



Atlantis



Wireless N 150Mbps PowerLine HD Adapter

Manual

NetPower 303 WN



ITALIANO

Questo prodotto è coperto da garanzia Atlantis della durata di 2 anni. Per maggiori dettagli in merito o per accedere alla documentazione completa in Italiano fare riferimento al sito www.atlantis-land.com.

ENGLISH

This product is covered by Atlantis 2 years warranty. For more detailed informations please refer to the web site www.atlantis-land.com.

For more detailed instructions on configuring and using this device, please refer to the online manual.

FRANCAIS

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DEUTSCH

Dieses Produkt ist durch die Atlantis 2 Jahre Garantie gedeckt. Für weitere Informationen, beziehen Sie sich bitte auf Web Site www.atlantis-land.com.

ESPAÑOL

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Wireless LAN, Health and Authorization for use

Radio frequency electromagnetic energy is emitted from Wireless LAN devices. The energy levels of these emissions however are far much less than the electromagnetic energy emissions from wireless devices like for example mobile phones. Wireless LAN devices are safe for use frequency safety standards and recommendations. The use of Wireless LAN devices may be restricted in some situations or environments for example:

- On board of airplanes, or
- In an explosive environment, or
- In case the interference risk to other devices or services is perceived or identified as harmful

In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please ask for authorization to use these devices prior to operating the equipment.

Regulatory Information/disclaimers

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The Manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, of the substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

CE Mark Warning

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

CE in which Countries where the product may be used freely:

Germany, UK, Italy, Spain, Belgium, Netherlands, Portugal, Greece, Ireland, Denmark, Luxembourg, Austria, Finland, Sweden, Norway and Iceland.

France: except the channel 10 through 13, law prohibits the use of other channels.

CE/EMC Restriction of Liability

The product described in this handbook was designed, produced and approved according to the EMC-regulations and is certified to be within EMC limitations.

If the product is used in an uncertified PC, the manufacturer undertakes no warranty in respect to the EMC limits. The described product in this handbook was constructed, produced and certified so that the measured values are within EMC limitations. In practice and under special circumstances, it may be possible, that the product may be outside of the given limits if it is used in a PC that is not produced under EMC certification. It is also possible in certain cases and under special circumstances, which the given EMC peak values will become out of tolerance. In these cases, the user himself is responsible for compliance with the EMC limits.

Declaration of Conformity

This equipment has been tested and found to comply with Directive 1999/5/CE of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity. After assessment, the equipment has been found to comply with the following standards: EN 300.328 (radio), EN 301 489-1, EN 301 489-17 (electromagnetic compatibility) and EN 60950 (safety). This equipment may be used in all European Union countries and in all countries applying Directive 1999/5/CE, without restriction, with the exception of the following countries:

France (FR): When this equipment is used outdoors, output power is limited to within the frequency bans listed on the chart. For more info, consult the website www.art-telecom.fr.

Location	Frequency Band (MHz)	Power (EIRP)
Indoor (no restriction)	2400-2483,5	100mW(20dBm)
Outdoor	2400-2454	100mW(20dBm)
	2454-2483,5	10mW(10dBm)

Italy(IT): For more info, consult the website www.comunicazioni.it

Luxembourg: General authorization requie for network and service supply.

Norway (NO): This subsection does not apply for geographical area within a radius of 20 km from the center of Ny Alesund.

Russia (CCP): only for indoor application.



Declaration of Conformity

Hereby We declare that this product is in compliance with the essential requirements and other relevant provisions of Directive "Electromagnetic Compatibility" and 1999/5/CE within CE Marking Requirement.

CE Declaration is available on the web site www.atlantis-land.com.



Important information for the correct recycle/treatment procedures of this equipment

The crossed-out wheeled bin symbol printed on the unit label or unit packaging indicates that this equipment must not be disposed of as unsorted municipal waste but it should be collected separately.

The waste of electric and electronic equipment must be treated separately, in order to ensure that hazardous materials contained inside the equipment are not buried thereby providing potential future problems for the environment and human health. Moreover, it will be possible to reuse and recycle some parts of the waste of electric and electronic equipment, contributing to reduce the quantities of waste to be disposed of and the depletion of natural resources.

As user of this equipment, you are responsible to return this waste of electronic equipment to an authorised collection facility set up by your Municipality. More detailed information on your nearest collection centre can be obtained from your Municipality or from other competent local entities.

If you are replacing the old equipment with a new equivalent product, the distributor must take-back the old equipment free of charge on a one-to one basis as long as the equipment is of equivalent type and fulfilled the same functions as the supplied equipment.

Your rôle in participating to the separate collection of waste of electric and electronic equipment is essential to ensure that environmental protection and

human health objectives connected to a responsible treatment and recycling activities are achieved.

PS.: The above mentioned information are reported herewith in compliance with Directive 2002/96/CE, which requires a separate collection system and specific treatment and disposal procedures for the waste of electric and electronic equipments (WEEE). For further and more detailed information, we invite you to visit our website at www.atlantis-land.com.



Atlantis suggest to visit the web site www.atlantis-land.com in order to retrieve update manual, techsheet and driver.



Before starting, take a few minutes to read this manual. Read all of instructions and save this manual for later reference.

Cautions

- Do not place the device under high humidity and high temperature.
- Do not use the same power source for this device with other equipment.
- Do not open or repair the case yourself. If the device is too hot, turn off the power immediately and have a qualified serviceman repair it.
- Do NOT upgrade firmware on any Atlantis product over a wireless connection. Failure of the device may result. Use only hard-wired network connections.

Important Safety Instructions

Please read these instructions carefully:

- Unplug the PowerLine HD Ethernet Adapter from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use the PowerLine HD Ethernet Adapter near water.
- The PowerLine HD Ethernet Adapter should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation provided.
- The PowerLine HD Ethernet Adapter should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The PowerLine HD Ethernet Adapter relies on the building's electrical installation for short-circuit (over current) protection. Ensure that a fuse or circuit breaker no larger than 220 VAC is used on the phase conductors (all current-carrying conductors).

- Plug the PowerLine HD Ethernet Adapter directly into a 220V AC wall outlet. Do not use an extension cord between the adapter and the AC power source.
- Do not attempt to service the PowerLine HD Ethernet Adapter yourself, as opening or removing covers may expose you to dangerous voltage points or other risks as well as ruin product warranty. Refer all servicing to qualified service personnel.
- Unplug the PowerLine HD Ethernet Adapter from the wall outlet and refer the product to qualified service personnel for the following conditions:
 - If liquid has been spilled into the product.
 - If the product has been exposed to rain or water
 - If the product does not operate normally when the operating instructions are followed
 - If the product exhibits a distinct change in performance



Product warranty does not apply to damage caused lightning, power surges or wrong voltage usage.



Check voltage before connecting to the power supply. Connecting to the wrong voltage will damage the equipment.



High voltage is used in the equipment. Do not open enclosure, service, or change any part of the equipment. Service can only be carried out by qualified technical specialists. Observe safety precautions to avoid electric shock.



Thank you for purchasing the NetPower 303 WN that provides the easiest way to wireless networking. Please keep this Manual for future reference.

1. Product Overview

IEEE 802.11n Wireless Multi-Function Access Point

Thanks to its embedded Access Point, based on the most recently 802.11n specifications, is possible to create high performance WLANs with extended coverage.

No more dead zones and high speed (up to 6 times than traditional IEEE802.11b/g networks) are the most impressive characteristics of this innovative wireless technology, that ensure excellent throughput performances merging with total freedom of mobility.

The WDS (up to 4 AP) feature makes the device an ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces.

Multiple SSIDs (up to 4 different SSID) allow users to access different networks through a single access point.

Client Isolation and VLAN tagging

The device supports up to 4 SSIDs (client isolation) with VLAN tag (on Ethernet interface) that allows NetPower to perform as multiple virtual access points.

Throughput up to 200 Mbps on electrical wiring

NetPower 303 WN utilizes the existing electrical wiring in the house as a path to create a secured network of computers and Ethernet devices. With a maximum data rate of up to 200 Mbps, this device can reliably handle high requirement applications like broadband Internet, high definition video streaming, and Voice over IP. HomePlug AV converts digital signals to a complex analog signal that traverses along the electrical wires. When receiving the analog signal, HomePlug AV converts the analog signal back to digital.

1.1 System Requirements

NetPower 303 WN is applicable with all TCP/IP operating systems with Ethernet port. Drivers are not required for this adapter.

