

PLC Wireless Router

User Manual

Sagemcom

Contents

ABOUT THE USER MANUAL	4
FEATURES	4
PLC Features	4
Wireless Features	4
SAFETY PRECAUTIONS	5
SPECIFIC RECOMMENDATIONS TO USE THE SOCKET OF THE DEVICE	6
ENVIRONMENT	6
Meaning of logos present on the product or its packaging	6
Product recycling and disposal	6
European Directive on Waste Electrical and Electronic Equipment (WEEE)	7
Directive on the Restriction of use of certain hazardous substances in electronic equipment (ROHS)	7
CE MARKING	7
OVERVIEW	8
Product Introduction	8
Packing List	8
HARDWARE DESCRIPTION AND DEVICE CONNECTION	9
LED Status Description and Pushbutton Description	9
Interface Description	10
Hardware Installation	11
Operation Range	11
Improving the Transmission Performance of Network	11
System Requirements	12
Before You Begin	12
Connecting the Device	12
CONFIGURING THE LAN PC	13
WEB CONFIGURATION	16
SETUP	17
Wizard	17
DHCP	19
Static IP	20
PPPoE	22
Bridge	23
None	25
WEP	25
WPA-PSK	26
	27
	27
וחנפרחפנ שפנעף	29
Static IP	30

PPPoE	
Bridge	
Wireless Setup	
Wireless Basic Settings	
Wireless Security Settings	
None	
WEP	
WPA-PSK	
WPA2-PSK	
WPA/WPA2-PSK	40
WPS Settings	41
PBC Mode	
PIN Mode	
LAN Setup	43
Time and Date	44
Logout	
ADVANCED SETTINGS	
DoS Protection	46
Access Control	
MAC Filter	
DHCP Filtering	
List of IP Address Reserved for MAC	
Black List	
IP Filtering	
Port Filtering	
URL Filtering	
Advanced Wireless	
Advanced Wireless Settings	
Advanced Security	
Access Control	
Advanced Network	
	60
PI C Setting	61
Local Device Configuration	
WAN Port Switch	
Remote Device Configuration	
	63
	CA
Device Management	
Web Idle Time Out	
Services	
Backup and Restore	65
Backup Settings	
Restore Default Settings	

Firmware Update	66
Local Upgrade Mode	66
TFTP Upgrade Mode	67
FTP Upgrade Mode	67
HTTPS Upgrade Mode	
HTTPS Upgrade Mode	
Configuration Update	70
Local Upgrade Mode	
IFIP Upgrade Mode	
HTTP Upgrade Mode	
HTTPS Upgrade Mode	
Log Settings	
	74
Pina Diagnosis	74 74
Traceroute Diagnosis	
Logout	
STATUS	77
Device Information	77
LAN Client	78
Routing Table	78
Logout	79
HELP	80
USING THE SECURITY PUSHBUTTON	81
Forming a HomePlug AV Logical Network	81
Joining an AVLN Network	81
Leaving an AVLN Network	82
TROUBLESHOOTING	83
Why all the LED indicators are off?	83
Why the Ethernet indicator is off?	
Why you fail to access the Web page?	
How to restore factory defaults after carrying out the incorrect configuration?	
SPECIFICATIONS	84

About the User Manual

In purchasing this device, you have chosen a quality product made by Sagemcom.

Your device allows you to create a WiFi point and so enjoy an Internet connection. We recommend that you read the chapters on security below.

This user manual mainly describes how to install and configure the F@st Plug 502W.

Our company reserves the right to modify this manual for product upgrade or other causes without notifying users in advance. This user manual is only for reference.

Features

PLC Features

- Power voltage range is 100 to 240 V AC, 50/60 Hz.
- Support the HomePlug AV protocol and the IEEE1901 protocol.
- PLC physical link rate is up to 500 Mbps.
- Support the following modulation schemes: OFDM QAM 4096/1024/256/64/16/8, QPSK, BPSK, and ROBO.
- Support 128-bit AES link encryption and user NMK authentication, for providing secure power line communication.
- Support windowed OFDM with noise mitigation based on patented line synchronization technique, for improving data integrity in noisy conditions.
- Support channel self-adaptation and channel estimation for maximizing real-time throughput.
- Support priority-based CSMA/CA channel access scheme for maximizing efficiency and throughput.
- Support four-level QoS.
- Support ToS and CoS packet classifications.
- Support IGMP multicast management session.

Wireless Features

- Support IEEE802.11b, IEEE802.11g, IEEE802.11n, IEEE802.3, IEEE802.3u, IEEE802.11i and IEEE802.11e.
- Support 2T2R mode. Transmission data rate is up to 300 Mbps.
- Support WEP and WPA for secure data transmission.
- Support DHCP server.
- Support version upgrade through Web page.
- Support restoring factory default settings.
- Support the following wireless security modes: WEP, WPA, WPA2, and WPA/WPA2 Mixed.
- Support system status display.
- Support system log.

Safety Precautions

This device is intended for connection to the AC power line. Before using this product, please read the following precautions:

- Follow all warnings and instructions marked on the product.
- Unplug the device from the wall outlet before cleaning. Use a dry cloth for cleaning. Do not use liquid cleaners or aerosol cleaners.
- Do not put this product near water.
- Do not put this product near a radiator or heat source.
- Do not use an extension cord between the device and the AC power source.
- Only a qualified technician should service this product. Opening or removing covers may result in exposure to dangerous voltage points or other risks.
- Unplug the device 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

Warning: This product is equipped with a socket: recommendations also apply to the device to be connected through this outlet (see section Erreur ! Source du renvoi introuvable.)

- There is an identification label under the appliance or on the rear panel. Read it, it gives you all the information on the mains voltage, current and frequency for which your appliance was designed.
- Never open the appliance! There is a risk of electric shock. Any work on the appliance must be carried out by a qualified person.
- Avoid violent mechanical shocks: do not use the appliance if it is damaged.
- Make sure that the appliance is out of reach of children or pets.
- Never connect your appliance to a socket that has come loose, or is damaged or defective you may receive an electric shock.
- Never touch the appliance with damp or wet hands. You may get an electric shock.
- Install the appliance in a dry, well aired place. Protect them from moisture and dust.
- Install the appliance indoors out of the sun and rain; avoid extremes of temperature. Use the appliance in an environment where the following conditions apply:
 - ambient temperature: between 0 °C [32°F] and 40 °C [104°F],
 - ambient humidity: between 20% and 90%.
- Keep the appliance away, from sources of heat such as radiators or gas/electric heaters. Do not place incandescent objects such as candles on the appliance.
- Do not place any object on the appliance (this would interfere with the ventilation): the vent slots in the casing are there to protect your appliance from overheating. Do not place any object such as a piece of fabric or paper on these slots.
- To avoid short-circuits (with a risk of fire or electric shock), place your appliance away from the damp. If any liquid comes into contact with your appliance (drops, splashes), it will damage it and may cause irremediable breakdown. If a liquid does enter the appliance, unplug it immediately from the mains and contact your retailer electrician.
- Make sure that the device is properly inserted into the mains.
- Never place objects, walk, or pass a wheeled appliance on the device. You may damage it and cause a risk of fire or electric shock.

- If there is any suspicious noise coming from the mains socket or mains lead, unplug the appliance from the mains socket with all necessary precautions you may get an electric shock. Contact your retailer.
- If there is a thunderstorm, we advise you to unplug.
- To clean the appliance, the mains unit or adapter first unplug it from the mains. Clean the appliance only with a soft dry cloth. Never use detergents or chemical additives.

Specific recommendations to use the socket of the device

When you plug or unplug the mains lead, always hold it by the plug. A damaged lead is a potential source of fire or electric shock. Never pull by the lead to unplug the appliance from the mains socket.

You must connect the mains lead to the appliance before plugging it in to the mains socket. Make sure the lead is properly plugged in to the socket on the appliance. If it is not properly plugged in, there is a risk of fire or electric shock on touching the appliance.

Never place objects on the mains lead, never pull on it and never bend it.

This could cause a risk of fire or electric discharge. Always make sure the appliance is not standing on the mains lead or any other cable.

Environment

Preservation of the environment is an essential concern of the manufacturer. The desire of the manufacturer is to operate systems observing the environment and consequently it has decided to integrate environmental performances in the life cycle of its products, from manufacturing to commissioning, use and elimination.

Meaning of logos present on the product or its packaging



The crossed-out dustbin sign stuck on the product or its accessories means that at the end of its life, the product is subject to selective collection and must not be thrown away in unsorted household waste.



The looped arrow sign means that the packaging may be recycled and must not be disposed of with household waste.



The logo with three arrows shown on the plastic parts means that they may be recycled and that they must not be disposed of with household waste.

Product recycling and disposal

To facilitate recycling, please respect the sorting rules set up locally for this kind of waste. If your product contains batteries, they must be disposed of at appropriate collection points. European regulations ask you to dispose of products belonging to the family of electrical and electronic equipments (\mathbb{X}) selectively:

- At the collection points made available to you locally (drop-off centre, selective collection, etc.),
- At sales points in the event of the purchase of similar equipment.

In this way you can participate in the re-use and upgrading of Electrical and Electronic Equipment Waste, which can have an effect on the environment and human health.

European Directive on Waste Electrical and Electronic Equipment (WEEE)

In the context of sustainable development, the reduction of wastes to be eliminated by reusing, recycling, composting and energy recovery is strongly advised.

In order to comply with this directive which is applicable to EEEs sold after 13/08/2005, your recorder will be taken back free of charge and recycled by the distributor of the EEE within the limits of the quantity and types of equipment bought from them. These appliances which contain substances potentially dangerous to human health and the environment will be recycled.

Directive on the Restriction of use of certain hazardous substances in electronic equipment (ROHS)

Your recorder along with the batteries supplied comply with the directive relating to the RoHS – dangerous materials such as lead, mercury or cadmium are not used. This avoids environmental hazards and any risks to the health of personnel at the recycling centres. The batteries of the remote control can be removed simply.

Note: When the batteries of the remote control are worn out, please dispose of them at a collection point and not with household waste.

CE Marking

The $\zeta \varepsilon$ marking certifies that the product complies with the essential requirements of the Directive1999/5/EC concerning radio equipment and telecommunication equipment, and of Directives 2006/95/EC concerning safety, 2004/108/EC concerning electromagnetic compatibility and ErP 2009/125/EC concerning ecodesign requirements, defined by the European Parliament and Council to minimize electromagnetic interferences, ensure the safety of users and their equipment, efficient use of the radio spectrum, and protect their health, and minimize the impact of products on the environment.

The CE declaration of conformity can be viewed in the support section of the Sagemcom site www.sagemcom.com, or it can be obtained from the following address:

Sagemcom Broadband SAS

250, route de l'Empereur 92848 Rueil-Malmaison Cedex - FRANCE Tel.: +33 (0)1 57 61 10 00 - Fax: +33 (0)1 57 61 10 01 www.sagemcom.com

Overview

Product Introduction

Thank you for using the F@st Plug 502W.

