



**User Manual**

**Powerline AV+ Mini Starter Kit**

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# Preface

D-Link reserves the right to revise this publication and to make changes in the content hereof without obligation to notify any person or organization of such revisions or changes.

## Manual Revisions

Revision	Date	Description
1.0	June 11, 2012	• Initial release for hardware A1

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# Package Contents



Two D-Link DHP-308AV PowerLine AV+ Network Adapters



Two CAT5 Ethernet Cables



Quick Install Guide

# System Requirements

## Network Requirements

- An existing PowerLine network
- Router/Gateway (If sharing an Internet connection)
- Ethernet device (such as a computer, game console, NAS device, media player, wireless access point, etc.)
- An available electrical outlet

# Introduction

D-Link announces a fast, 200Mbps\* PowerLine AV+ Mini Starter Kit which allows you to connect your home computers, networking devices and gaming devices through the most pervasive medium in your house, the electric power lines. With the DHP-309AV PowerLine AV+ Mini Starter Kit, you may access the Internet, transfer files, play games, and stream HD video.

## Features

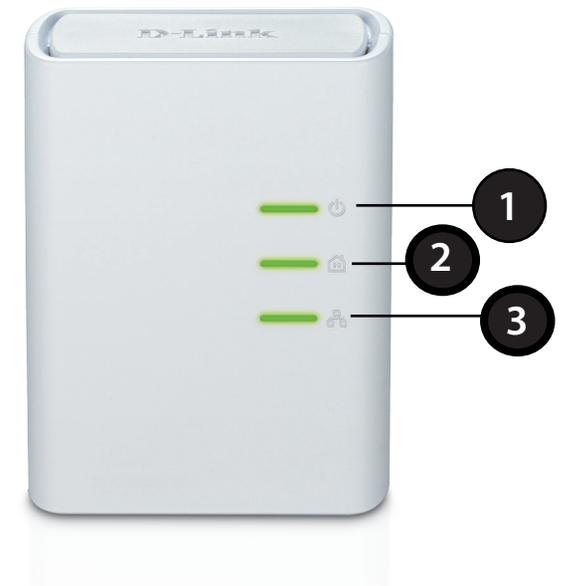
- Use your home's electrical wiring by plugging into existing power outlets
- Speeds of up to 200Mbps\*
- One 10/100 Ethernet port
- Plug & Play, Easy Installation
- Supports 128-bit AES encryption for network security
- Push and secure encryption button
- Power Saving mode

\* Maximum throughput based on theoretical transmission PHY rate. Actual data throughput will vary. Network conditions and environmental factors, including volume of traffic and network overhead, may lower actual data throughput rate. Interference from devices that emit electrical noise, such as vacuum cleaners and hair dryers, may adversely affect the performance of this product. This product may interfere with devices such as lighting systems that have a dimmer switch, short wave radios, or other powerline devices that do not follow the HomePlug AV standard.

# Hardware Overview

## LEDs

<b>1</b>	Power LED	<ul style="list-style-type: none"><li>• A solid light indicates that the device is receiving electrical power.</li><li>• A blinking light indicates that the device is setting itself up after reset or security button was pressed or power saving mode enabled.</li><li>• When the light is Off, The device is not receiving electrical power.</li></ul>
<b>2</b>	PowerLine LED	<ul style="list-style-type: none"><li>• Solid. The device is connected to a PowerLine network.</li><li>• Blinking. The device is transmitting data.</li><li>• Off. The device has not found any other compatible PowerLine devices using the same encryption key.</li></ul> The color indicates the PowerLine link rate: <ul style="list-style-type: none"><li>• Green. The PowerLine link rate or quality is the best.</li><li>• Amber. The PowerLine link rate or quality is better.</li><li>• Red. The PowerLine link rate or quality is good.</li></ul>
<b>3</b>	Ethernet LED	<ul style="list-style-type: none"><li>• Solid. The Ethernet port is linked but there is no data traffic.</li><li>• Blinking. The device is transmitting data.</li><li>• Off. There is no Ethernet connection.</li></ul>



# Hardware Overview

## Connection



<b>1</b>	Ethernet Port	Connect the CAT5 Ethernet cable to the DHP-309AV Ethernet port.
<b>2</b>	Simple Connect Button	Press to secure your network. Refer to page 9 for more information.

