

ZyAIR B-500

Wireless Access Point

Quick Installation Guide

Version 3.50

June 2004



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Procedure to View a Product's Certification(s)

1. Go to www.zyxel.com.
2. Select your product from the drop-down list box on the ZyXEL home page to go to that product's page.
3. Select the certification you wish to view from this page.

1 Introducing the ZyAIR

The ZyAIR B-500 is an IEEE802.11b compliant 11 Mbps wireless LAN access point. It is suited for wireless connections to the wired network in the home and small office environment. The key features of the ZyAIR are configurable output power, limitation of client connections, IEEE 802.1x, Wi-Fi Protected Access, WEP data encryption and MAC address filtering. See your *User's Guide* for more details on all ZyAIR features.

2 Hardware Connections

2.1 Rear Panel and Connections



LABEL	DESCRIPTION
ETHERNET	For initial configuration, use an Ethernet cable to connect a computer (with an Ethernet card) to the ETHERNET port. The port is auto-negotiating (can connect at 10 or 100Mbps) and auto-crossover (automatically adjusts to the type of Ethernet cable you use (straight-through or crossover)).
RESET	You only need to use this button if you've forgotten the ZyAIR's password. It returns the ZyAIR to the factory defaults (password is 1234 and LAN IP address 192.168.1.2). Refer to the <i>User's Guide</i> .
POWER 9VAC	Connect one end of the included power adaptor to this power socket and the other end to a power source. <div style="text-align: center; background-color: #cccccc; padding: 5px;">Use only the included power adaptor.</div>

2.2 The LED Display

The **PWR/SYS** and the **WLAN** LEDs turn on when the power is connected. The **ETHN** LED turns on, if the **ETHERNET** port is properly connected. See the *ZyAIR Front Panel LED Description* table for more information.

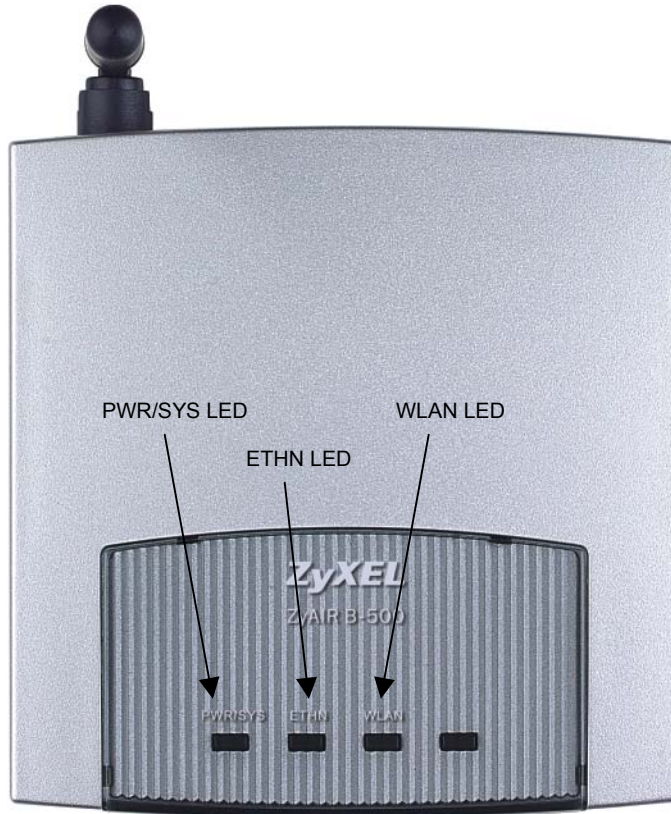


Figure 1 ZyAIR Front Panel

Table 1 ZyAIR Front Panel LED Description

LED	COLOR	STATUS	DESCRIPTION
PWR/SYS	Green	Blinking	The ZyAIR is not ready or rebooting.
		On	The ZyAIR has a successful reboot and is receiving power.
		Off	The ZyAIR is not receiving power.
ETHN	Green	Off	The ZyAIR does not have an Ethernet connection.
		On	The ZyAIR has a successful 10Mbps Ethernet connection.
	Amber	Blinking	The ZyAIR is sending or receiving data.
		On	The ZyAIR has a successful 100Mbps Ethernet connection.
WLAN	Green	Blinking	The ZyAIR is sending or receiving data through the wireless LAN.
		On	The ZyAIR is ready, but is not sending/receiving data.

