Wireless USB Adaptor

MODEL USB-ADG-2

MAC USER GUIDE

Version 1.0

Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

LIMITED WARRANTY

AIR802 guarantees that each USB-ADG-2 will be free from physical defects in material and workmanship under normal use for two (2) years from the date of purchase. If the product proves defective during this two-year warranty period, call AIR802 Technical Support in order to obtain a Return Authorization Number. BE SURE TO HAVE YOUR PROOF OF PURCHASE AND A BARCODE FROM THE PRODUCT'S PACKAGING PRIOR TO CALLING. RETURN REQUESTS CAN NOT BE PROCESSED WITHOUT PROOF OF PURCHASE. When returning a product, mark the Return Authorization number clearly on the outside of the package and include a copy of your original proof of purchase. All customers outside of the United States of America and Canada shall be held responsible for shipping charges and handling charges.

IN NO EVENT SHALL AIR802'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE, OR ITS DOCUMENTATION. AIR802 DOES NOT OFFER ANY REFUNDS FOR THE USB-ADG-2 PRODUCT UNLESS IT WAS PURCHASED VIA THE AIR8O2 ONLINE STORE AND THEN THE STORE POLICIES SHALL APPLY. AIR802 makes no warranty or representation, expressed, implied, or statutory, with respect to its products or use of this documentation and all accompanying software, and specficially disclaims its quality, performance, merchantibility, or fitness for any particular purpose. AIR802 reserves the right to revise or update its products, software, or documentation without obligation to notfify any individual or entity. Please direct all inquires to:

AIR802 Suite 137-319 931 West 75th Street Naperville, IL 60540.

FCC STATEMENT

This USB Adaptor has been tested and complies with the specifications for a Class B digital devices, 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 according to 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 is found by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for assistance.

FCC Caution

Any changes or modifications nor expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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 not accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. Users can purchase USB extension cables if necessary to comply.

The device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

USB ADAPTOR INTRODUCTION

Thank you for your purchase of the AIR802 USB-ADG-2 adaptor. This USB adaptor offers great value whether you are an individual purchasing for use at home or for use in a business of any size.

USB adaptors are a simple and easy way to add wireless to a computer. The majority of computers now ship with wireless cards built-in, but users commonly find weak signals. This weak signal can occur due to several factors. One it may be too far from a wireless router or access point, most internal wireless cards do not provide significant radio frequency (RF) gain. Another factor is that almost all built-in cards have the antennas operating horizontally, where the wireless router or access point has vertically polarized antennas. This results in significant signal loss. Whatever the resulting cause of the weak signal is, the USB-ADG-2 with its external and removable antenna will enhance your wireless experience. This key to successful wireless exerience is the external and removable antenna with the flexibility of using alternative antennas.

The compact design makes it easy for you to travel with the adaptor. It draws its power from the USB port, so you do not need an external power supply.

This adaptor supports very high speeds up to 54 Mbps per the IEEE 802.11g specification. Of course, most broadband connections are DSL or cable modems that are limited generally to less than 6 Mbps, which determines the ultimate throughput rates in accessing the Internet.

FEATURES

- Compact Size
- USB 1.1 and 2.0 Compliant
- Modulation Method:
  IEEE 802.11b: DSS (Direct Sequence Spread Spectrum)
  IEEE 802.11g: OFDM (Ortho Frequency Division Multiplexing)
- Supports MAC OS 10.3 and Above
- Easy Setup and Operation
- Powered by Host Computer
- Basic to Superior Security Encryption: 64-bit, 128-bit or 256-bit WEP; WPA and WPA2
- 54/48/36/24/18/12/11/9/6/5.5/1 Mbps Selectable Data Rate
- Supports WMM™ (Wi-Fi Multimedia) Function
- 2400 to 2485 MHz unlicensed ISM Frequency Band
- 2-Year Limited Warranty

SYSTEM REQUIREMENTS

- Windows System: OS X 10.3 or Higher
- PCs must have a device driver installed to allow communication with the USB adaptor

PACKAGE CONTENTS

- USB Adaptor
- Antenna (5dBi gain)
- CD (Driver/Utility/User's Manual)

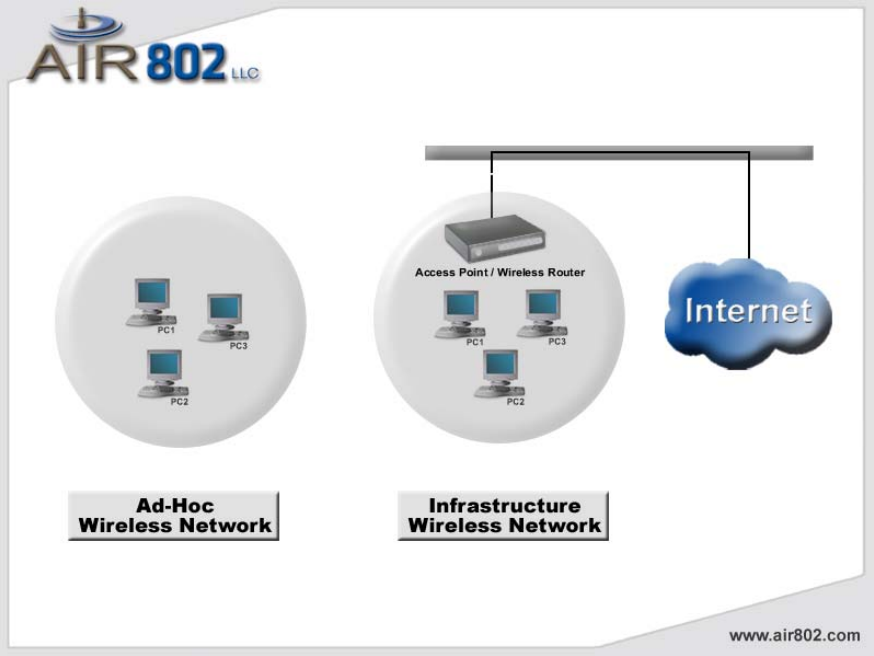
CHAPTER 2: NETWORK PLANNING AND ARCHITECTURE

AD-HOC VERSUS INFRASTRUCTURE MODE

Wireless local area networks (WLAN), as specificed in the IEEE 802.11b/g standards have two different configuration modes:

- Ad-Hoc
- Infrastructure

Ad-Hoc is a group of computers equipped with either WLAN cards or wireless USB adapters. The group of computers is called a Basic Service Set (BSS). They communicate with each other eliminating the need for an access point or router device. Computers in Ad-Hoc mode cannot communicate with computers on a wired network or connect to the Internet. In our configuration software it is referred to as, "AP mode". However this does not imply that it is an access point in the normal sense. Ad-Hoc is shown in the diagram on the left side below.



Infrastructure is where a computer or other network device equipped with with WLAN card or USB adapter communicates directly with an access point or wireless router. Infrastructure mode is the normal mode of use for most users. It is referred to as, "station mode" in our configuration software. An infrastructure example is shown in the diagram on the right above.

USB EXTENSION CABLE

There may be circumstances where you may prefer not to plug the USB adapter directly into a USB port. This might include scenarios such as a desktop computer sitting on the floor and the desire to get the adapter up higher ontop of a desk providing less signal obstructions and improved performance. An USB extension cable would facilitate this effort. Another scenario might be that you are not using the antenna shipped with the product and have installed a coaxial cable from the USB adapter to an antenna installed outdoors for external network connectivity. The coaxial cable, depending on the type and size could cause some strain on the adapter in an USB port. In this case, the use of a USB extension cable would be useful.

There are two types of USB connectors, Type A and Type B. The Type A is a rectangular connector and Type B is a square connector. Type A is shown in the photo below.

If your application requires using the USB adapter outside of the USB port on your computer, then an USB extension cable is appropriate. You will need a USB Type A (male) to plug into the computer and a USB Type A (female) to plug in the USB adapter. USB extension cables by standards specification are limited to 15 feet in length. AIR802 currently manufactures USB extenssion cables in 3 and 6 foot USB lengths and they are available at (http://www.air802.com/home.php?cat=428).

ALTERNATIVE ANTENNAS

The USB-ADG-2 is sold with a 5dBi gain dipole type antena. This antenna radiates radio frequency (RF) in 360 degrees. Users may depending on their application and needs find alternative antennas to be useful. AIR802 manufactures a wide range of antennas which could be used with this adapter. Antennas alone do not determine the distance that you may reach. It is a factor of the RF transmit power and receiver sensitivity (with the USB adapter and the access point/router device), any cabling loss, free space loss and antenna gain and other factors such as interference in the 2.4 GHz ISM band. With line-of-sight, antennnas and a proper installation, a point-to-point network can be achieved for 1 mile or more.

Outdoor antennas can be used indoors and will almost always will provide better results than an indoor antenna of the same gain. To install an antenna remote of the USB adapter, you will need to purchase a special AIR802 antenna cable asssembly. The cable assembly will require a RP-SMA (plug) at the USB adapter end. AIR802 outdoor antennas will require a N(male) connector at the opposite end of the cabe.