The F@st Plug 502W is compatible with the HomePlug AV, IEEE1901 and 802.11b/g/n protocols. It supports CCK and OFDM modulation schemes. Its PLC physical link rate is up to 500 Mbps, and its wireless physical rate is up to 300 Mbps in the 802.11n mode.

The F@st Plug 502W supports 128-bit AES link encryption of power line communication and wireless security modes including WEP, WPA, WPA2, and WPA/WPA2 mixed, which provide secure and reliable communication for users.

Packing List

Please check whether your packing list includes the following items:



- 1 x F@st Plug 502W
- 1 x RJ45 network cable
- 1 x quick installation guide
- 1 x safety precaution notice

This notice is available on le website www.sagemcom.com/support.

Hardware Description and Device Connection

LED Status Description and Pushbutton Description

There are 5 LED indicators on the front panel of the PLC wireless router. By observing their status, you can check whether the device runs normally.



The following table describes the status of LED indicators on the front panel:

LED Indicator	Color	Status	Description		
	Green	On	System runs normally.		
ს	Green	Blink	System is resetting. System is in the process of passwor synchronization.		
Å	Green	On	Connection via the LAN1 or LAN2 interface succeeds.		
	Green	Blink	Data is being transmitted via the LAN1 or LAN 2 interface.		
	Green	On	PLC transmission rate equals to or is greater than 40 Mbps.		
$\hat{\mathbf{x}}$	Orange	On	PLC transmission rate is between 20 Mbps and 40 Mbps.		
-	Red	On	PLC transmission rate is smaller than or equals to 20 Mbps.		
	-	Off	Device is not connected to the power line network.		
	Green	On	WLAN is enabled.		
. 3	Green	Blink	Wireless data is being transmitted.		
•"	Orange	On	WLAN is enabled and WPS connection succeeds.		
	Orange	Blink	WPS negotiation is in progress and wireless data is being transmitted.		

The following table describes pushbuttons on the front panel:

Button	Description		
Security	It is used to set the status of the device members. Press and hold the Security pushbutton for more than 10 seconds to exit the current network and generate a random password of network member. Press and hold the Security pushbutton for less than 3 seconds, and then the PLC wireless router becomes a member of the existing AVLN.		
Reset	Press the Reset pushbutton for more than 3 seconds and then release it. System restores the factory default settings.		
WPS	It has the following functions: Press the WPS pushbutton for less than 3 seconds to enable the negotiation of PBC mode. Press the WPS pushbutton for more than 5 seconds to enable or disable WLAN.		

Interface Description



The following table describes interfaces on the PLC wireless router:

Interface	Description
1	RJ45 LAN interface, for connecting a hub, switch, or computer on a LAN
2	RJ45 LAN interface, for connecting a hub, switch, or computer on a LAN or WAN over Ethernet interface
off / on	Power switch

Hardware Installation

Operation Range

The operation range of the PLC wireless router depends on the actual environment. The path and effect of signal transmission may vary with the deployment in a house or an office. But for the practical application, coverage of PLC signal may vary due to the number of PLC devices connected to the power line network. For wireless transmission, straight transmission distance in the open air for some devices can reach 300 meters and indoor transmission distance can reach 100 meters.

Improving the Transmission Performance of Network

In order to improve the transmission performance of network, it is recommended that you insert the power plug of the device into the wall socket directly.



Recommended use of a multiple plug adapter, Place the PLC taken first on the multiple plug adapter.



System Requirements

Before installing the device, please ensure that the following items are ready:

- At least one Ethernet RJ45 cable (10Base-T/100Base-T)
- One F@st Plug 502W
- One PLC device for PLC communication
- One PC installed with the TCP/IP protocol and can access the Internet

Before You Begin

Before you install the device, please pay attention to the following items:

- When the device is connected to a computer, hub, router, or switch, the Ethernet cable should be shorter than 100 meters.
- Keep the device clean. Keep away the device from direct sunshine. Avoid any metal in the device.
- Place the device in the center of the placement area, and try to optimize the wireless coverage.

Connecting the Device

To connect the device, do as follows:

- Make sure the power switch is off.
- Connect one end of the RJ45 cable to the LAN interface of the F@st Plug 502W.
- Connect the other end of the RJ45 cable to your PC.
- Insert the power plug of the device into the wall socket.
- Put the power switch on.









4

Configuring the LAN PC

By default, the DHCP server is enabled. The LAN IP address of the PLC wireless router is 192.168.1.1 and the subnet mask is 255.255.255.0.

Note



The configuration steps and figures on Windows XP are depicted as an example. The configuration process may vary depending on operation system of your PC.

To manually set the network adapter on a Windows XP PC, do as follows:

Step 1 Right-click the icon of My Network Places and choose Properties from the menu.



The Network Connections window appears.

Step 2 Right-click the network adapter icon and choose Properties from the menu.

The Local Area Connections Properties window appears.



Note

If multiple network cards are installed on your PC, a window other than the Local Area Connections Properties window may appears.

Step 3 Double-click Internet Protocol (TCP/IP) and the Internet Protocol (TCP/IP) Properties window appears.

🕹 Local Area Connection Properties 🛛 🔹 🛛 🖓
General Advanced
Connect using:
Broadcom 440x 10/100 Integrated Cc
This connection uses the following items:
Client for Microsoft Networks P. Client for Microsoft Networks P. Bie and Printer Sharing for Microsoft Networks D. B. QoS Packet Scheduler Transfer Protocol (TCP/IP)
Install
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected ✓ Notify me when this connection has limited or no connectivity
OK Cancel

Step 4 Select Use the following IP address and enter the IP address of the network adapter. Set the IP address to 192.168. 1.X ('X' is a number in the range of 2 to 254) and set the subnet mask to 255.255.255.0.

Configure the default gateway and IP addresses of the DNS servers according to your actual network, or leave them blank.

After setting the parameters, click OK.

nis capability. Otherwise, you ne ne appropriate IP settings.	a automatically if your network administrator for sed to ask your network administrator for
O Obtain an IP address autor	natically
Use the following IP addres	55:
IP address:	192.168.1.123
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192.168.1.1
Obtain DNS server address	s automatically
Use the following DNS service	ver addresses:
Preferred DNS server:	2 2 2 C

Step 5 Ping the default IP address of the PLC wireless router, to check whether the current connection between your PC and the PLC wireless router is normal.

Choose Start > Run from the desktop and enter ping 192.168.1.1.

See the following figure:



Note	
	192.168.1.1 in the ping command is the default IP address of the LAN interface. If the IP address changes, enter the current IP address instead.

Step 6 If your PC can ping through the default IP address of the PLC wireless router, the following page appears, indicating that the connection between your PC and the PLC wireless router is normal:



Web Configuration

This chapter describes how to log in to the PLC wireless router as a super user and how to configure the parameters in the Web pages.

Login In to the PLC Wireless Router

If you log in to the PLC wireless router for the first time, do as follows:

Step 1 Open the IE browser, and enter *http://192.168.1.1* in the address bar.

		Firmware Version :F502W.1.2
Sag	емсом	
	LOGIN Welcome to Web Management	
	Username : admin V Password :	
	Login	

Step 2 In the login page, enter the user name and password.

Note	
	Both the default user name and password of super user is admin and both the default user name and password of common user is user.

Step 3 Click Login, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	SETTING UP YOUR	INTERNET			Helpful Hints
Internet Setup	There are two ways to set up your Internet connection. You can use the Web-based Internet				If you are new to networking and have
Wireless Setup	Connection Setup Wize	never configured a router before, dick on "setup			
LAN Setup			wizard" and the router will run you through a step		
Time and Date	INTERNET CONNEC		by step process to successfully connect you		
Logout		Setup	Wizard		to the internet.
	Note: Please refer to 1	the Quick Install Guide, ar	nd configure the router g	adualy.	Fore

Note



The LAN user is allowed to access the PLC wireless router by two-level user names and passwords (admin/admin and user/user).

Setup

Wizard

You can set the basic network parameters for accessing the Internet by following this wizard.

To configure the wizard, do as follows:

Step 1 Choose SETUP > Wizard, and the following page appears.



Note

When you order the broadband service, pay attention to the Internet connection type. The PLC wireless router adopts Ethternet connection. Technical parameters of Internet connection properities are provided by your Internet service provider (ISP). For example, your ISP should tell you whether the Internet connection mode is static IP or dynamic IP, and whether the protocol used for Internet communication is DHCP or PPPoE.

Step 2 Click Setup Wizard to display the following page:

This wizard will guide y Internet.Please follow	ou through a step-by-step process to configure your new router and connect to the these steps as bellow:	
	Step 1 : Change Device Login Password	
	Step 2 : Set Time and Date	
	• Step 3 : Setup Internet Connection	
	Step 4 : Setup Wireless Connection	
	Step 5 : Setup Wireless Security	
	• Step 6 : Save and Complete	

Step 3 There are 6 steps for configuring the wizard. Click Next to display the following page:

The factory default password of this router is admin. To secure your network, PLC recommends that you should choose a new password. If you do not wish to choose a new password now, just click Skip to continue. Click Next to proceed to next step.		
ADMIN		
	New Password :	
	Confirm Password :	
USER		
	New Password :	
	Confirm Password :	



The password of the default super user of the PLC wireless router is admin. In order to ensure your network security, it is recommended to change the default password.

Step 4 In this page, you can change the password of the PLC wireless router. If you do not want to change the password, click Next or Skip. After setting the new password, click Next to display the following page:

ck. From this section you can set the	a time zone that you are in and set the NTP (Network Time Protocol) Server.
ME SETTING	
Enable NTP	
First NTP time server :	time.windows.com 💙
Second NTP time server :	time.nist.gov 💌
IME CONFIGURATION	
Current Router Time :	1971/01/01 00:51:29
Time Zone :	(GMT +01:00) Brussels, Copenhagen, Madrid, Paris
	Back Next Cancel

Step 5 In this page, you can set the Network Time Protocol (NTP) server according to your time zone. After setting the NTP server and time zone, click Next to display the following page:

WAN SE	ITING	
	Enable WAN	
	Connection Type :	DHCP 🗸
	Service Type :	INTERNET 💌
онср		
	Hostname :	
	Vendor Class ID :	
	MTU :	1500 (64-1500)
DNS (DO	MAIN NAME SERVER)	
	Assignment :	Auto O Manual
	DNS (Primary) IP :	
	DNS (Secondary) IP :	
PORT BI	NDING	
	LAN Port :	LAN1 LAN2
	WLAN Port :	SSID1

Step 6 The PLC wireless router supports 4 types of Internet connection: DHCP, Static IP, PPPoE, and Bridge. In this page, you can select the proper Internet connection mode and configure the relevant parameters according to the actual requirements. If you are not sure of your Internet connection mode, please contact your ISP.

