



# NETGEAR®

Wall-Plugged Ethernet Bridge  
**XE102**



**User's Guide**

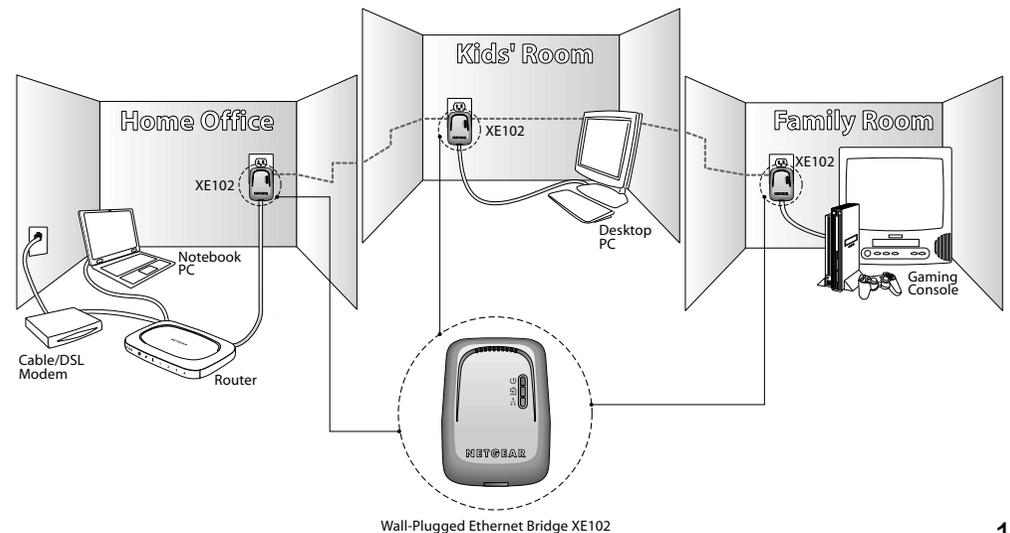
# Introduction

Thank you for purchasing the NETGEAR® XE102 Wall-Plugged Ethernet Bridge. This Wall-Plugged Ethernet Bridge lets you completely network your home by simply plugging into your existing electrical wiring, so your network connection is as close as the nearest 110-volt electrical outlet. Now your high-speed cable/DSL connection can be available in every room. And you can also extend an existing Ethernet network to PCs in other rooms without any additional wiring.

Robust and rate-adaptive, the XE102 uses a state-of-art signal processing techniques that minimizes interference from other household appliances, so that you can use common household appliances, such as hair dryers, vacuum cleaners or microwave ovens -- and your network will still operate at its highest data rate capability. It's an excellent choice for web surfing, playing games or telecommuting over the Internet. It is safe and reliable! It's also a great way to compliment you existing wireless network.

This User's guide shows you how to connect your Wall-Plugged Ethernet Bridge to your PC or Cable/DSL router. Setup is easy, just follow the instructions in this guide and your network will be up and running in a few minutes.

If you have problems, there is a troubleshooting section on pages 14 and 15 to help you. You can all also find the latest information online from [www.NETGEAR.com](http://www.NETGEAR.com). NETGEAR offers technical support 24 hours a day and 7 days a week on the Web ([www.netgear.com](http://www.netgear.com)), by e-mail ([support@NETGEAR.com](mailto:support@NETGEAR.com)) or via phone (see the provided support information card for phone numbers).



## Important Safety Instructions for the XE102 Wall-Plugged Ethernet Bridge

The following precautions should be taken when using this product.

- Read all instructions before installing and operating this product.
- Common sense goes a long way – always be cautious when working around AC voltages.
- Do not open and/or alter this product in any way.
- Follow common household wiring safety practices.

If you have any questions or concerns regarding these safety measures – please contact Netgear Customer Support.

## Installation Overview

Estimated setup time is 5 to 15 minutes for each PC.

1. Unpack the box and verify the contents.
2. Connect the Ethernet port to any Ethernet device such as a PC or Cable/DSL router.
3. Set the encryption password (highly suggested).

## Package Contents

When you open the box, verify that you have the following contents.