Indoor Type

- ANOM2409-RPSMA Dipole antenna with 9dBi gain – use if higher gain is required
- ANOM2406 Directional 6dBi gain – use to focus RF energy in a specific direction
- ANOM2448 Directional 4.8dBi gain, with 100cm (7.87”) cable – use for directional gain

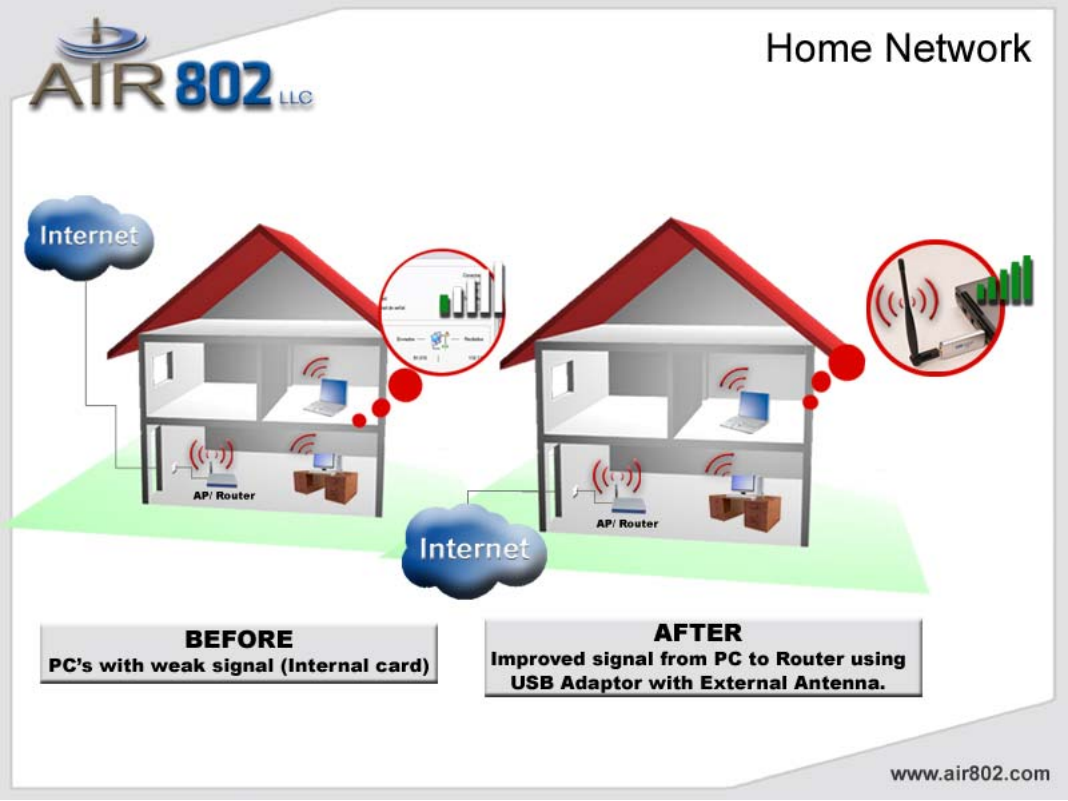
Outdoor Type *Requires AIR802 Antenna Cable Assembly

- ANOM2408 Omnidirectional (360 degree), 8dBi gain, Outdoor
- ANOM2410 Omnidirectional (360 degree), 10dBi gain, Outdoor
- ANOM2412 Omnidirectional (360 degree), 12dBi gain, Outdoor
- ANYA2408 Yagi (directional), 8dBi gain, Outdoor
- ANYA2410 Yagi (directional), 10dBi gain, Outdoor
- ANYA2412 Yagi (directional), 12dBi gain, Outdoor
- ANYA2415 Yagi (directional), 15dBi gain, Outdoor
- ANYA2418 Yagi (directional), 18dBi gain, Outdoor

APPLICATIONS

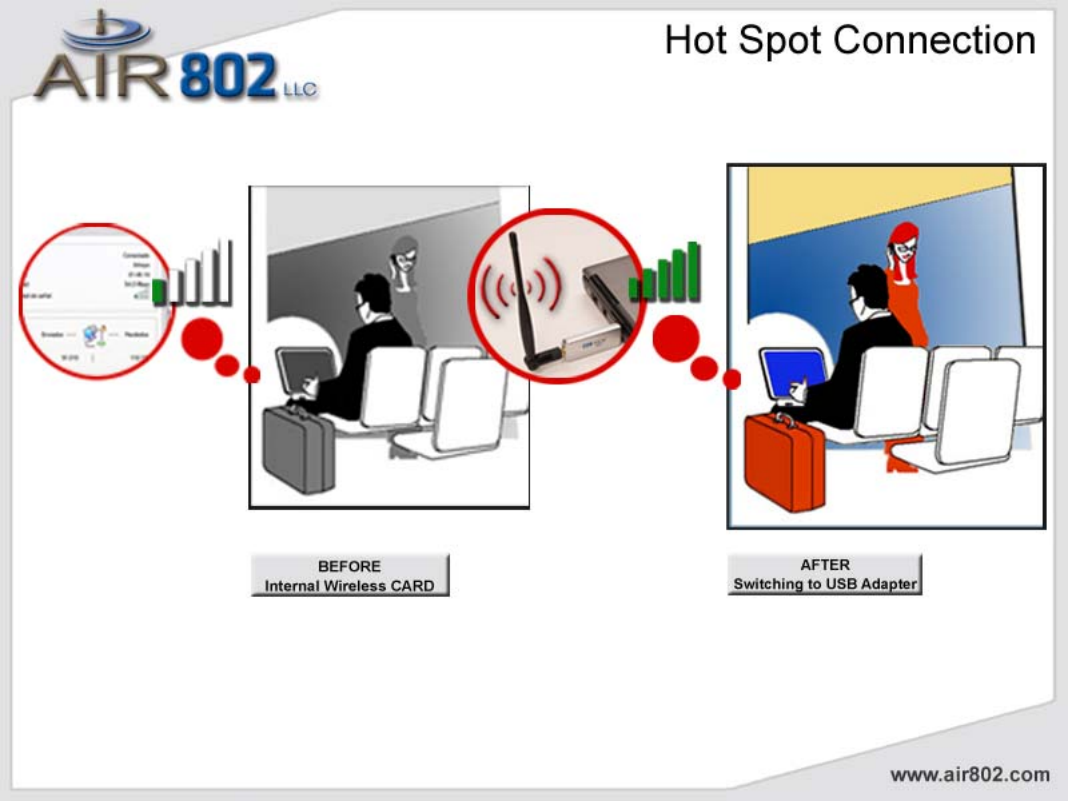
Residential Network – Computer to Router Connectivity

- Residential users commonly do not receive adequate signal coverage througout their home. It is often assumed that replacing the existing router antenna for a model with higher gain will resolve the issue. While in some circumstances this may help, often the problem is that the internal wireless card in the computer produces to weak of a signal to reach the router. Installing the AIR802 USB-ADG-2 device will normally significantly improve this scenario. External antennas simply provide better performance.



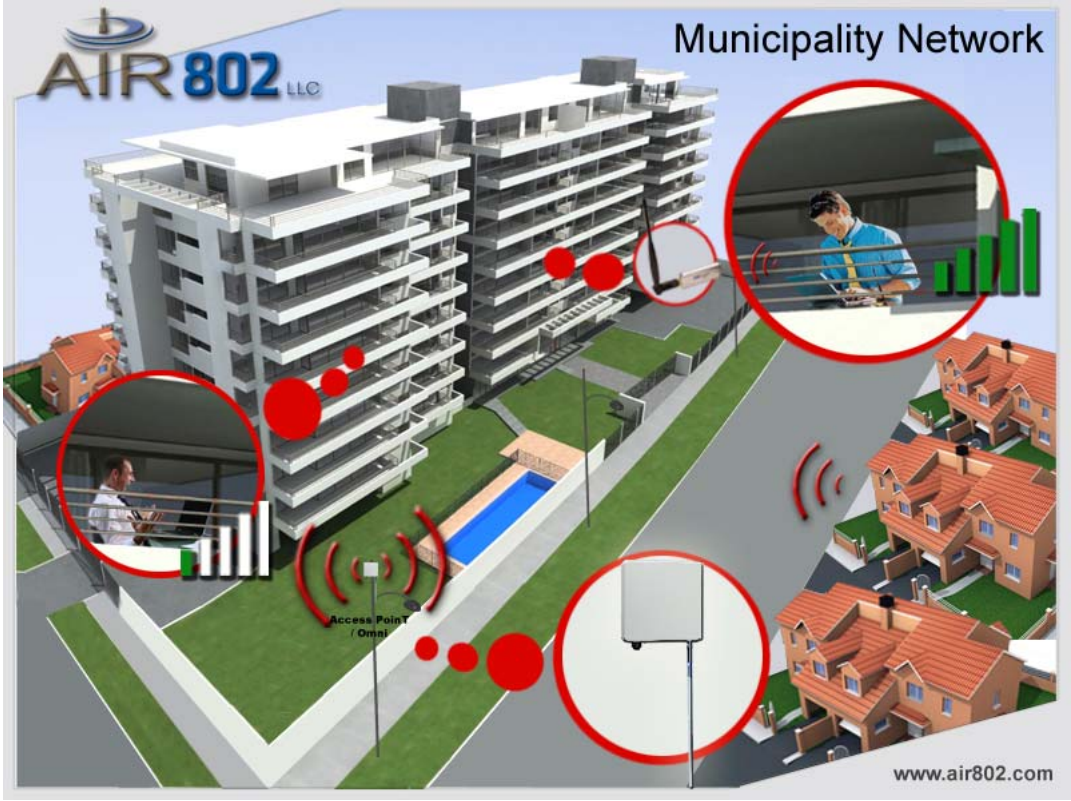
Computer to Public Wi-Fi Access Point (Hot Spot Connectivity)

- Whether in a local coffee shop, airport or hotel lobby, the computer user may frequently encounter a weak signal or connectivity. Your connection can depend upon how well the public hot spot was engineered and installed. However, the connectivity can be greatly improved upon through the use of the USB adapter and its external antenna. An external antenna is the key to successful wireless connectivity.



