

ZyAIR B-1000

Wireless LAN Access Point

Quick Installation Guide

Version 3.50

October 2002

ZyXEL

TOTAL INTERNET ACCESS SOLUTION

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Introduction

About Your ZyAIR B-1000 Wireless LAN Access Point

The ZyAIR is a wireless access point with network management features designed for telecommuters and home offices. With a built-in IEEE 802.11b wireless access point, users enjoy wireless mobility to the wired network.

With IEEE 802.1x, the ZyAIR provides not only ease of installation and Internet access, but also a complete security solution that protects your network and efficiently manages data traffic on your network.

The embedded web configurator provides easy network management and is totally independent of your operating system.

Packaging List

The following items come with your ZyAIR.

- This Quick Installation Guide
- One 12 VDC power adapter
- One supporting CD (includes a User's Guide and Support Notes)
- One straight-through Ethernet cable
- Two 2dBi Omni antennas



Online Registration

Register online at www.zyxel.com for free future product updates and information.

WARNING!
USE ONLY THE INCLUDED POWER ADAPTER!
INAPPROPRIATE OPERATION WITH ANOTHER
POWER ADAPTER MIGHT DAMAGE YOUR
DEVICE.

Hardware Installation

Attaching Antennas

Refer to the *User's Guide* for more information about the supplied antennas.

Follow the steps below to connect the supplied antennas.

Step 1. Locate the antenna connectors on the sides of your ZyAIR.

Step 2. Screw the antennas clockwise onto the antenna connectors.

Make sure the antennas are securely screwed onto the antenna connectors.



Diagram 1 Attaching Antennas

Hardware Mounting Installation

Free-standing

Place your ZyAIR on a flat, level surface (on a desk or shelf) that is sturdy enough to support the weight of the ZyAIR with connection cables.

Wall-mounted

Follow the steps to attach your ZyAIR to a wall.

- Step 1.** Locate a high position on the wall free of obstructions.
- Step 2.** Secure two screws in the wall **60 mm** apart. Do not screw the screws all the way to the wall. Leave a small gap between the head of the screw and the wall.

Failure to use the proper screws may damage the unit.

Make sure the screws are securely fixed to the wall and that the wall is sturdy enough to hold the weight of the ZyAIR with the connection cables.

- Step 3.** Refer to the *Hardware Connections* section. Connect the cables to the ports on the ZyAIR.
- Step 4.** Adjust the cables.
- Run the connection cables down the back of the ZyAIR as shown in the following figure.



Diagram 2 Run the Cables Down the Back of the ZyAIR

OR:

- b. Run the connection cables upward and along the edge of the ceiling.



Diagram 3 Run the Cables Upward

- Step 5.** Align the holes on the back of the ZyAIR with the screws on the wall. Hang the ZyAIR on the screws.

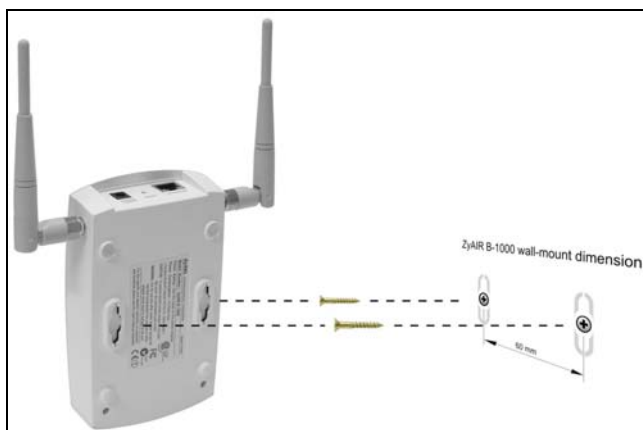


Diagram 4 Hanging the ZyAIR

Additional Installation Requirements

1. A computer(s) with an installed Ethernet NIC (Network Interface Card) or an IEEE 802.1b-compliant PCMCIA wireless LAN card.
2. To enable remote RADIUS authentication for wireless clients, you need
 - A wireless client computer running IEEE 802.1x-compliant client software. Currently, this is offered in Windows XP.
 - A network RADIUS server for remote user authentication and accounting.