DHCP

If you select DHCP, the PLC wireless router automatically obtains the IP address, subnet mask and IP address of the gateway from the ISP. If your ISP does not provide IP network parameters, please select this mode.

See the following figure:

able WAN nnection Type : vvice Type : stname : vdor Class ID : U :	
nnection Type : vice Type : stname : ndor Class ID : U :	
vice Type : stname : ndor Class ID : U :	
stname : 1dor Class ID : U :	
stname : ndor Class ID : U :	
ndor Class ID : U :	
U :	
	1500 (64-1500)
AME SERVER)	
signment :	Auto O Manual
S (Primary) IP :	
S (Secondary) IP :	
N Port :	LAN1 LAN2
AN Port :	SSID1
	AME SERVER) signment : S (Primary) IP : S (Secondary) IP : N Port : All Port :

Field	Description
Enable WAN	Enable or disable the WAN connection of DHCP type.
Connection Type	Select DHCP from the drop-down list.
Service Type	INTERNET: It is mainly used for the Internet service, for example, surfing the Internet. TR069: It is mainly used for the TR069 service, for example, TR069 remote management. TR069_INTERNET: It is a mixed type, which applies to both the Internet and TR069 services.
Hostname	Set the host name of local computer.
Vendor Class ID	Enter the vendor class ID. DHCP server assigns the IP address to your router according to the vendor class ID.
MTU	Set the maximum transmission unit (MTU). It is 1,500 bytes for most Ethernet networks. But some ISPs may require smaller MTUs. Do not modify the value of MTU size unless it is necessary for your ISP connection.

Field	Description
Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.
DNS (Primary) IP	Enter the IP address of the primary DNS server. Domain names should be resolved first by the primary DNS server.
DNS (Secondary) IP	If the ISP provides another DNS server, enter its IP address in this field. If the primary DNS server fails to resolve the domain name, the secondary will resolve it.
LAN Port	The PLC wireless router supports 2 LAN ports, which can be bound to different interfaces.
WLAN Port	The PLC wireless router supports 1 WLAN ports, which can be bound to different interfaces.
Enable VLAN Tagging	If you enable VLAN tagging and the VLAN value is not '0', message will carry the VLAN ID.

Static IP

If your ISP provides the information of IP address, subnet mask, gateway, and DNS server, please select Static IP.

For detailed settings, refer to your ISP.

WAN SETTING		
	Enable WAN	
	Connection Type :	Static IP 👻
	Service Type :	INTERNET
STATIC IP		
	IP address :	
	Subnet mask :	
	Default Gateway IP :	
	MTU :	1500 (64-1500)
DNS (DOM	AIN NAME SERVER)	
	Assignment :	🔿 Auto 💿 Manual
	DNS (Primary) IP :	
	DNS (Secondary) IP :	
PORT BIN	DING	
	LAN Port :	LAN1 LAN2
	WLAN Port :	SSID1
/I AN		
/1 AN		

Field	Description
Enable WAN	Enable or disable the WAN connection of static IP type.
Connection Type	Select Static IP from the drop-down list.
Service Type	INTERNET: It is mainly used for the Internet service, for example, surfing the Internet. TR069: It is mainly used for the TR069 service, for example, TR069 remote management. TR069_INTERNET: It is a mixed type, which applies to both the Internet and TR069 services.
IP address	Enter the WAN IP address provided by the ISP. Do not leave this field blank.
Subnet mask	Enter the WAN subnet mask provided by the ISP. It varies with the network types. Usually, the subnet mask is 255.255.255.0 (Class C).
Default Gateway IP	Enter the IP address of gateway provided by the ISP. This IP address is used for connecting to the ISP.
MTU	Set the maximum transmission unit. it is 1,500 bytes for most Ethernet networks. But some ISPs may require smaller MTUs. Do not modify the value of MTU size unless it is necessary for your ISP connection.
Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.
DNS (Primary) IP	Enter the IP address of the primary DNS server. Domain names should be resolved first by the primary DNS server.
DNS (Secondary) IP	If the ISP provides another DNS server, enter the IP address of the DNS server. If the primary DNS server fails to resolve the domain name, the secondary will resolve it.
LAN Port	The PLC wireless router supports 2 LAN ports, which can be bound to different interfaces.
WLAN Port	The PLC wireless router supports 4 WLAN ports, which can be bound to different interfaces.
Enable VLAN Tagging	If you enable VLAN tagging and the VLAN value is not '0', message will carry the VLAN ID.

PPPoE

If the ISP provides the user name and password for PPPoE dialup, please select PPPoE.

WAN SET	ITING	
	Enable WAN	V
	Connection Type :	PPPoE 💌
	Service Type :	INTERNET V
РРРОЕ		
	PPPoE Account :	
	PPPoE Password :	
	Confirm Password :	
	Authentication Method :	AUTO 🔽
	MTU :	1492 (64-1492)
DNS (DO	MAIN NAME SERVER)	
	Assignment :	Auto O Manual
	DNS (Primary) IP :	
	DNS (Secondary) IP :	
PORT BI	NDING	
	LAN Port :	LAN1 LAN2
	WLAN Port :	SSID1

Field	Description
Enable WAN	Enable or disable the WAN connection of PPPoE type.
Connection Type	Select PPPoE from the drop-down list.
Service Type	INTERNET: It is mainly used for the Internet service, for example, surfing the Internet. TR069: It is mainly used for the TR069 service, for example, TR069 remote management. TR069_INTERNET: It is a mixed type, which applies to both the Internet and TR069 services.
PPPoE Account	Enter the user name provided by the ISP for PPPoE dialup.
PPPoE Password	Enter the password provided by the ISP for PPPoE dialup.
Confirm Password	Enter the PPPoE password again.
Authentication Method	You can select AUTO, PAP, CHAP, MS-CHAP, or EAP from the drop-down list.
MTU	Set the maximum transmission unit. It is 1500 bytes for most Ethernet networks, 1492 bytes for PPPoE connection. But some ISPs may require smaller MTUs. Do not modify the value of MTU size unless it is necessary for your ISP connection.
Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.

Field	Description
DNS (Primary) IP	Enter the IP address of the primary DNS server. Domain names should be resolved first by the primary DNS server.
DNS (Secondary) IP	If the ISP provides another DNS server, enter the IP address of the DNS server. If the primary DNS server fails to resolve the domain name server, the secondary will resolve it.
LAN Port	The PLC wireless router supports 2 LAN ports, which can be bound to different interfaces.
WLAN Port	The PLC wireless router supports 1 WLAN ports, which can be bound to different interfaces.
Enable VLAN Tagging	If you enable VLAN tagging and the VLAN value is not '0', message will carry the VLAN ID.

Bridge

In the Bridge mode, all physical ports and wireless interfaces co-exist in the virtual interfaces.

-		
Ena	able WAN	V
Co	nnection Type :	Bridge 🗸
Se	rvice Type :	INTERNET
PORT BINDING		
LA	N Port :	LAN1 LAN2
WL	AN Port :	SSID1
/LAN		

Field	Description
Enable WAN	Enable or disable the WAN connection of bridge type.
Connection Type	Select Bridge from the drop-down list.
Service Type	You can only select Internet.
LAN Port	The PLC wireless router supports 2 LAN ports, which can be bound to different interfaces.
WLAN Port	The PLC wireless router supports 1 WLAN ports, which can be bound to different interfaces.
Enable VLAN Tagging	If you enable VLAN tagging and the VLAN value is not '0', message will carry the VLAN ID.

Step 7 After selecting the proper Internet connection type and setting the relevant parameters, click Next to display the following page .

hrough this pa	ge, you can configure the SSID, bandwidth e	tc.
lote: The wirek arameters.	ess client configuration parameters need to be	a consistent with this page to modify the configuration
WIRELESS NE	TWORK SETTINGS	
	Enable Wireless Interface	
	Wireless Network Name (SSID) :	Powerline
	Visibility Status :	
	Region :	EU 💌
	802.11 Mode :	Mixed 802.11b/g/n 👻
	Band Width :	40M Upper(+) 💙
	Wireless Channel :	Auto Scan(recommended) 🗸

Step 8 In this page, you can configure the wireless parameters of the PLC wireless router.

Field	Description
Enable Wireless Interface	Enable or disable the wireless interface.
Wireless Network Name (SSID)	The wireless network name (SSID) can contain up to 32 characters and can be letters, numerals, underlines, and any combinations of them. The SSID is case-sensitive.
Visibility Status	If Visible is selected, the PLC wireless router broadcasts its SSID on the wireless network. If Invisible is selected, the PLC wireless router does not broadcast its SSID on the wireless network.
Region	Select the country where you are from the drop-down list.
802.11 Mode	Select the appropriate wireless mode. The default is Mixed 802.11b/g/n. 802.11b only: The maximum rate is 11 Mbps. 802.11g only: The maximum rate is 54 Mbps. 802.11n only: For 20M bandwidth, the maximum rate is 130 Mbps (150 Mbps for short preamble); for 40M Upper (+) or 40M Lower (-) bandwidth, the maximum rate is 270 Mbps (300 Mbps for short preamble). Mixed 802.11b/g: It is compatible with 802.11b and 802.11g. Mixed 802.11b/g: It is compatible with 802.11n and 802.11g. Mixed 802.11b/g/n: It is compatible with 802.11b, 802.11n, and 802.11g.
Band Width	You can set the band width only in the 802.11 mode that is compatible with 802.11n. For 20M bandwidth, the maximum rate is 130 Mbps (150 Mbps for short preamble); for 40M Upper (+) or 40M Lower (-) bandwidth, the maximum rate is 270 Mbps (300 Mbps for short preamble).
Wireless Channel	Select the working channel of the wireless network. The default is Auto Scan, which indicates that the wireless router automatically searches for the best channel among the available channels.

Step 9 After setting the wireless parameters, click Next to display the following page.

To protect your priva	v vou can configure wireless	security features. This device supports three wireless	security modes
including: WEP, WPA	WPA2, WPA and WPA2 M	ixed. WEP is the original wireless encryption standard.	WPA provides a
higher level of security	/.		
ingrici leter er second,			
			-
WINFIFSS SECON			
WIKELESS SECON			
WIRELESS SECOR	Wireless Security Mode :	None	
WIRELESS SECOR	Wireless Security Mode :	None 💌	
WIRELESS SECOR	Wireless Security Mode :	None	
WIRELESS SECOR	Wireless Security Mode :	None V None VEP UVEP VEP	
WIRELESS SECOR	Wireless Security Mode :	None ▼ None ₩ WEP ₩ CKJ ₩ WPA.PSK ₩	

Step 10 In this page, you can set the wireless security mode.

The PLC wireless router provides the following 5 types of wireless security modes: None, WEP, WPA, WPA2, and WPA/WPA2 Mixed.

None

Select None from the drop-down list of wireless security mode to display the following page.