# Hardware Installation

## Recommendations

- For best results, use in a regular wall outlet without any other product plugged into the same outlet. Connecting this product to a power strip or a surge protector may adversely affect the performance of this product.
- Avoid using the PowerLine AV Network in an electrical outlet that is located near an appliance that uses a lot of power such as a washer, dryer, refrigerator, microwave, hair dryer, or air conditioning system.
- To verify connectivity or if you are having connection problems, plug the adapters in the same room to verify whether your home's electrical wiring is contributing to the issue. The adapters' PowerLine LED indicators will illuminate if the connection is established.

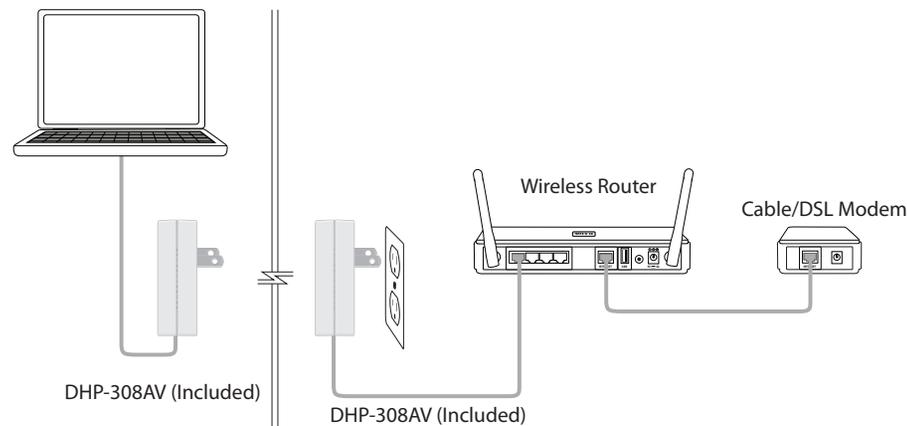
## Power

Plug in the DHP-308AV into an AC wall outlet.

*Note: Power source is confirmed when the Power LED on the DHP-308AV is illuminated.*

## Connect the Ethernet Cable

Connect the included Ethernet cable to the network cable connector located on the DHP-308AV and attach the other end of the Ethernet cable to the network or PC. Network connectivity is confirmed when the PowerLine and Ethernet LEDs on the DHP-308AV are illuminated.



# Push Button Security

## Understanding PowerLine AV Network Security

The PowerLine AV+ Mini Starter Kit on the same network must use an identical encryption key. The default encryption key of each PowerLine AV+ Mini Starter Kit is HomePlugAV. All PowerLine AV+ Mini Adapters with default encryption key can communicate with each other.

It's recommended to create a private encryption key for network security purpose. The private encryption key allows you to protect your network from unauthorized access via the PowerLine network. To create a private encryption key instead of the default encryption key, please follow below steps:

### 1. First Adapter

Press the Simple Connect button of the first adapter for no more than 2 seconds. The Power LED will start blinking after you release the button. The adapter will create a private, randomly generated encryption key that each PowerLine AV Network Adapter will use.

### 2. Second Adapter

Within 2 minutes of pushing the Simple Connect button of the first adapter, press the Simple Connect button of second adapter in your PowerLine network for no more than 2 seconds. The Power LED will start blinking after you release the button.

*Note: Both Simple Connect buttons must be pressed within 2 minutes.*

### 3. PowerLine Network

After above network security setup steps, your PowerLine network will be securely configured with the same network encryption key. The adapters will memorize the security settings even if they are unplugged.

*Note: To change the private encryption key, please reset the adapter back to its default value by pressing the Reset button for 1 second and then follow the security setup procedure above.*



### 4. Adding More Adapters

If you would like to add more than 2 adapters, press the Simple Connect button of the additional adapter for no more than 2 seconds. The Power LED will start blinking after you release the button. Then press the Simple Connect button of any adapter in your existing PowerLine network for no more than 2 seconds. The Power LED will start blinking after you release the button.

**Note:** Both Simple Connect buttons must be pressed within 2 minutes. After above network security setup steps, your PowerLine network will be securely configured with the same network encryption key.

# Troubleshooting

## **If no LEDs Light Up?**

If the power light is off, verify if power is supplied from the electrical outlet, and if the PowerLine device is not plugged into an extension cord, power strip, or surge protector.