The package includes:

Wall-Plugged Ethernet Bridge  
XE102



Wall-Plugged Ethernet Bridge XE102  
Resource CD, User's guide,  
Support information card &  
Warranty card

- XE102 Wall-Plugged Ethernet Bridge
- 6-ft. (1.83m) Ethernet Cable
- Resource CD
- XE102 User's Guide
- Warranty card
- Support information card

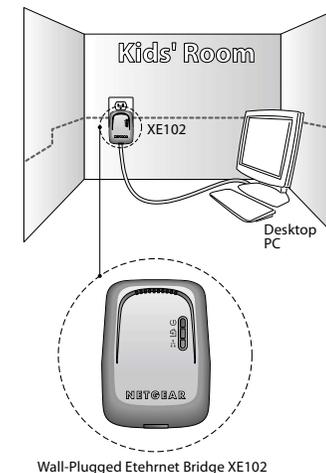
## Preparing to Install the XE102

**1** The NETGEAR Wall-Plugged Ethernet Bridge enables you to set up a home network using your existing electrical outlets, and easily compliments your existing network. Computers in different rooms can share the Internet connection, files and printers using the electrical wiring that is already in your house. There is no need for unsightly Ethernet cabling or any additional rewiring, and it is entirely safe.

Place an Ethernet Bridge in each room that you want to set up using an Ethernet Bridge. The XE102 Wall-Plugged Ethernet Bridge can easily connect to any device with a 10BaseT Ethernet capable device.

In order to share an Ethernet Bridge peer-to-peer connection between computers all you will need is:

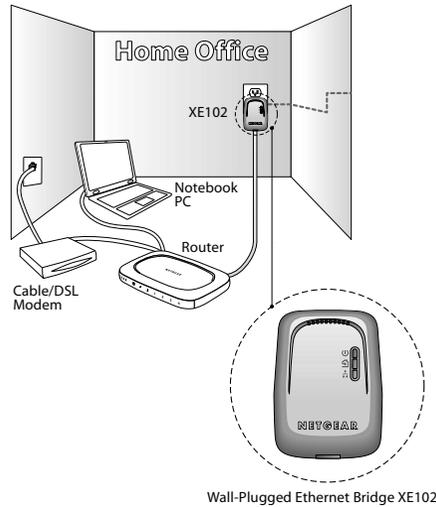
- One (1) Ethernet Bridge device attached to each computer



Wall-Plugged Ethernet Bridge XE102

In order to share a Broadband or Dial-up Networking connection between computers using an Ethernet Bridge you will need:

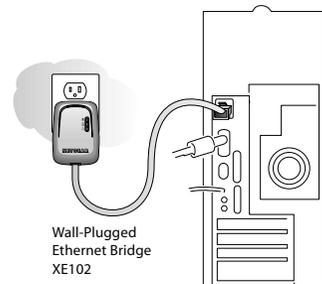
- One (1) Wall-Plugged Ethernet Bridge device attached to each computer
- Standard Cable/DSL Modem
- Standard Cable/DSL Ethernet or Wireless Router



## 2 Installing the XE102

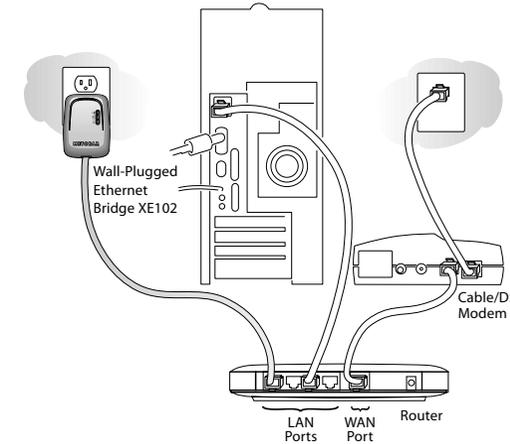
### Connecting the Ethernet Bridge to a PC

1. Connect the XE102 Ethernet Bridge into a wall socket that is within a reasonable distance to your computer when using the Ethernet Cable.
2. Connect the enclosed standard Ethernet Cable to the Ethernet port of the XE102 Ethernet Bridge.
3. Connect the other end of the cable to the Ethernet port of the PC.

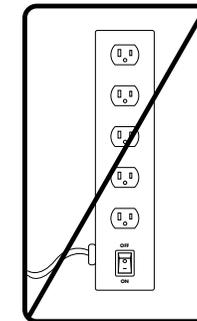


### Connecting the Ethernet Bridge to a Cable/DSL router

1. Connect the XE102 Ethernet Bridge into a wall socket that is within a reasonable distance to your computer when using the Ethernet Cable.
2. Connect the enclosed standard Ethernet Cable to the Ethernet port of the XE102 Ethernet Bridge.
3. Connect the other end of the cable to an available Ethernet LAN port of the Cable/DSL/Wireless Router.