Before installing the Adapter, your PC should meet the following:

- TCP/IP protocol must be installed on each PC
- Web browser, such as Microsoft Internet Explorer 5.0 or later, Netscape Navigator 6.0 or later

2. Package Contents

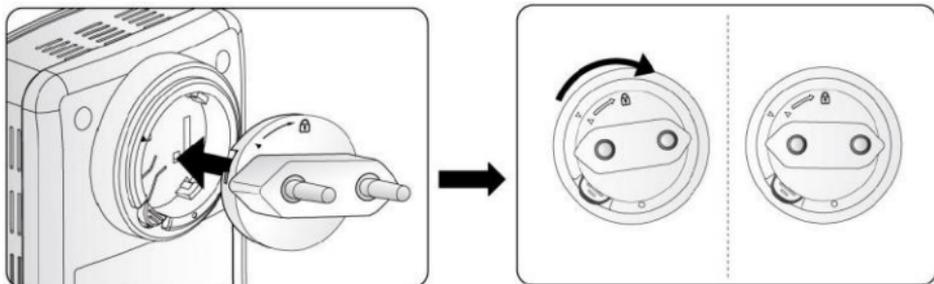
Open the box and carefully unpack it. The box should contain the following items:

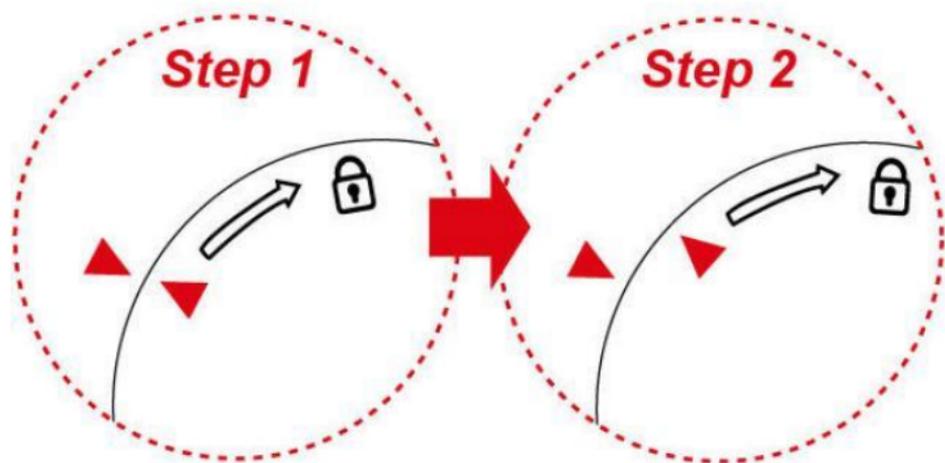
- NetPower 303 WN
- 1 x RJ45 CAT5 Cable
- Quick Start Guide (English, French and Italian)
- CD-Rom with QSG and Manual (English and Italian)
- 1 x Warranty Card and 1 x WEEE Card

If any item is found missing or damaged, please contact your local reseller for replacement.

3. Hardware Installation

Refer to the following diagrams and direction to install the clip with NetPower 303 WN.





NOTE:


Please DO NOT remove or disassemble the socket clip frequently as this may cause serious damage to your device.

4. LED

NetPower 303 WN has 4 lights indicator (LEDs), 2 buttons (WPS and SYNC), a reset button and an Ethernet port.



LED	MEANING
WLAN	Lit green when the wireless function is enabled. Blinking when data is transmitted or received via WLAN. Blinking quickly when WPS is proceeded.
POWER	Lit green when the device is power on. Lit off when power is off.
PLC	Lit green when the power line sync is established. Blinking quickly when data is transmitted or received via power line. Blinking after Sync button is pushed (see Sync Button described below).

ETH	Lit green when connected to an Ethernet device. Blinking when data is transmitted or received via Ethernet port.
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BUTTON	MEANING
WPS	Push this button to trigger Wi-Fi Protected Setup function.
SYNC	Used to establish a LAN network with other power line devices. Push this button for 1~3 second(s) and release it to set device enter the power line Sync state. Press the Sync Button of device for more than 10 seconds to make sure that it is detached completely from any possible network group.
RESET	Press this button 3 seconds to reset device to factory default settings.



Due to the incompatibility of HomePlug AV 200 with HomePlug 1.0 devices, the presence of the HomePlug 1.0 devices within the powerline network will thus reduce the performance of your powerline network.



For a device which already belongs to a network group is to join with a different network group, that device has to be ungrouped from its current attached group first. Press the Sync Button of device for more than 10 seconds to make sure that it is detached completely from any possible network group.

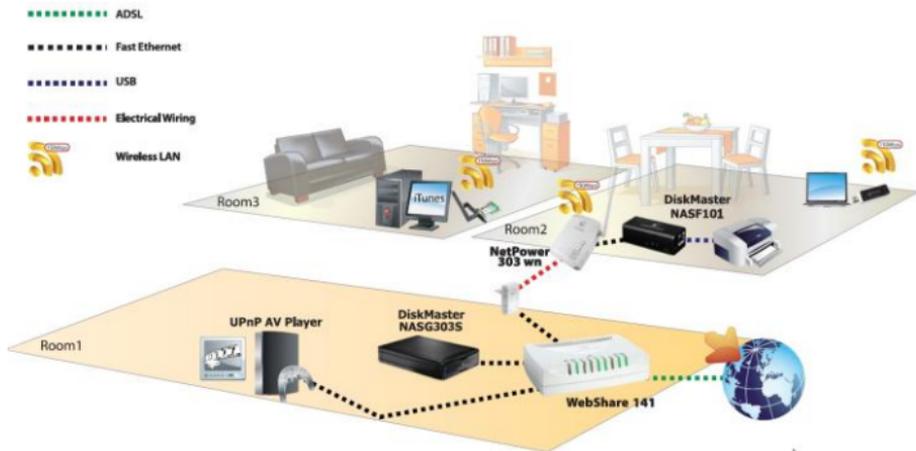
5. Cabling

Plug NetPower 303 WN into the wall outlet/socket.

With the power source on, once the device is connected, the Power, LAN and WLAN port LEDs will light up indicating a normal status.

If the LAN Port's Link indicator does not light up then check the RJ-45 cable if it is firmly feed to the RJ45 port, while the LAN is link up to the Switch/Hub, the LAN port's LED will light up.

The control LEDs of the device are clearly visible and the status of the network link can be seen instantly.



6. Default SETTINGS

The NetPower 303 WN can be configured with your Web browser. The web browser is included as a standard application in following operation systems, UNIX, Linux, Mac OS, Windows XP/2000/Vista/7, etc. The product provides a very easy and user-friendly interface for configuration.

Before Configuration

This section describes the configuration required by LAN-attached PCs that communicate with the NetPower 303 WN, either to configure the device, or for network access. These PCs must have an Ethernet interface installed properly, be connected to the NetPower 303 WN either directly or through an external Switch, and have TCP/IP installed and configured to obtain an IP address through a DHCP server or a fixed IP address that must be in the same subnet of the NetPower 303 WN. The default IP address of the NetPower is **192.168.1.251** and subnet mask is **255.255.255.0**. The best and easy way is to configure the PC (**DHCP client**) to get an IP address from the NetPower 303 WN (**DHCP server**). For the first time please connect the PC directly to NetPower 303 WN.

Please follow the steps below for PC's network environment installation. First of all, please check your PC's network components. The TCP/IP protocol stack and



Ethernet network adapter must be installed. If not, please refer to MS Windows relative manuals.

- Username: **admin**
- Password: **atlantis**
- IP LAN address: (**192.168.1.251**), Subnet Mask (**255.255.255.0**)
- IP WAN address: **client DHCP**
- DHCP Server: enable (**192.168.1.10-192.168.1.50**)
- SSSID= **A02-PL303-WN**
- Channel=**6**, Authentication: **WPAPSK**, Encrypton: **AES**, Encryption Key: **NetPower303WN**

7. INTERNET EXPLORER CONFIGURATION

Now open IE, go to **Instruments** menu, select the **Connections** tab and select one of the following options:

- Never use remote connection
- Use remote connection if another network connection isn't available

8. TCP/IP CONFIGURATION

Configuring PC (Windows 2000)

- Go to **Start / Settings / Control Panel**. In the Control Panel, double-click on **Network and Dial-up Connections**.
- Double-click **LAN Area Connection/Wireless**.
- In the **LAN Area Connection/Wireless** Status window, click **Properties**.
- Select **Internet Protocol (TCP/IP)** and click **Properties**.
- Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.
- Click **OK** to finish the configuration.

Configuring PC (Windows XP)

- Go to **Start / Control Panel** (in Classic View). In the Control Panel, double-click on **Network Connections**.
- Double-click **Local Area Connection/Wireless**.

- In the **LAN Area Connection/Wireless** Status window, click **Properties**.
- Select **Internet Protocol (TCP/IP)** and click **Properties**.
- Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.
- Click **OK** to finish the configuration.