Hardware Connections

Top Panel and Connections



CONNECTION	DESCRIPTION AND FUNCTION
POWER 12VDC	This supplies the power to the unit. Connect the supplied power adaptor to the wall outlet and insert the small plug from the power adaptor to this socket.
RESET	This button resets the unit.
ETHERNET	This auto-sensing Ethernet port is used to connect the ZyAIR to a local management computer or to an external hub. This port is auto-sensing. This means that these ports automatically adjust according to the type of cable, for example, straight-through Ethernet cable or crossover Ethernet cable.

Warning!
Use only the supplied power adapter!

Using the RESET Button

- Step 1.** Use a pointed object to press the **RESET** button for 5-15 seconds (the LINK LED flashes from green to red), then release it.
- Step 2.** If the LINK LED turns green within 30 seconds, the factory defaults have been restored and the ZyAIR restarts. Otherwise, go to step 3.
- Step 3.** Turn the ZyAIR off.
- Step 4.** While pressing the **RESET** button, turn the ZyAIR on.
- Step 5.** Continue to hold the **RESET** button for about 30 seconds, then ZyAIR restarts.
- Step 6.** Release the **RESET** button. Wait about ten seconds (or until the LINK LED turns green) for the ZyAIR to finish restarting.

The Front Panel

The LEDs on the front panel indicate the operational status of the ZyAIR.



Description of the LEDs

LED	COLOR	STATUS	DESCRIPTION
LINK	Green	On	The wireless card on the ZyAIR is working properly.
		Off	The wireless card on the ZyAIR is not ready or has a malfunction.
	Red	On	The ZyAIR is not ready.
ZyAIR (WLAN ACK)	Blue	On (dim)	The ZyAIR is ready, but is not sending/receiving data through the wireless LAN.
		Breathing	The ZyAIR is sending/receiving data through the wireless LAN.
ETHN	Green	On	The ZyAIR has a successful 10Mbps Ethernet connection.
		Blinking	The ZyAIR is sending/receiving data.
		Off	The ZyAIR does not have 10Mbps Ethernet connection.
	Orange	On	The ZyAIR has a successful 100Mbps Ethernet connection.
		Blinking	The ZyAIR is sending/receiving data.
		Off	The ZyAIR does not have 100Mbps Ethernet connection.
PWR	Green	On	The ZyAIR is receiving power.
		Off	The ZyAIR is not receiving power.

Set Up Your ZyAIR With the Web Configurator Wizard

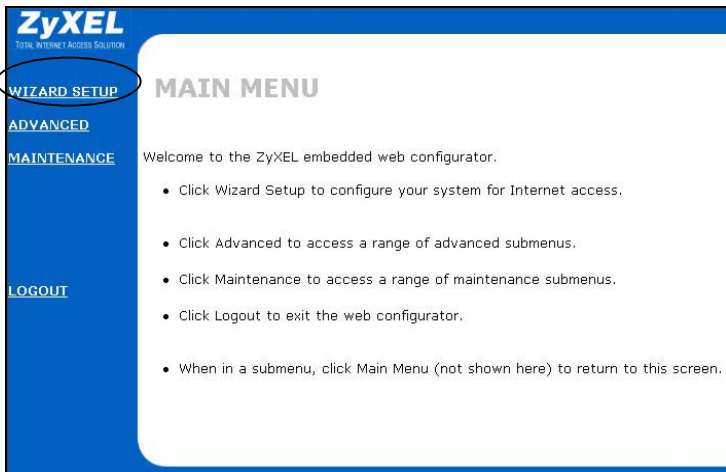
The web configurator provides user-friendly setup for your ZyAIR.