To protect y including: WB higher level o	r privacy you can configure wireless security features. This device supports three wireless security mode . WPA. WPA2. WPA and WPA2 Mixed. WEP is the original wireless encryption standard. WPA provide: security.
WIRELESS	ECURITY MODE

None means that data encryption is not adopted, the network is not secure, and any station can access the network. This option is not recommended.

WEP

Select WEP from the drop-down list of wireless security mode to display the following page.

ncluding: WEP, WPA, WPA, WPA and WPA2 Mixed. WEP is the original wireless encryption standard. WPA provides a higher level of security.		
WIRELESS	SECURITY MODE	
	Wireless Security Mode :	WEP
WEP		
If you choose	the WEP security option this devic	e will ONLY operate in Legacy Wireless mode (802.11B/G).
stations. For into each key set the author You may also the ASCII val 13 characters	54 bit keys you must enter 10 hex of box. A hex digit is either a number intication type to "Shared Key" whe enter any text string into a WEP ke use of the characters. A maximum of for 128 bit keys.	digits into each key box. For 128 bit keys you must enter 26 hex digits from 0 to 9 or a letter from A to F. For the most secure use of WEP an WEP is enabled. ey box, in which case it will be converted into a hexadecimal key using f 5 text characters can be entered for 64 bit keys, and a maximum of
	WEP Key Length :	64 bit 💙 (length applies to all keys)
	Default Tx Key :	1 💌
	WEP Key Format :	HEX (10 characters)
	WEP Key1 :	666666666
	WEP Key2 :	7777777777
	WEP Key3 :	8888888888
	WEP Kev4 :	9999999999

The following table describes parameters related to the WEP mode:

Field	Description
WEP Key Length	Select the encryption length of WEP key. You can select 64 bit or 128 bit.
Default Tx Key	Select one from the four keys as the default key of the wireless network.
WEP Key Format	When the key format is 64 bit, you need to enter 5 ASCII characters or 10 hexadecimal digits. When the key format is 128 bit, you need to enter 13 ASCII characters or 26 hexadecimal digits.
WEP Key 1/2/3/4	Set 64-bit or 128-bit key according to the key format.
Authentication	Select the proper authentication mode. You can select Open or Share Key.

WPA-PSK

Select WPA-PSK from the drop-down list of wireless security mode to display the following page.

higher level of security.	u, wer is the original wheless encryption standard, wirk provides a
WIRELESS SECURITY MODE	
Wireless Security Mode :	WPA-PSK
WPA	
legacy clients while maintaining higher security with st	ations that are WPA2 capable. Also the strongest cipher that the
legacy clients while maintaining higher security with st client supports will be used. For best security, use WE stations are not allowed access with WPA security. Fo cipher. Some gaming and legacy devices work only in To achieve better wireless performance use WPA2 O	ations that are WPA2 capable. Also the strongest cipher that the >A2 only mode. This mode uses AES(CCMP) cipher and legacy r maximum compatibility, use WPA Only . This mode use TKIP this mode. nly security mode (or in other words AES cipher).
legacy clients while maintaining higher security with st client supports will be used. For best security, use WT stations are not allowed access with WTA security. Fo cipher. Some gaming and legacy devices work only in To achieve better wireless performance use WPA2 O WPA Mode :	ations that are WPA2 capable. Also the strongest cipher that the ^A2 Only mode. This mode uses AES(CCMP) cipher and legacy r maximum compatibility, use WPA Only . This mode use TKIP this mode. nly security mode (or in other words AES cipher). WPA-Personal
legacy clients while maintaining higher security with st client supports will be used. For best security, use WF stations are not allowed access with WFA security. Fo cipher. Some gaming and legacy devices work only in To achieve better wireless performance use WPA2 O WPA Mode : Encryption Mode :	ations that are WPA2 capable. Also the strongest cipher that the *A2 Only mode. This mode uses AES(CCMP) cipher and legacy r maximum compatibility, use WPA Only. This mode use TKIP this mode. nly security mode (or in other words AES cipher). WPA-Personal TKIP AES Both
legacy clients while maintaining higher security with st client supports will be used. For best security, use WF stations are not allowed access with WPA security. Fo cipher. Some gaming and legacy devices work only in To achieve better wireless performance use WPA2 O WPA Mode : Encryption Mode : Group Key Update Interval :	ations that are WPA2 capable. Also the strongest cipher that the ^A2 Only mode. This mode uses AES(CCMP) cipher and legacy in maximum compatibility, use WPA Only . This mode use TKIP this mode. nly security mode (or in other words AES cipher). <u>WPA-Personal</u> <u>O</u> TKIP <u>AES</u> Both <u>100</u> (60 - 65535)
legacy clents while maintaining higher security with st clent supports will be used. For best security, use WP stations are not allowed access with WPA security. Fo cipher. Some gaming and legacy devices work only in To achieve better wireless performance use WPA2 O WPA Mode : Encryption Mode : Group Key Update Interval : PRE-SHARED KEY	ations that are WPA2 capable. Also the strongest colorer that the ^A2 Only mode. This mode uses AES(CCMP) coher and legacy maximum compatibility, use WPA Only. This mode use TKIP this mode. nly security mode (or in other words AES coher). WPA-Personal ♥ ① TKIP AES Both 100 (60 - 65535)

The following table describes parameters related to the WPA mode:

Field	Description
WPA Mode	Only WPA-Personal is available.
Encryption Mode	Only TKIP is available.
Group Key Update Interval	Set the update interval of group key.
Pre-shared Key	Set the pre-shared key. The PLC wireless router uses this key to authenticate the identity of workstation.

WPA2-PSK

Select WPA2-PSK from the drop-down list of wireless security mode to display the following page.

WIRELESS SECURITY MODE	
Wireless Security Mo	de: WPA2-PSK 💌
WPA2	
client supports will be used. For best security	, use WPA2 Only mode. This mode uses AES(CCMP) cipher and legacy
client supports will be used. For best security stations are not allowed access with WPA se- cipher. Some gaming and legacy devices wor To achieve better wireless performance use	If the backshold blue between the backshold blue
clent supports will be used. For best security stations are not allowed access with VVPA se- cipher. Some gaming and legacy devices wor To achieve better wireless performance use ! WPA Mode :	We WPA2 Only mode. This mode uses AES(COMP) cipher and legacy current with mode. This mode uses AES(COMP) cipher and legacy current, for maximum compatibility, use WPA Only. This mode use TKIP k only in this mode. WPA2 Only security mode (or in other words AES cipher). WPA2-Personal
clent supports will be used. For best security stations are not allowed access with WPA se coher. Some gaming and legacy devices wor To achieve better wireless performance use WPA Mode : Encryption Mode :	y net seeks of the write cale of the cal
clent supports wil be used. For best security, stations are not allowed access with WPA tes copher. Some gaming and legacy devices wor To achieve better wireless performance use t WPA Mode : Encryption Mode : Group Key Update In	y use WPA2 Only mode. This mode uses AES(CCMP) opher and legacy curity. For maximum compatibility, use WPA Only. This mode use TKIP konly in this mode. WPA2 Only security mode (or in other words AES cipher). WPA2-Personal ♥ TKIP AES Both terval : 100 (60 - 65535)
clent supports wil be used. For best security stations are not allowed access with WPA se cipher. Some gaming and legary devices wor To achieve better wireless performance use! WPA Mode : Encryption Mode : Group Key Update In PRE-SHARED KEY	y net seadoof one with a cubaction had be expected one of the cubaction o
clent supports wil be used. For best security stations are not allowed access with WPA se coher. Some gaming and legary devices wor To achieve better wireless performance use I WPA Mode : Encryption Mode : Group Key Update In PRE-SHARED KEY Pre-Shared Key :	y net subols due to VTL2 cubach nob die copies cynal diago (unty, For maximum compatbility, use WPA Only. This mode use TKIP kon/ in this mode. WPA2 Only security mode (or in other words AES cipher). WPA2-Personal ▼ TKIP AES Both terval : 100 (60 - 65535)

The following table describes parameters related to the WPA2 mode:

Field	Description
WPA Mode	Only WPA2-Personal is available.
Encryption Mode	Only AES is available.
Group Key Update Interval	Set the update interval of group key.
Pre-shared Key	Set the pre-shared key. The PLC wireless router uses this key to authenticate the identity of workstation.

WPA/WPA2

Select WPA/WPA2 from the drop-down list of wireless security mode to display the following page.

WIRELESS SECURITY	MODE	
Wire	less Security Mode :	WPA/WPA2-PSK
WPA/WP2 MIXED		
Use WPA or WPA2 mode legacy clients while maintai client supports will be used stations are not allowed ac	to achieve a balance of stroning higher security with sta I. For best security, use WP access with WPA security. For	ong security and best compatibility. I his mode uses WPA for titions that are WPA2 capable. Also the strongest cipher that the A2 Only mode. This mode uses AES(CCMP) cipher and legacy maximum compatibility, use WPA Only . This mode use TKIP
Use WPA or WPA2 mode legacy clients while maintai client supports will be used stations are not allowed ac cipher. Some gaming and le To achieve better wireless	to achieve a balance of stro ning higher security with sta I. For best security, use WP , cess with WPA security. For egacy devices work only in t performance use WPA2 Or	ong security and best compatibility. Inis mode uses WPA for titors that are WPA2 capable. Also the strongest cipher that the A2 Only mode. This mode uses AES(CCMP) cipher and legacy maximum compatibility, use WPA Only. This mode use TKIP his mode. hy security mode (or in other words AES cipher).
Use WPA or WPA2 mode legacy clents while maintai clent supports will be used stations are not allowed ac cipher. Some gaming and li To achieve better wireless WPA	to achieve a balance of stro- ning higher security with sta I. For best security, use WP, cess with WPA security. For egacy devices work only in t performance use WPA2 On Mode :	ong security and best compatibility. Inis mode uses WPA for tituts that are WPA2 capable. Also the strongest coher that the A2 Only mode. This mode uses AES(CCUPP) cipher and legacy maximum compatbility, use WPA Only . This mode use TKIP his mode. uly security mode (or in other words AES cipher). WPA/WP2 Mixed-Personal
Use WPA or WPA2 mode legacy clents while maintal clent supports will be used stations are not allowed ac cipher. Some gaming and li To achieve better wireless WPA Encr Grou	to achieve a balance of stro ning higher security with sta . For best security with security . To ress with WPA security. For egacy devices work only in t performance use WPA2 Or Node : yption Mode : up Key Update Interval :	ng security and best compatibility. Inis mode uses WPA for titons that are WPA2 capable. Also the strongest cipher that the A2 Only mode. This mode uses AES(CCUP) cipher and legacy maximum compatibility, use WPA Only . This mode use TKIP his mode. Ny security mode (or in other words AES cipher). <u>WPA/WP2 Mixed-Personal</u> <u>TKIP</u> <u>AES</u> Both 100 (60 - 65535)
Use WPA or WPA2 mode legacy clents while maintai clent supports will be used stations are not allowed ac cipher. Some gaming and li To achieve better wireless WPA Encr Grou PRE-SHARED KEY	to achieve a balance of stro ning higher security with stat. I. For best security, use WP , cess with WPA security. For egacy devices work only in t performance use WPA2 Or Node : yption Mode : up Key Update Interval :	ng security and best compatibility. Inis mode uses WPA for titons that are WPA2 capable. Also the strongest cipher that the A2 Only mode. This mode uses AES(CCMP) cipher and legacy "maximum compatibility, use WPA Only . This mode use TKIP his mode. IN security mode (or in other words AES cipher). WPA/WP2 Mixed-Personal ♥ TKIP AES Both 100 (60 - 65535)

Field	Description
WPA Mode	Only WPA/WPA2 Mixed-Personal is available.
Encryption Mode	You can only select Both.
Group Key Update Interval	Set the update interval of group key.
Pre-shared Key	Set the pre-shared key. The PLC wireless router uses this key to authenticate the identity of workstation.