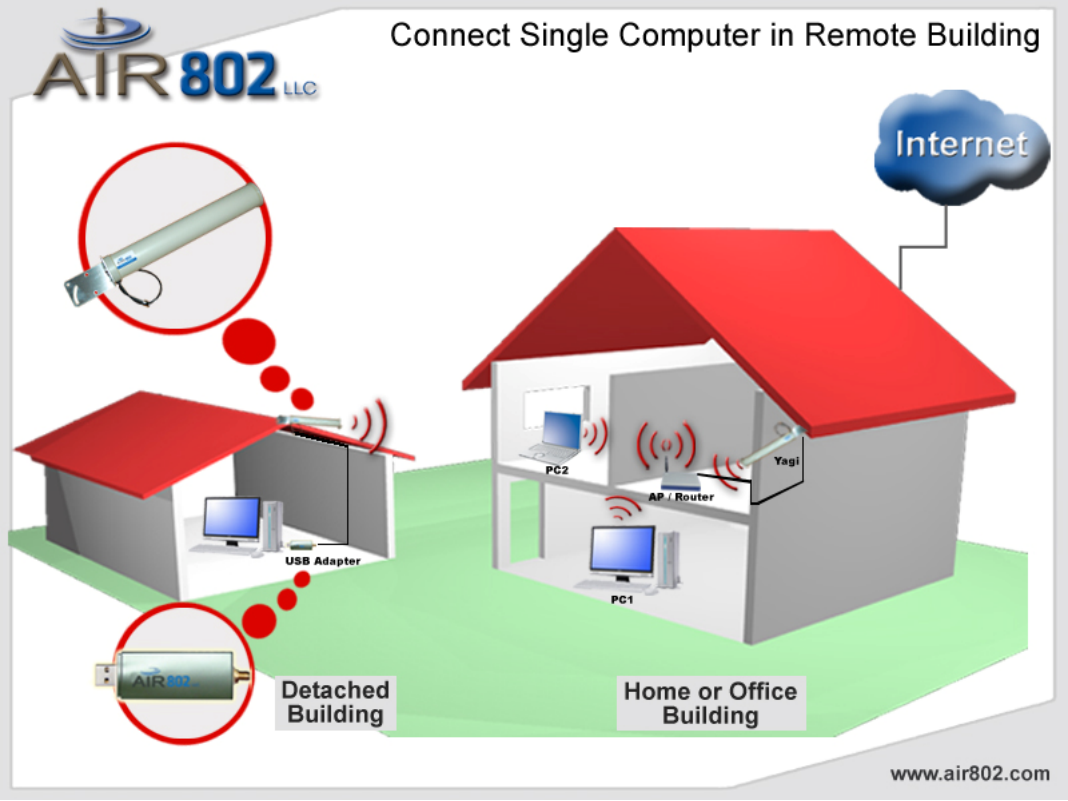
Municipal Network Connectivity

- Municipal or city wide network are becoming commonly available. However, users often have weak or non-existent signal levels. The connectivity can be greatly enhanced through the use of the USB-ADG-2 wireless adapter with external antenna. Whether lounging at the pool or sitting in a local park or in your home, the USB adapter with an external antenna is the key to improved experience. Some users, particularly if away from the outside wall of their home, may require an outdoor antenna connected to the USB adapter. This can vary upon the type of walls, the signal level just outside, interference in the spectrum, etc. This is accomplished by removing the antenna that is packaged with the USB adapter and installing an AIR802 professional antenna cable assembly to an AIR802 outdoor type antenna.



Remote Building with Single Computer – Network Connectivity to Main Building or Home

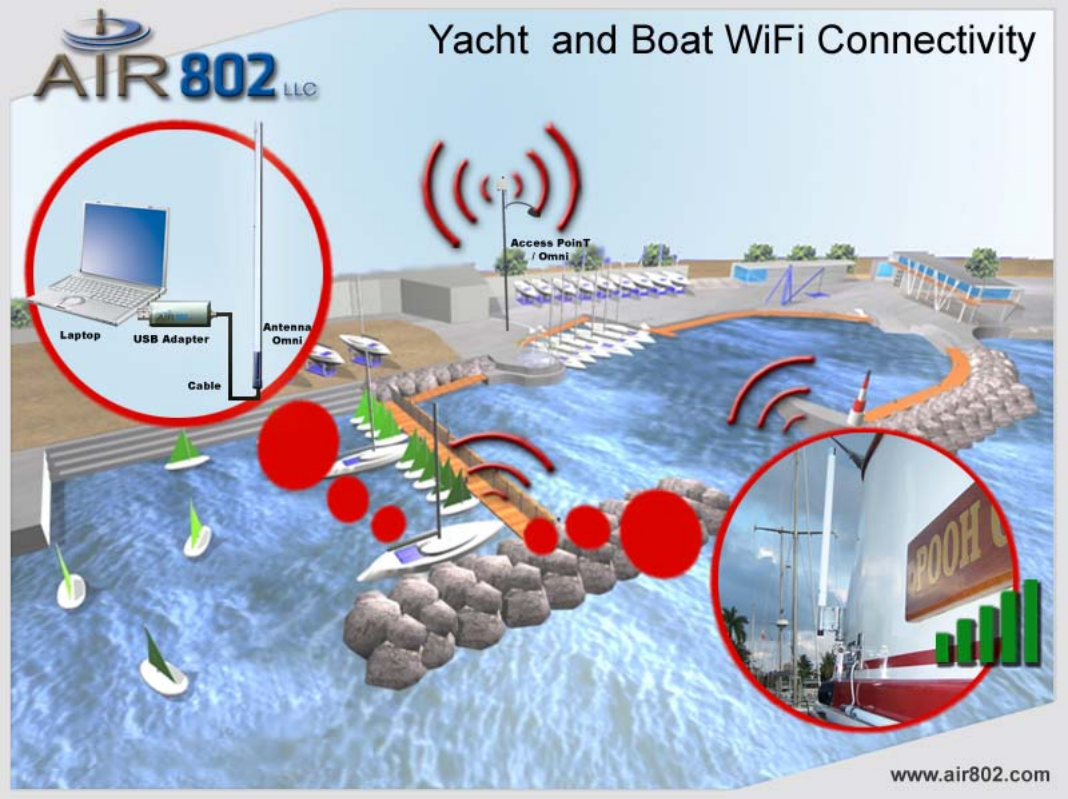
- Frequently a remote building, whether it be a detached garage from the home or a commercial building separate from the main building may have a single computer that needs connectivity between each other. The USB adapter can easily be the solution. For best results, an external antenna, generally a yagi antenna should be installed on the outside of each building pointed at each other. This will require an AIR802 antenna cable assembly from the USB adapter to the exterior antenna. The same would be done to the indoor router. Contact AIR802 for assistance in determining the best antenna and cable assembly for your specific network.



Yacht Connectivity in a Marina

- If you have a single computer in a yacht and desire to connect to the local marina wi-fi access point, the USB adapter is an excellent solution. For the best results, users should remove the antenna that comes with the USB adapter and install an AIR802 antenna cable assembly from the USB adapter to an outdoor antenna.

- The common solution for yacht owners worldwide has been to install an AIR802 USB adapter to a CA195 cable assembly. CA195 is the most popular antenna cable assembly in use by yacht owners. It is chosen for its small outside diameter (0.195”). However, for minimum signal loss, AIR802 recommends CA400 cable assemblies (0.405” outer diameter). Yacht owners generally install the AIR802 ANOM2412 omnidirectional antenna, which is a 12dBi antenna. This antenna can be used with the AIR802 marine antenna mount. The USB adapter requires the use of an RP-SMA (plug) connector at one end of the cable, and a N(female) at the opposite end for an AIR802 outdoor antenna. For yachts with multiple computers, AIR802 offers another solution utilizing our AP-G200 high power indoor router/bridge.



