

# *ZyWALL 50*

*Internet Security Gateway*

## *Quick Start Guide*

Version 3.50

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# **ZyXEL**

TOTAL INTERNET ACCESS SOLUTION

# Introduction

## **About Your ZyWALL 50 Internet Security Gateway**

The ZyWALL 50 is a dual Ethernet Internet security gateway integrated with a robust firewall and network management features designed for home offices and small businesses to access the Internet via cable/ADSL modem or Internet router.

By integrating NAT, firewall and VPN capability, ZyXEL's ZyWALL 50 provides not only ease of installation and Internet access, but also a complete security solution that protects your Intranet and efficiently manages data traffic on your network.

The ZyWALL web configurator is a breeze to operate and totally independent of the operating system platform you use.

## **Online Registration**

Register your ZyWALL online at [www.zyxel.com](http://www.zyxel.com) for free future product updates and information.

# Hardware Installation

## The Front Panel

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

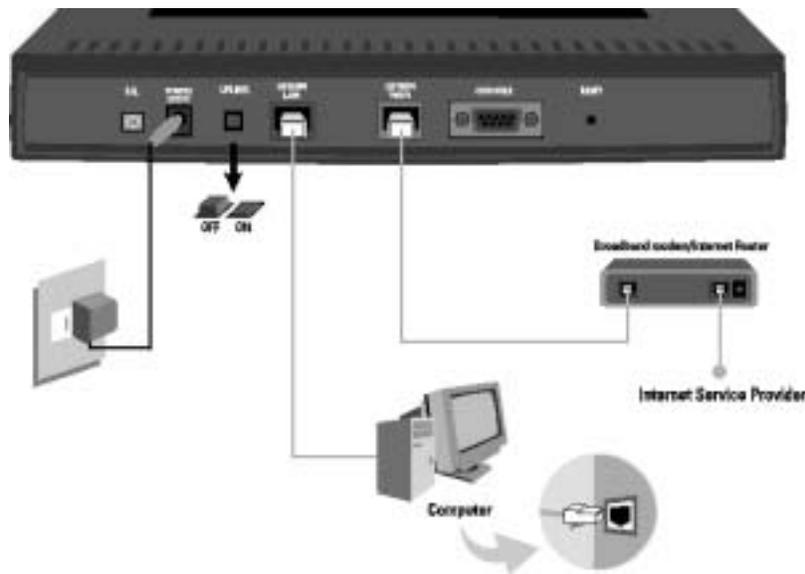


## Description of LEDs

**ZyWALL 50 LED Descriptions**

LED	FUNCTION	COLOR	STATUS	MEANING
PWR	Power	Green	On	The power adapter is connected to the ZyWALL.
SYS	System		Off	The system is not ready or failed.
			On	The system is ready and running.
			Flashing	The system is rebooting.
10M LAN	LAN	Green	Off	The 10M LAN is not connected.
			On	The ZyWALL is connected to a 10M LAN.
			Flashing	The 10M LAN is sending/receiving packets.
100M LAN	LAN	Orange	Off	The 100M LAN is not connected.
			On	The ZyWALL is connected to a 100Mbps LAN.
			Flashing	The 100M LAN is sending/receiving packets.
10M WAN	WAN	Green	Off	The 10M WAN is not connected.
			On	The ZyWALL is connected to a 10M WAN.
			Flashing	The 10M WAN is sending/receiving packets.
100M WAN	WAN	Orange	Off	The WAN Link is not ready, or has failed.
			On	The WAN Link is OK.
			Flashing	The 100M WAN link is sending/receiving packets.

## Rear Panel and Connections



### ZyWALL Rear Panel Connections

PORT	CONNECTION DESCRIPTION	
Console Port	Connect the 9-pin end of the console cable to the console port of the ZyWALL and the other end (9-pin or 25-pin, depending on your computer) to a serial port (COM1, COM2 or other COM port) of your computer.	
WAN Port	Connect the WAN port on the ZyWALL to a cable or DSL modem using the cable that came with your modem.	
LAN Port	To a single computer	Connect the LAN port to the Network Adapter on the computer using the white straight-through Ethernet cable and push in the Uplink button ("on"). If the Uplink button is <i>not</i> "on", you must use a crossover cable for this connection.
	To an external hub.	Connect the 10/100M LAN port on the ZyWALL to a port on the hub using a straight-through Ethernet cable and make sure the Uplink button is "off".
Power	To prevent damage to the ZyWALL, first make sure you have the correct AC power adapter. See the <i>Power Adapter Specification</i> Appendix in the User's Guide for regional specifications. Connect one end of the power adapter to the port labeled POWER on the rear	

### ZyWALL Rear Panel Connections

PORT	CONNECTION DESCRIPTION
	panel of your ZyWALL and the other end to a power outlet.
FG	To ground the ZyWALL, connect a grounded wire to the F.G. (Frame Ground) of the ZyWALL.