The following table describes parameters related to the WPA/WPA2 Mixed mode:

Step 11 After selecting the proper wireless security mode and its relevant parameters, click Next to display the following page.

	,	
SETUP SUMMARY		
Time Settings :	Enable	
Protocol :	PPPoE	
Username :	test	
Wireless Network Name (SSID) :	Powerline	
Wireless Channel :	Auto Scan(recommended)	
802.11 Mode :	Mixed 802.11b/g/n	
Wireless Security Mode :	WAP2 Mixed	

Step 12 In this page, you can view the configuration information of the PLC wireless router. If you want to modify some settings, click Back. If you want to make the settings take effect, click Complete.



In any configuration page of Wizard, you can click Back to modify the previous settings, or click Cancel to exit the page.

Internet Setup

Choose SETUP > Internet Setup, and the following page appears.

///	SETUP	ADVA	NCED	MAINTENANCE	S	TATUS	HELP
Wizard	WAN SETTI	NGS					Helpful Hints
Internet Setup	Through the	connection list, you ca	an see the establ	ishment of the WAN	connectio	n.	When configuring the router to access the
Wireless Setup							Internet, be sure to choose the correct
LAN Setup	CONNECTIO	N LIST					Internet Connection Type.
Time and Date	Status	Name	Protocol	Service Type	Edit	Delete	If you are unsure of which
	Enabled	1_INTERNET_B	Bridge	INTERNET	E	9	option to choose and having trouble accessing
	Enabled	2_INTERNET_R	PPPoE	INTERNET	E	Ŵ	the Internet through the router, Please verify them with your Internet
			Add				Service Provider (ISP) if needed.
	DEFAULT G	ATEWAY					More
		Default Gateway	Mode : 💿 A	luto 🔘 Manual			
		Current Default (Gateway: No De	fault Gateway			
			Apply Ref	resh			

This device supports Internet access modes. In this page, you can add multiple WAN connections and set the default gateway mode. You can manually or automatically set the default gateway mode. If you select Manual, you need to select a proper WAN connection from the drop-down list, except the bridge WAN connections.

Click Add to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WAN				Helpful Hints
Internet Setup	When you configure t	the appropriate	When configuring the		
Wireless Setup	connection type so th	nat the data from the LAN	I port can be transmitted	through the bound	Internet, be sure to choose the correct
LAN Setup	WAN connection.				Internet Connection Type.
Time and Date	WAN SETTING				If you are unsure of which
Logout	Enable WAN				option to choose and having trouble accessing
	Connection Type	e:	DHCP V		router, Please verify them
	Service Type :		INTERNET 🖌		Service Provider (ISP) if needed.
					More
	DHCP				
	Hostname :				
	Vendor Class ID	:			
	MTU :		1500 (6	54-1500)	
	DNC				
	DNS				
	Domain Name Se	erver Assignment :	 Auto Manual 		
	Domain Name Se	erver (Primary) IP :			
	Domain Name Se	erver (Secondary) IP :			
	PORT BINDING				
	LAN Port :		LAN1 LAN2		
	WLAN Port :		SSID 1		
	VLAN				
	Enable VLA	N Tagging			
		Apply	Cancel		

The PLC wireless router supports four types of Internet connection modes. The Internet connection modes contain DHCP, Static IP, PPPoE, and Bridge. In this page, you can select the proper Internet connection mode and configure the relevant parameters according to the actual requirements.

DHCP

If you select DHCP, the PLC wireless router automatically obtains the IP address, subnet mask, and IP address of the gateway from the ISP. If the ISP does not provide any IP network parameters, please select this mode.

See the following figure:

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WAN				Helpful Hints
Internet Setup	When you configure t	he router to access the	Internet, you must select :	the appropriate	When configuring the
Wireless Setup	connection type so th	Internet, be sure to choose the correct			
LAN Setup	WAN connection.		Internet Connection Type.		
Time and Date	WAN SETTING				If you are unsure of which
Logout	Enable WAN				option to choose and having trouble accessing
	Connection Type	:	DHCP V		the Internet through the router, Please verify them
	Service Type :		INTERNET 💌		Service Provider (ISP)
					More
	рнср				
	Hostname :				
	Vendor Class ID	:			
	MTU :		1500 (6	54-1500)	
	DNS				
	Domain Name Se	rver Assignment :	💿 Auto 🔘 Manual		
	Domain Name Se	rver (Primary) IP :			
	Domain Name Se	rver (Secondary) IP :			
	PORT BINDING				
	LAN Port :		LAN1 LAN2		
	WLAN Port :		SSID1		
	VLAN				
	Enable VLA	N Tagging			
		Apply	Cancel		

Field	Description
Enable WAN	Enable or disable the WAN connection of DHCP type.
Connection Type	Select DHCP from the drop-down list.
Service Type	INTERNET: It is mainly used for the Internet service, for example, surfing the Internet. TR069 type: It is mainly used for the TR069 service, for example, TR069 remote management. TR069_INTERNET: a mixed type, which applies to both the Internet and TR069 services.
Hostname	Set the host name of local computer.
Vendor Class ID	Enter the vendor class ID. DHCP server assigns the IP address to your router according to the vendor class ID.
MTU	Set the maximum transmission unit. It is 1500 bytes for most Ethernet networks. But some ISPs may require smaller MTUs. Do not modify the value of MTU size unless it is necessary for your ISP connection.
Domain Name Server Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.

Field	Description
Domain Name Server	Enter the IP address of the primary DNS server. Domain
(Primary) IP	names should be resolved first by the primary DNS server.
Domain Name Server	If the ISP provides another DNS server, enter the IP address
(Secondary) IP	of the DNS server. If the primary DNS server fails to resolve
(Secondary) IF	the domain name, the secondary will resolve it.
	The PLC wireless router supports 2 LAN ports, which can be
LAN FOIL	bound to different interfaces.
M/LAN Dort	The PLC wireless router supports 1 WLAN ports, which can
	be bound to different interfaces.
	If you enable VLAN tagging and the VLAN value is not '0',
Enable VLAN Tagging	message will carry the VLAN ID.

Static IP

If the ISP provides the information of the IP address, subnet mask, gateway, and DNS server, please select Static IP.

For detailed settings, refer to your ISP.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Wizard	WAN				Helpful Hints	
Internet Setup	When you configure t	he router to access the	Internet, you must select :	the appropriate	When configuring the router to access the	
Wireless Setup	connection type so th WAN connection.	connection type so that the data from the LAN port can be transmitted through the bound WAN connection.				
LAN Setup		Internet Connection Type.				
Time and Date	WAN SETTING				If you are unsure of which	
Logout	Enable WAN		V		having trouble accessing the Internet through the	
	Connection Type	:	Static IP 💌		router, Please verify them with your Internet	
	Service Type :		INTERNET 💌		Service Provider (ISP) if needed.	
					More	
	STATIC IP					
	IP address :					
	Subnet mask :	. 10 .				
	MTIL ·	1P :	1500 //	4 (500)		
			1300 (6	54-1500)		
	DNS					
	Domain Name Se	rver Assignment :	🔿 Auto 💿 Manual			
	Domain Name Se	erver (Primary) IP :				
	Domain Name Se	erver (Secondary) IP :				
	PORT BINDING					
	LAN Port :					
	WLAN Port :		SSID1			
	VLAN					
	Enable VLA	N Tagging				
		Apply	Cancel			

Field	Description
Enable WAN	Enable or disable the WAN connection of static IP type.
Connection Type	Select Static IP from the drop-down list.
Service Type	INTERNET: It is mainly used for the Internet service, for example, surfing the Internet. TR069: It is mainly used for the TR069 service, for example, TR069 remote management. TR069_INTERNET: It is a mixed type, which applies to both the Internet and TR069 services.
IP address	Enter the WAN IP address provided by the ISP. It cannot be null.
Subnet mask	Enter the WAN subnet mask provided by the ISP. It varies depending on the network type. Usually, the subnet mask is 255.255.255.0 (Class C).
Default Gateway IP	Enter the IP address of the gateway provided by the ISP. This IP address is used for connecting to the ISP.
MTU	Set the maximum transmission unit. It is 1500 bytes for most Ethernet networks. But some ISPs may require smaller MTUs. Do not modify the value of MTU size unless it is necessary for your ISP connection.
Domain Name Server Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.
Domain Name Server (Primary) IP	Enter the IP address of the primary DNS server. Domain names should be resolved first by the primary DNS server.
Domain Name Server (Secondary) IP	If the ISP provides another DNS server, enter the IP address of the DNS server. If the primary DNS server fails to resolve the domain name, the secondary will resolve it.
LAN Port	The PLC wireless router supports 2 LAN ports, which can be bound to different interfaces.
WLAN Port	The PLC wireless router supports 1 WLAN ports, which can be bound to different interfaces.
Enable VLAN Tagging	If you enable VLAN tagging and the VLAN value is not '0', message will carry the VLAN ID.

PPPoE

If the ISP provides the user name and password for PPPoE dialup, please select PPPoE.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WAN				Helpful Hints
Internet Setup	When you configure th	ct the appropriate	When configuring the router to access the		
Wireless Setup	connection type so the WAN connection	at the data from the LA	IN port can be transmitte	ed through the bound	Internet, be sure to choose the correct
LAN Setup	that connection	Internet Connection Type.			
Time and Date	WAN SETTING				If you are unsure of which
Logout	Enable WAN				having trouble accessing
	Connection Type	:	PPPoE 💌		router, Please verify them with your Internet
	Service Type :		INTERNET 💙		Service Provider (ISP) if needed.
	РРРОЕ				More
	PPPoE Account :				
	PPPoE Password	:			
	Confirm Passwor	d :			
	Authentication M	lethod :	AUTO 💌	-	
	MTU :		1492	(128-1492)	
	DNS				
	Demain Name Ge				
	Domain Name Ser	rver Assignment :	Auto Manuar	1	
	Domain Name Se	rver (Secondary) IP :]	
				1	
	PORT BINDING				
	LAN Port :		LAN1 LAN2		
	WLAN Port :		SSID 1		
	VLAN				
	Enable VLA	N Tagging			
		Apply	Cancel		

Field	Description
Enable WAN	Enable or disable the WAN connection of PPPoE type.
Connection Type	Select PPPoE from the drop-down list.
Service Type	INTERNET: it is mainly used for the Internet service, for example, surfing the Internet. TR069: It is mainly used for the TR069 service, for example, TR069 remote management. TR069_INTERNET: It is a mixed type, which applies to both the Internet and TR069 services.
PPPoE Account	Enter the user name provided by the ISP for PPPoE dialup.
PPPoE Password	Enter the password provided by the ISP for PPPoE dialup.
Confirm Password	Enter the PPPoE password again.
Authentication Method	You can select AUTO, PAP, CHAP, MS-CHAP, or EAP from the drop-down list.
MTU	Set the maximum transmission unit. It is 1500 bytes for most Ethernet networks, 1492 bytes for PPPoE connection. But some ISPs may require smaller MTUs. Do not modify the value of MTU size unless it is necessary for your ISP connection.
Domain Name Server Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.

