Using the DHP-300 is a simple and easy approach to adding devices to your existing Network where difficulties exist with Wireless Installations and the like. The DHP-300 is simplistic in its installation where as in a few minutes of your time the installation can be completed while taking the advantage of using the electrical wiring that run through your house and plugging the DHP-300 into an available Power Socket. How you ask can this be done? Well the frequency at which the data travels at is different from your existing electrical transfers.

Setup Guide:

This setup guide will demonstrate the installation while using two DHP-300's, as two is the minimum requirement for creating a Network. Below we will cover the installation needed for a computer upstairs to connect a Router/Switch downstairs to allow for the computer upstairs to attain access to the Internet using Powerline HD Technology.

NOTE: For the installation to be successful you will need to ensure that your electrical wiring is on the same electrical circuit; else a Network using two DHP-300's will not be possible. If you are unsure on this topic D-Link would recommend contacting a certified Electrician to help assist this situation.

- **1.** Plug an Ethernet Cable into the Ethernet Port on the first DHP-300's, then plug it into a Power Socket. Connect the remaining end into a spare Ethernet Port on your Router/Switch.
- 2. On the computer upstairs ensure that your Network adapter is configured for DHCP:

Windows XP Users:

Click on Start > Control Panel > Network Connections > Right click on your "Local Area Connection" icon, select Properties. "Highlight Internet Protocol (TCP/IP)", click on Properties button. Ensure the "Obtain an IP address automatically" and "Obtain DNS server address automatically" is selected.

Windows Vista Users:

Click on Start > Control Panel > Network and Internet > Network and Sharing Center > Click on "Manage network connections", Right click on your "Local Area Connection" icon, select Properties. Highlight "Internet Protocol Version 4 (TCP/IPv4)", click the Properties button. Ensure the "Obtain an IP address automatically" and "Obtain DNS server address automatically" is selected.

3. Connect the second DHP-300 to your computer upstairs, plug another Ethernet Cable to the DHP-300 Ethernet Port and connect the remaining end to your Network Adapter, now plug it into a Power Socket.



Your Network should look similar to the below diagram:

- **4.** Insert the accompanied Installation CD-ROM into your CD/DVD-ROM Drive and allow it to Autorun and/or explore the CD/DVD-ROM Drive and click on the "setup.exe" file.
- 5. When the Setup initialises you will shortly be prompted with the below screen:



6. Click on the Next button to commence the installer.

7. Allow for the default installation path or custom it to your liking; during this guide the default installation path was used:

D-Link DHP-300 Powerline HD Utility - InstallShield	Wizard
Choose Destination Location Select folder where setup will install files.	
Setup will install D-Link DHP-300 Powerline HD Utility	in the following folder.
To install to this folder, click Next. To install to a differ another folder.	ent folder, click Browse and select
Destination Folder C:\\D-Link\D-Link DHP-300 Power Line HD Utili InstallShield	y\ <u>Browse</u>
	<u>B</u> ack <u>N</u> ext > Cancel

- 8. Click on the Next button.
- **9.** The required files will now be installed:



10. You will then be prompted to install "WinPcap 4.0", this will be used to discover the DHP-300's on your network:



11. Click on the Next button to commence setup.



12. Click the Next button once again:

6	WinPcap 4.0 Setup	X
IJ	License Agreement Please review the license terms before installing WinPcap 4	.0.
	Press Page Down to see the rest of the agreement.	
	Copyright (c) 1999 - 2005 NetGroup, Politecnico di Torino (Italy). Copyright (c) 2005 - 2007 CACE Technologies, Davis (California). All rights reserved.	
	Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:	
	 Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials 	Ŧ
	If you accept the terms of the agreement, dick I Agree to continue. You must accept the agreement to install WinPcap 4.0.	2
Nu	ullsoft Install System v2.16 — Car	ncel

13. Click on the I Agree button to accept the License Agreement:



14. Click on the Finish button to complete the installation process.

15. Finally click on the Finish button again to start the Utility required to setup the DHP-300's:



16. You should now see the screen below having successfully installed the D-Link DHP-300 Powerline HD Utility:

DHP-300 Powerline	e HD Utility	X
D-Link		
DHP-300	Setup	Helpful Hints
	Network Info Device Name Network ID MAC Location Quality	The assistant has detected the following nodes in the electric network. If you think more nodes should be shown, make sure the nodes are connected and click Scan button.
		box to scan all nodes within the network periodically. For better signal strength, plug the device directly into a wall outlet avoiding the use of power strips and extension
	Reset Scan	cords.
	Version 1.2 Copyright @ 2007 D-Link Inc. All Rights Reserved.	

Detection:

Having connected two DHP-300 to your existing Network, in a few seconds you should be able to see the utility having detected the two DHP-300 as per below:

DHP-300 Powerlin	e HD Utility				×
D-Link					
DHP-300	Setup	Security	QoS	System	Helpful Hints
	- Network Info- Device Name	Network ID		itoScan Finished Location Quality	has detected the following nodes in the electric network. If you
	Device1	DHP-300	001CF05BBBBA	Remote	think more nodes should be shown, make sure the nodes are connected and click Scan button. Check AutoScan box to scan all nodes within the network periodically
		Reset		Scan	For better signal strength, plug the device directly into a wall outlet avoiding the use of power strips and extension cords.
	Сор	Vers yright @ 2007 D-L	ion 1.2 ink Inc. All Righ	nts Reserved.	

NOTE: With the AutoScan feature enabled the utility will scan for new devices every 10 seconds.

Configuration:

In the Setup of the Utility you will see that both devices are highlighted, this will allow you configure both devices at the same time, where as if you were to select one of them then only the one highlighted will the configuration be changed.