Configuring PC (Windows Vista)

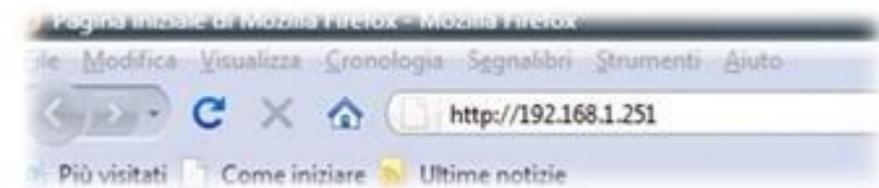
- Go to **Start / Control Panel** (in Classic View). In the Control Panel, double-click on **Network and Sharing Center** icon.
- Click **Manage Network connections** then double-click **Local Area Connection/Wireless** and click **Properties**.
- Click **Continue** (Windows needs your permission to continue).
- Select **Internet Protocol Version 4 (TCP/IP)** and click **Properties**.
- Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.
- Click **OK** to finish the configuration

Configuring PC (Windows 7)

- Go to **Start / Control Panel** (select **Large/Small Icon**). In the **Control Panel**, double-click on **Network and Sharing Center** icon.
- Click **Change Adapter Settings** then double-click **Local Area Connection/Wireless** and click **Properties**.
- Click **Continue** (Windows needs your permission to continue).
- Select **Internet Protocol Version 4 (TCP/IP)** and click **Properties**.
- Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.
- Click **OK** to finish the configuration

9. WEB Configuration

Open the web browser, enter the local port IP address of this NetPower 303 WN, which default at **192.168.1.251**, and click **Go** to get the login page.



The default username is **admin**, password **atlantis** and click **OK** to continue. Click on the desired item to expand the page with all settings in the main navigation panel. The following screen will appear.

Status	
System Information	
Model Name	NetPower 303WN
Firmware Version	1.040-c (Apr 16 2010)
System Up Time	17 hours, 42 mins, 39 secs
Home URL	Atlantis
LAN	
LAN IP Address	192.168.1.251
LAN Netmask	255.255.255.0
LAN MAC Address	00:04:ED:9F:28:1C
Wireless LAN	
WLAN Service	Enable
SSID1	A02-PL303-WN
Channel	Auto Channel Select
Power Line	
Power Line Service	Enable
Connected Device	0

At the configuration homepage, the left navigation pane where bookmarks are provided links you directly to the desired setup page, including:

- **Status** [Status, Statistics]
- **LAN Settings** [LAN]
- **Wireless Settings** [Basic, Security, Advanced, WPS, VLAN, Station List]

- **PowerLine Settings** [Status, Privacy, QoS]
- **Administration** [Management, Firmware Upgrade, Settings Management, Restart]

Click on the desired item to expand the page with all settings in the main navigation panel.

Now You can click the **LAN /Wireless/PowerLine Settings** link in order to change IP Address or LAN Netmask or change Wireless/PowerLine configuration.

For additional settings or information, refer to the Manual located on the CD.



In order to prevent unauthorized access to your NetPower configuration interface, it requires all users to login with a password. Please change this password.



WEP is not completely secure. If possible please use WPA-PSK. Wireless wizard may not be processed smoothly If your PC is a wireless station

9.1 Status -> Status

Congratulations! You are now successfully logon to the NetPower 303 WN . If the authentication succeeds, the homepage will appear on the screen.

Status	
System Information	
Model Name	A02-PL303-WN
Firmware Version	1.02o-c (Dec 23 2009)
System Up Time	22 hours, 12 mins, 28 secs
LAN	
LAN IP Address	192.168.5.16
LAN Netmask	255.255.255.0
LAN MAC Address	00:04:ED:9F:28:1C
Wireless LAN	
WLAN Service	Enable
SSID1	A02-PL303-WN
Channel	6
Power Line	
Power Line Service	Enable
Connected Device	1

SYSTEM INFORMATION

DESCRIPTION	MEANING
Model Name	Displays the model name.
Firmware Version	Displays the firmware version for this device.
System Up Time	Records system up-time.

LAN

DESCRIPTION	MEANING
LAN IP Address	The current IP on this device.
LAN Netmask	The current subnet mask on this device.
LAN MAC Address	The MAC address for the device.

WIRELESS LAN

DESCRIPTION	MEANING
WLAN Service	Status of the WLAN connection.
SSID	A unique name used to identify the wireless LAN to which a user wants to connect.
Channel	The current status in WAN interface.

PowerLine

DESCRIPTION	MEANING
Power Line Service	State of power line
Connected Device:	Displays the number of the remote power line device(s). Click the Power Line Service or Connected Device link to display the power line information.



Click the WLAN Service, SSID or Channel link to change the settings.

9.2 Status -> Statistics

Statistic	
▼ Memory	
Memory total:	13080 kB
Memory left:	4308 kB
▼ LAN	
LAN Rx packets:	45947
LAN Rx bytes:	5232117
LAN Tx packets:	78952
LAN Tx bytes:	33798416

MEMORY

DESCRIPTION	MEANING
Memory Total	Displays the total memory size of the device (in bytes).
Memory Left	Displays the amount of memory left (in bytes).

LAN

DESCRIPTION	MEANING
LAN Rx Packets	Displays the number of received packets.
LAN Rx Bytes	Displays the received packet traffic (in bytes).
LAN Tx Packets	Displays the number of transferrd packets.
LAN Tx Bytes	Displays the transferrd packet traffic (in bytes).

9.3 LAN Settings -> LAN

IP Address	<input type="text" value="192.168.1.252"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
LAN2	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
LAN2 IP Address	<input type="text"/>
LAN2 Subnet Mask	<input type="text"/>
DHCP Type	Server ▾
DHCP Start IP	<input type="text" value="192.168.1.10"/>
DHCP End IP	<input type="text" value="192.168.1.50"/>
DHCP Subnet Mask	<input type="text" value="255.255.255.0"/>
DHCP Lease Time	<input type="text" value="86400"/> seconds
Statically IP Assigned	MAC address: <input type="text"/> IP address: <input type="text"/>
Statically IP Assigned	MAC address: <input type="text"/> IP address: <input type="text"/>
Statically IP Assigned	MAC address: <input type="text"/> IP address: <input type="text"/>
UPnP	Disable ▾

LAN SETUP

DESCRIPTION	MEANING
IP Address	Enter the preferred IP address. Default is 192.168.1.252 .
Subnet Mask	Enter the preferred subnet mask. Default is 255.255.255.0 .
LAN2	This function enables the creation of multiple virtual IP interfaces for this device. It helps to connect two or more local networks to the ISP or remote node. In this case, an internal device is not required. Default setting is Disable . If you want to active IP Alias function, please select Enable .
LAN2 IP Address	Specify an IP address for this virtual interface.
LAN2 Subnet Mask	Specify a subnet mask for this virtual interface.
DHCP Type	You can disable or enable the function with DHCP server. The default type is Enable . The configuration of each item is described in DHCP Server section.
UPnP	UPnP offers peer-to-peer network connectivity for PCs and other network devices, along with the feature to control data transfer between devices. Default is Disable .

- **Enable:** Select to activate the device's UPnP function.
- **Disable:** Select to inactivate the device's UPnP function.

DHCP SERVER

DHCP allows networked devices to obtain information on the parameters of IP, Netmask, and so forth through the Ethernet Address of the device.

To configure the device's DHCP Server, select **Server** from the DHCP Type dropdown menu and you can then configure parameters of the DHCP Server.

DESCRIPTION	MEANING
DHCP Start IP / End IP	Enter the starting and ending IP address of the range of IP addresses that you want the DHCP server to assign to DHCP clients. The default DHCP IP range is 192.168.1.10 to 192.168.1.50.
DHCP Subnet Mask	Enter the subnet mask for the network address that you specified. The default is 255.255.255.0.
DHCP Lease Time	Enter the time value (in seconds) that you want the assigned IP address to be valid for. The DHCP client must obtain a new IP address from the DHCP server when this value expires.
Statically IP Assigned (1-3)	You can map the MAC address for stations that you want to always be assigned the same IP address. Mapped IP addresses must be outside the DHCP start/end IP range. You can configure up to 3 sets of MAC and IP addresses in this table.

9.4 Wireless Setting -> Basic

When you click this item, the column will expand to display the sub-items that will allow you to configure your wireless settings.

- Basic
- Security
- Advanced
- WPS
- VLAN
- Station List

The function of each configuration sub-item is described in the following sections.