**Note:** Do not connect the XE102 Ethernet Bridge into a power strip or surge protector as this may prevent the bridge from working properly or degrade the network performance.



**WARNING!**

## Check the Setup

- The Power light icon should light up.
- The Powerline light icon should be ON indicating that there is activity.
- The Ethernet Link light indicates the status of Ethernet activity.



Wall-Plugged Ethernet Bridge XE102

**Note:** If there are no lights lit, see the *Troubleshooting* section on pages 14 and 15.

## 3 Setting Up Your Encryption Software (Highly Suggested)

The XE102 Wall-Plugged Ethernet Bridge provides the option to set your own unique encryption “network” password.

Important features:

- The encryption password is case sensitive.
- Each device must be set to exactly the same encryption password – if they are to communicate on the same network.
- Powerline devices on different networks will not be able to communicate.
- A “Default” button allows you to reset the encryption password to its default password.
- The encryption password allows you to protect your network from unauthorized access via the Powerline network.
- A device password is identified on each Netgear Powerline product.

**Note:** Once you begin to change the password for each device, portions of your network may become disabled until all of the devices have been set with the new encryption password.

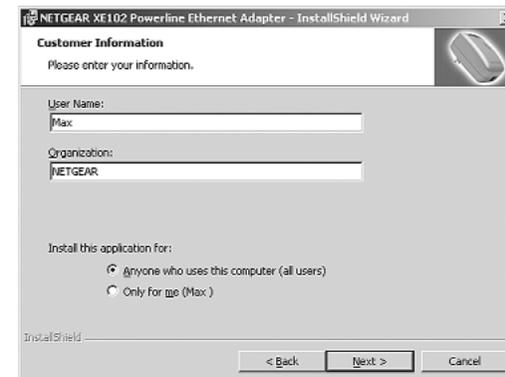
1. Insert the XE102 Resource CD into one of your CD-ROM drives. The CD should start automatically.

**Note:** If the CD does not start automatically

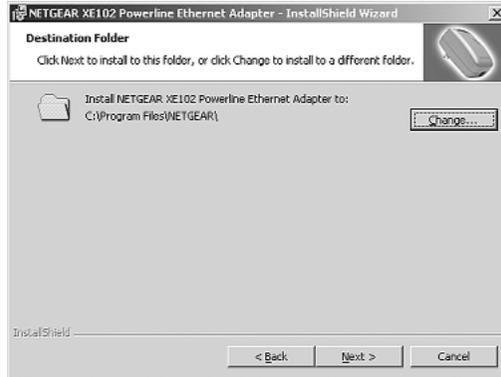
- Go to MY COMPUTER and double click the drive that represents the location of the XE102 CD or
  - Select the CD-ROM drive and click on the Setup.exe executable file.
2. A Welcome screen should appear. Click **NEXT** and follow the instructions on the screen.



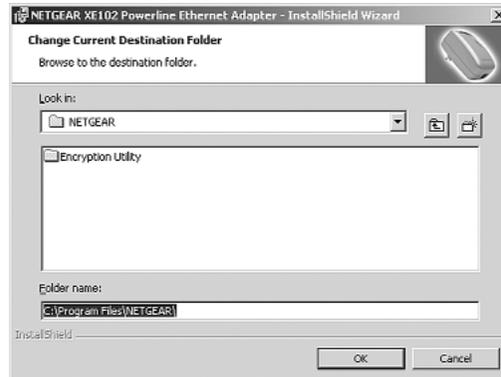
3. Enter your **User Name** and **Organization**.



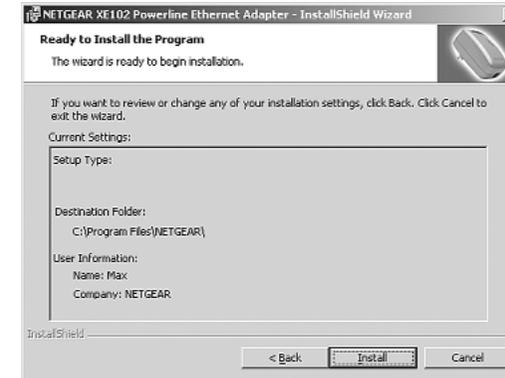
- Choose the default location (select **Next**) or select **Change** to change the location where files will be saved on your hard drive.



