wire

7. Plug the AC Adapter into an AC outlet and connect it to the "DC Power" jack on the Cat 5 DC Power Injector. Perform antenna alignment procedures at both sites. Proper antenna alignment is crucial for the correct operation of the Marquee Bridge system and should only be accomplished by experienced professionals. After that your installation is complete.

LEDs

The Green LED is steady on when power is applied.

Figure 10 – Marquee Bridge LEDs

Installing the Management Software

The Windows-based YDI AP Manager software can be installed on a PC or workstation running Windows 98/ME, 2000, NT, or XP. This software has a GUI (Graphical User Interface), which makes it easy to use. The program allows you to locally or remotely perform the following procedures:

- Display a list of units running on the local network
- Display and edit the current configuration of the units

- Save and load configurations

IMPORTANT: Your Marquee Bridge units must be on the same subnet as the computer with the YDI AP Manager installed, or have a routable IP address, in order to access it. If not, you will get a status of Offline for the unit (see the Status column in Figure 11) even if the LEDs show activity. To configure the units, change the IP address of your computer to a 10.1.1.x sub-net. Once you have access to the unit, you can then assign a new IP address to it by clicking on the Setup tab and IP Host button.

Note that the YDI AP Manager program is also used to manage AP-Plus units. Therefore you will see many grayed out options, features and settings. These only become available when you are connected to an AP-Plus, Orinoco AP, or router that has all these features available.

To install the YDI AP Manager in Windows, insert the YDI CD-ROM included in the AP-Plus kit into the appropriate drive of your computer. Using your Windows Explorer, open the directory **Management Software\YDI AP Manager** and run the Set Up program **ydi_ap.exe**. Simply follow the instructions on the screen which will guide you through the entire process. After completing the YDI AP Manager installation, you are ready to configure your system.

NOTE: For detailed information about the YDI AP Manager, please refer to the documentation in your CD ROM. Also, an online help is available by pressing F1 or clicking Help-> Index from the main screen.

Configuring the Marquee Bridge

The Marquee Bridge is shipped from factory pre-configured for bridging operation and with the proper transmit power settings. The two units are set with the following default IP addresses:

10.1.1.10
and
10.1.1.11

The default read/write password is *public*.

Some of the parameters that you may need to change are the following:

- IP addresses
- Read/Write password
- Radio frequency channel

1. Connect a crossover Ethernet cable from the Cat 5 DC Power Injector to your computer or PC.

2. Open the directory where the manager program has been installed (the default is **Program Files\YDI\AP Manager**). Run the program **AP Manager.exe**.

3. The Main Screen shown in Figure 11 appears. To scan for devices on the network, place the cursor in the *List of Scanned Devices* text box and right-click the mouse. A *Re-scan local network* button will appear. Click on the button. A list of devices will appear.

Figure 11 – YDI AP Manager Main Screen
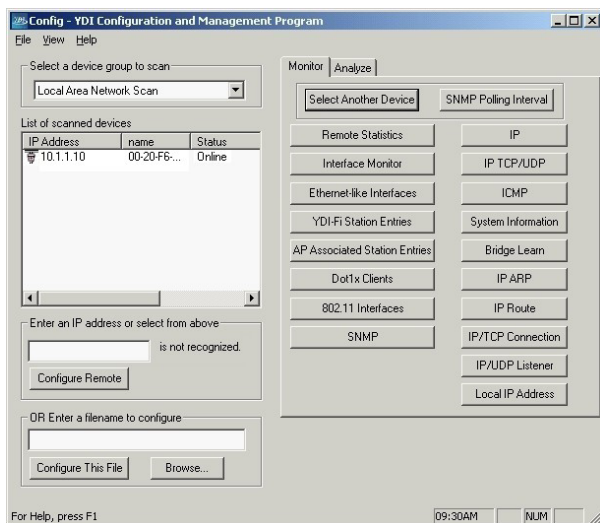
4. Click on the device you wish to configure. The selected device IP address will appear in the text box above the *Configure Remote* button (alternatively, you can enter the IP address of the Marquee Bridge unit). Click this button.

5. A *Read/Write Password* text box will appear (see Figure 12). The default password is *public*. Click the **OK** button. It is suggested that you change the password later, write it down and keep it in a safe place.

6. After you login successfully, the *Setup* screen appears. Click on the *IP Host* button. The *IP Setup* screen appears (see Figure 13). Enter the IP Address, Subnet Mask, and Default Router IP Address. Click **OK**.