Basic Wireless Settings

▼ **Wireless Network**

Wireless Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Wireless Mode	11b/g/n mixed mode ▼
SSID1	A02-AP3-W300N
Multiple SSID Service	1 ▼ Extension SSID
SSID2	SSID2
Multiple SSID Isolation	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Client Isolation	<input type="checkbox"/> SSID1 <input type="checkbox"/> SSID2
Broadcast Network Name (SSID)	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Country Region	Europe ▼
Channel (Frequency)	Channel 1 (2412MHz) ▼
Channel BandWidth	<input type="radio"/> 20 <input checked="" type="radio"/> 20/40
BSSID	00:04:ED:12:4C:50

WIRELESS NETWORK

DESCRIPTION	MEANING
Wireless Service	Default setting is Enable . If you do not have any wireless, select Disable .
Wireless Mode	The default setting is 11b/g/n mixed mode . If you do not know or have both 11b, 11g and 11b devices in your network, please left this mode selected. If you have only 11b card, please select 11b only from the drop-down menu. If you have only 11g card, please select 11g only from the drop-down menu. If you have both 11b and 11g card, please select 11b/g mixed mode.

Network (SSID1) (SSID2) (SSID3) (SSID4)	Name	The SSID is the unique name of a wireless access point (AP) used to distinguish one from another. For security purpose, you should change the default SSID to a unique ID name that is difficult to guess. Make sure your wireless clients have exactly the SSID as the device in order to connect to your network. <i>It is case sensitive and can be up to 32 characters.</i>
Multiple Service	SSID	We can set Multiple SSID service as below picture. We can set 4 SSID Maximum. Each SSID can set different Security setting. We can choose the SSID which we want to configure in SSID choice option.
Multiple Isolation	SSID	The "Multiple SSID Isolation" function will isolate the data forwarding between different SSID.
Client Isolation		The "Client Isolation" function will isolate the data forwarding in same SSID.
Broadcast Network Name (SSID)		It is used to broadcast its SSID on the network so that when a wireless client searches for a network, the device can be discovered and recognized. Default setting is Disable . <ul style="list-style-type: none"> • Enable: When enabled, the SSID is broadcast for wireless users to use. • Disable: When disabled, prevents the SSID broadcast from being seen by wireless users.
Country Region		Please select the region where NetPower 303 WN is used.
Frequency (Channel)		Select the wireless connection ID channel that you would like to use. Wireless performance may degrade if the selected ID channel is already being occupied by other AP(s).
Channel Bandwidth		Select either 20 MHz or 20/40 MHz for the channel bandwidth. The higher the bandwidth the better the performance will be.
BSSID		Displays the MAC address of the device.
WDS		Available when 11b/g mixed mode, 11b only and 11g are selected in Network Mode. Select the data transmission rate from the drop-down menu. Default is Auto .

NOTE:

The range of radio frequencies used by IEEE 802.11g wireless devices is called a "channel". Channels available depend on your geographical area. You may have a choice of channels (for your region) so you should use a different channel than an adjacent AP (access point) to reduce interference. Interference occurs when radio signals from different access points overlap causing interference and degrading performance.

Adjacent channels partially overlap however. To avoid interference due to overlap, your AP should be on a channel at least five channels away from a channel that an adjacent AP is using. For example, if your region has 11 channels and an adjacent AP is using channel 1, then you need to select a channel between 6 or 11.

When Channel bandwidth is 40Mhz only 2 AP can works in the same area without overlapping.

NOTE:

WEP is not completely secure. If possible please use WPA-PSK.

Wireless Distribution System (WDS)

It is a wireless access point mode that enables wireless link and communication with other access points. It is easy to install simply by defining the peer's MAC address of the connected AP. WDS takes advantage of the cost saving and flexibility which no extra wireless client device is required to bridge between two access points and extending an existing wired or wireless infrastructure network to create a larger network.

WDS Mode: You can disable or enable the WDS functionality. Default setting is **Disable**.

WDS->Lazy Mode

▼ Wireless Distribution System(WDS)

WDS Mode (AP+Bridge,Auto-Learning other WDS AP MAC Address)

WDS depends on the settings of main security encryption type. [Wireless Security](#)

DESCRIPTION	MEANING
WDS Mode	Select Lazy Mode from the drop-down menu. In this case, WDS peers can be autodetected. You can select None or other types: WEP, TKIP or AES. When WEP, TKIP or AES is selected, the Encryp Key field will display to allow you to set an encryption key.

WDS->Bridge Mode

▼ Wireless Distribution System(WDS)

WDS Mode Bridge Mode ▼ (Only Bridge,Disable AP Function)

WDS depends on the settings of main security encryption type. [Wireless Security](#)

Phy Mode HTMIX ▼

AP MAC Address (All of the AP's channel must be the same in WDS.)

AP MAC Address

AP MAC Address

AP MAC Address

DESCRIPTION	MEANING
WDS Mode	Select Bridge Mode from the drop-down menu. In this case, AP adapter acts as a wireless bridge and will not respond to wireless requests.
Phy Mode	<p>Select the appropriate mode from the drop-down menu. There are 4 options:</p> <ul style="list-style-type: none"> CCK OFDM HTMIX GREENFIELD <p>This Phy Mode must be the same then remote AP.</p>
AP MAC Address	Enter the associated AP's MAC Address(es) in this field and the following fields. It is important that your peer's AP must include your MAC address in order to acknowledge and communicate with each other.
Encryption Type (in Wireless Security)	You can select None or other types: WEP, TKIP or AES. When WEP, TKIP or AES is selected, the Encryp Key field will display to allow you to set an encryption key.

WDS->Repeater Mode

▼ **Wireless Distribution System(WDS)**

WDS Mode Repeater Mode (AP+Bridge)

WDS depends on the settings of main security encryption type. [Wireless Security](#)

AP MAC Address (All of the AP's channel must be the same in WDS.)

AP MAC Address

AP MAC Address

AP MAC Address

DESCRIPTION	MEANING
WDS Mode	Select Repeater Mode from the drop-down menu. In this case, AP adapter acts as a repeater and interconnects between access points.
AP MAC Address	Enter the associated AP's MAC Address(es) in this field and the following fields. It is important that your peer's AP must include your MAC address in order to acknowledge and communicate with each other.
Encryption Type (in Wireless Security)	You can select None or other types: WEP, TKIP or AES. When WEP, TKIP or AES is selected, the Encrypt Key field will display to allow you to set an encryption key.

9.5 Wireless Setting -> Security

You can disable or enable the wireless security function using WEP or WPA for wireless network protection. The default mode of wireless security is disabled. Please refer to the Security Mode section for detail description.

Wireless Security/Encryption Settings

▼ Select SSID

SSID choice
SSID1 ▼

SSID1:SSID1

Security Mode
Disable ▼

DESCRIPTION	MEANING
SSID Choice	Select the SSID that You want protect.
Security Mode	Select the Security Mode.

WEP (Wired Equivalent Privacy)

WEP is not completely secure. If possible please use WPA-PSK.

SSID1:SSID1

Security Mode

WEP

Default Key

WEP Keys	WEP Key 1 :	<input type="text"/>	Hex <input type="text"/>
	WEP Key 2 :	<input type="text"/>	Hex <input type="text"/>
	WEP Key 3 :	<input type="text"/>	Hex <input type="text"/>
	WEP Key 4 :	<input type="text"/>	Hex <input type="text"/>

DESCRIPTION	MEANING
Security Mode	Select WEP OPEN , WEP SHARED or WEP AUTO from the drop-down menu.
Default Key	Select the encryption key ID .
WEP Keys	Enter the key to encrypt wireless data. To allow encrypted data transmission, the WEP Encryption Key values on all wireless stations must be the same as the device. There are four keys for your selection. The input format is in Hex or ASCII style, 5 and 13 ASCII codes are required for WEP64 and WEP128 or 10 and 26 Hex codes are required for WEP64 and WEP128 respectively.

WPA-PSK/WPA2-PSK (Wifi Protected Access)

Select **WPA-PSK** or **WPA2-PSK** from the drop-down menu.

Wireless Security/Encryption Settings

▼ **Select SSID**

SSID choice A02-AP3-W300N ▼

SSID1:A02-AP3-W300N

Security Mode WPA-PSK (Pre-Shared Key) ▼

WPA

WPA Algorithms TKIP AES TKIP/AES mix mode

Pass Phrase NetFlyAP3WN

Key Renewal Interval 3600 seconds

DESCRIPTION	MEANING
Security Mode	Select WPA-PSK or WPA2-PSK from the drop-down menu.
WPA Algorithms	There are 3 types of the TKIP , AES & TKIPAES (not available in WPA-PSKmode).
Pass Phrase	Enter a pass phrase to access the network. It can be a password like "atlantis" or a pass phrase, from 8 to 63 case-sensitive characters.
Key Renewal Interval	The period of renewal time (in seconds) for changing the security key automatically between wireless client and Access Point (AP). Default value is 3600 seconds.

WPA/WPA2 with RADIUS

WPA / WPA2: If WPA or WPA2 is selected, the below screen is shown. Please set the length of the encryption key and the parameters for the RADIUS server.