RV User to Campground Access Point Connectivity

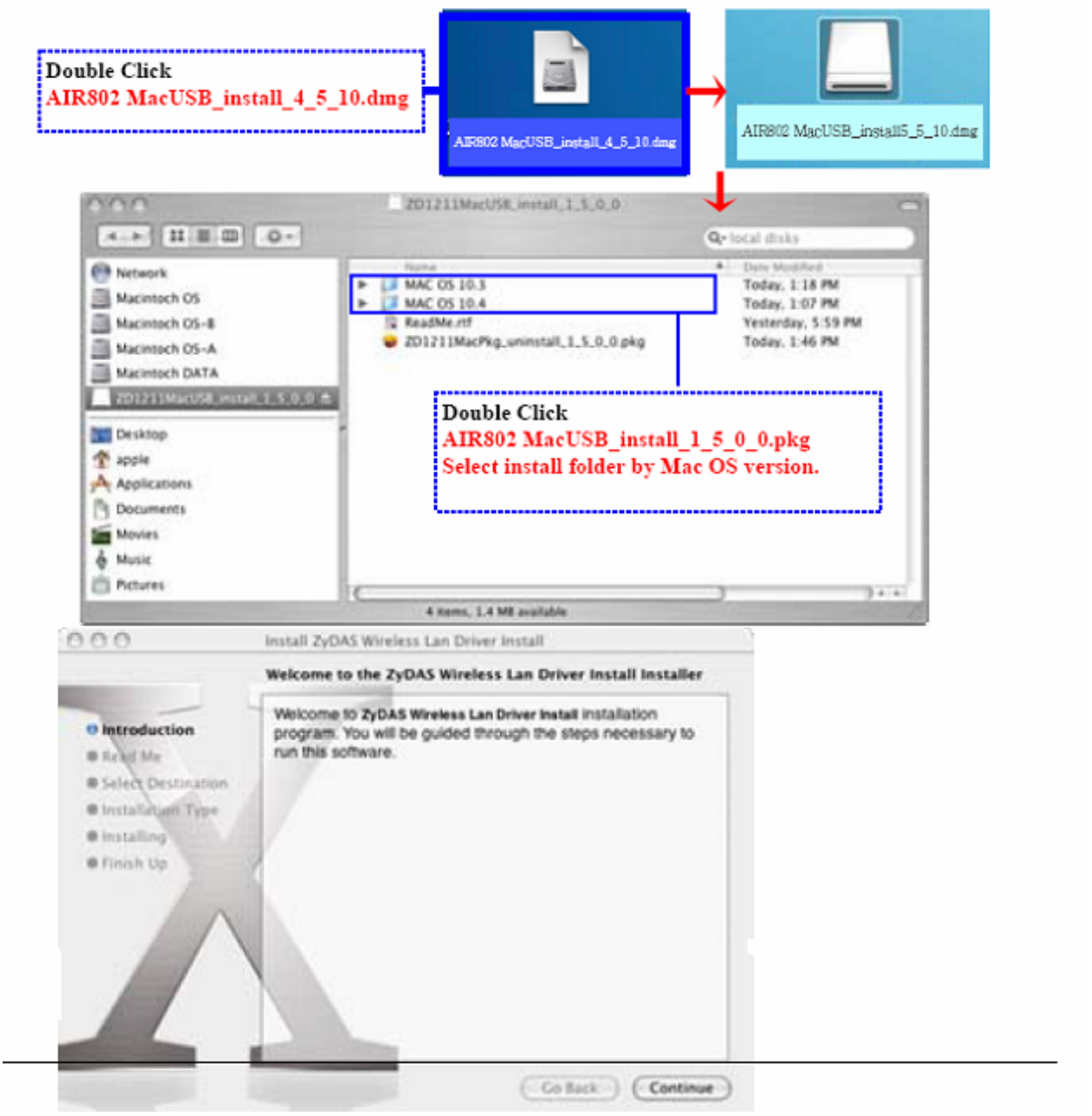
- Many campgrounds offer inadequate wi-fi coverage. Often they may be using common residential broadband routers, which are completely inadequate for the application. AIR802 has provided high power and high quality equipment through professional installers to many RV parks and campgrounds. However, a vast majority may have poor quality service offerings. Even under the best installations, users may have insufficient signal. This is almost always due to a combination of a weak internal wireless card in the computer and metal walls of a recreational vehicle. The use of an external antenna is key to a satisfying experience. Sometimes the external antenna maybe sufficient for improved signal coverage. For the best possible coverage, RV owners should install an antenna exterior to the recreational vehicle and connect it to the USB adapter through an AIR802 cable assembly. The cable requires the use of a RP-SMA (plug) for the USB adapter at one end and a N(female) connector for outdoor AIR802 antenna.

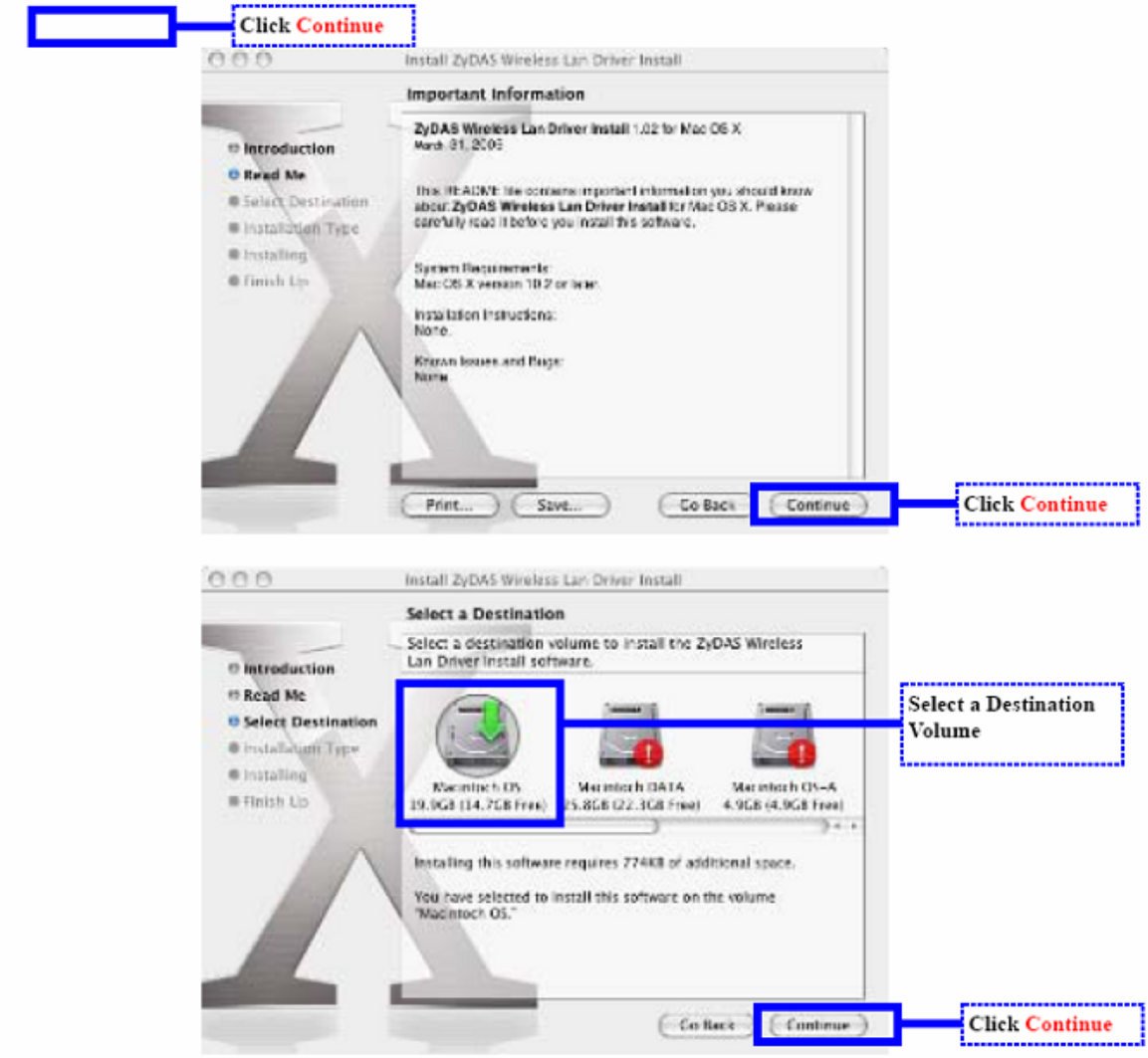
CHAPTER 3: INSTALL DRIVER (Win 98, 2000, XP)

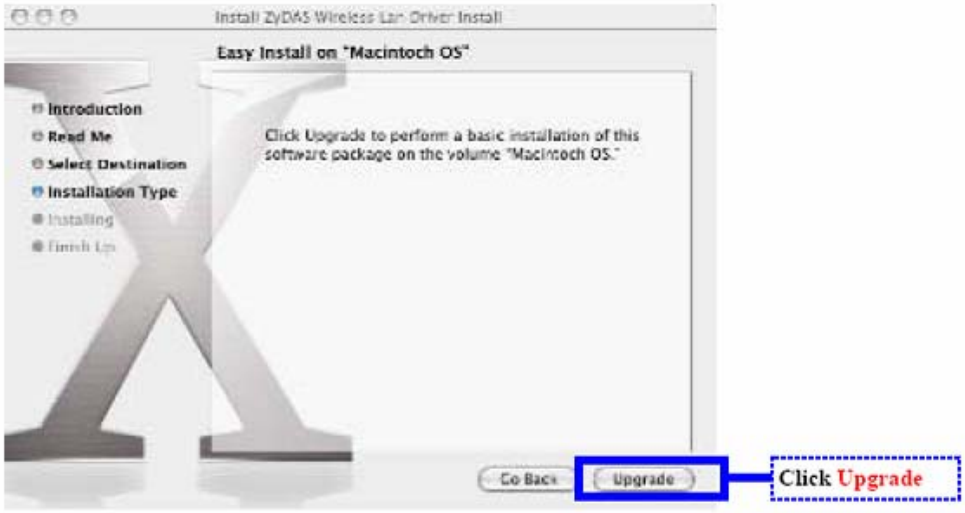
3.1 INSTALL AIR802 USB DRIVER AND UTILITY SOFTWARE

Important Note:

- To complete the installation process, you must use an Admin-priviledged user account. If you use a standard user account to complete the installation process, the WLAN utility will not function correctly after the install.
- Prior to any uninstall, quit the WLAN utility tool and remove the USB adapter.