Field	Description		
Domain Name Server	Enter the IP address of the primary DNS server. Domain		
(Primary) IP	names should be resolved first by the primary DNS server.		
Domain Nama Sonvor	If the ISP provides another DNS server, enter the IP address		
	of the DNS server. If the primary DNS server fails to resolve		
(Secondary) IP	the domain name server, the secondary will resolve it.		
	The PLC wireless router supports 2 LAN ports, which can be		
LAN FOIL	bound to different interfaces.		
M/LAN Dort	The PLC wireless router supports 4 wireless WLAN ports,		
	which can be bound to different interfaces.		
	If you enable VLAN tagging and the VLAN value is not '0',		
Enable VLAN Tagging	message will carry the VLAN ID.		

Bridge

In the Bridge mode, all physical ports and wireless interfaces co-exist in the virtual interfaces.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WAN				Helpful Hints
Internet Setup	When you configure the router to access the Internet, you must select the appropriate				When configuring the
Wireless Setup	connection type so th	Internet, be sure to choose the correct Internet Connection Type.			
LAN Setup	WAN connection.				
Time and Date	WAN SETTING	If you are unsure of which			
Logout	Enable WAN				option to choose and having trouble accessing
	Connection Type	: [Bridge 💙		router, Please verify them with your Internet
	Service Type :	[INTERNET 💌		Service Provider (ISP) if needed.
	PORT BINDING				More
	LAN Port :		LAN1 LAN2		
	WLAN Port :		SSID1		
	VLAN				
	Enable VLA	l Tagging			
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
Enable WAN	Enable or disable the WAN connection of bridge type.
Connection Type	Select Bridge from the drop-down list.
Service Type	You can only select Internet.
LAN Port	The PLC wireless router supports 2 LAN ports, which can be bound to different interfaces.
WLAN Port	The PLC wireless router supports 1 WLAN ports, which can be bound to different interfaces.
Enable VLAN Tagging	If you enable VLAN tagging and the VLAN value is not '0', message will carry the VLAN ID.

After setting the parameters, click Apply to save the settings.
Wireless Setup

Choose SETUP > Wireless Setup, and the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WIRELESS SETUP				Helpful Hints
Internet Setup	This section allows you to setup your wireless network on the router device.			ice.	1. Every device in the same wireless network
Wireless Setup					must use the same SSID.
LAN Setup	WIRELESS BASIC				2. To avoid wireless network overlap, a
Time and Date	This setting is designed to assist you in connecting your wireless device to your router. Click the button below to begin the basics settings.				specific and different channel is needed.
Logout					 Make sure security used by every device in the same wireless network is compatible with the wireless AP.
	WIRELESS SECUR	ΙТΥ			More
	Configure your wireles	s security settings.			
		Wireless	Security		
	WPS				
	Configure your WPS s	ettings.			
		W	PS		

Wireless Basic Settings

Choose Wirelss Setup > Wireless Basic on the left pane or click Wireless Basic in the WIRELESS SETUP page to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WIRELESS BASICS	5			Helpful Hints
Internet Setup	Through this page, yo	u can configure the SSID	, bandwidth etc.		Changing your Wireless
Wireless Setup	Note: The wireless clie	ent configuration paramet	ers need to be consistent	with this page to	step in securing your wireless network. We
LAN Setup	modify the configurati	on parameters.			recommend that you change it to a familiar
Time and Date					name that does not contain any personal
Logout	WIRELESS NETWO	RK SETTINGS			information.
	Enable Wireless I	nterface			We recommend that you enable Auto Scan Channel so that the router can select the best channel for
	Wireless Network	(Name (SSID) :	Powerline		your wireless network.
	Visibility Status :		⊙ Visible ○ Invisible		More
	Region :		EU 💙		
	802.11 Mode :		Mixed 802.11b/g/n ⊻		
	Band Width :		40M Upper(+) 💌		
	Wireless Channel	:	Auto Scan(recommended) 💊	•	
		Apply	Cancel		

In this page, you can configure the basic wireless parameters.

The following table describes parameters in this page:

Field	Description
Enable Wireless Interface	Enable or disable the wireless interface.
Wireless Network Name (SSID)	The wireless network name (SSID) can contain up to 32 characters and can be letters, numerals, underlines, and any combinations of them. The SSID is case-sensitive.
Visibility Status	If Visible is selected, the PLC wireless router broadcasts its SSID on the wireless network. If Invisible is selected, the PLC wireless router does not broadcast its SSID on the wireless network.
Region	Select the country where you are from the drop-down list.

Field	Description
	Select the appropriate wireless mode. The default is Mixed 802.11b/g/n.
802.11 Mode	802.11b only: The maximum rate is 11 Mbps. 802.11g only: The maximum rate is 54 Mbps. 802.11n only: For 20M bandwidth, the maximum rate is 130 Mbps (150 Mbps for short preamble); for 40M Upper (+) or 40M Lower (-) bandwidth, the maximum rate is 270Mbps (300 Mbps for short preamble). Mixed 802.11b/g: It is compatible with 802.11b and 802.11g. Mixed 802.11n/g: It is compatible with 802.11n and 802.11g.
	Mixed 802.11b/g/n: It is compatible with 802.11b, 802.11n, and 802.11g.
Band Width	Only in the 802.11 mode that is compatible with 802.11n, can you set the band width. For 20M bandwidth, the maximum rate is 130Mbphttp://192.168.1.1/cgi-bin/webproc?getpage=html/in dex.html&var:menu=status&var:page=deviceinfos (150Mbps for short preamble); for 40M Upper (+) or 40M Lower (-) bandwidth, the maximum rate is 270Mbps (300 Mbps for short preamble).
Wireless Channel	Select the working channel of the wireless network. The default is Auto Scan, which indicates that the PLC wireless router automatically searches for the best channel among the available channels.

After setting the parameters, click Apply to save the settings.

Wireless Security Settings

Choose Wirelss Setup > Wireless Security on the left pane or click Wireless Security in the WIRELESS SETUP page to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WIRELESS SECUR	ІТУ			Helpful Hints
Internet Setup	To protect your priva	cy you can configure wire	ess security features. T	his device supports	If you have enabled
Wireless Setup	three wireless security	sure you write down WEP			
LAN Setup	che original wreless el	ncryption standard, VVPA (provides a higher lever	or securicy.	you have configured. You will need to enter this
Time and Date	WIRELESS SECUR	ITY MODE			information on any wireless device that you
Logout	Wireless	Security Mode :	None Vep Wep Wep-Perk WPPA2=PSK WPA2=PSK WPA/WPA2=PSK		contect to your wireless network.

Wireless security settings are very important in protecting the wireless base stations on your network and wireless communication between your router and wireless network. The PLC wireless router provides 5 types of wireless security modes, which contain None, WEP, WPA, WPA2, and WPA/WPA2 Mixed.

None

Select None from the drop-down list of wireless security mode to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WIRELESS SECUR	ІТУ			Helpful Hints
Internet Setup	To protect your priva	ov vou can configure wire	less security features. This	device supports	If you have enabled
Wireless Setup	three wireless security	/ modes including: WEP.	WPA、WPA2、WPA and \	VPA2 Mixed. WEP is	sure you write down WEP
LAN Setup	che original wreless ei	ncryption standard, VVPA	provides a higher level of s	ecuncy.	you have configured. You will need to enter this
Time and Date	WIRELESS SECUR	ITY MODE			information on any wireless device that you
Logout	Wireless	Security Mode :	None		connect to your wireless network.
					More
		Apply	Cancel		

None means data encryption is not adopted and the network is not secure. Any station can access the network. This option is not recommended.

WEP

Select WEP from the drop-down list of wireless security mode to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WIRELESS SECUR	ITY			Helpful Hints
Internet Setup	To protect your privacy you can configure wireless security features. This device supports			If you have enabled Wireless Security, make	
Wireless Setup	three wireless security	three wireless security modes including: WEP、WPA、WPA2、WPA and WPA2 Mixed. WEP is the original wireless encryption standard WPA provides a higher level of security.			
LAN Setup	the original whereas encryption standard, when provides a higher level of security.				you have configured. You will need to enter this
Time and Date	WIRELESS SECUR	ITY MODE			information on any wireless device that you
Logout	Wireless 5	Security Mode :	WEP 🔽		network.
					More
	WEP				
	If you choose the WE mode (802.11B/G).	P security option this devi	ce will ONLY operate in L	egacy Wireless	
	WEP is the wireless en router and the wireless box. For 128 bit keys number from 0 to 9 or authentication type to				
	You may also enter an a hexadecimal key usin can be entered for 64	will be converted into of 5 text characters bit keys.			
	WEP Key	Length :	64 bit 🛛 (length applies t	o all keys)	
	Default T	x Key :	1 🕶		
	WEP Key	Format :	HEX (10 characters) 💌		
	WEP Key1	L: [666666666		
	WEP Key2	2:	7777777777		
	WEP Key3	3:	888888888		
	WEP Key4	1:	9999999999		
	Authenti	cation :	Open 🚩		
		Apply	Cancel		

The following table describes parameters related to the WEP mode:

Field	Description
WEP Key Length	Select the encryption length of WEP key. You can select 64 bit or 128 bit.
Default Tx Key	Select one from the four keys as the default key of the wireless network.
WEP Key Format	When the key format is 64 bit, you need to enter 5 ASCII characters or 10 hexadecimal digits. When the key format is 128 bit, you need to enter 13 ASCII characters or 26 hexadecimal digits.
WEP Key 1/2/3/4	Set 64-bit or 128-bit key according to the key format.
Authentication	Select the proper authentication mode. You can select Open or Share Key.