To access the ZyAIR, configure your computer's IP address and subnet mask to be in the same range as the ZyAIR's.

The default IP address of the ZyAIR is 192.168.1.2.

3 Set Up Your Computer's IP Address

Skip this section if your computer's IP address is already in the range of 192.168.1.3 ~ 192.168.1.254 with subnet mask 255.255.255.0.

Your computer must have a network card and TCP/IP installed. TCP/IP should already be installed on computers using Windows NT/2000/XP, Macintosh OS 7 and later operating systems. Refer to the *Setting Up Your Computer's IP Address* appendix in the *User's Guide* for other operating systems.

3.1 Windows 2000/NT/XP

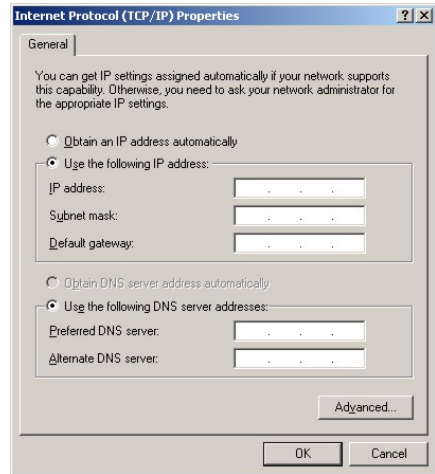
1. In Windows XP, click **start, Control Panel**. In Windows 2000/NT, click **Start, Settings, Control Panel**.
2. In Windows XP, click **Network Connections**.
In Windows 2000/NT, click **Network and Dial-up Connections**.
3. Right-click **Local Area Connection** and then click **Properties**.

4. Select **Internet Protocol (TCP/IP)** (under the **General** tab in Windows XP) and click **Properties**.

5. The **Internet Protocol TCP/IP Properties**

screen opens (the **General** tab in Windows XP).

Configure your computer to use a static IP address, select **Use the following IP Address** and fill in the **IP address** (192.168.1.3 to 192.168.1.254) and **Subnet mask** (255.255.255.0) fields.



6. Leave the **Preferred DNS sever** and **Alternate DNS server** fields blank if you do not know the IP address(es) of the DNS server.
7. Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.
8. Click **OK** to close the **Local Area Connection Properties** window.

3.2 Testing the Connection to the ZyAIR

1. Click **Start**, (**All**) **Programs**, **Accessories** and then **Command Prompt**.
2. In the **Command Prompt** window, type "ping" followed by a space and the IP address of the ZyAIR (192.168.1.2 is the default).

3. Press **ENTER**. The following screen displays.

```
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=10ms TTL=254
Reply from 192.168.1.2: bytes=32 time<10ms TTL=254
Reply from 192.168.1.2: bytes=32 time<10ms TTL=254
Reply from 192.168.1.2: bytes=32 time<10ms TTL=254

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 2m
```

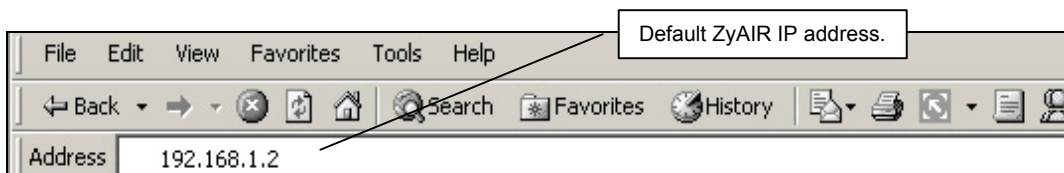
Your computer can now communicate with the ZyAIR via the **ETHERNET** port.