## **If the Powerline LED does not Light Up?**

If this light is off, the devices are unable to find each other. Make sure the DHP-308AV and other PowerLine devices are plugged into outlets with power. You can plug all the Powerline adapters in the same room in order to verify whether your home's electrical outlets are suitable. Press the **Simple Connect Button** for 2 seconds on one of the adapters. The Power LED will start to blink. Then, within 2 minutes, press the **Simple Connect Button** on the other adapter for 2 seconds. Once configured, you may place the Powerline adapters to the location of your choice. In addition, you can also restore your powerline adapter to the factory default settings by pressing the reset button on the Powerline adapter for 1 second.

## **If the performance is not good?**

For best results, use in a standard wall outlet without any other products plugged into the same outlets. Connecting this product to a power strip or a surge protector may adversely affect the performance of this product. In addition, avoid using the Powerline adapters in an electrical outlet that is located near an appliance that uses a lot of power such as a washer, dryer, refrigerator, microwave, hair dryer, or air conditioning system. You can also try different wall outlet to make sure that is not outlet problem.

## **If the Ethernet LED does not Blink?**

If this light is not blinking, this indicates there is no data traffic. Please make sure the router or the Ethernet enabled device is turned on and connected properly.

## **If it is not working in a Business Environment?**

Powerline is not directed toward businesses, however, it may work in a business environment.

# Technical Specifications

## Standards

- HomePlug AV Compliant
- IEEE 802.3 Compliant

## Network Ports

- One 10/100 Ethernet port

## EMC

- FCC Part 15 Class B
- CE Class B
- C-Tick

## AC Input

- 100 ~ 240VAC 50/60Hz

## Safety

- UL, CE LVD

## Maximum PowerLine Data Rate

- 200 Mbps

## PowerLine Modulations Scheme

- OFDM Symbol Modulation

## PowerLine Frequency Band

- 2MHz to 28MHz

## Encryption

- 128 bit AES

## Operation Temperature

- 0°C ~ 40°C

## Storage Temperature

- -10°C ~ 70°C

## Humidity

- Operation: 10% ~ 90% RH
- Storage: 5% ~ 90% RH

## LED

- Power
- PowerLine
- Ethernet

## Power Savings

- Compliant With European Energy Using Product Directive (EUP)

# Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DHP-309AV)
- Hardware Revision (located on the label on the bottom of the product (e.g. rev D1))
- Serial Number (s/n number located on the label on the bottom of the product).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

## For customers within the United States:

**Phone Support:**

(877) 453-5465

**Internet Support:**

<http://support.dlink.com>

## For customers within Canada:

**Phone Support:**

(800) 361-5265

**Internet Support:**

<http://support.dlink.ca>

# Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

## **Limited Warranty:**

D-Link warrants that the hardware portion of the D-Link product described below (“Hardware”) will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below (“Warranty Period”), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

### **Limited Software Warranty:**

D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Software Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by DLink in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

### **Non-Applicability of Warranty:**

The Limited Warranty provided hereunder for Hardware and Software portions of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

### **Submitting A Claim:**

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support (USA 1-877-453-5465 or Canada 1-800-361-5265), who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form. Enter the assigned Case ID Number at <https://rma.dlink.com/> (USA only) or <https://rma.dlink.ca> (Canada only).

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to D-Link Systems, Inc.
- **USA residents** send to 17595 Mt. Herrmann, Fountain Valley, CA 92708. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.
- **Canadian residents** send to D-Link Networks, Inc., 2525 Meadowvale Boulevard Mississauga, Ontario, L5N 5S2 Canada. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via Purolator Canada or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in Canada, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming. RMA phone number: 1-800-361-5265 Hours of Operation: Monday-Friday, 9:00AM – 9:00PM EST.

### **What Is Not Covered:**

The Limited Warranty provided herein by D-Link does not cover:

Products that, in D-Link’s judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers,

or the liquidators expressly disclaim their warranty obligation pertaining to the product.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

**Disclaimer of Other Warranties:**

EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

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**CE Mark Warning:**

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

**FCC Statement:**

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 communication. 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.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

# Registration

Register your product online at [registration.dlink.com](http://registration.dlink.com)



Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

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