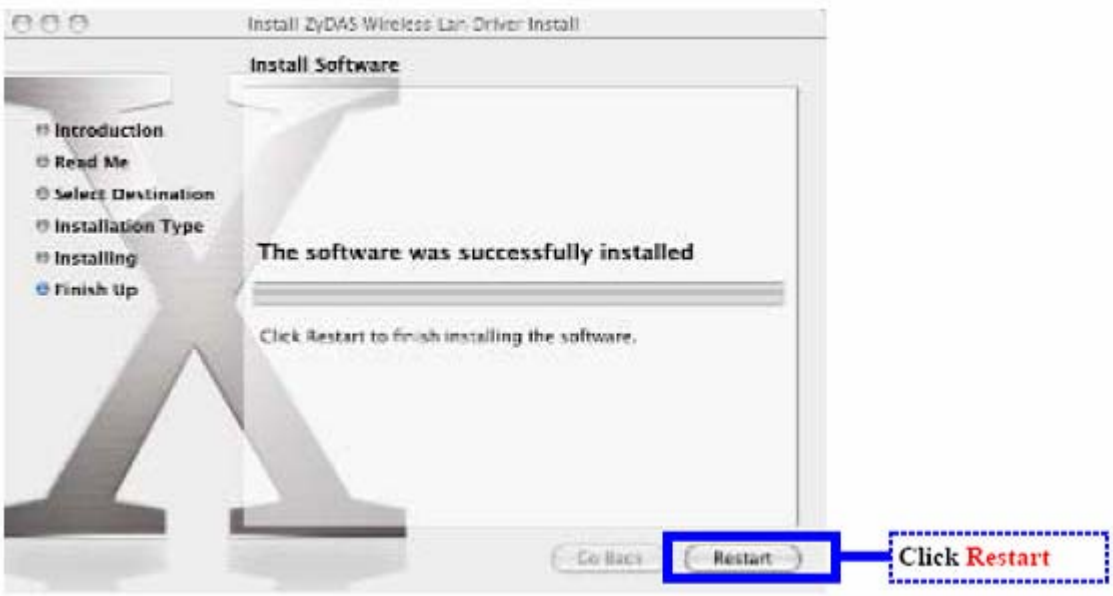



Click Continue
Install ZyDAS Wireless Lan Driver Install
Important Information
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
ZyDAS Wireless Lan Driver Install 1.02 for Mac OS X
Installation Instructions:
None
Print...
Save...
Go Back
Continue
Click Continue
Install ZyDAS Wireless Lan Driver Install
Select a Destination
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
Select a destination volume to install the ZyDAS Wireless Lan Driver Install software.
Select a Destination Volume
Installing this software requires 774KB of additional space.
You have selected to install this software on the volume "Macintosh OS."
Go Back
Continue
Click Continue


Install ZyDAS Wireless Lan Driver Install
Easy Install on "Macintoch OS"
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
Click Upgrade to perform a basic installation of this software package on the volume "Macintoch OS."
Go Back
Upgrade
Click Upgrade


Authenticate
Installer requires that you type your password.
Name: apple
Password:
Details
Cancel
OK
Click OK
Enter Name and Password of the user with Administrative rights.

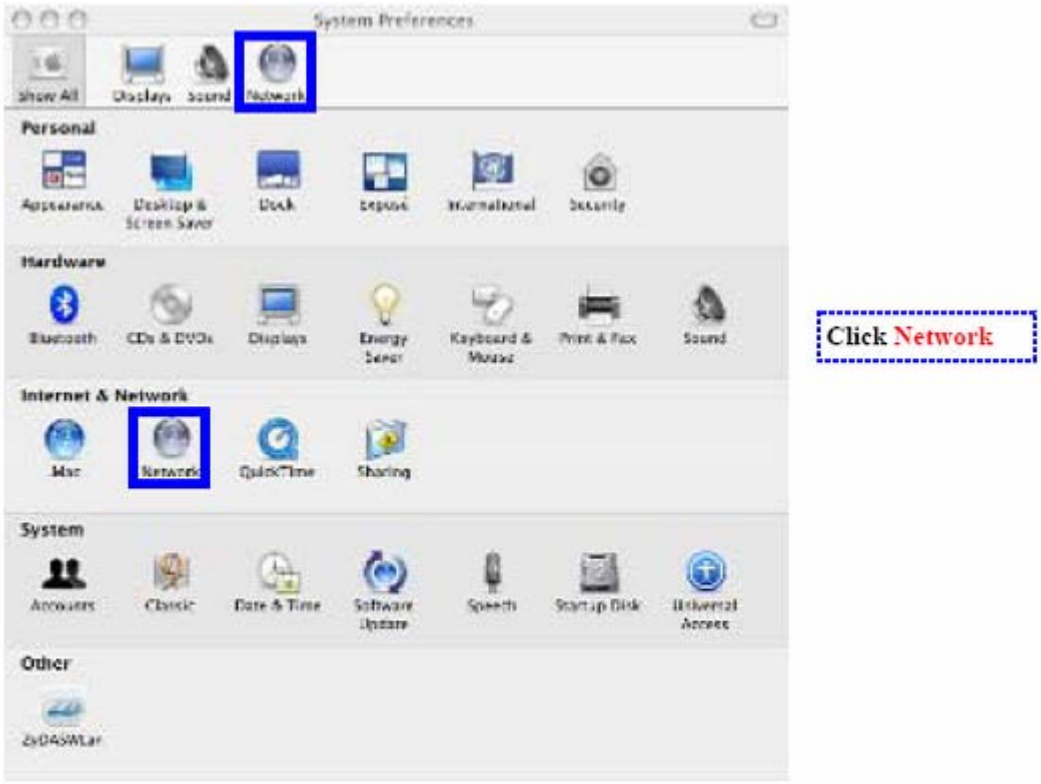

Installing this software requires you to restart your computer when the installation is done. Are you sure you want to install the software now?
Cancel
Continue Installation
Click Continue Installation

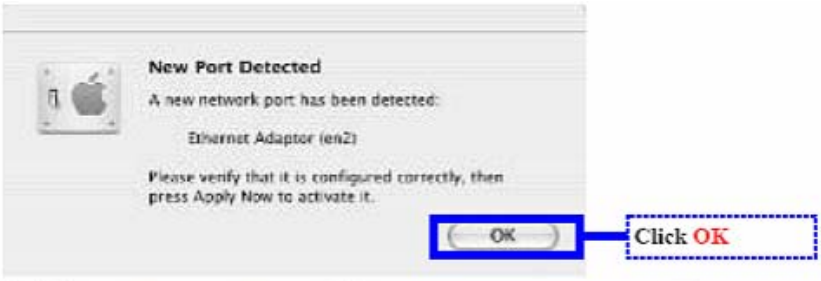


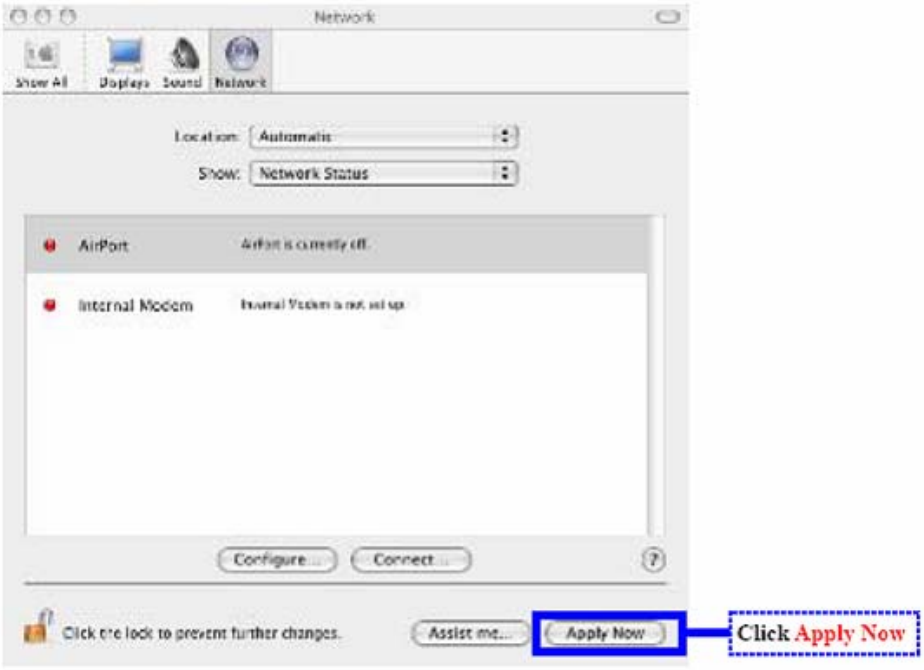
Now the Driver and Utility Installation is Complete! Restart the Computer.

NOTE: If this is the first time to run the USB adapter after installation, you must enable the new network interface in the Network Control Panel in System Preferences.

It is essential to follow all the steps below prior to launching the WLAN utility. There is a key step on page 22 to insure the adapter operates with your network.