- Step 1.** Make sure your computer IP address and the ZyAIR IP address are on the same subnet. Set the IP address of your computer in the range 192.168.1.3 ~ 192.168.1.255. Refer to the *TCP/IP* appendix in your *User's Guide* for the setup procedure.
- Step 2.** Launch your web browser and enter 192.168.1.2 (default) as the URL.
- Step 3.** Enter "1234" (default) as the password and click **Login**. You should see a screen asking you to change your password (highly recommended).



The screenshot shows a blue background with the text "ZyAIR B-1000" at the top. Below it, it says "Enter Password and click Login." There is a "Password:" label followed by a white text input field containing "1234". At the bottom, there are two buttons: "Login" and "Reset".

- Step 4.** Either enter a new password (and retype it to confirm) and click **Apply** or click **Ignore**.
- Step 5.** Click **Wizard Setup** in the **MAIN MENU** screen.



The screenshot shows the ZyXEL MAIN MENU interface. The ZyXEL logo is at the top left. A blue sidebar on the left contains the following menu items: "WIZARD SETUP" (circled in red), "ADVANCED", "MAINTENANCE", and "LOGOUT". The main content area has the title "MAIN MENU" and a welcome message: "Welcome to the ZyXEL embedded web configurator." Below this, there is a list of instructions:

- Click Wizard Setup to configure your system for Internet access.
- Click Advanced to access a range of advanced submenus.
- Click Maintenance to access a range of maintenance submenus.
- Click Logout to exit the web configurator.
- When in a submenu, click Main Menu (not shown here) to return to this screen.

Step 6. Follow the online instruction to enter the fields in the screen displayed and click **Next**.

Step 7. Enter the information for your wireless LAN and click **Next**.

The screenshot shows the 'WIZARD SETUP' interface for 'Wireless LAN Setup'. It includes fields for ESSID (set to 'Wireless'), Channel ID (set to 'Channel-01 2412MHz'), and WEP Encryption (set to 'Disable'). Below these are four WEP keys, with 'Key 1' selected. Callout boxes provide instructions: 'Enter a descriptive name for the ZyAIR.' points to the ESSID field; 'Choose a radio channel depending on your region.' points to the Channel ID dropdown; 'Choose **Enable** to turn on WEP encryption.' points to the WEP Encryption dropdown; and 'Follow the online instruction to create your WEP keys. All four keys must be entered but only one key should be selected at any one time.' points to the WEP keys section.

The wireless clients and ZyAIR must use the same ESSID, Channel ID and WEP encryption key (if WEP is enabled) for wireless communication.

Step 8. Enter the information for your ZyAIR and click **Finish** to complete the wizard setup.

The screenshot shows the 'WIZARD SETUP' interface for 'IP Address Assignment'. It has two radio button options: 'Get automatically' (selected) and 'Use fixed IP address'. Below are fields for IP Address, IP Subnet Mask, and Gateway IP Address. Callout boxes provide instructions: 'Select this option if the ZyAIR does not use a fixed IP address.' points to the 'Get automatically' option; and 'Select this option and enter the information in the fields below if the ZyAIR uses a fixed IP address.' points to the 'Use fixed IP address' option and the input fields.

Activating User Authentication

Before a wireless client can communicate on your network through your ZyAIR, it must be authenticated by the ZyAIR and your network.

From the **MAIN MENU**, click on **ADVANCED**, **802.1x** and then click on the **System** tab.

The screenshot shows the '802.1X Authentication Setting' interface with the 'System' tab selected. It features two sections: 'Authentication Control' and 'System Parameter'. In the 'Authentication Control' section, three radio buttons are visible: 'Force Authorized', 'Force Unauthorized', and 'Auto'. The 'Auto' option is selected. In the 'System Parameter' section, there is a 'ReAuthentication Period' field with the value '1800' entered. At the bottom, there are 'Apply' and 'Reset' buttons. Two callout boxes provide instructions: one points to the 'Auto' radio button, and the other points to the 'ReAuthentication Period' input field.