SSID1:SSID1

Security Mode

WPA

WPA Algorithms TKIP AES TKIPAES

Key Renewal Interval seconds

PMK Cache Period minute

Pre-Authentication Disable Enable

RADIUS Server

IP Address

Port

Shared Secret

Session Timeout second

DESCRIPTION	MEANING
Security Mode	Select from the drop-down menu. <ul style="list-style-type: none"> • WPA2 with RADIUS • WPA with RADIUS
WPA Algorithms	There are 3 types of the TKIP , AES & TKIPAES (not available in WPA-PSKmode).
Key Renewal Interval	The period of renewal time (in seconds) for changing the security key automatically between wireless client and Access Point (AP). Default value is 3600 seconds.
PMK Cahce Period/ Pre-Authentication	Utilizzo facoltativo della memorizzazione nella cache PMK (Pairwise Master Key) e la memorizzazione nella cache PMK opportunistico. Nella memorizzazione nella cache PMK, i client senza fili e senza fili accesso punti cache i risultati delle 802.1X autenticazioni. Di conseguenza, l'accesso è molto più veloce quando un client wireless ritorna a un accesso senza fili scegliere che il client già autenticato.
IP Address	Enter the IP address used Radius Server,



Port	Enter the Port used by Radius Server, usually is 1812.
Shared Secret	Enter the Shared Secret, which is used by the Radius Server.
Session Timeout	Enter timeout.

Access Policy

Wireless MAC Address Filter Table (The maximum item is 64)

Rule	Disable ▾		
Index	MAC Address	Index	MAC Address
Add a new MAC address (Ex:the format is "00:11:22:33:55:66")			
<input type="text"/>	<< Station MAC address List ▾		

DESCRIPTION	MEANING
Rule	When the Policy is selected Allow , all the MAC addresses you entered in the Add a station MAC address field will be pass; when the Policy is selected Reject , all the MAC addresses you entered in the Add a station MAC address field will be blocked.
Add a station MAC address	Enter the MAC address of the wireless client.

9.6 Wireless Setting -> Advanced

Advanced Wireless Settings

▼ Advanced Settings

TX Power	<input style="width: 90%;" type="text" value="100"/>	(range 1 - 100, default 100)
Tx Burst	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	

▼ Wi-Fi Multimedia

WMM Capable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	
APSD Capable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	

▼ IGMP Snooping

IGMP Snooping Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	
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ADVANCED SETTINGS

DESCRIPTION	MEANING
TX Power	TX Power measurement that enhances the wireless transmission signal strength. You can adjust this power level from minimum (0) to maximum (100). Default is 100.
TX Burst	This feature is used to activate the transmitted time slot to increase transmission throughput. Default is Enable .

WI-FI Multimedia

DESCRIPTION	MEANING
WMM	This feature is used to control the prioritization of traffic according to 4 Access categories: Voice, Video, Best Effort and Background. Default is Enable .
APSP	Automatic Power Save Delivery (APSD) is an efficient power management mechanism and is very useful for a VoIP phone. You can select enable or disable this feature. Default is Disable .

IGMP Snooping

DESCRIPTION	MEANING
IGMP Snooping Service	Allows a layer 2 switch to manage the transmission of any incoming IGMP multicast packet groups between the host and the router. Default is set to enable .

Traditionally, IP packets are transmitted in one of either two ways - Unicast (1 sender - 1 recipient) or Broadcast (1 sender - everybody on the network). Multicast delivers IP packets to a group of hosts on the network - not everybody and not just 1.

IGMP (Internet Group Multicast Protocol) is a network-layer protocol used to establish membership in a Multicast group - it is not used to carry user data. IGMP version 2 (RFC 2236) is an improvement over version 1 (RFC 1112) but IGMP version 1 is still in wide use. If you would like to read more detailed information about interoperability between IGMP version 2 and version 1, please see sections 4 and 5 of RFC 2236. The class D IP address is used to identify host groups and can be in the range 224.0.0.0 to 239.255.255.255. The address 224.0.0.0 is not assigned to any group and is used by IP multicast computers. The address 224.0.0.1 is used for query messages and is assigned to the permanent group of all IP hosts (including gateways). All hosts must join the 224.0.0.1 group in order to participate in IGMP. The address 224.0.0.2 is assigned to the multicast routers group.

The NetPower 303 WN supports both IGMP version 1 (IGMP-v1) and IGMP version 2 (IGMP-v2). At start up, the device queries all directly connected networks to gather group membership. After that, the device periodically updates this information.

9.7 Wireless Setting -> WPS

WPS feature is designed to ease setup of security enabled WiFi networks in small offices or home. It supports methods to you to set a network and enable security by entering a PIN or pushing a button.

Wi-Fi Protected Setup

▼ WPS Config

WPS Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
WPS Mode	<input checked="" type="radio"/> PIN <input type="radio"/> PBC
Role	<input checked="" type="radio"/> Registrar <input type="radio"/> Enrollee
PIN	<input type="text"/>

Apply

▼ WPS Summary

WPS Current Status	Idle
WPS Configured	No
WPS SSID	A02-AP3-W300N
WPS Authentication Mode	WPA-PSK
WPS Encryption Type	AES
WPS Default Key Index	2
WPS Key(ASCII):	NetFlyAP3WN
AP PIN	11991847

WI-FI Protected Setup

DESCRIPTION	MEANING
WPS SERVICE	Default setting is Enable. If you do not want to activate this functionality, please select Disable and click Apply to confirm the setting.
WPS MODE	Define the WPS mode by PIN code or PBC. <ul style="list-style-type: none"> • PIN: Select PIN (Personal Identification Number) mode process to connect to the device. • PBC: Select PBC (Push Button Communication) mode process to connect to the device.
ROLE	Select to be the Registrar or Enrollee for this device.
PIN	When PIN mode is selected, this field is displayed to allow you to enter the PIN code which the device uses to authenticate other WPS-enabled wireless devices.



You can enable WPS PBC mode through WPS configuration interface as above or by pushing the WPS button of your NetPower 303 WN Adapter for more than 1 seconds and the WPS will establish the connection automatically.



WPS Summary

- **WPS Current Status:** Displays the WPS status.
- **WPS Configured:** Displays the current WPS configuration status
- **WPS SSID:** Displays the WPS network name.
- **WPS Authentication Mode:** Displays the authentication mode for WPS.
- **WPS Encryption Type:** Displays the encryption type for WPS.
- **WPS Default Key Index:** Displays the Default Key Index.
- **WPS Key(ASCII):** Displays the WPS key (ASCII characters).
- **AP PIN:** Displays the Access Point's PIN number.

9.8 Wireless Setting -> VLAN

Wireless VLAN

Wireless VLAN Service

Enable Disable

Wireless VLAN Table

SSID Index	SSID Name	VLAN ID
SSID1	SSID1	0 (0 ~ 4094)
SSID2	SSID2	1 (0 ~ 4094)
SSID3	SSID3	2 (0 ~ 4094)
SSID4	SSID4	3 (0 ~ 4094)

Click "**Wireless->VLAN**" option in left menu.

We can set different VLAN ID in each SSID,VLAN ID range is between 0 ~ 4094.



Please be noticed. After enable Wireless VLAN function, we maybe can configure the device through SSID1,unless the ethernet adapter can tag and untag VLAN ID packet or through VLAN ID switch.



Please be noticed. VLAN tagging/untagging is only for ETHERNET interface.

9.9 Wireless Setting -> Station List

The Station List displays the Wireless Network information.

Station List					
* Wireless Network					
MAC Address	Aid	PSM	MimoPS	MCS	BW
00:26:68:01:F8:50	1	0	0	7	20M

Wireless

DESCRIPTION	MEANING
MAC Address	The Media Access Control (MAC) addresses for each device on your WLAN.
AID	The association ID.
PSM	The power save mode.
MimoPS	The MIMO power save mode. MIMO, Multiple-input and multiple-output, is the use of multiple antennas at both the transmitter and receiver to improve communication performance.
MCS	The Modulation and Coding Scheme.
BW	The Network Bandwidth.

9.10 PowerLine Settings -> Status

Power Line Status			
Local Device			
Model	INT6400		
Firmware:	INT6000-MAC-4-0-4011-00-3430-20090501-FINAL-C		
MAC Address:	00:04:ED:9F:28:1B		
2 Remote devices			
Remote Device			
No.	MAC Address	Transfer rate	Receive rate
1	00:04:ED:B0:BC:C6	146 Mbps	146 Mbps
2	00:04:ED:B0:BC:C7	0 Mbps	0 Mbps

Local Device

DESCRIPTION	MEANING
Model Name	Displays the model name for the local power line device.
Firmware Version	Displays the version number of firmware on the local power line device.
MAC Address	Displays the MAC address of the local power line device. When you have successfully synchronized two HomePlug AV adapters through.

Remote Device

DESCRIPTION	MEANING
MAC Address	Displays the MAC address for the remote device.
Transfer/Receive Rate	Displays the throughput between remote and local device.

