



IOGEAR HomePlug Powerline Network Guide

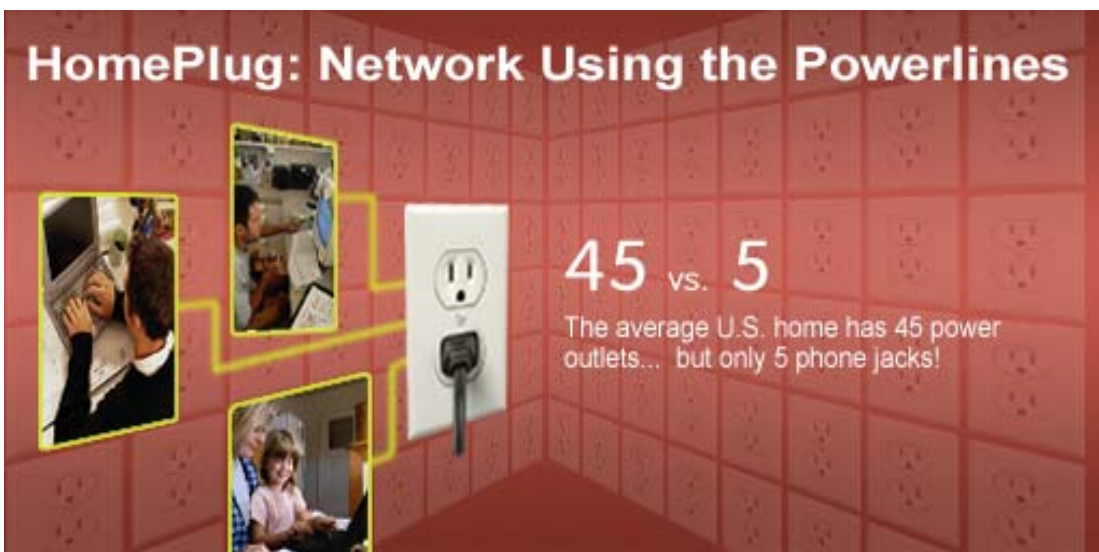
Introduction to HomePlug Power line Networking

What is a HomePlug Powerline Network?

HomePlug Powerline networking is based on the concept of "no new wires." HomePlug is a standard for using existing electrical power lines in our homes and offices to build computer networks.

How does HomePlug work?

Just plug a HomePlug external device into a USB or Ethernet port on your computer, and then into an AC wall jack. The HomePlug device translates the data coming from your computer into a signal that travels over the AC wires, using a different frequency than -- and not interfering with -- the ordinary current coursing through the same wire. HomePlug uses existing electrical wiring to move data as fast as 14 Megabits per second (Mbps), with real-world performance of 6 to 8 Mbps. That is faster than Wi-Fi, DSL, and surely is much faster than 56K dial-up modems. HomePlug provides more than enough speed for any networking task undertaken by home users today.

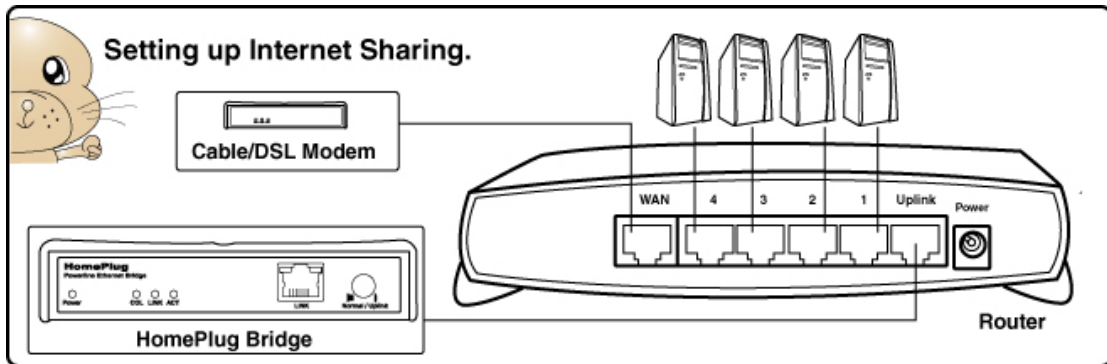


What are the benefits of using power outlets to establish a computer network?