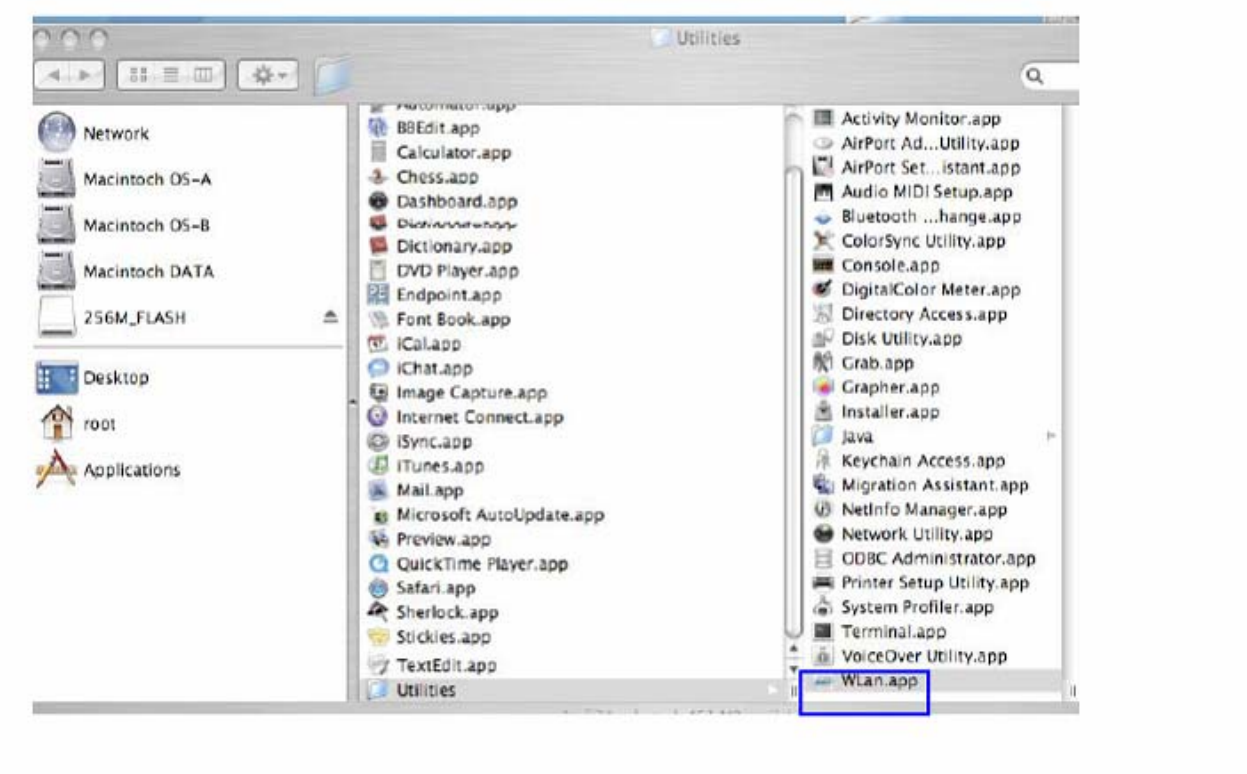


Now It's ready to use Wireless.

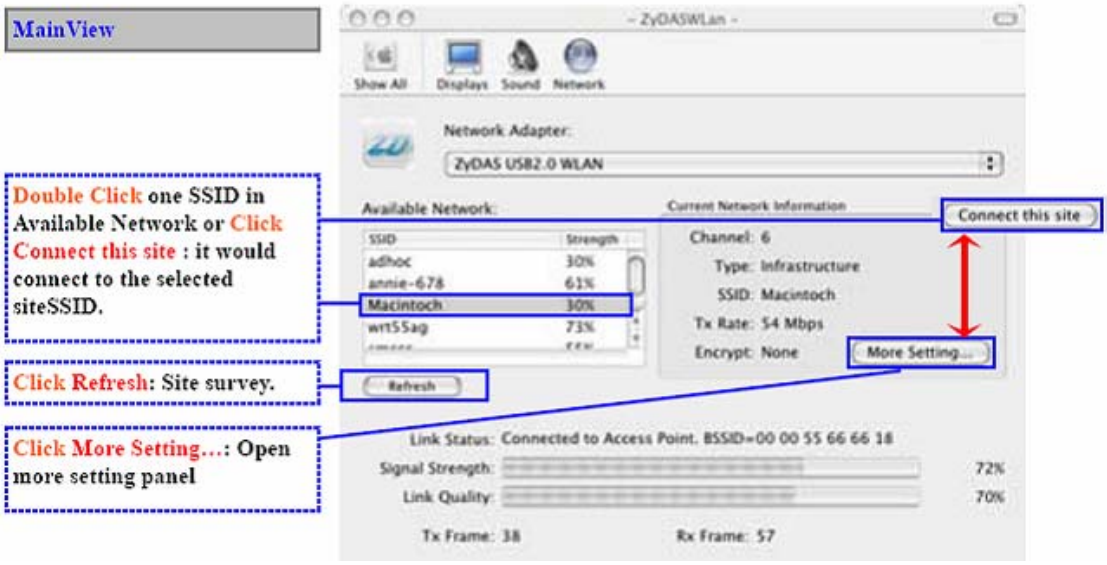
3.2 USING THE WLAN.APP UTILITY

After the installation is complete, the WLAN.app utility will automatically launch at the system startup. However, you may relaunch the utility at any time from the following path(as shown in the screen shot below).

Note: The WLAN.app application bundle is located in the directory /Applications/Utilities/.

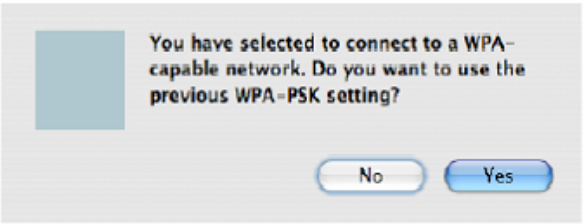


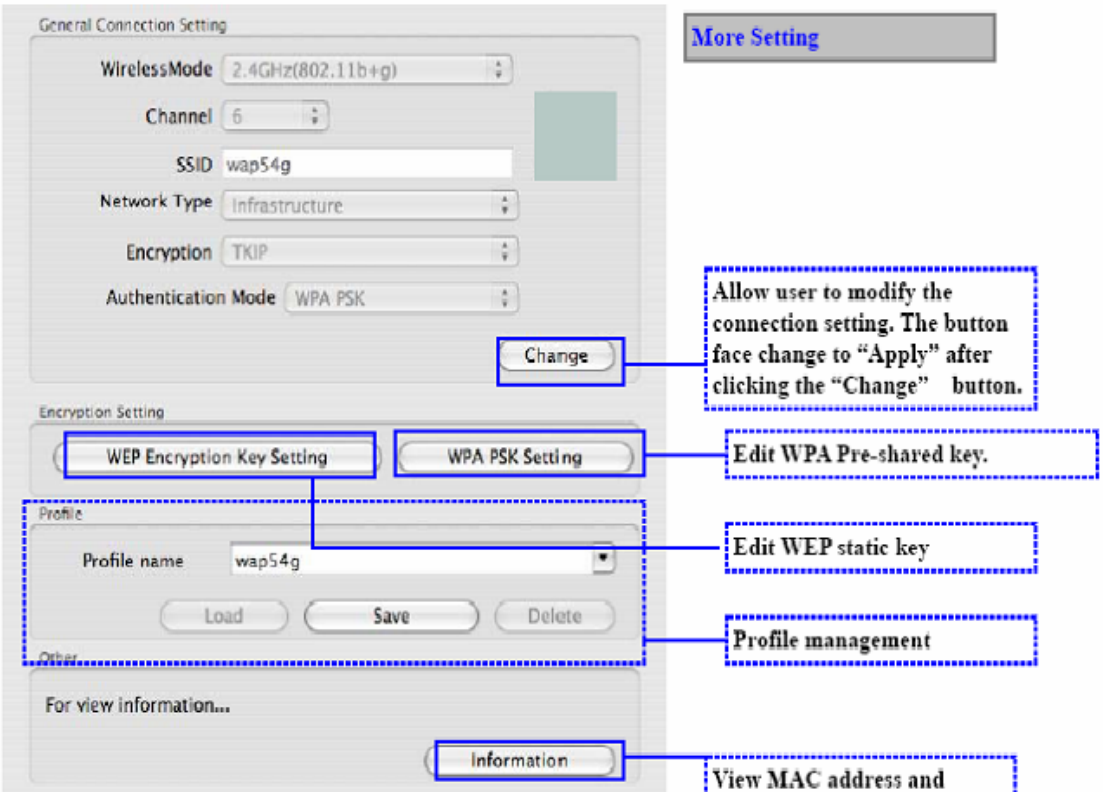
Open the system setup window by clicking, “Open setup window” subitem from the “Setup” top menu as shown below:

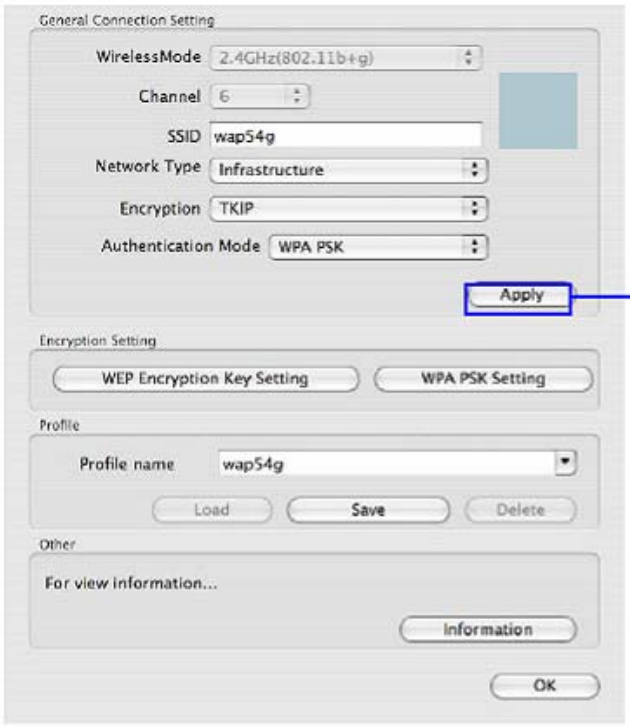


A request dialog would pop out if need Encryption in WEP.
"No" for configure new key setting, "Yes" for use previous setting.(As shown in the right figure)