9.11 PoweLine Settings -> Privacy

Power Line Privacy

▼ Privacy Settings

New Network Name

New Network Name: Enter the new network name (password) to apply to the local HomePlug adapter. This allows the HomePlug adapters that have the same network name in the powerline network to communicate with each other.

Click **Apply** to confirm the setting.



More details on Appendix B.

9.12 PoweLine Settings -> QoS

Wired networks use QoS to help traffic flow more smoothly. On this screen, you can prioritize traffic passing through your adapter based on the device it is intended for by setting MAC address and the level of priority.

Power Line QoS Settings

▼ **Local Device**

MAC Address 00:04:ED:9F:28:1B

▼ **Add new policy**

Network card MAC Address Priority

Low ▼ Add

Local Device

DESCRIPTION	MEANING
MAC Address	Displays the MAC address.

Add New Policy

DESCRIPTION	MEANING
MAC Address	Enter the network card MAC address.
Priority	Select a priority from the drop-down menu. Click Add button to add this new rule. You will see the new address(s) displayed in the QoS Policy table. You can change the priority of the QoS rule(s) from the Priority drop-down menu or remove the rule(s) by clicking on Delete button next to the item you want to delete.



Make sure that the MAC Address that you entered is correct. (A MAC address uses 6 pairs of hexadecimal characters, for example 00:56:78:AF:56:05)

Power Line QoS Settings**Local Device**

MAC Address 00:04:ED:9F:28:1B

QoS Policy

No.	PC network card MAC Address	Priority	
1.	00:56:78:AF:56:05	Low	Delete
2.	00:1E:33:0C:82:14	High	Delete

Add new policy

Network card MAC Address Priority High

9.13 Administration -> Management

System Management

▼ **Administrator Settings**

Account

Password

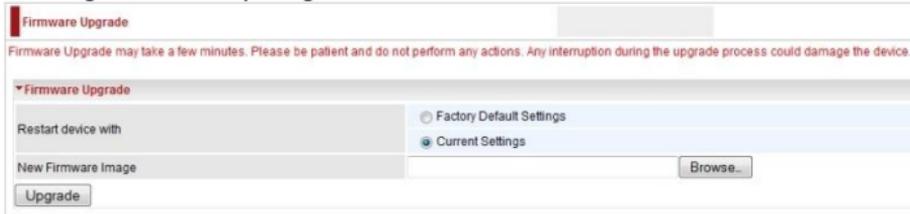
Account: You are allowed to set your own account name. Default is **admin**.

Password: You are allowed to set your own password. Default is **atlantis**.

Click **Apply** to save the changes.

9.14 Administration -> Firmware Upgrade

Upgrading the newly improved version of the firmware allows you to get the advantage to use newly integrated features.



The screenshot shows a web interface for a "Firmware Upgrade". At the top, there is a red warning bar with the text: "Firmware Upgrade may take a few minutes. Please be patient and do not perform any actions. Any interruption during the upgrade process could damage the device." Below this, the main form is titled "Firmware Upgrade" and contains the following elements:

- A section "Restart device with" with two radio button options: "Factory Default Settings" and "Current Settings". The "Current Settings" option is selected.
- A section "New Firmware Image" with a text input field and a "Browse..." button.
- An "Upgrade" button at the bottom left of the form.

Restart Device with: To choose "Factory Default Settings" or "Current Settings" which uses your current setting on the new firmware (it is highly advised to use Factory Default Settings over Current Settings for a clean firmware upgrade).

Clicking on **Browse** allows you to select the new firmware image file you have downloaded to your PC. Once the correct file is selected, click Upgrade to update the firmware in your router.

Then click **Upgrade**.



Do NOT upgrade firmware on any Atlantis product over a wireless connection.

Failure of the device may result. Use only hard-wired network connections.

Restore a saved configuration file generated with another firmware version may render your Router unstable and prevent some functions from working properly. After upgrading you must reset the router to factory default settings, then manually re-enter your settings.

Please pay attention. In case electrical shutdown, during this procedure, this product could be not usable.

When uploading software to the device, it is important not to interrupt the Web browser by closing the window or loading a new page. If the browser is interrupted, it may corrupt the software

The system will automatically reboot once the upgrade is complete. You will be returned to the Status page.

► Status

► LAN Setting

► Wireless Settings

▼ Administration

- Management
- Firmware Upgrade
- Settings Management
- Restart

Firmware Upgrade Progress

Upload firmware completed, system is rebooting, please wait a minute...

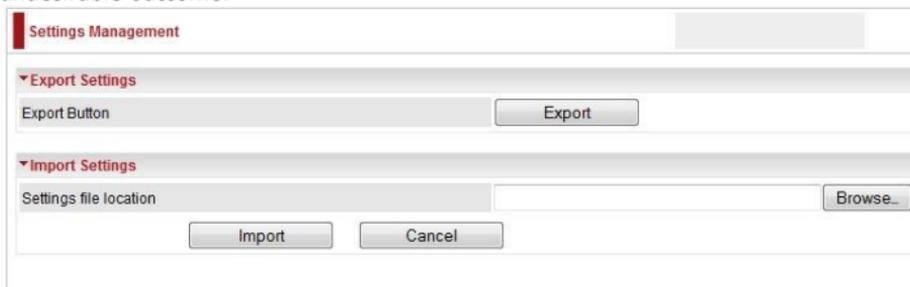
Progress :

Please wait **2** second for system reboot complete.

After system reboot complete, the browser will redirect to to <http://192.168.1.252/home.asp>

9.15 Administration -> Settings Management

These functions allow you to save a backup of the current configuration of your device to a defined location on your PC, to restore a previously saved configuration, or to restart your device with the factory default settings. This is useful if you wish to experiment with different settings, knowing that you have a backup in hand in case any mistakes occur. Besides, you can restart the device to factory default setting after you have accidentally changed your settings that may result in undesirable outcome.



The screenshot shows a web-based interface for 'Settings Management'. It features a header with the title 'Settings Management'. Below the header, there are two main sections: 'Export Settings' and 'Import Settings'. The 'Export Settings' section includes a label 'Export Button' and a button labeled 'Export'. The 'Import Settings' section includes a label 'Settings file location', a text input field, a 'Browse...' button, and two buttons labeled 'Import' and 'Cancel'.

- **Export Settings:**
- Click on **Export** to select where on your local PC you want to store your setting file. You may also change the name of the file if you wish to keep multiple backups. ***It is advisable that you backup your device configuration before making any changes to your device configuration.***
- **Import Settings:**
- **Settings file location:** Click on **Browse** to select a file from your PC to restore. You should only restore your device setting that has been generated by the Backup function which is created with the current version of the device firmware. Settings files saved to your PC should not be manually edited in any way. Select the settings files you wish to use, and press **Import** to load the setting into the device.
- **Load Factory Defaults**
- You may also reset your device to factory settings by holding the small **Reset** pinhole button more than 2 seconds.

9.16 Administration -> Restart

Click **Restart** with option **Current Settings** to reboot your router and save the current configuration to device.

Restart Device

▼ Restart

Restart device with

Factory Default Settings

Current Settings

Restart

If you wish to restart the router using the factory default settings (for example, after a firmware upgrade or if you have saved an incorrect configuration), select **Factory Default Settings** to reset to factory default settings.

10. Support

For technical questions and support, please contact our help-desk by ticket on <http://www.atlantis-land.com/ita/supporto.php>.

For generic informations, please send an e-mail to info@atlantis-land.com.

For presales informations, please send an e-mail to prevendite@atlantis-land.com.

Atlantis

Via S. Antonio, 8/10

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Fax: +39.02.78.62.64.39

Website: <http://www.atlantis-land.com>

Email: info@atlantis-land.com

APPENDIX A: Troubleshooting

This chapter covers potential problems and the corresponding remedies.

A.1 Using LEDs to diagnose problems

The LEDs are useful aides for finding possible problem causes.

A.1.1 Power LED

The PWR LED on the front panel does not light up.

Steps	Corrective Action
1	Make sure that the NetPower 303 WN is connected to an appropriate power source.
2	Verify that wall plug is well mounted (refer to 3 section of this manual).
4	If the error persists, you may have a hardware problem. In this case, you should contact your vendor.

A.1.2 LAN LED

The LAN LED on the front panel does not light up.

Steps	Corrective Action
1	Check the Ethernet cable connections between the device and the computer or hub.
2	Check for faulty Ethernet cables.
3	Make sure your computer's Ethernet card is working properly.
4	If these steps fail to correct the problem, contact your local distributor for assistance.

A.2 WEB Configurator

I cannot access the web configurator.

Steps	Corrective Action
1	Make sure you are using the correct IP address of the device. Check the IP address of the NetPower 303 WN.
2	Make sure that there is not an console session running.
3	Check that you have enabled web service access. If you have configured a secured client IP address, your computer's IP

	address must match it. Refer to the chapter on remote management for details.
6	If you changed the NetPower 303 WN LAN IP address, then enter the new one as the URL.