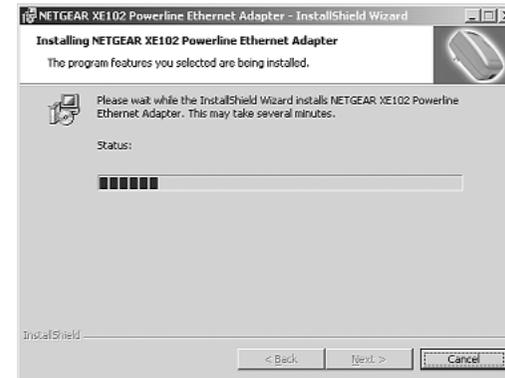
- If you chose to “Change” the location you will get the following screen: Type a new folder name or select another location using the folder options.
- Click **OK**.



- Confirm the Destination Folder and User Information and select **Install**.



- The following screen shows that the program is installing the encryption utility on your computer.



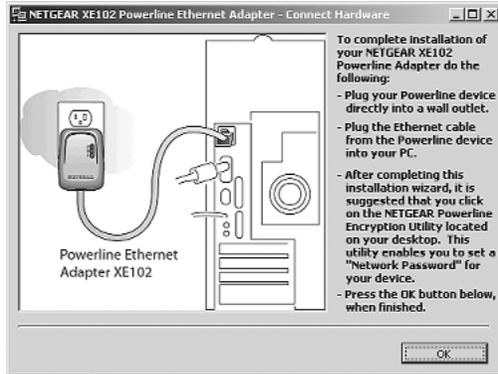
- On the back of each XE102 is a Device Password PWD: aaaa-xxxx-yyyy-zzzz. For each Netgear Powerline device that you are installing on your network, write this number down.

**EXAMPLE:**

Device Location: Bedroom  
 PWD: MX96-DHEE-U9Y3-BXJB



10. Connect each your Wall-Plugged Ethernet Bridge as indicated on this screen. Select **OK**.



11. Click **Finish**.



12. Save all files, close other applications, then click **Yes** to reboot your computer. Select **No**, if you wish to reboot your computer at a later time.



The following ICON will automatically appear on your desktop.



## 4 Setting Up Your Network with a Unique Network Password (Highly Recommended)

The Netgear Powerline Encryption Utility opens a dialog box which has five (5) windows. To activate the software double-click the Netgear Powerline Encryption Utility ICON.

### Changing the Password for Your Current Device

The Security window allows you to modify the Network Password for only those devices connected directly to your computer, it does not change device passwords for “remote” devices (i.e., those connected on the Powerline portion of your network).

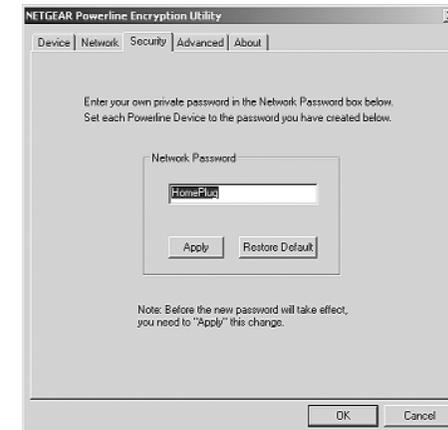
Changing the password will prevent your neighbors or outsiders from accessing your network.

**Note:** This utility does not change the password of older Netgear Powerline products (XE602 and XA601) directly connected to your computer. To change passwords on these products you must use the Advanced tab and have them located remote from this computer.

Go to the Security Tab in the Powerline Encryption Utility dialog box.

To change the password from the Netgear default “HomePlug” to another password:

1. Type the new password and click **Apply**.
2. Select **OK** when done.



To change the password back to the default click **Restore Default**.

**Note:** The “Network Password” is case sensitive and must be between 6 and 16 characters long. Once you begin to change the password for each device, portions of your network may become disabled until all of the devices have been set with the new encryption password.

## Changing Your Network Password for All Devices At Once

The Advanced Window allows you to change the network password for all of your devices (direct connected and remote) at the same time. This is a much faster and more reliable method of changing the password for devices attached to your network.