4 Configure the ZyAIR

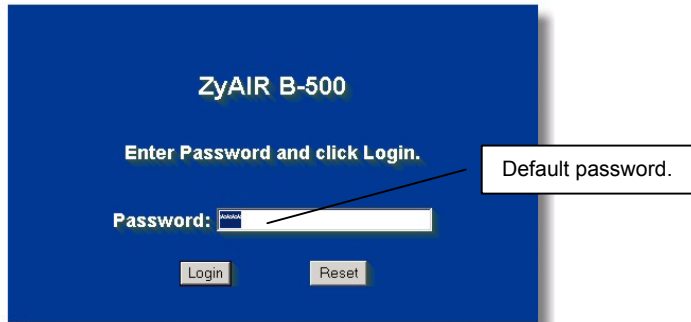
The *Quick Installation Guide* shows you how to use the web configurator Wizard and introduces the ZyAIR's key features. See your *User's Guide* for configuration details and background information on all ZyAIR features using the SMT (System Management Terminal) and web configurator.

4.1 Accessing the ZyAIR via the Web Configurator

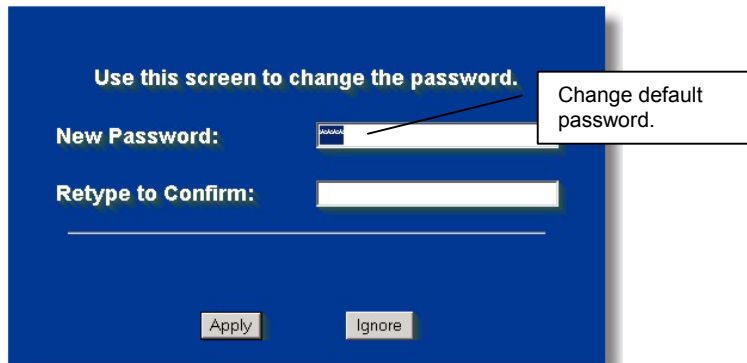
1. Launch your web browser. Enter "192.168.1.2" as the web site address.



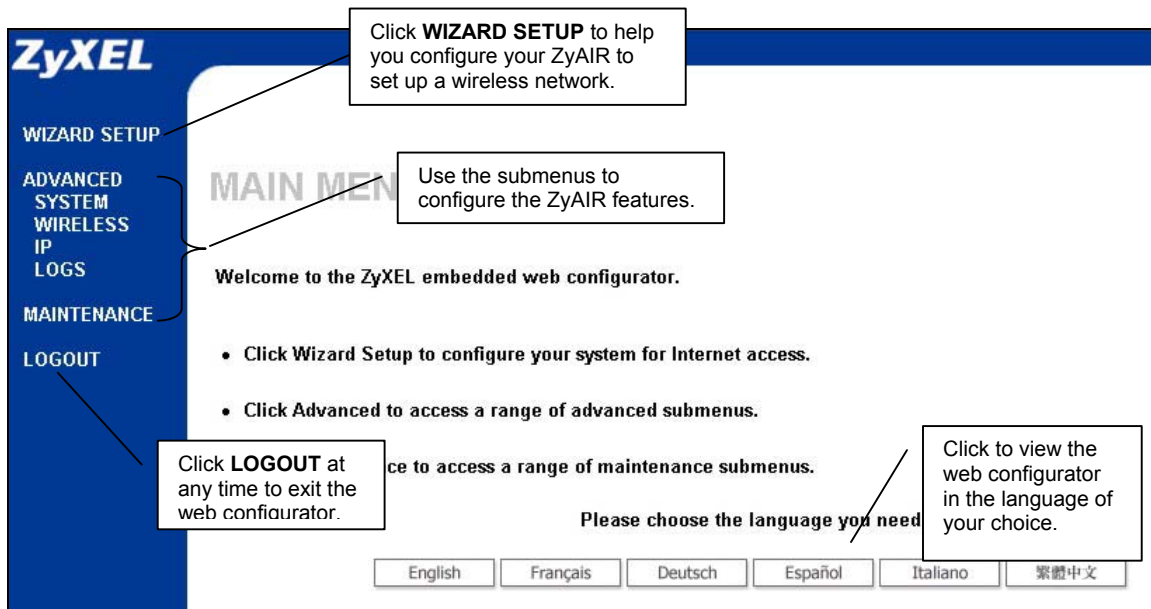
2. The default password (“1234”) is already in the password field (in non-readable format). Click **Login** to proceed to a screen asking you to change your password. Click **Reset** to revert to the default password in the password field.