7. On the *Setup* screen, click on the *Interface Setup* button. The corresponding screen appears (see Figure 14).

8. Click on *Setup 2*. The *802.11 Setup* screen appears (see Figure 15). Select the type of Station this Marquee Bridge is going to be. In a p-p configuration, one unit must be **Base** and the other must be **Remote (Satellite)**. In a p-mp configuration, one unit must be **Base** and all the others must be **Remote (Satellite)**. *Radio Configuration* must be set to **802.11a**. The Base station should be set for *Polling Base Station*. Leave the rest of the buttons unchanged.
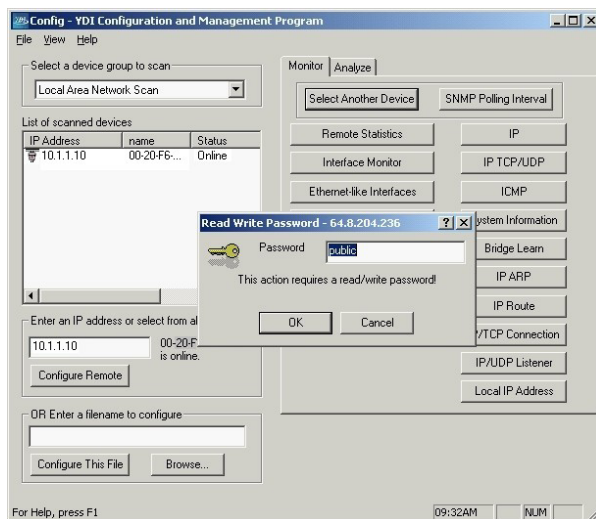
Figure 12 – Read/Write Password Screen
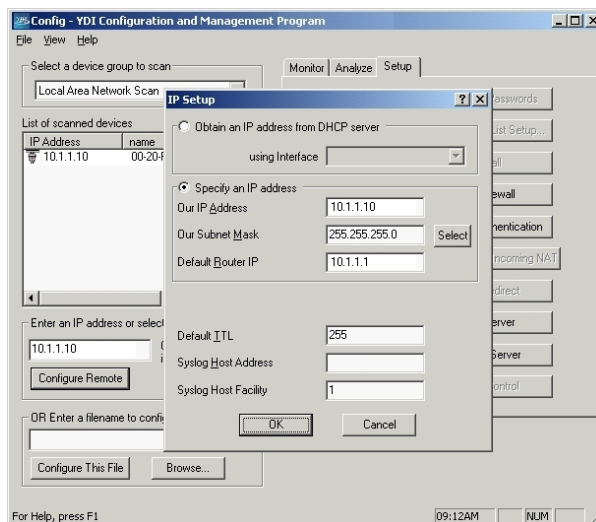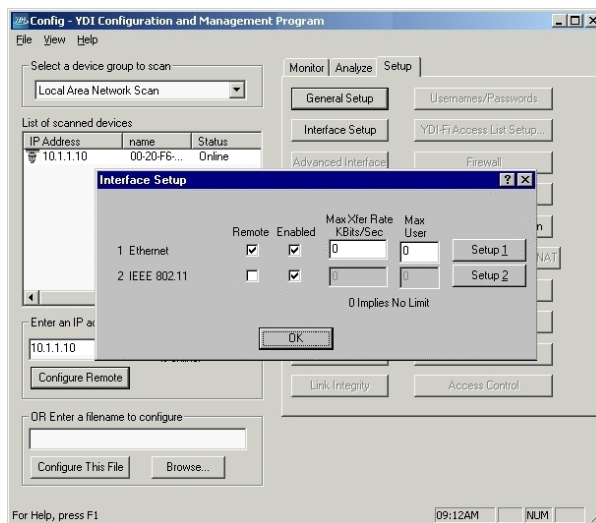

Figure 13 – IP Setup Screen

Figure 14 – Interface Setup Screen

Figure 15 – 802.11 Setup Screen

9. Click the *Advanced* button. The corresponding screen appears (see Figure 16). Select a *Frequency Channel* from the pull down menu box. All units must be configured with the same value.

Figure 16 – 802.11 Advanced Setup Screen

10. The Marquee Bridge is optimized for a transmit rate of 36 Mbps and the transmit power is preset from factory with the proper value.

11. Click **OK**. Click **OK** again.

12. Click the *System Access* button. The corresponding screen appears (see Figure 17). Enter a Pass Phrase to identify the wireless network. All units must be configured with the same value. Click **OK**.

13. Go to *File* and click *Save Config*: this will save the new settings.

Figure 17 – System Access Setup Screen

14. After the Marquee Bridge is finished saving its configuration, exit the YDI AP Manager program. The Marquee Bridge is ready to use. Refer to the online help for complete instructions on setting up other features in the unit.

Technical Support

Your primary source of assistance is the dealer from which you purchased this product. The YDI support staff should only be contacted directly if you purchased this product directly from YDI.

NOTE: Before you contact Technical Support, please make sure that you have read and thoroughly understood all instructions outlined on this manual.

YDI Wireless	Tel.:	703-205-0600
8000 Lee Highway	Fax:	703-205-0610
Falls Church, VA 22042	E-mail:	tech@ydi.com
USA		*www.ydi.com*

The latest software and User's Manuals can also be found at:

http://www.ydi.com/support/downloads.php

http://www.ydi.com/support/documents.php

FCC NOTICE

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment when installed as directed. The equipment is intended for professional installation only on fixed outdoor structures and p- p operation in the UNII Band II. This equipment should be installed and operated such that there is a minimum of 2 meters of separation distance between the equipment and all persons during normal operation.

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.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

To see all our FCC certified systems, please visit:

http://www.ydi.com/deployinfo/fcc-info.php