A request dialog would pop out if WPA PSK is required. Click "Yes" button to use current WPA pre-shared key, Click "No" to setup a new WPA pre-shared key. (As shown in the right figure)





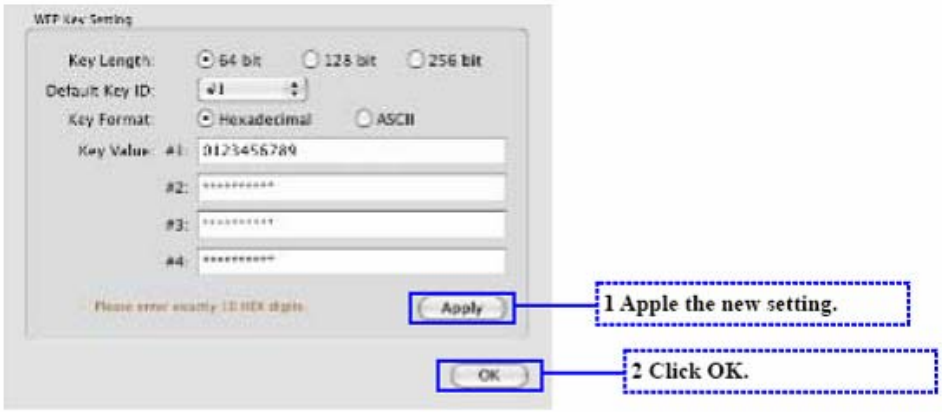


Apply the new setting.

- **Modifying the static WEP key.**

WEP Key Setting

Note: If you open the "Wep Key Setting" along by click the button "WEP Encryption Key Setting" from More setting panel, you need to do re-connection by "apply" or double click the AP by the list of available network.



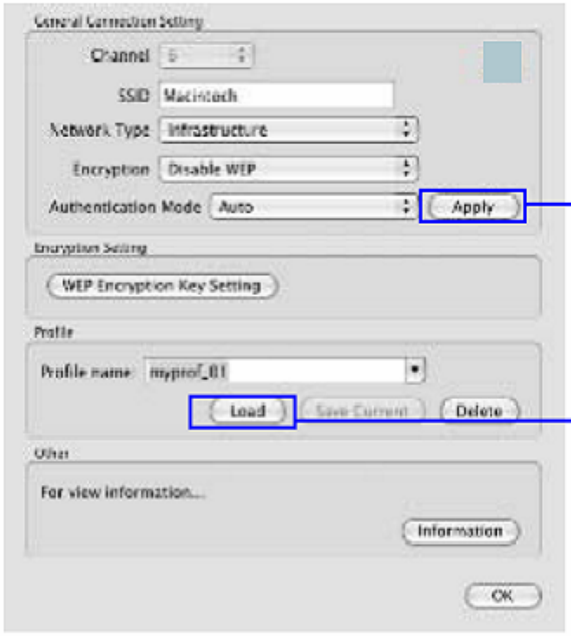
- Modifying static WPA PSK key.

- To enter WPA pre-shared key, you need click "WPA PSK setting" button within the General Connection Setting window. A WPA pre-shared key edit window shown as the following figure:
- Please press "OK" button to close the dialog when you finish editing of WPA PSK.

WPA PSK Setting

Note: In order to let your new key take effect, you need to make a new connection by pressing "Apply" button within the General Connection Setting window or double click the desired BSS in the available network list.

- **Profile management:**



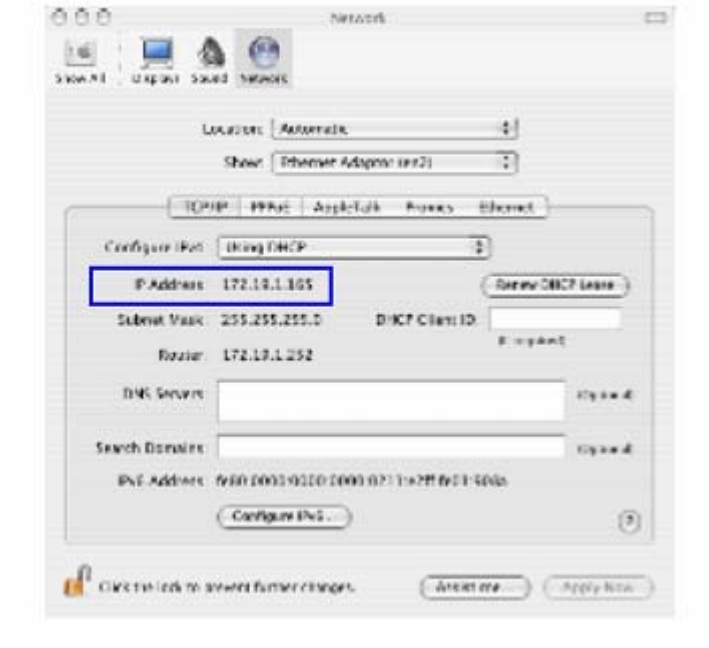
Profile

2 Click Apply to setting.

1 Load the selected profile.

Information

Network setting



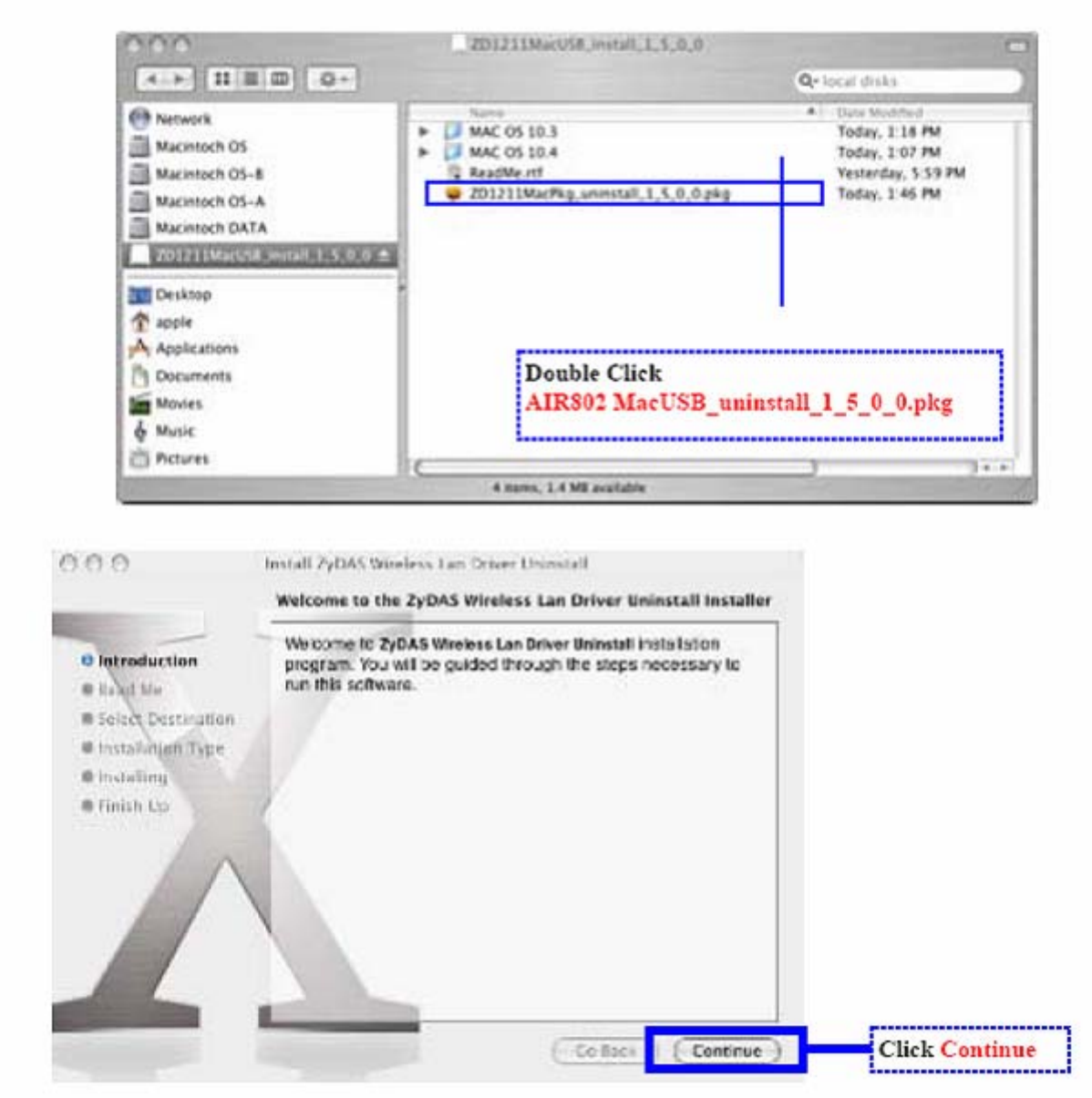
- **Note 1: Check the TCP/IP Settings for your network**
- **Note 2: Most user applications will require you to select DHCP, but this can vary depending on your network architecture**

Important Note for Intel-based Machines:

1) **You should leave the WLAN utility open unless required.**
2) **If you must close the WLAN utility, it is better if you unplug the USB adapter first, then re-insert the USB adapter after re-opening the WLAN utility.**

3.3 UnINSTALL AIR802 DRIVERS AND WLAN UTILITY

Note: Before uninstalling the driver package, remove the USB adapter from the MAC PC and close the WLAN utility.