#### Additional Installation Requirements

In addition to the contents of your package, there are other hardware and software requirements you need before you can install and use your ZyWALL. These requirements include:

1. A computer with an Ethernet NIC (Network Interface Card) installed.
2. A computer equipped with communications software configured to the following parameters:  
VT100 terminal emulation; 9600 Baud; No parity, 8 data bits, 1 stop bit, flow control set to none.
3. A cable/xDSL modem and an ISP account.

After the ZyWALL is properly set up, you can make future changes to the configuration through telnet or web connections.

#### Turning on Your ZyWALL

Plug the male end of the power adapter into a power outlet. Turn the power on. The **SYS** LED turns on. The **WAN** and the **LAN** LED(s) turn on after the system tests are complete, if the **WAN** and **LAN** ports are properly connected.

#### RESET Button

- If you forget your password or cannot access the SMT menu, you will need to reload the factory-default configuration file. Uploading this configuration file replaces the current configuration file with the factory-default configuration file. This means that you will lose all configurations that you had previously and the speed of the console port will be reset to the default of 9600bps with 8 data bit, no parity, one stop bit and flow control set to none. The password will be reset to “1234” and the LAN IP address to 192.168.1.1 also.

#### Using the RESET Button

1. Use a pointed object to press the **RESET** button for five seconds and then release it.

2. If the LAN LEDs flash within 30 seconds, the factory defaults have been restored and the ZyWALL restarts. Otherwise, go to step 3.
3. Turn the ZyWALL off.
4. While pressing the **RESET** button, turn the ZyWALL on.
5. Continue to hold the **RESET** button for about 30 seconds. The ZyWALL restarts.
6. Release the **RESET** button and wait about ten seconds for the ZyWALL to finish restarting.

## Preparing Your Network

Since most Internet/network-related protocols are dependent on TCP/IP, you need to install and configure TCP/IP on your computer before you can access the Internet.

Windows 95/98/Me/NT/2000/XP, Macintosh OS 7 and later operating systems and all UNIX versions (including Linux) include the software components you need to install and use TCP/IP on your computer.

After the appropriate TCP/IP components are installed, configure the TCP/IP settings in order to "communicate" with your network. The ZyWALL assigns these factory default values if you configure TCP/IP using DHCP:

- IP address: between 192.168.1.33 and 192.168.1.64
- Subnet Mask: 255.255.255.0
- Default Gateway: 192.168.1.1 (the ZyWALL)

**These procedures are for dynamic IP addresses.**

### Setting up Your Windows 95/98/Me Computer

#### **Installing TCP/IP Components**

1. Click **Start, Settings, Control Panel** and double-click the **Network** icon.
2. The **Network** window **Configuration** tab displays a list of installed components.

To install TCP/IP:

- a. In the **Network** window, click **Add**.

- b. Select **Protocol** and then click **Add**.
- c. Select **Microsoft** from the list of manufacturers.
- d. Select **TCP/IP** from the list of network protocols and then click **OK**.

### **Configuring TCP/IP**

1. In the **Network** window **Configuration** tab, select your network adapter's **TCP/IP** entry and click **Properties**.
2. Click the **IP Address** tab. Click **Obtain an IP address automatically**.
3. Click the **DNS Configuration** tab. Select **Disable DNS**.
4. Click the **Gateway** tab. Highlight any installed gateways and click **Remove** until there are none listed.
5. Click **OK** to save and close the **TCP/IP Properties** window.
6. Click **OK** to close the **Network** window.
7. Turn on your ZyWALL and restart your computer when prompted. Insert the Windows CD if prompted.

### **Verifying TCP/IP Properties**

1. Click **Start** and then **Run**. In the **Run** window, type "winipcfg" and then click **OK** to open the **IP Configuration** window.
2. Select your network adapter. You should see your computer's IP address, subnet mask and default gateway.