NOTE: If you were to have multiple DHP-300's in your network it is recommended to configure the Remote unit first, then your Local connected unit.

Notice when you have all highlighted then click on the Security Tab, it will reference "Multiple PLC nodes configuration:

DHP-300 Powerline	e HD Utility				×			
D-Link								
DHP-300	Setup	Security	QoS	System	Helpful Hints			
	-Multiple PLC	nodes configu	ration	1	user to configure serveral PLC nodes simultaneously.			
	DHP-3	00	or Use D	efault	It's recommended to create your own Network ID for network security purpose. The Network ID			
	* Each Pl	.C node in the netwo	ork must use the s	ame Network ID.	allows you to protect your network from unauthorized access via the Powerline network.			
		Save	Settings					
	Co	Versi pyright @ 2007 D-Li	on 1.2 ink Inc. All Rights F	Reserved.				

If you were to select the Remote DHP-300 then it will reference "PLC Nodes configuration":

DHP-300 Powerline	e HD Utility				x
D-Link					
					Helpful Hinte
DHP-300	Setup	Security	QoS	System	This is the current
	PLC Node co Device	onfiguration: — Name:		·	nons to the current configuration of selected PLC node. Complete the information for selected PLC node and then click Save Settings button.
	Networ	k ID: 0 C node in the netwo	or Use De rk must use the sar	fault	It's recommended to create your own Network ID for network security purpose. The Network ID allows you to protect your network from unauthorized access via the Powerline network.
		Save	Settings		
	Co	Vers pyright @ 2007 D-L	ion 1.2 ink Inc. All Rights F	Reserved.	

The Device Name can be customised (recommended without spaces). In order for there to be a successful network connection and allow communication then the Network ID must be the same (recommended without spaces). For this demonstration it was left with the default values. Once you are satisfied with the Device Name and Network ID, then you may click on the Save Settings button.

The DHP-300 also has a QoS (Quality of Service) which is customised to your particular requirements. The same principal is applied to selection of one and or multiple DHP-300's for configuration. Clicking on the QoS Tab will show the below by default:

C DHP-300 Powerline	e HD Utility	_	X
D-Link			
DHP-300	Setup Security QoS	System	Helpful Hints The Quality of
	Multiple PLC nodes Quality of Service Application QoS None Advanced QoS Rule 1: No prioritization	•	Service will allow you to set priorities for traffic passing through your network. Adopt Application QoS or Advanced QoS and then click Save Settings
	Rule 2: No prioritization		button. Applications use UDP(User Datagram Protocol)for data transfer, while database applications use TCP(Transmission
	* Rule 1 priority is higher than Rule 2 Save Settings		Control Protocol) for data transfer.
	Version 1.2 Copyright @ 2007 D-Link Inc. All Rights Re	eserved.	

Application QoS is selected by default and with the drop down menu system you can assign QoS to the built in selections. As per below:

None
None
BitTorrent
eDonkey
eMule
VoIP and Video Streaming

If you would like a more customised approach to QoS then you have the ability to select Advanced QoS. There are two rules which you can configure in multiple situations depending on your needs and requirements, remember that Rule 1 takes priority over Rule 2.

Advanced QoS has the below drop down menu in place allowing for more defined criteria:

No prioritization
UDP is high Priority, TCP is low Priority
TCP is high Priority, UDP is low Priority
UDP Source port XXX Priority
UDP Destination port XXX Priority
TCP Source port XXX Priority
TCP Destination port XXX Priority
Use 802.1p prioritization
No prioritization

NOTE: The same principal is applied to Rule 2.

Selecting the "UDP Source port XXX Priority" provides the additional configuration, as per below:

Rule 1: UDP Source port XXX Priority							•		
Port:	1733	0	0	0	0	0	0	0	
Priority	3 🗸	0 💌	0	• 0	• 0	• 0	• 0	• 0	•

This will allow for eight Ports to be specified and to assign the Port with a Priority value. There are seven Priority classes. 0 being the Lowest and 7 being the Highest.

The same principal is applied with selecting:

- UDP Destination port XXX Priority.
- TCP Source port XXX Priority.
- TCP Destination port XXX Priority.

The "Use 802.1p prioritization" is derived from the IEEE 802.1p Standards.

Once you are satisfied with your QoS customization then continue to click on the Save Settings button.

The System Tab provides the ability to either factory reset one or multiple units at once.

The Upgrade Firmware feature allows you to upload the firmware to the DHP-300 with ease.

Successful Connection:

We can now determine if you are successfully connected via the use of the Powerline HD Technology. Your computer will have been assigned with a DHCP IP Address from your connected Router which is providing a response to DHCP requests.

In a command prompt use the following commands to check connectivity:

Windows XP Users:

Click on Start > Run, type in "cmd" (without quotes) and press the Enter Key. In the command prompt type in "ipconfig" (without quotes), and you should see as per below:



Windows Vista Users:

Click on Start > type in "cmd" (without quotes) in the Start Search field, and then press the Enter Key. In the command prompt type in "ipconfig" (without quotes), as you should see as per below:

Administrator: C:\Windows\system32\cmd.exe	
Ethernet adapter Local Area Connection:	_
Connection-specific DNS Suffix .: Link-local IPv6 Address : fe80::5465:c0e7:5854:7746%8	
IPv4 Address	
Default Gateway : 192.168.0.1	-

Now that you know your Network Adapter has an IP Address from your Router, you may try to access the World Wide Web.

In your Internet Browser, in the Address Bar type in <u>http://www.dlink.com.au</u> to determine if you have a successful connection to the Internet.

If you are successful, you should see the below:



Provided you are able to see something similar to the above, Congratulations you have successfully configured a Network using the D-Link DHP-300 utilizing Powerline HD Technology.