3. It is highly recommended you change the default password! Enter a new password, retype it to confirm and click **Apply**; alternatively click **Ignore** if you do not want to change the password now.



4. You should now see the web configurator **MAIN MENU** screen.



The management session automatically times out when the time period set in the Administrator Inactivity Timer field expires (default five minutes). Simply log back into the ZyAIR if this happens to you.

4.2 Common Screen Command Buttons

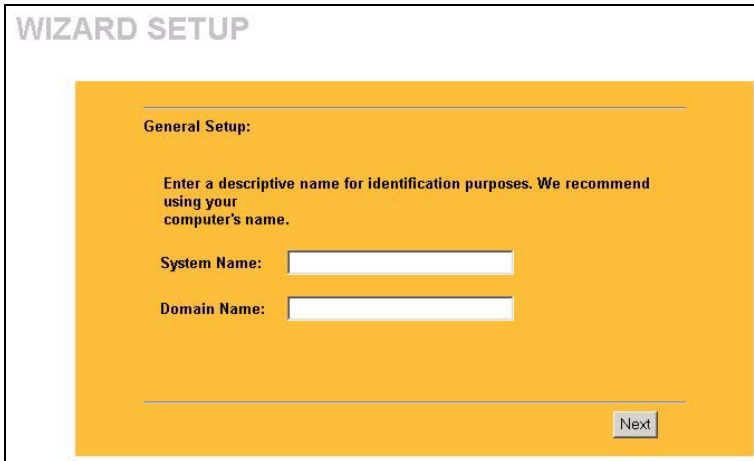
The following table shows common command buttons found on many web configurator screens.

Back	Click Back to return to the previous screen.
Apply	Click Apply to save your changes back to the ZyAIR.
Reset	Click Reset to begin configuring this screen afresh.

4.3 Configuring the ZyAIR Using the Wizard

The wizard consists of a series of screens to help you configure your ZyAIR for wireless stations to access your wired LAN. Refer to your *User's Guide* for more background information.

1. Click **WIZARD SETUP** to display the first wizard screen shown next.



System Name is a unique name to identify the ZyAIR in the Ethernet network. Enter a descriptive name.

Leave the **Domain Name** entry blank and click **Next** to continue.

2. Use the second wizard screen to set up the wireless LAN and click **Next** to continue. The screen varies depending on what you select in the **Security** field.



ESSID is a unique name to identify the ZyAIR in the wireless LAN. Enter a descriptive name.

A channel is the range of radio frequencies used by IEEE 802.11b wireless devices.

Click **Scan** to have the ZyAIR automatically select a channel. The selected channel automatically appears in the **Choose Channel ID** field.

Security

Select **No** to have no wireless LAN security configured and proceed to the **ISP Parameters for Internet Access** screen. Select **Basic** if you want to configure **WEP Encryption** parameters. Select **Extend** to configure a **Pre-Shared Key**.

Basic Security

WIZARD SETUP

Wireless LAN Setup

WEP Encryption 64-bit WEP ▾

64-bit WEP: Enter 5 characters or 10 digit ("0-9", "A-F") for each Key(1-4)
128-bit WEP: Enter 13 characters or 26 digit ("0-9", "A-F") for each Key(1-4)
(Select one WEP key as an active key to encrypt wireless data transmission.)