### **Setting up Your Windows NT/2000/XP Computer**

#### **Configuring TCP/IP**

1. Click **Start, Settings, Network and Dial-up Connections** and right-click **Local Area Connection** or the connection you want to configure and click **Properties**. For Windows XP, click **start, Control Panel, Network and Internet Connections** and then **Network Connections**. Right-click the network connection you want to configure and then click **Properties**.
2. Select **Internet Protocol (TCP/IP)** (under the **General** tab in Win XP) and click **Properties**.
3. The **Internet Protocol TCP/IP Properties** window opens. Click **Obtain an IP address automatically**.
4. Click **Obtain DNS server automatically**.

5. Click **Advanced**, **IP Settings** tab and remove any installed gateways, then click **OK**.
6. Click **OK** to save and close the **Internet Protocol (TCP/IP) Properties** window.
7. Click **OK** to close the **Local Area Connection Properties** window.
8. Turn on your ZyWALL and restart your computer (if prompted).

#### **Verifying TCP/IP Properties**

1. Click **Start, Programs, Accessories** and then **Command Prompt**.
2. In the **Command Prompt** window, type "ipconfig" and then press **ENTER**. The window displays information about your IP address, subnet mask and default gateway.

### **Setting up Your Macintosh Computer**

#### **Configuring TCP/IP Properties**

1. Click the **Apple** menu, **Control Panel** and double-click **TCP/IP** to open the **TCP/IP Control Panel**.
2. Select **Ethernet** from the **Connect via** list.
3. Select **Using DHCP Server** from the **Configure** list.
4. Close the **TCP/IP Control Panel**.
5. Click **Save** if prompted, to save changes to your configuration.
6. Turn on your ZyWALL and restart your computer (if prompted).

#### **Verifying TCP/IP Properties**

Check your TCP/IP properties in the **TCP/IP Control Panel**.

# Network Access Worksheet

Your ISP (Internet Service Provider) should have given you most of the following information. You do not need to fill in every blank.

FIELD	DESCRIPTION	YOUR INFO
System Name	Name of the ZyWALL (Optional).	
Domain Name	Your domain name (Optional)	
Encapsulation	<b>Ethernet, PPPoE, or PPTP.</b>	
Service Type (Ethernet encapsulation)	<b>Standard, RR-Toshiba, RR-Manager, or RR-Telstra.</b> (RR = RoadRunner)	
Service Name (PPPoE Encapsulation)	The PPPoE service name if the ISP supplies one.	
User Name (N/A with Ethernet Standard)	The user name assigned by your ISP.	
Password (N/A with Ethernet Standard)	Enter the password associated with the user name above.	
Login Server IP Address (Only Ethernet with Road Runner encapsulation)	Enter the RoadRunner authentication server IP address if given one.	
Idle Timeout (PPPoE/PPTP only)	The time lapse in seconds before you automatically disconnect from the PPPoE/PPTP server.	
My IP Address (PPTP)	WAN Ethernet port IP address.	
Server IP Address (PPTP)	IP address of the PPTP server.	
Connection ID/Name (PPTP)	Enter the connection ID or name if your DSL modem requires it.	
WAN IP Address (if given)	IP Address	
	IP Subnet Mask	
	Gateway IP Address	
DNS Server Address Server Assignment (if given)	Primary DNS server	
	Secondary DNS server	

# Accessing the ZyWALL

1. Web configurator
2. SMT (System Management Terminal). Access the SMT via:
  - Telnet
  - Console port using terminal emulation software

## Procedure For Web Configurator Configuration

- Step 1.** Launch your web browser and enter 192.168.1.1 as the URL.
- Step 2.** Enter "1234" (default) as the password and click **Login**. In some versions, the default password appears automatically - if this is the case, just click **Login**. You should see a screen asking you to change your password (highly recommended).
- Step 3.** Either enter a new password (and retype it to confirm) and click **Login** or click **Ignore**.
- Step 4.** You should now see the web configurator **MAIN MENU** screen.

Follow the instructions in the **MAIN MENU** to navigate screens as shown next. Click the  icon (located in the upper right portion of most screens) for online HTML help on each configuration screen.

If you forget your password, refer to the previous *RESET Button* section to see how to reset the default configuration file.

## Procedure For SMT Configuration via Telnet

1. Launch a Telnet program. In Windows, click **Start** and then **Run**.
2. Type "Telnet" followed by a space and the IP address of the ZyWALL, (192.168.1.1 is the default) and click **OK** to display the password screen.
3. Enter "1234", the default password, to access the SMT main menu. As you type a password, the screen displays an "X" for each character you type.