Install ZyDAS Wireless Lan Driver Uninstall
Important Information
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
ZyDAS Wireless Lan Driver Install
System Requirements:
Installation Instructions:
None.
Known Issues and Bugs:
None.
Print...
Save...
Go Back
Continue
Click Continue


Install ZyDAS Wireless Lan Driver Uninstall
Select a Destination
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
Select a destination volume to install the ZyDAS Wireless Lan Driver Uninstall software.
Macintosh OS
Macintosh DATA
Macintosh OS-A
Installing this software requires 0 bytes of additional space.
You have selected to install this software on the volume "Macintosh OS."
Go Back
Continue
Click Continue


Install ZyDAS Wireless Lan Driver Uninstall
Easy Install on "Macintoch OS"
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
Click Upgrade to perform a basic installation of this software package on the volume "Macintoch OS."
Go Back
Upgrade
Click Upgrade


Authenticate
Installer requires that you type your password.
Name:
Password:
Details
Cancel
OK
Click OK


Install ZyDAS Wireless Lan Driver Uninstall
Install Software
Introduction
Read Me
Select Destination
Installation Type
Installing
Finish Up
The software was successfully installed

APPENDIX A: TROUBLESHOOTING

Why does the WLAN window show it is connecting but never does connect to my wireless network?

- After Restarting your Mac the WLAN Utility application opens and shows that it is connecting, however it never appears to find a network. You must open System preferences > Network Preferences Panel and activate the new network on Ethernet EN2 (network adapter number dependent on your Mac), click Apply and then return to the WLAN window and refresh to see your network. If you have WEP or WPA enabled on your router you must have the WEP key available to join your network.

How can I improve the signal levels even further?

- If your USB adapter is plugged directly into a computer low to the floor, you may benefit by adding an USB Extension cable and then placing the USB adapter on the top of a desk or table, at a higher level more in line with the wireless router or access point.
- Wireless communications is a 2-way communications link. Often, the weak link is the PC itself, but if after installing the USBadapter you still have weak communications it maybe due to interference from other devices in the 2.4 GHz band and/or your wireless router or access point may offer low RF output power and receiver sensitivity. If this is case you may attempt to upgrade the antenna on the router and the USB adapter or purchase a high quality router.
- You can consider alternative antennas for the USB adapter with higher gain omnidirectional “rubber duck” options, or directional gain atennas where the RF energy is focused towards a specific direction.

APPENDIX B: GLOSSARY

802.11 – The Institute of Electrical and Electronic Engineers (IEEE) has created a number of wireless standards. This helps to insure that products built to comply with a specific standard are interoperable with one another even if manufactured by different companies.

802.11b – Specifies a maximum data transfer rate of 11 Mbps, an operating frequency of 2.4 GHz, and WEP encrypion for security. Commonly referred to as Wi-Fi.

802.11g – Specifies a maximum data transfer rate of 54 Mbps, an operating frequency of 2.4 GHz and is backwards compatible with 802.11b. Commonly referred to as Wi-Fi.

Access Point – An interworking device that seamlessly connnects wired and wireless networks together.

Ad-Hoc – An Ad-Hoc wireless LAN is a group of computers, each with a WLAN card, connected as an independent wireless LAN. Ad-Hoc wireless LAN is applicable at a departmental scale for branch SOHO operation.

BSS – Basic Service Set is an 802.11 interworking framework that includes an Access Point. Computers in a BSS must be configured with the same BSSID.

CTS (Clear to Send) – An RS-232 signal sent from the receiving station to the transmitting station that indicates is is ready to accept data.

Client – A workstation or PC on a network.

Default Gateway – The IP Address of either the nearest router or server for the LAN.

DHCP – Dynamic Host Configuration Protocol is a method in which IP addresses are assigned from a pool of IP addresses by a server dynamically to clients on the network. DHCP is used for Dynamic IP Addressing and requires a dedicated DHCP server on the network.

DNS – Domain Name System is used to map readable machine names (Internet domain names) into IP addresses.

DSSS – Direct Sequence Spread Spectrum is a method the wireless cards use to transmit data over the frequency spectrum. The other method is frequency hopping. Direct sequence spreads the data over one frequency range (channel) while frequency hopping jumps from one narrow frequency band to another many times per second.

Dynamic IP Adress – An IP address that is automatically assigned to a client station in a TCP/IP network, generally by a DHCP server. Network devices that serve multiple users, such as servers and printers, are usually assigned static IP addresses.

ESS – Extended Service Set is a set of two or more BSSs (multiple access points) that form a single network.

Firmware – Programming code that is written onto read-only memory (ROM) or programmable read-only memory (PROM). Once written into memory, it is retained even after the device is turned off.

IEEE – Institute of Electrical and Electronics Engineers is a professional society that promotes the development of standards.

Infrastructure Network – One or more computers or other devices, each with a wireless adapter, connected to an Access Point. An infrastructure wireless network connected to a wired network is referred to as a Basic Service Set (BSS). A set of two or more BSS in a single network is referred to as an Extended Service Set (ESS).

ISM Band – Industrial, Scientific and Medical Band operates in the frequency band 2.4 and 2.48 GHz. It is the only unlicensed band approved worldwide.

LAN – A group of computers and other peripheral devices connected to share resources through wired or wireless technology, within a small geographic area.

Protocol – A standard set of rules for exchanging information (format, timing, sequencing, error checking, etc.) between computers or network devices.

Roaming – In infrastructure mode, this refers to a computer moving out of the range of one Access Point and connecting transparently to a new Access Point.

SSID – Service Set Identifier is a unique network identification name. All client devices and Access Points that share the same SSID are able to communicate with each other.

Static IP Addressing – A permanent or manually assigned IP address. Once a static IP adress is assigned, a computer or network device will use the same IP address every time it reboots and logs on to the nework, unless manually changed.

TKIP – Temporal Key Integrity Protocol is part of the IEEE 802.11i encryption standard for wireless LANs. TKEP is the next generation of WEP (Wired Equivalency Protocol), which is used to secure 802.11 wireless LANs. TKIP provides per-packet key mixing, a message integrity check and a re-keying mechanism.

WEP – Wired Equivalent Privacy mechansim is based on a 64, 128 or 256 bit algorithm.

WPA – Wi-Fi Protected Access was created by the Wi-Fi Alliance as a data encryption method for 802.11 wireless LANs. WPA is an industry-supported, pre-standard version of 802.11i utilizing TKIP.

WLAN – Wireless Local Area Network is a group of computers and associated devices that communicate with each other wirelessly.

APPENDIX C: SPECIFICATIONS

Standards	**IEEE 802.11b (DSSS)** **IEEE 802.11g (OFDM)**
Antenna	**Detachable 5dBi Dipole**
Antenna Connector	**RP-SMA Jack (Reverse Polarity SMA)**
Frequency	**802.11b: 2.4 to 2.497GHz** **802.11g: 2.4 to 2.4835**
Modulation Method	**802.11b: DBPSK/DQPSK/CCK** **802.11g: BPSK/QPK/16QAM/64QAM**
Data Transfer Rate	**802.11b: 11,5.5,2,1 Mbps** **802.11g: 54,48,36,24,18,12,9,6 Mbps**
Operation Mode	**Infrastructure (Use of Access Point or Router) or Ad hoc**
RF Transmit Power	**17 (+/-2) dBm @ 11b** **14 (+/-2) dBm @ 11g**
RF Receiver Sensitivity	**802.11b: < -82dBm @ 8% FER** **802.11g: < -70dBm @ 8% FER**
Security	**WEP (64/128/256bit), WPA, WPA-PSK, WPA2, WPA2-PSK, TKIP/AES**
Operating Systems	**Windows 98SE, Me, 2000, XP x64, Vista, MAC (v10.3 and v10.4), Linux**
Management	**Windows-based configuration utility and status monitoring**
Humidity	**5 to 90% (non-condensing)**
Dimension	**27.2 x 79.2 x 12.35mm** **1.07” x 3.11” x 0.486”**
Certifications	**FCC for North America and CE/ETSI for Europe**

APPENDIX D: WARRANTY INFORMATION

BE SURE TO HAVE YOUR PROOF OF PURCHASE AND A BARCODE FROM THE PRODUCT'S PACKAGING PRIOR TO CALLING. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE.

IN NO EVENT SHALL AIR802'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE, OR ITS DOCUMENTATION. AIR802 DOES NOT OFFER ANY REFUNDS FOR THE USB-ADG-2 PRODUCT UNLESS IT WAS PURCHASED VIA THE AIR8O2 ONLINE STORE AND THEN THE STORE POLICIES SHALL APPLY.

AIR802 PAYS FOR GROUND SERVICES ONLY. ALL CUSTOMERS LOCATED OUTSIDE OF THE UNITED STATES OF AMERICA AND CANADA SHALL BE HELD RESPONSIBLE FOR SHIPPING AND HANDLING CHARGES.

APPENDIX E: CONTACT INFORMATION

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Monday through Friday
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Fax: 630-428-1575
Email: sales@air802.com

TECHNICAL SUPPORT
For technical support, visit www.AIR802.com and click on Support to view your options.


AIR 802 LLC