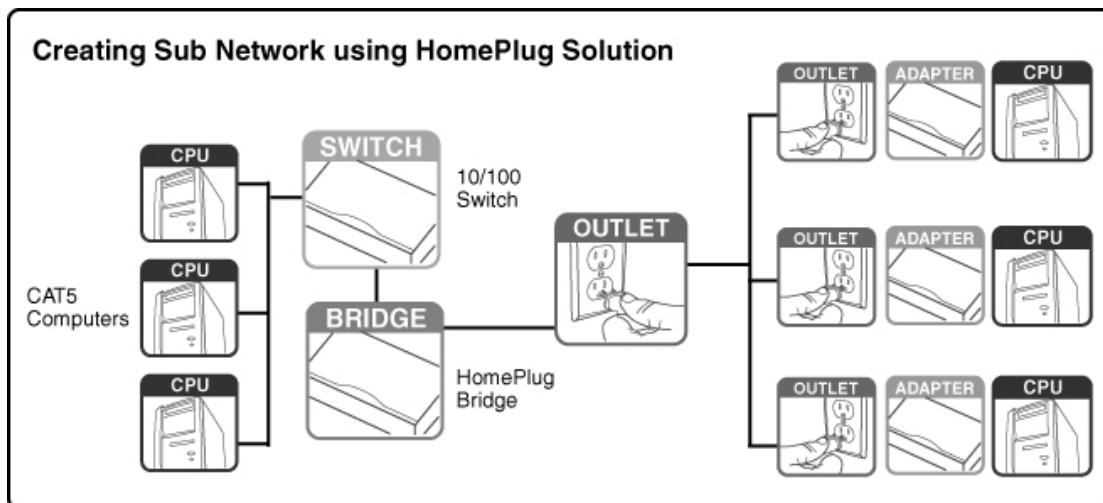
Nearly all homes and offices have multiple power outlets in every room, and power outlets are all connected together through the electrical wiring already installed in the home. Because it requires no new wiring, and the network adds no cost to your electric bill, Powerline networking is the least expensive method of connecting computers in different rooms. With the explosion of the Internet and broadband technology, power lines present a cost-effective, easy-to-adopt home networking solution for consumers around the globe.

What can HomePlug Power line do?

- Transfer & share files between computers, such as MP3's, digital videos, web media and more!
- Share an Internet connection with other computers in your home



- Share peripherals such as printers, scanners and cameras
- Connect networks



Can anything that can be done through Ethernet, also be done through HomePlug?

Yes, in essence, HomePlug is the Ethernet using power lines as the transmission media.

What devices are necessary to provide connection to the Internet using HomePlug?

Remember that simply connecting your computers to each other over AC power line does not get them on the Internet. You have to have a cable or DSL line and modem, and if you want to share the connection among multiple computers, you need another device called a router. HomePlug networking comes into play after you have all that set up.

How does HomePlug Networking provide access to high-speed connections?

Suppose, for example, that you have a DSL line hooked up to a router and a PC in the same room plugged into the router. Powerline networking provides a painless way to give other computers throughout the house access to the same high-speed connection available to the first computer. All you have to do is to plug a HomePlug Ethernet Bridge both into the router and into an AC outlet in the room; the rest of the HomePlug-ready computers in the same house will be able to share this Internet access.

What is the new technology that HomePlug has incorporated?

The HomePlug specification incorporates a technology called PowerPacket. This new technology makes HomePlug significantly different from older Powerline networks. PowerPacket avoids disruptions in the power lines by using hopping frequencies, maintaining the network's connections and speeds. The latest generation of PowerPacket technology is rated at 14 Mbps, which is faster than existing phone line and wireless solutions. However, as Internet-based content (i.e.: streaming audio and video) and broadband access become more commonplace, those requirements will increase as well.

Is circuit breaking an issue?

No, circuit breaker won't affect data transmission.

Does HomePlug interfere with your existing electrical equipment?

HomePlug does not interfere with your existing electrical equipment or home automation devices like X-10, CEBus, and LONworks.

Can HomePlug handle power surge?

Just like other electronic devices, HomePlug devices have surge protection, which will cut the power after voltage rise to certain point. But we still recommend that you deploy surge protection devices without signal filtering as the extra defense toward power surges.

How secure is HomePlug?

The majority of the homes in the United States share a transformer with several neighbors, putting several houses on one circuit and thereby making it theoretically possible for the family next door to access your network. To completely eliminate this potential problem, HomePlug encrypts all data with 56 bit DES encryption to ensure that your neighbors can not eavesdrop on your network traffic.

Note: Encryption is usually not enabled by default and must be 'turned on' using software provided by the devices manufacturer.

Am I able to share network connections with my neighbor?

Yes, only if you give your neighbor your password. Distance is also a factor since HomePlug ranges about 300 meters (900 ft.).

Is the HomePlug technology compatible with other home networking technologies (including phone lines, wireless and structured wiring)?