ASCII Hex

Key 1

Key 2

Key 3

Key 4

WEP (Wired Equivalent Privacy) encrypts data frames before transmitting over the wireless network. Select either **64-bit** or **128-bit** from the **WEP Encryption** drop-down list box to activate WEP encryption. Select **ASCII** or **HEX** WEP key input method and then follow the on-screen instructions to set up the WEP keys.

Extended Security

WIZARD SETUP

Wireless LAN Setup

Pre-Shared Key

Pre-Shared Key

Type from 8 to 31 case-sensitive ASCII characters or from 16 to 62 hexadecimal ("0-9", "A-F") characters. You must precede a hexadecimal key with a "0x" (zero x), which is not counted as part of the 16 to 62-character range for the key.

The wireless stations and ZyAIR must use the same ESSID, channel ID and WEP encryption key or pre-shared key (if wireless security is enabled) for wireless communication.

3. Fill in the fields in the last wizard configuration screen.

WIZARD SETUP

IP Address Assignment

Get automatically from DHCP

Use fixed IP address

IP Address

IP Subnet Mask

Gateway IP Address

Select **Get automatically** to have the ZyAIR obtain an IP address from a DHCP server. You must know the IP address assigned to the ZyAIR (by the DHCP server) to access the ZyAIR again.

Select **Use fixed IP address** to give the ZyAIR a fixed, unique IP address. Enter a subnet mask appropriate to your network and the gateway IP address if applicable. Click **Finish**.

If you change the ZyAIR's IP address, you must use the new IP address if you want to access the web configurator again.

4. Change the wireless parameter settings in the wireless stations to match those of the ZyAIR. Refer to the user's guide for your wireless adapter.

5 Hardware Mounting Installation

In general, the best location for the access point is at the center of your intended wireless coverage area. For better performance, mount the ZyAIR high up free of obstructions.

Free-standing

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

Wall-mounted

Follow the steps to attach your ZyAIR to a wall.

1. Locate a high position on the wall that is free of obstructions.
2. Connect two screws (not included) in the wall 75mm apart. Use screws with 6mm ~ 8mm (0.24" ~ 0.31") wide heads. Do not screw the screws all the way in to the wall. Leave a small gap between the head of the screw and the wall. The gap must be big enough for the screw heads to slide into the screw slots and the connection cables to run down the back of the ZyAIR.

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

3. Adjust the cables.
 - a. Run the connection cables down the back of the ZyAIR.

OR:

 - b. Run the connection cables upward and along the edge of the ceiling.
4. Align the holes on the back of the ZyAIR with the screws on the wall. Hang the ZyAIR on the screws.

6 Troubleshooting

PROBLEM	CORRECTIVE ACTION
The PWR LED is off.	<p>Make sure you are using the correct power adaptor and the power adaptor is plugged into an appropriate power supply.</p> <p>Unplug the power adaptor and plug it in again. If the error persists, you may have a hardware problem. In this case, you should contact your vendor.</p>
The ETHN LED is off.	<p>Check the cable connection to the ZyAIR ETHERNET port.</p> <p>Make sure your computer's network card is working properly.</p>
I cannot access the web configurator.	<p>Make sure the IP addresses and subnet masks of the ZyAIR and the computer are in the same IP address range. (For example, if the ZyAIR is using the default IP address and subnet mask, check that the IP address of the computer is in the range 192.168.1.3 ~192.168.1.254 and the subnet mask is 255.255.255.0). Refer to the <i>Setting Up Your Computer's IP Address</i> section.</p> <p>If you change the ZyAIR default IP address, then enter the new IP address as the web site address.</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. Refer to the <i>User's Guide</i> for how to use the RESET button.</p>
I cannot ping any computer on the wireless LAN.	<p>If 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 in the same range.</p>