## Procedure For SMT Configuration via Console Port

1. Configure a terminal emulation communications program as follows:  
VT100 terminal emulation, no parity, 8 data bits, 1 stop bit, data flow set to none, 9600 bps port speed.
2. Press **ENTER** to display the SMT password screen. The default password is "1234".

Use the ISP information you gathered to configure SMT menu 4 and access the Internet. Refer to your *User's Guide* for details.

## Troubleshooting

Before performing troubleshooting, make sure both the ZyWALL's power (PWR) LED and the system status (SYS) LED are on. See the *User's Guide* for more information about the SMT menus. In the web configurator, click the help icon.

PROBLEM	CORRECTIVE ACTION
The PWR LED is off.	<p>Make sure that the ZyWALL's power adapter is connected to the ZyWALL and plugged in to an appropriate power source. Check that the ZyWALL and the power source are both turned on.</p> <p>If the error persists, you may have a hardware problem. In this case, you should contact your vendor.</p>
The SYS LED is off.	Turn the ZyWALL's power off and then on again.
Cannot access the ZyWALL via the console port.	<p>Make sure the ZyWALL is connected to your computer's serial port.</p> <p>Check to see if the communications program is configured correctly. The communications software should be configured as follows:</p> <ul style="list-style-type: none"> <li>➤ VT100 terminal emulation, no parity, 8 data bits, 1 stop bit, data flow set to none.</li> <li>➤ 9600 bps is the default speed on leaving the factory. Try other speeds in case the speed has been changed.</li> </ul>
The LAN LED does not come on.	<p>Check your Ethernet cable type and connections. Refer to the <i>Rear Panel Connections</i> section for details.</p> <p>Make sure your NIC (Network Interface Card) is installed and functioning properly.</p>
Cannot access the web configurator.	<p>The default password is "1234". If you have changed the password and have now forgotten it, you will need to upload the default configuration file (see the <i>User's Guide</i>). If you cannot get to the web configurator login screen:</p> <p>Make sure that there is not an SMT console session running.</p> <p>Check if you have applied a filter in SMT menu 3.1 (LAN) or menu 11.5 (WAN) to block web service.</p> <p>Check that you have enabled web service access in SMT <b>Menu 24.11 - Remote Management Control</b>. For WAN access, you must configure the <b>Server Access</b> field to <b>ALL</b>. Otherwise, the firewall (when activated) blocks all WAN to LAN traffic by default. If you have configured an IP address in the <b>Secured Client IP</b> field, your computer's IP address must</p>

PROBLEM	CORRECTIVE ACTION
	<p>match it.</p> <p>For access from the LAN, check your computer's TCP/IP configuration. The IP address and the subnet mask of the ZyWALL and your computer must be on the same subnet.</p>
<p>Cannot ping any computer on the LAN.</p>	<p>If all of the 10/100M LAN LEDs are off, check the cables between the ZyWALL and your computer or hub.</p> <p>Verify that the IP address and the subnet mask of the ZyWALL and the computers are on the same subnet.</p>
<p>Cannot get a WAN IP address from the ISP.</p>	<p>The WAN IP is provided after the ISP verifies the MAC address, host name or user ID.</p> <p>Find out the verification method used by your ISP and configure the corresponding fields.</p> <p>If the ISP checks the WAN MAC Address and does not allow you to use a new MAC, clone a MAC from the LAN. In the SMT, use menu 2. In the web configurator, click <b>ADVANCED, WAN</b> and then the <b>MAC</b> tab. ZyXEL recommends that you configure this menu even if your ISP presently does not require MAC address authentication.</p> <p>If the ISP checks the host name, enter your computer's name as the system name in SMT menu 1 or in the first screen of the web configurator's <b>WIZARD SETUP</b>.</p> <p>If the ISP checks the user ID, check your service type, user name, and password. In the SMT, use menu 4. In the web configurator; click <b>ADVANCED, WAN</b> and the <b>ISP</b> tab.</p>
<p>Cannot access the Internet.</p>	<p>Make sure the cable/xDSL device is turned on and connected to the ZyWALL and the Internet.</p> <p>If the ZyWALL's WAN LED is not on, check the cable between the ZyWALL and the cable/xDSL device.</p> <p>Check whether your cable/xDSL device requires a crossover or straight-through cable.</p> <p>Verify your settings in SMT menus 2 and 4. In the web configurator, click <b>ADVANCED</b> and then <b>WAN</b>.</p>