The web configurator does not display properly.

Steps	Corrective Action
1	Make sure you are using Internet Explorer 5.0 and later versions.
2	Delete the temporary web files and log in again. In Internet Explorer, click Tools, Internet Options and then click the Delete Files ... button. When a Delete Files window displays, select Delete all offline content and click OK. (Steps may vary depending on the version of your Internet browser.)

A.4 Login Username e Password

I forgot my login username and/or password.

Steps	Corrective Action
1	If you have changed the password and have now forgotten it, you will need to upload the default configuration file. This will erase all custom configurations and restore all of the factory defaults including the password.
2	Press the RESET button for 3 seconds, and then release it.
3	The default username is "admin". The default password is "atlantis". The Password and Username fields are case-sensitive. Make sure that you enter the correct password and username using the proper casing.
4	It is highly recommended to change the default username and password. Make sure you store the username and password in a save place.

A.5 LAN Interface

I cannot access the NetPower from the LAN or ping any computer on the LAN.

Steps	Corrective Action
1	Check the Ethernet LEDs on the front panel. A LAN LED should be on if the port is connected to a computer or hub. If the 10M/100M LEDs on the front panel are both off, refer to Section A.1.2.

A.6 Wireless

Question	Can I run an application from a remote computer over the wireless network?
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Answer	This will depend on whether or not the application is designed to be used over a network. Consult the application's user guide to determine if it supports operation over a network.
---------------	--

Question	Can I play computer games with other members of the wireless network?
-----------------	---

Answer	Yes, as long as the game supports multiple players over a LAN (local area network). Refer to the game's user guide for more information.
---------------	---

Question	What is Spread Spectrum?
-----------------	--------------------------

Answer	Spread Spectrum technology is a wideband radio frequency technique developed by the military for use in reliable, secure, mission-critical communications systems. It is designed to trade off bandwidth efficiency for reliability, integrity, and security. In other words, more bandwidth is consumed than in the case of narrowband transmission, but the trade-off produces a signal that is, in effect, louder and thus easier to detect, provided that the receiver knows the parameters of the spread-spectrum signal being broadcast. If a receiver is not tuned to the right frequency, a spread-spectrum signal looks like background noise. There are two main alternatives, Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS).
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Question	What is DSSS? What is FHSS? And what are their differences?
-----------------	---

Answer	Frequency-Hopping Spread-Spectrum (FHSS) uses a narrowband carrier that changes frequency in a pattern that is known to both transmitter and receiver. Properly synchronized, the net effect is to maintain a single logical channel. To an unintended receiver, FHSS appears to be short-duration impulse noise. Direct-Sequence Spread-Spectrum (DSSS) generates a redundant bit pattern for each bit to be transmitted. This bit pattern is called a chip (or chipping code). The longer the chip, the greater the probability that the original data can be recovered. Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the radio can recover the original data without the
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need for retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers.

Question Would the information be intercepted while transmitting on air?

Answer WLAN features two-fold protection in security. On the hardware side, as with Direct Sequence Spread Spectrum technology, it has the inherent security feature of scrambling. On the software side, WLAN offers the encryption function (WEP) to enhance security and access control.

Question What is WEP?

Answer WEP is Wired Equivalent Privacy, a data privacy mechanism based on a 64-bit or 128-bit shared key algorithm, as described in the IEEE 802.11 standard.

Question What is infrastructure mode?

Answer When a wireless network is set to infrastructure mode, the wireless network is configured to communicate with a wired network through a wireless access point.

Question What is roaming?

Answer Roaming is the ability of a portable computer user to communicate continuously while moving freely throughout an area greater than that covered by a single access point. Before using the roaming function, the workstation must make sure that it is the same channel number with the access point of dedicated coverage area.

Question What is ISM band?

Answer The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high-speed wireless capabilities in the hands of users around the globe.

Question What is the IEEE 802.11g standard?

Answer Approved in June, 2003 as an [IEEE](#) standard for wireless local area networks ([WLANs](#)), 802.11g offers wireless transmission over

relatively short distances at up to 54 [megabits](#) per second (Mbps) compared with the 11 megabits per second of the [802.11b \(Wi-Fi\)](#) standard. Like 802.11b, 802.11g operates in the 2.4 [GHz](#) range and is thus compatible with it.

A.7 PowerLine

Can I use HomePlug AV with older HomePlug versions?

All HomePlug AV versions can communicate with each other. HomePlug AV, however, is not backward compatible with HomePlug 1.0 releases.

If you will use different versions of HomePlug AV in a single network, you need to use the HomePlug AV Utility software to create a Private Network Name for all devices. Unlike the new version of HomePlug AV, older versions do not feature the Simple Connect button which enables the device to create a common Private Network Name without using the software.

How does HomePlug AV achieve a higher bandwidth than HomePlug Turbo and HomePlug 1.0 devices?

HomePlug AV complies with the HomePlug AV standard. It achieves higher data throughput by using a broader frequency spectrum (2-30 MHz rather than 4-21 MHz), by using a better access method (Time Division Multiple Access rather than Carrier Sense Multiple Access/Collision Detection), and by using a better processor with a greater bitload per Hz.

Can HomePlug AV be used alongside HomePlug 1.0 devices within the network?

HomePlug 1.0 and HomePlug AV standards can coexist but they will not be able to communicate with each other.

Which operating system (OS) is compatible with HomePlug AV?

HomePlug AV is operating system independent. However, the HomePlug AV Utility requires a Windows operating system (98SE/ME/2000/XP/Vista) with the .NET Framework installed.

How difficult is it to set up a network with HomePlug AV?

HomePlug AV is a plug and play device. Connect it to an Ethernet device, plug it to a wall socket, and it is ready to use. Even the most inexperienced user can set up the network with ease. Installing the HomePlug AV Utility software is only needed if you intend to manually change the Private Network Name or view the connection rate.

How many devices do I need to create a HomePlug AV network?

At least two devices are needed to create a HomePlug AV network.

Is HomePlug AV suitable for triple play like the simultaneous use of data, voice, and video applications?

Yes, triple play is supported.

What data transfer rates do I need for high definition TV?

A variety of HDTV resolutions are available. The following are the most common resolutions opposite the required transfer rate:

- 720p, mpeg2: 09-10 Mbps
- 720p, mpeg4: 06-08 Mbps
- 1080i, mpeg2: 12-15 Mbps
- 1080i, mpeg4: 08-10 Mbps

Does HomePlug AV have a security mechanism?

Yes. HomePlug AV uses 128-bit AES encryption.

Are Gigabit Ethernet adapters required for use with HomePlug AV?

No. Under ideal conditions, HomePlug AV has a physical gross data rate of up to 200 Mbps. The effective net data rate is somewhat lower. A 100 Mbps Ethernet adapter is therefore adequate in most cases.

Does the technology support multicast video server streams (IP-TV)?

Yes.

Do I need an Automatic Voltage Regulator (AVR) for HomePlug AV?

No. HomePlug AV can operate in an environment using 230V.

How many HomePlug AVs can operate in one household?

Up to 16 devices can be used within the household.

What is the maximum range of HomePlug AV?

The maximum range is 200 meters.

If one HomePlug AV is connected to a LAN switch, is it possible for other computers in the switch to communicate with other HomePlug AV devices?

Yes. Using QoS You can avoid problem due to limited bandwidth on the powerline

grid.

Can my neighbors access my HomePlug AV network?

Your electric meter prevents any signal from going outside your household. However, we strongly suggest that you create your own personalized Private Network Name to prevent unauthorized access into your network.

Can I use HomePlug AV to connect computers located in different floors of the building?

Yes, as long as the electric wires are connected and do not exceed 200 meters.

If one HomePlug AV is connected to a LAN switch, is it possible for other computers in the switch to communicate with other HomePlug AV devices?

Yes.

Can I use HomePlug AV in an old house with old power supply lines (partly without separated ground wire)?

Yes. However, performance may be affected because of the quality of the wires.

Can I plug HomePlug AV into a multiple socket switch or do I have to plug it directly to the wall socket?

You can plug HomePlug AV into a multiple socket switch. However, we strongly advise to plug it directly to a wall socket to achieve optimal performance.

Do I need electrical grounding for the device?

HomePlug AV does not require electrical grounding.

After a blackout, will HomePlug AV switch on automatically?

Yes. If you experience connection issues, unplug the device and plug it back.

APPENDIX B: Sync Button

Sync Button is used to add a HomePlug device to a Powerline network or enable it to join a network by pressing the **Sync** Button of the device to turn it into Broadcast state or Join state.

There are 3 types of Sync Button trigger states:

1. **Broadcast State:** Enable NetPower device to provide information for another NetPower device to join its powerline network group (works even if it is the only device existing within the network group).
2. **Join State:** This allows an ungrouped NetPower device to join an existing powerline network group.
3. **Ungroup State:** Press the **SYNC** Button for more than 10 seconds to detach the device from its network group.