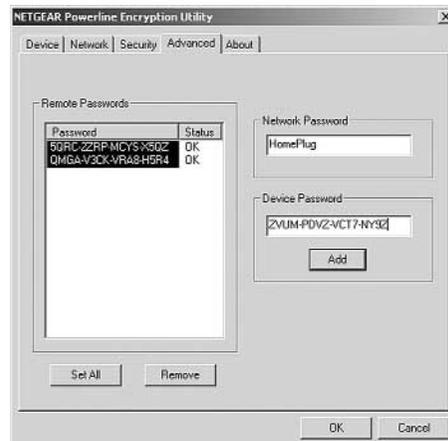
Go to the Advanced Tab in the Powerline Encryption Utility dialog box.

There are two general steps:

1. Add devices to the “Remote Passwords” list.
  - a. Verify that you have an XE102 Powerline Adapter connected as shown above.
  - b. Locate all of the adapters that you want on your network and record the device password (PWD: xxxx-xxxx-xxxx-xxxx) as indicated in the previous section.
  - c. Plug all powerline adapters into a 110 V AC wall socket.
  - d. Open the “Advanced Screen.”
  - e. Enter the device password number into the “Device Password” text.
  - f. Select **Add**.
  - g. Repeat this step for all devices that you want attached to your network.

**Note:** You do not need to perform this step for the powerline adapter attached directly to your computer. Any powerline adapter connected directly to your computer will automatically be changed.

2. Change the Network Password for those devices you selected in the list.
  - a. Hi-light all the devices you want on one particular network.
  - b. Type a new or existing password in the “Network Password” text box.
  - c. Click **Set All**.



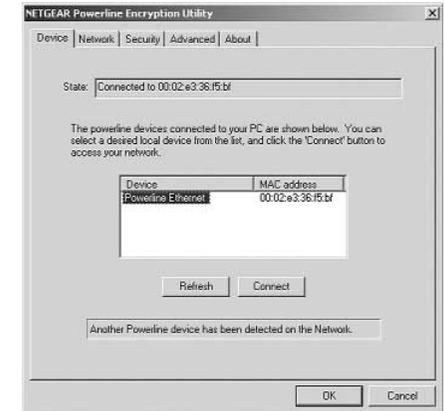
**Note:** If you get the following screen while attempting to execute the NETGEAR Powerline Encryption Utility there is one very basic explanation: Either your old device is not compatible, or your XE102 is not powered on or plugged in.



## Other Windows in Encryption Utility Dialog Box

### Device Screen:

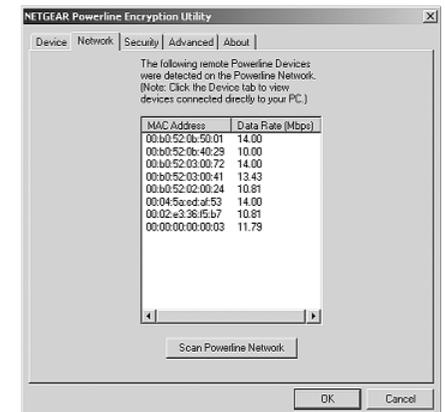
The “Device” Screen displays information about all Powerline devices attached directly to your PC.



### Network Screen:

The “Network” Screen shows information about all “remote” Powerline devices attached (and detected) across your powerline network.

**Note:** Devices setup on a different network will NOT show on this list. Units with a different password are considered to be on different networks.



# Troubleshooting

Problem	Cause	Solution
POWER light is off.	The Wall-Plugged Ethernet Bridge is not receiving power.	<ul style="list-style-type: none"> <li>• Verify that the wall socket is providing appropriate power by disconnecting the Wall-Plugged Ethernet Bridge and plugging another device (such as a lamp or hairdryer) into the same 110 Vac Wall Socket.</li> <li>• Check to see if a wall switch is in the “Off” position, thereby disabling power to that outlet.</li> <li>• Make sure that the Wall-Plugged Ethernet Bridge is firmly installed into a 110 Vac Wall Socket.</li> </ul>
Powerline Link light is not ON when plugged into wall socket.	Powerline port is not detecting another powerline device.	<ul style="list-style-type: none"> <li>• Recheck your connections and verify that the Power light is ON.</li> <li>• Verify that Network Passwords have been properly established.</li> <li>• Another powerline device must be installed for devices to communicate across the powerline.</li> </ul>
ETHERNET light is off when plugged into a Network	Devices on the Ethernet Port are not communicating or are not connected.	<ul style="list-style-type: none"> <li>• Check to make sure that the Wall-Plugged Ethernet Bridge is properly powered.</li> <li>• Check to make sure that that Ethernet cable is plugged in properly at both ends. plug is properly inserted and locked into the port at both the hub and the device.</li> <li>• Make sure that all cabling is Category 5 and meets the requirements for 100 Mbps operation.</li> <li>• Check Link lights on attached Ethernet devices or the network adapter cards.</li> <li>• If you are having trouble connecting the XE102 to a Ethernet Hub or switch; connect it to the port that supports an uplink and press the uplink button.</li> </ul>