WPA-PSK

Select WPA-PSK from the drop-down list of wireless security mode to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WIRELESS SECUR	ΙТΥ			Helpful Hints
Internet Setup	To protect your privacy you can configure wireless security features. This device supports			If you have enabled Wireless Security, make	
Wireless Setup	three wireless security	WPA2 Mixed. WEP is	sure you write down WEP or Passphrase Key that		
LAN Setup	une original Wreless er	reryption standard, VVPA	provides a higher level or s	ecuncy.	you have configured. You will need to enter this
Time and Date	WIRELESS SECUR	ITY MODE			information on any wireless device that you
Logout	Wireless	Security Mode :	WPA-PSK		connect to your wireless network.
					More
	WPA				
	mode uses WPA for le WPA2 capable. Also til security, use WPA2 C allowed access with W TKIP cipher. Some gai	stations that are used. For best legacy stations are not Only. This mode use (or in other words AFS)			
	cipher).				
	WPA Mod	de :	WPA-Personal 🗸		
	Encryptic	on Mode :	● TKIP ○ AES ○ Both		
	Group Ke	y Update Interval :	100 (6	50 - 65535)	
	PRE-SHARED KEY				
	Pre-Share	ed Key :	1234567890 The pre-shared key should be hexadecimal numbers.	8 to 63 ASCII, or 64	
		Apply	Cancel		

The following table describes parameters related to the WPA mode:

Field	Description	
WPA Mode	Only WPA-Personal is available.	
Encryption Mode	Only TKIP is available.	
Group Key Update Interval	Set the update interval of group key.	
Pre-shared Key	Set the pre-shared key. The PLC wireless router uses this key to authenticate the identity of workstation.	

WPA2-PSK

Select WPA2-PSK from the drop-down list of wireless security mode to display the following page.



The following table describes parameters related to the WPA2 mode:

Field	Description	
WPA Mode	Only WPA2-Personal is available.	
Encryption Mode	Only AES is available.	
Group Key Update Interval	Set the update interval of group key.	
Pre-shared Key	Set the pre-shared key. The PLC wireless router uses this key to authenticate the identity of workstation.	

WPA/WPA2-PSK

Select WPA/WPA2-PSK from the drop-down list of wireless security mode to display the following page.



The following table describes parameters related to the WPA/WPA2 Mixed mode:

Field	Description	
WPA Mode	Only WPA/WPA2 Mixed-Personal is available.	
Encryption Mode	You can only select Both.	
Group Key Update Interval	Set the update interval of group key.	
Pre-shared Key	Set the pre-shared key. The PLC wireless router uses this key to authenticate the identity of workstation.	

After setting the parameters, click Apply to save the settings.

WPS Settings

WPS refers to Wi-Fi Protected Setup. You can use the WPS setup function to add a wireless client to a network, without setting some specific parameters, such as SSID, security mode, and password. To use this function, a wireless client must support WPS. If the wireless client does not support WPS, you must manually configure the wireless settings of wireless client, and ensure that its SSID and other wireless security settings are the same as that of the PLC wireless router.

Choose Wirelss Setup > WPS on the left pane or click WPS in the WIRELESS SETUP page to display the following page.

//	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	WPS				Helpful Hints
Internet Setup	Enable the wireless fu	nction , the WPS condit	ion must be WPA-PSK or W	/PA2-PSK or	The WPS condition must be WPA-PSK or WPA2-PSK
Wireless Setup	WPA/WPA2-PSK secu	rity mode , and the SSID) should be broadcasted.		security mode , and the SSID should be
LAN Setup					broadcasted.
Time and Date	WPS				More
Logout	Wire	eless SSID :	Powerline 💌		
	WPS	S Config State :	Configured		
	WPS CONFIG				
	Enal	bled WPS	V		
	Pus	h Button :	PBC		
	Inp	ut Station PIN :		PIN	
	WPS	Session Status :			
	David	- DTN -	Comm		
	Dev	ICE PIN :	12345670 General	le	
			Breat		
	Res	et Configured :	Reset		
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description			
Wireless SSID	Select a wireless SSID from the drop-down list.			
WPS Config State	It shows the current authentication mode.			
Enable WPS	Tick this box to enable WPS function.			
Push Button	Click the PBC button in this page, and then click the PBC button in the configuration utility page of wireless network card or press the WPS pushbutton on the wireless network card within 2 minutes to finish WPS configuration.			
Input Station PIN	Enter the PIN code that is generated randomly by the configuration utility of wireless card.			
WPS Session State	Display current WPS connection state.			

Caution



If you want to use WPS, you must select the WPA-PSK/WPA2-PSK mode and the SSID must be broadcasted.

WPS modes contain PBC mode and PIN mode.

PBC Mode

Click the PBC button in the WPS page or press down the WPS button on the PLC wireless router to start WPS connection.

Push Button :	PBC
Input Station PIN :	PIN
WPS Session Status :	WP5 session in progress ==> Inprogress
Device PIN :	WPS is connecting ,please wait for a moment. [] 12345670 Generate
Reset Configured :	Reset

Press the WPS button on the network card or click the PBC button in the configuration utility page of network card within two minutes to start WPS connection. After WPS connection is established, the following page appears. The client can now visit the LAN.

Push Button :	PBC
Input Station PIN :	PIN
WPS Session Status :	Add new device success! ==> Success

PIN Mode

Enter the PIN of the network card in the WPS page (refer to the client of the network card), and then click PIN to start WPS connection. The following page appears:

Push Button :	PBC
Input Station PIN :	31856911 PIN
WPS Session Status :	WPS session in progress ==> Inprogress
Device PIN :	WP5 is connecting ,please wait for a moment. [] 12345670 Generate
Reset Configured :	Reset

Click the PIN button in the configuration utility page of network card within two minutes to start WPS connection. After WPS connection is established, the following page appears. The client can now visit the LAN.

Push Button :	PBC
Input Station PIN :	28388654 PIN
WPS Session Status :	Add new device success! ==> Success

LAN Setup

Choose SETUP > LAN Setup, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	LAN SETTINGS				Helpful Hints
Internet Setup	This section allows you	to configure the LAN S	etup settings of your route	er . Please note that	The IP address of your router is the same IP
Wireless Setup	this section is optional	and you should not need	d to change any of the set	ttings here to get	address you will use to access the web
LAN Setup	Note: Generally, you d	this page.	management interface of your router. If you		
Time and Date			o dendate comigatación on	cho pager	already have a DHCP server on your network or are using static IP addresses on all the
Logout	ROUTER SETTING				
	Router IP Addres Subnet Mask : Enable Gateway I	ss : Isolate :	192.168.1.1 255.255.255.0		devices on your network, click on Disable DHCP Server to disable this feature. More
	DHCP SERVER				
	Enable DHCP Ser	ver			
	IP Pool Starting , IP Pool Ending A IP Pool Subnet n DHCP Lease Time Domain Name Set Domain Name Set	Address : ddress : nask : : rver Assignment : rver (Primary) IP : rver (Secondary) IP : (Apply)	192 , 168 , 1 192 , 168 , 1 255.255.0 24 (: • Auto Manual Cancel	2 100 1- 160 hours)	

In this page, you can configure the LAN settings of the PLC wireless router. You can modify the IP address of the LAN interface according to the actual network environment. The default IP address is 192.168.1.1. Please note that this is an optional operation. Usually, you need not to modify the default settings in this page.

You may use the default settings and DHCP service to manage the IP setting of the private network. The IP address of your host is from the DHCP address pool. If you want to enable the DHCP function of the PLC wireless router on the LAN, the network segment of DHCP IP pool of PLC wireless router must be the same as that of the IP address of your host. If the IP network segment of the PLC wireless router changes, the network segment of the DHCP IP pool will also change automatically.

The following table describes parameters in this page:

Field	Description		
Router IP Address	Set the IP address that a LAN user uses to access the router. The default IP is 192.168.1.1. You can change it if necessary.		
Subnet Mask	Subnet mask of the LAN interface. You can enter a different subnet mask according to the actual network environment.		
Enable Gateway Isolate	After the gateway isolation is enabled, PCs on the LAN side cannot communicate with each other directly among different gateways.		
Enable DHCP Server	Enable or disable the DHCP server.		
IP Pool Starting Address	The first address in a consecutive IP address pool.		
IP Pool Ending Address	The last address in a consecutive IP address pool.		
IP Pool Subnet Mask	The subnet mask of the IP pool is the same as that of the PLC wireless router.		

Field	Description		
DHCP Lease Time	After the DHCP lease time is over, the PLC wireless router automatically assigns new IP addresses for all connected computers.		
Domain Name Server Assignment	You can manually enter the IP address of domain name server or let the DNS server automatically assign one to your router.		
Domain Name Server (Primary) IP	Enter the IP address of the primary DNS server. Domain names should be resolved first by the primary DNS server.		
Domain Name Server (Secondary) IP	If the ISP provides another DNS server, enter the IP address of DNS server. If the primary DNS server fails to resolve the domain name, the secondary will resolve it.		

After setting the parameters, click Apply to save the settings.

Time and Date

Choose SETUP > Time and Date, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Wizard	TIME AND DATE				Helpful Hints
Internet Setup	The Time Configuratio	n option allows you to co	nfigure, update, and main	tain the correct time	Good timekeeping is
Wireless Setup	on the internal system	clock. From this section	you can set the time zone	that you are in and	logs.
LAN Setup	Sec che MTP (MecWork	Time Protocoly Server.			More
Time and Date	TIME SETTING				
Logout	Enable NTP				
	First NTP time se	rver :	time.windows.com 🔽		
	Second NTP time	server :	time.nist.gov 🗸		
	TIME CONFIGURAT	TION			
	Current Router 1	Fime: 1971/01/01 04:17:	44		
	Time Zone :	(GMT+01:00) Brus	ssels, Copenhagen, Madrid, Pa	aris 💌	
		Apply	Cancel		

In this page, you can set the Network Time Protocol (NTP) server and your local time zone, for updating and maintaining the router time.

After enabling the Internet time servers, select the proper time servers and your local time zone, and then click Apply to save the settings.

When the PLC wireless router connects to the Internet, the router time will synchronize with the time of selected time zone.

Logout

Choose SETUP > Logout to log out of the Web configuration page, and the following page appears.

Sag	емсом
	LOGIN
	Welcome to Web Management
	Username : admin 💌
	Password :
	Login

Advanced Settings

DoS Protection

DoS (Denial of Service) is a most common type of network attack. A DoS attack is launched by a hacker to prevent legal users from using services, usually by overloading a system server or crashing the system.

Choose ADVANCED > Dos Protection, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	DOS PROTECTION				Helpful Hints
Access Control	This allows you to pre	vent your router from De	enial of Service (DoS) attac	ks. DoS can be	As a sub-functionality of TP Filter/Firewall_there
Advanced Wireless	checked based on you	ir specific need.			are 9 types of detect/ defense function in the
Advanced Network					DoS Defense setup. The DoS Defense functionality
PLC Setting	ENABLE DOS				is disabled for default.
Logout	Enable	Attack Prevent			More
		Apply	Cancel		

Tick the checkbox "Enable Attack Prevent", and the following page appears.