Application Scenarios

Scenario 1: A NetPower device A wants to form a network group with another NetPower device B. You can assign whichever device (A or B) to be in the Broadcast State and the other in the Join State.

Example:

- Press the **Sync** Button of **device A** for 1~3 seconds to turn it into Broadcast State, you should find the Power LED blinks steadily signifying it is in Broadcast state.
- Press the **Sync** Button of **device B** for 1~3 seconds to turn it into Join State, you should find the Power LED blinks steadily signifying it is in Join state.
- Wait for both devices to boot again (all LEDs will turn off and on) and when the PLC LEDs of both devices lit steadily, you will now have these devices being in the same network group.

Scenario 2: A NetPower device wants to join an existing network group BC. Device A wants to join a network group "BC" currently consisting of device B and device C. Any devices within the "BC" group can become the "Broadcast State" and device A will be the "Join State".

Example:

- Press the **Sync** Button of device A for more than 10 seconds to make sure that it is detached completely from any possible network group.

- Press the **Sync** Button of device B or C of the BC network group for 1~3 seconds to turn it into Broadcast State, you should find the Power LED blinks steadily signifying it is in Broadcast state.
- Press the **Sync** Button of device A for 1~3 seconds to turn it into Join State, you should find the Power LED blinks steadily signifying it is in Join state.
- Wait for the devices to boot again and when the PLC LEDs of both devices lit steadily, you will now have device A joined with the BC network group.

Scenario 3: A NetPower device A of network group AD wants to join an existing network group BC. For a device which already belongs to a network group is to join with a different network group, that device has to be ungrouped from its current attached group first.

Example:

- Press the **Sync** Button of device A for more than 10 seconds to ungroup it from network group AD.
- Then press the **Sync** Button of device (B or C) of network group BC for 1~3 seconds to turn it to Broadcast State, you should find the Power LED blinks steadily signifying it is in Broadcast state.
- Press the **Sync** Button of device A again for 1~3 seconds to turn it to Join State, you should find the Power LED blinks steadily signifying it is in Join state.
- Wait for the Sync LED of both devices A and (B or C) lit steadily. Now you will have device A join the network group BC.

APPENDIX C: Connect to a network using Windows client

MS Windows XP and Windows VISTA/7 can manage the USB/PCI client with its embedded utility for wireless networks; Windows 2000 and MAC OS X requires an external management utility (provided on the CD) to set and manage the USB/PCI wireless client.

Windows 7

You can access the **Connect to a network** dialog box from many locations in Windows 7, including the following:

- By clicking **Start**, and then **Control Panel** (select **Large/Small Icon**) then click on **Network and Sharing Center** icon. Click on **Connect to a Network**.
- From the **Manage wireless connections** (in the **Wireless**) select the wireless network SSID **A02-PL303-WN**, digit default password **NetPower303WN** and click **Connect**.



If any wireless network is available, please check that the USB/PCI wireless client is correctly installed on your PC.

Windows VISTA

You can access the **Connect to a network** dialog box from many locations in Windows Vista, including the following:

- By clicking **Start**, and then **Connect** to from the Windows Vista desktop
- From the **Manage wireless connections** dialog box
- From the **Connect/Disconnect** context menu option of a wireless network adapter in the Network Connections folder.
- Select **Wireless** (on the combo box) in the filed **Show**, select the wireless network SSID **A02-PL303-WN**, digit default password **NetPower303WN** and click **Connect**.



If any wireless network is available, please check that the USB/PCI wireless client is correctly installed on your PC.

Windows XP

- Double click on Wireless network icon on the system tray (see picture).



- Select the wireless network SSID **A02-PL303-WN**, digit default password **NetPower303WN** and click **Connect**.

NOTE:


If any wireless network is available, please check that the USB/PCI wireless client is correctly installed on your PC.

APPENDIX D: Country Channel List

For some European Country, it may have its own domain; users are responsible for ensuring that the channel set configuration is in compliance with the regulatory standards of these countries.

Country Name	Classification	Range
Argentina, Bahrain, Brazil, Canada, Chile, Croatia, Ecuador, Hong Kong, Malaysia, Mexico, Panama, Peru, Philippines, Puerto Rico, Romania, Saudi Arabia, Taiwan, United States of America, Uruguay, Venezuela, Yugoslavia	0	CH1~11
Australia, Austria, Belarus, Belgium, Bolivia, Bulgaria, China, Colombia, Costa Rica, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan3, Jordan, Kuwait, Latvia, Lebanon, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Macedonia, Morocco, Netherlands, New Zealand, Nigeria, Norway, Paraguay, Poland, Portugal, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, Turkey, United Arab Emirates, United Kingdom	1	CH1~13
France2	3	CH10~13
Japan	5	CH1~14
Japan2	4	CH14~14

APPENDIX E: Technical Specifications

Technical Specs	
Product Code	A02-PL303-WN
Standards	IEEE 802.11b/g/n HomePlug AV
Chipset	Chipset (Wireless): RaLink® RT3052 (MIPS 24KEc 384MHz with 32KB I-cache/16KB D cache) Chipset (PLC): Intellon INT6400® Integrated Single-chip Powerline Network Transceiver
Interface	1 x Fast Ethernet (LAN)
LED	4 (LAN, WLAN, Power, PLC)
WPS/Reset	Yes(Wireless and PowerLine)/Yes
Antenna	1 x 2 dBi fixed external Antennas
Virtual AP	<ul style="list-style-type: none"> • VLAN tagging (Ethernet) • Client Isolation • Multiple SSID Isolation
Multiple SSID	<ul style="list-style-type: none"> • Up to 4 SSID (each SSID uses different encryption key) • Multiple SSIDs allow users to access different networks through a single access point (all, only LAN, only WAN)
WDS	<p>With WDS (Wireless Distribution System) mode, user can use wireless media to communicate two or more LANs through the AP with WDS mode, all of the LAN will be combined in the WDS group.</p> <p>The WDS feature (up to 4 AP) makes the device an ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, or even at hotspots.</p>
Advanced Features	<ul style="list-style-type: none"> • Wireless Client Mode (WDS Bridge Mode) • DHCP Server • WMM • IGMP • UPnP
Frequency Band	2412 ~ 2472MHz (Wireless) 2Mhz to 30Mhz band (PLC)
Radio Technology	<ul style="list-style-type: none"> • IEEE 802.11g/n: Orthogonal Frequency Division Multiplexing (OFDM)

	<ul style="list-style-type: none"> IEEE 802.11b: Direct Sequence Spread Spectrum (DSSS)
Modulations Scheme	DBPSK/DQPSK/CCK/OFDM (Wireless) OFDM, 1155 carriers, 1024/256/64/16/8 QAM, QPSK, BPSK and ROBO (PLC)
Media Access Protocol	CSMA/CA with ACK
Transmission Rate	Up to 150Mbps (auto-sense with auto fallback)
Wireless Security	<ul style="list-style-type: none"> 64/128-bit WEP, WPA-PSK, WPA2-PSK WPA, WPA2 with Radius MAC Access Control List WPS™
PowerLine Security	<ul style="list-style-type: none"> 128-bit AES Encryption with key management for secure powerline communications (Utilise SYNC Button or Web GUI) Rotating NEK (Network Encryption Key) and NMK
Transmitting Power	802.11b/g/n: up to 16 ± 1 dBm
Receiver Sensitivity	<ul style="list-style-type: none"> 802.11b (1Mbps): -90dBm @8% PER 802.11b (6Mbps): -88dBm @8% PER 802.11b (11Mbps): -85dBm @8% PER 802.11g (54Mbps): -68dBm @10% PER 802.11n (150Mbps): -68dBm @10% PER
Number of Operational Channel	Europe (13)
Range Coverage	<ul style="list-style-type: none"> Indoor: up to 120 meters (Wireless) Outdoor: up to 350 meters (Wireless) Up to 200meters (PLC)
Certifications	CE (Europe)
Dimensions (mm)/ Weight	110mm x 80mm x 35mm (without Antenna and plug) / 220g
Temperature Range	Operation: 0°C ~ 32°C Storage: -10°C ~ 60°C
Humidity	10% ~ 75% (non Condensing)
System Requirements	<ul style="list-style-type: none"> TCP/IP protocol must be installed on each PC Web browser, such as Microsoft Internet Explorer 5.0 or later, Netscape Navigator 6.0 or later

Package Contents

- One NetPower 303 WN
- 1 x RJ45 CAT5 Cable
- Quick Start Guide (English and Italian)
- CD-Rom with QSG and Manual (English and Italian)
- 1 x Warranty Card and 1 x WEEE Card

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Performance and Throughput are influenced by many factors (interference, noise, environments)



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