HomePlug is compatible with most of the other home networking technology because it is based on Ethernet. The HomePlug technology does not cause interference to other technologies. In fact, much work was done to ensure that the products using the HomePlug technology would co-exist with other methods of home networking. Since power outlets are located on nearly every wall of a home, they are a logical choice as a conduit for data connection. Even though some newer homes are built "network-ready" and pre-wired with Category 5 wiring, they are likely to have rooms or walls without available connectivity. HomePlug technology also eliminates some of the problems with wireless networking, allowing access points to be moved to more convenient locations in the home, reducing the need for multiple wireless access points.

Has the HomePlug technology been thoroughly tested?

Members of the HomePlug alliance tested the technology in an extensive field trial of 500 homes throughout North America. Based on the success of this field trial, the completion of the HomePlug 1.0 Specification was announced in June 2001.

Did the HomePlug technology disrupt electrical service during these field trials?

Simply put, HomePlug technology uses electrical outlets for network connection points, and the wire that connects these outlets for the transmission of data between connection points. The presence of the data signal on electrical lines has no effect on the electrical service in homes.

What if I have older wiring in my home? Is there a difference in the performance of the technology when applied to newer homes versus older homes?

The field tests of the HomePlug technology showed that its performance is consistent, regardless of a home's age or size. The field tests also confirmed nearly 100 percent coverage in every home tested.

How does HomePlug compare to other technologies, like HomePNA and 802.11b?

The chief difference of power-line-based networks is the ease-of-use and accessibility for both consumers in the United States and overseas. HomePlug consistently delivers the anticipated data rate - regardless of how the home is wired, its age, its size or the power line voltage level.

On an international level, this ubiquity gives Power line an edge over other technologies - particularly phone lines. Most homes in the U.S. have approximately three phone jacks, and adding additional phone jacks can be both time consuming and expensive. In Europe and overseas, most homes are limited to just one phone jack. However, it is common to find at least two, if not more, power outlets per room, thereby making power line-based networks one of the easiest and most convenient to install.

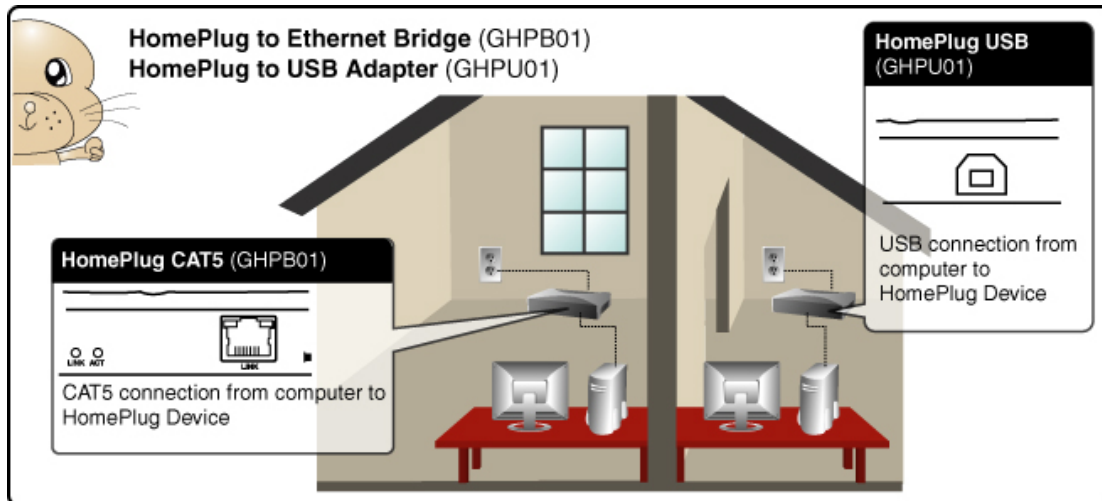
HomePlug also does not require RF conversion hardware devices, unlike their wireless counterparts. This leads to a lower overall system implementation cost for the consumer. Dollar for dollar, HomePlug has - due to its use of an existing wiring - the lowest 'per-node' cost of any existing home networking option available.

What are some companies that support HomePlug?

The active name brands that have been supporting the HomePlug alliance are: Intellon, Connexant, Cogency, Cisco, Enikia, Motorola, Panasonic, Radio Shack, Sharp and Texas Instruments, and more.

What HomePlug products does IOGEAR have to offer?