802.1X Authentication Setting

List **System**

Authentication Control

- Force Authorized
- Force Unauthorized
- Auto

System Parameter

ReAuthentication Period:

Select **Auto** to enable user authentication.

Specify the time intervals (in seconds) between user authentication checks.

Once you enable user authentication, you need to specify an external RADIUS server or create user accounts.

Setting External RADIUS Server

RADIUS (Remote Authentication Dial In User Service) server enables authentication, authorization and accounting for your network.

The screenshot shows the RADIUS configuration interface. It is divided into two sections: Authentication and Accounting. Each section has an 'Active' checkbox, a 'Server IP' text field, a 'Port' text field, and a 'Shared Secret' text field. At the bottom are 'Apply' and 'Reset' buttons. Three callout boxes provide instructions: 1. Points to the 'Active' checkbox in the Authentication section with the text 'Select Active to enable RADIUS authentication.' 2. Points to the 'Server IP' field in the Authentication section with the text 'Enter the IP address of the RADIUS server.' 3. Points to the 'Shared Secret' field in the Authentication section with the text 'Enter a password up to 31 characters long.'

Section	Option	Server IP	Port	Shared Secret
Authentication	<input type="checkbox"/> Active	0.0.0.0	1812	
Accounting	<input type="checkbox"/> Active	0.0.0.0	1813	

If you do not enable the RADIUS authentication, ZyAIR will authenticate wireless clients using local user profile.

The Shared Secret must be the same on the ZyAIR and the external RADIUS server.

Creating User Profiles on the ZyAIR

By storing user profiles locally, your ZyAIR is able to authenticate wireless users without interacting with a network RADIUS server. You can set up to 32 user profiles on the ZyAIR.

From the **MAIN MENU** screen, click **802.1x**, then select a user and click **Edit**.

The image shows a screenshot of the '802.1X User Profile' configuration interface. The title '802.1X User Profile' is at the top left. Below it is a section titled 'User Profile' with a yellow background. Inside this section, there is a checkbox labeled 'Active'. To the right of the checkbox is a callout box with an arrow pointing to it, containing the text 'Select **Active** to enable the user profile.' Below the checkbox are three input fields: 'User ID', 'Password', and 'Confirm'. A bracket on the right side of these three fields points to a callout box containing the text 'Enter the user information in these fields.' At the bottom of the yellow section are two buttons: 'Apply' and 'Reset'.

Troubleshooting

PROBLEM	CORRECTIVE ACTION
The PWR LED is off.	<p>Make sure you are using the correct power adapter and the power adapter is plugged into an adequate power supply.</p> <p>Turn the ZyAIR off and on. If the error persists, you may have a hardware problem. In this case, you should contact your vendor.</p>
The ETHN LED won't turn on.	<p>Check the cable connection to the ZyAIR ETHERNET port.</p> <p>Make sure your computer NIC (Network Interface Card) is working properly.</p>
I cannot access the web configurator.	<p>Check that your computer IP address and the ZyAIR IP address are on the same subnet.</p> <p>If you changed the ZyAIR default LAN IP address then enter the new one as the URL.</p> <p>The default password is "1234". If you have changed the password and have now forgotten it, you will need to reset the ZyAIR. See the section on <i>Using the RESET Button</i>.</p>
I cannot ping any computer on the LAN.	<p>If all of the ETHN LED is off, check the cables between the ZyAIR and your computer or hub.</p> <p>Verify that the IP address and the subnet mask of the ZyAIR and the computers are on the same subnet.</p> <p>Check the TCP/IP configuration on your computer. Make sure that the IP address and the subnet mask of the ZyAIR and the computers are on the same subnet.</p>
I cannot access the Internet.	<p>Make sure the ZyAIR is turned on and connected to the network.</p> <p>Make sure you entered your user name correctly. A username may be case-sensitive.</p>

Cut out this page to mark the points on the wall for the screws.