Problem	Cause	Solution
ETHERNET light is off when plugged into a Network.	Normal/Uplink push button is in the wrong position.	<ul style="list-style-type: none"> <li>• Check the Normal/Uplink push button on the front panel of the hub or switch.</li> </ul>
You get a “Device – Not Detected” error while attempting to execute the Encryption ICON.	Adapter is not powered ON Ethernet Cable is not plugged in. Device is not compatible.	<ul style="list-style-type: none"> <li>• See “Power light is Off” above.</li> <li>• Plug in the Ethernet cable.</li> <li>• If the device is a Netgear XE602 or XA601 the XE102 Encryption software is not compatible check the Netgear web site for upgrades at <a href="http://www.netgear.com">www.netgear.com</a>.</li> </ul>
I can not seem to connect devices.	Devices are not setup on the same network.	<ul style="list-style-type: none"> <li>• Program devices for a common Network Password.</li> </ul>

## **Voluntary Control Council for Interference (VCCI) Statement**

This equipment is in the second category (information equipment to be used in residential areas) and conforms to the standards set by the Voluntary Control Council for Interference by Data Processing Equipment and Electronic Office Machines that are aimed at preventing radio interference in residential areas.

## **EN 55 022 Declaration of Conformance**

This is to certify that the NETGEAR Model XE102 Wall-Plugged Ethernet bridge is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class B (CISPR 22).

## **Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice**

This equipment has been tested and found to comply with the limits for a Class B digital device, 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 in accordance with 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 can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## **Canadian Department of Communications Radio Interference Regulations**

This digital apparatus (NETGEAR Model XE102 Wall-Plugged Ethernet Bridge) does not exceed the Class B limits for radionoise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

## **Règlement sur le brouillage radioélectrique du ministère des Communications**

Cet appareil numérique (NETGEAR Model XE102 Powerline Ethernet Adapter) respecte les limites de bruits radioélectriques visant les appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

## **Statement of Conditions**

In the interest of improving internal design, operational function, and/or reliability, NETGEAR reserves the right to make changes to the products described in this document without notice.

NETGEAR does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

## **Certificate of the Manufacturer/Importer**

It is hereby certified that the NETGEAR Model XE602 Wall-Plugged Ethernet Bridge has been suppressed in accordance with the conditions set out in the BMPT-AmtsblVfg 243/1991 and Vfg 46/1992. The operation of some equipment (for example, test transmitters) in accordance with the regulations may, however, be subject to certain restrictions. Please refer to the notes in the operating instructions.

Federal Office for Telecommunications Approvals has been notified of the placing of this equipment on the market and has been granted the right to test the series for compliance with the regulations.

## **Bestätigung des Herstellers/Importeurs**

Es wird hiermit bestätigt, daß das Model XE102 Wall-Plugged Ethernet Bridge gemäß der im BMPT-AmtsblVfg 243/1991 und Vfg 46/1992 aufgeführten Bestimmungen entstört ist. Das vorschriftsmäßige Betreiben einiger Geräte (z.B. Testsender) kann jedoch gewissen Beschränkungen unterliegen. Lesen Sie dazu bitte die Anmerkungen in der Betriebsanleitung. Das Bundesamt für Zulassungen in der Telekommunikation wurde davon unterrichtet, daß dieses Gerät auf den Markt gebracht wurde und es ist berechtigt, die Serie auf die Erfüllung der Vorschriften hin zu überprüfen.

# Technical Support

PLEASE REFER TO THE SUPPORT INFORMATION CARD THAT SHIPPED WITH YOUR PRODUCT.

By registering your product at *www.NETGEAR.com/register*, we can provide you with faster expert technical support and timely notices of product and software upgrades.

NETGEAR, INC.

## **Support Information**

Phone: 1-888-NETGEAR (For US & Canada only)

See Support Information card for other countries.

E-mail: [support@NETGEAR.com](mailto:support@NETGEAR.com)

[www.NETGEAR.com](http://www.NETGEAR.com)

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January 2003