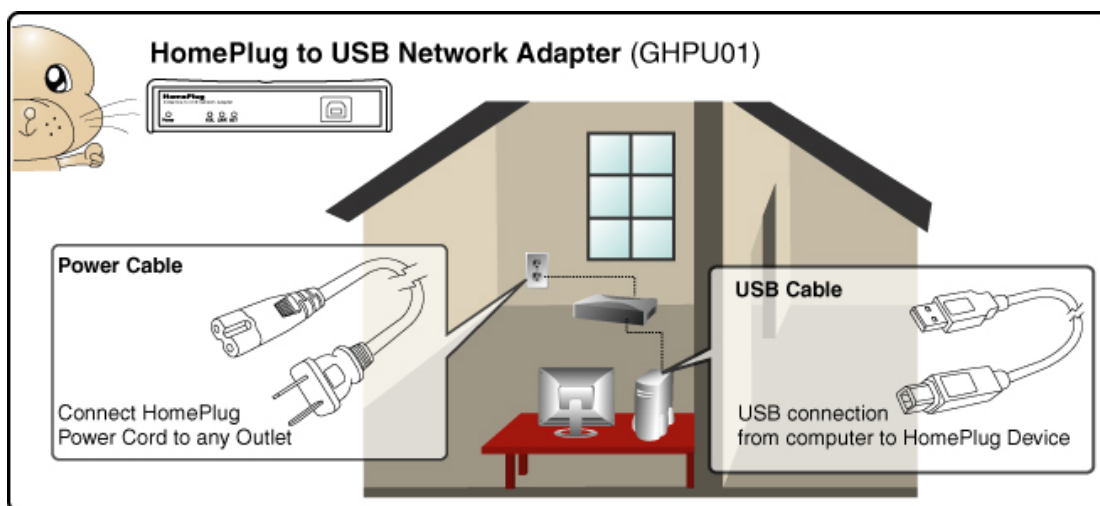
IOGEAR offers the HomePlug to USB Adapter and the HomePlug to Ethernet Bridge. The Homeplug Power line Network USB Adapter allows you to network your home computers through the electric power lines in the house. Setting up a home network has never been so simple! Just plug the USB end to your computer and plug the power end to your AC power outlet, and you are connected! This unit is compliant with HomePlug Specification 1.0 and offers up to 12 Mbps bandwidth while being highly resistant to interference. By offering 56-bit DES encryption, it is also much more secure than other home networking technologies such as wireless Ethernet.

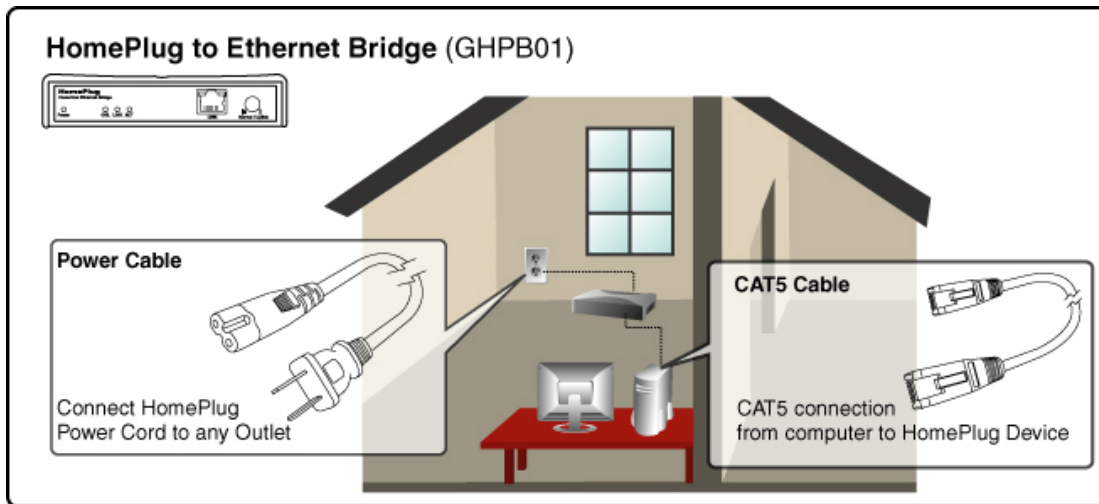


IOGEAR's HomePlug Ethernet Bridge HomePlug-enables one computer that has a 10/100Base-T network card; or HomePlug-enable a group of computers connected to a network switch or router. This unit is compliant with HomePlug Specifications 1.0, offering up to 14 Mbps bandwidth while being highly resistant to interference. By offering 56-bit DES encryption, it is also much more secure than other home networking technologies such as wireless Ethernet.

Which operating systems are compatible with IOGEAR's HomePlug products?

When used as a node, IOGEAR's HomePlug USB Adapter and Ethernet Bridge is compatible with Windows 98SE, ME, 2000, XP. However, the Ethernet Bridge is operating system-independent when used as a bridge.





What's in the future for HomePlug?

HomePlug will be the home networking standard for an emerging market that allows people to connect their electronic devices together, so they can share Internet access, play video games, and enjoy music as well as voice-over-IP (VoIP) throughout the house.