///	SETUP	ADVANCED	MAI	NTENANCE	STATUS	HELP
DoS Protection	DOS PROTECTION					Helpful Hints
Access Control	This allows you to prev	ent your router from [Denial of Se	rvice (DoS) atta	cks. DoS can be	As a sub-functionality of IP Filter/Firewall_there
Advanced Wireless	checked based on you	r specific need.				are 9 types of detect/ defense function in the
Advanced Network						DoS Defense setup. The DoS Defense functionality
PLC Setting	ENABLE DOS					is disabled for default.
Logout	Enable A	ttack Prevent				More
	DOS CONFIGURATI	ON				
	Icmp Ech	10	✓			
	Fraggle		✓			
	Echo Ch	argen	~			
	IP Land		✓			
	Port Sca	in	✓			
	TCP Flag	s: Set "SYN FIN"	✓			
	TCP Flag	s: Set "SYN RST"	✓			
	TCP Flag	s: Set "FIN RST"	✓			
	TCP Dos	l:		50 (p	ackets/second)	
		Apply	/ Cancel]		

In this page, you may enable or disable firewall configuration such as ICMP Echo, Fraggle and Echo Chargen.

Access Control

Choose ADVANCED > Access Control, and the following page appears.



MAC Filter

MAC (Media Access Control) address filter is used to filter the transmission data according to the physical address of wireless network card. In this page, you can add the MAC addresses of devices to the MAC filtering list. The devices in the MAC filtering list are not allowed to access the Internet.

Click ADVANCED > Access Control > MAC Filter to enter the MAC Filtering page, and then check Enable MAC Filtering, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	MAC FILTERING				Helpful Hints
Access Control	The MAC (Media Acce	ss Controller) Address filte	er option is used to contro	I network access	Enter the MAC address
Advanced Wireless	based on the MAC Ad	to connect the internet.			
Advanced Network	network/Internet acc	More			
PLC Setting					
Logout	MAC FILTERING				
	MAC FILTERING L	IST			
	Мас	Comment	Edit	Delete	
		A	dd		

Click Add to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	MAC FILTERING				Helpful Hints
Access Control	The MAC (Media Acce	ess Controller) Address filt	er option is used to control	network access	Enter the MAC address
Advanced Wireless	based on the MAC Ad	dress of the network ad	apter. A MAC address is a u	nique ID assigned by	to connect the internet.
Advanced Network	network/Internet acc	ess.	s feature can be configured	TO DENY	More
PLC Setting					
Logout	MAC FILTERING				
	MAC FILTERING L	IST			
	Mac	Comment	Edit	Delete	
	INCOMING MAC F	ILTER	\dd		
		MAC : Comment :	(x:	x0000000000000000000000000000000000000	
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
MAC	Enter the MAC address of the device that is not allowed to access the Internet.
Comment	Enter the comment about the MAC filtering rule.

After setting the parameters, click Apply to save the settings.

DHCP Filtering

DHCP filtering realizes network access control based on the IP addresses of network devices.

Click ADVANCED > Access Control > DHCP Filtering, and the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
DoS Protection	DHCP FILTERING				Helpful Hints	
Access Control	The DHCP filter function	on includes IP reserving ar	nd black list. IP reserving b	inds an IP address to	The DHCP filter function includes static IP and black	
Advanced Wireless	a MAC address. It mea	a MAC address. It means that a PC which has the MAC is assigned the specific IP address. Black				
Advanced Network	list function is that P to	whose hind are in the p	ack list can not be assigned	su ir audress.	address, assigning a static IP address to the PC of	
PLC Setting	DHCP ENABLE				the bound MAC address. Black list is not to assign IP	
Logout		Enable DHCP Filter			bound MAC addresses.	
					More	
		Apply	Cancel			

Check Enable DHCP Filter, and the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	DHCP FILTERING				Helpful Hints
Access Control	The DHCP filter function	on includes IP reserving an	nd black list. IP reserving b	inds an IP address to	The DHCP filter function
Advanced Wireless	a MAC address. It mea	ns that a PC which has th	e MAC is assigned the spe	cific IP address. Black	list. Static IP is to bind a
Advanced Network	isc runction is that PCs	whose MAC are in the bi	ack ist can not be assigne	d iP address.	address, assigning a static IP address to the PC of
PLC Setting	DHCP ENABLE				the bound MAC address. Black list is not to assign IP
Logout		Enable DHCP Filter			address of the PCS of the bound MAC addresses.
					More
	LIST OF IP ADDRE	SS RESERVED FOR M	1AC		
	NUM	Static IP	MAC Edit	Delete	
		A	bi		
	BLACK LIST				
	NUM	MAC	Edit	Delete	
		A	bl		

List of IP Address Reserved for MAC

If a MAC address of a LAN device is consistent with the specified MAC address, the PLC wireless router assigns the bound IP address to the device.

Click Add under the LIST OF IP ADDRESS RESERVED FOR MAC to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	DHCP FILTERING				Helpful Hints
Access Control	The DHCP filter funct	tion includes IP reserving at	nd black list. IP reserving b	inds an IP address to	The DHCP filter function
Advanced Wireless	a MAC address. It me	ans that a PC which has th	ne MAC is assigned the spe	ecific IP address. Black	list. Static IP is to bind a
Advanced Network	list function is that Po	Ls whose MAC are in the p	lack list can not be assigne	ed IP address.	address, assigning a static IP address to the PC of
PLC Setting	DHCP ENABLE				the bound MAC address. Black list is not to assign IP
Logout		Enable DHCR Filter			address of the PCS of the bound MAC addresses.
		Liable Drice Titter			More
	мас		LIST OF IP ADDRESS	RESERVED FOR	
	NUM	Static IP	MAC Edit	Delete	
	IP ADDRESS RES	ERVED FOR MAC			
		IP:			
		MAC :			
		Apply	Cancel		
	BLACK LIST				
	NUM	MAC	Edit	Delete	
		A	dd		

The following table describes the paramters for configuring an IP address reserved for a MAC address:

Field	Description
IP	Enter an IP address for binding to a MAC address.
MAC	Enter a MAC address for binding to an IP.

<u>Black List</u>

The black list means that if a MAC address of a LAN device is not consistent with the specified MAC address, the PLC wireless router does not assign the bound IP address to the device.

Click Add under the black list to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	DHCP FILTERING				Helpful Hints
Access Control	The DHCP filter functi	on includes IP reserving	and black list. IP reserving l	binds an IP address to	The DHCP filter function includes static IP and black
Advanced Wireless	a MAC address. It mea	ans that a PC which has the	the MAC is assigned the sp	ecific IP address. Black	list. Static IP is to bind a MAC address to an IP
Advanced Network	iscrutication is chac PC	s whose MAC are in cire	black list can not be assign	ed if address.	address, assigning a static IP address to the PC of
PLC Setting	DHCP ENABLE				the bound MAC address. Black list is not to assign IP
Logout		Enable DHCP Filter			address of the PCS of the bound MAC addresses.
					More
	МАС		LIST OF IP ADDRESS	RESERVED FOR	
	NUM	Static IP	MAC Edit	Delete	
		Z	٩dd		
	BLACK LIST				
	NUM	MAC	Edit	Delete	
	BLACK				
		MAC :			
		Apply	Cancel		

In this page, enter the MAC address of the LAN device.

After setting the parameters, click Apply to save the settings.

IP Filtering

The IP filter function can prevent the internal users from accessing the Internet.

Choose ADVANCED > Access Control > IP Filtering, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	IP FILTERING				Helpful Hints
Access Control	The IP filter option is	used to control network	access based on the IP of	the network device.	IP Filtering is to limit intranet users from
Advanced Wireless	This feature can be c	onfigured to DENY netwo	ork/Internet access.		accessing the Internet.
Advanced Network					More
PLC Setting	ENABLE IP FILTER	RING			
Logout		Enable IP Filtering			
		Apply	Cancel		

Check Enable IP Filtering, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	IP FILTERING				Helpful Hints
Access Control	The IP filter option is	used to control network a	ccess based on the IP of	the network device.	IP Filtering is to limit
Advanced Wireless	This feature can be co	accessing the Internet.			
Advanced Network					More
PLC Setting	ENABLE IP FILTER	ING			
Logout		Enable IP Filtering			
	IP FILTERING LIS				
	IP TCP,	/UDP Re	mark Edit	Delete	
		A	ld		

Click Add to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP		
DoS Protection	IP FILTERING				Helpful Hints		
Access Control	The IP filter option is	used to control network a	access based on the IP of	the network device.	IP Filtering is to limit		
Advanced Wireless	This feature can be co	This feature can be configured to DENY network/Internet access.					
Advanced Network					More		
PLC Setting	ENABLE IP FILTER	ING					
Logout	1	Enable IP Filtering	V				
	IP FILTERING LIST	T /UDP Re A IP : TCP/UDP : Remark	mark Edit	Delete			
		Apply	Cancel				

The following table describes parameters in this page:

Field	Description
IP	Enter the computer IP address that needs to be filtered.
TCP/UDP	You can select TCP, UDP, or Both.
Remark	Enter the comment about the IP filtering rule.

After setting the parameters, click Apply to save the settings.

Port Filtering

The port filtering function allows you to control all data transmitted through the PLC wireless router. If a PC's port is in the specified range of port filtering, data from this port cannot be transmitted.

Choose ADVANCED > Access Control > Port Filtering to display the following page.



Check Enable Port Filtering, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	PORT FILTERING				Helpful Hints
Access Control	"Port Filtering" is a par	t of the Firewall, when th	e "Port Filtering" function	is turned on, the list	Port filtering enables you to control all data that can
Advanced Wireless	of specified port range	be transmitted in routers.			
Advanced Network	EAN-Side Host Will Hot	have access to wan side	or chese ports, chrough	the TCP / ODP.	More
PLC Setting	ENABLE PORT FIL	TERING			
Logout					
	PORT FILTERING	LIST			
	Port Range	TCP/UDP	Remark	dit Delete	
		A	dd		

Click Add to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP		
DoS Protection	PORT FILTERING				Helpful Hints		
Access Control	"Port Filtering" is a par	t of the Firewall, when th	e "Port Filtering" function	is turned on, the list	Port filtering enables you to control all data that can		
Advanced Wireless	of specified port range	of specified port range and protocols (TCP / UDP), will be used as a blacklist, which means,					
Advanced Network	LAN-side nost will not	have access to WAN side	or these ports, through t	ne TCP / UDP.	More		
PLC Setting	ENABLE PORT FIL	TERING					
Logout		Enable Port Filtering	v				
	PORT FILTERING						
	Port Range	TCP/UDP	Remark E	dit Delete			
		A	bb				
	PORT FILTERING						
		Port Range :					
		TCP/UDP :	Both 💌				
		Remark :					
		Apply	Cancel				

The following table describes parameters in this page:

Field	Description
Port Range	Enter the port filtering range.
TCP/UDP	You may select TCP, UDP, or Both.
Remark	Enter the comment about the port filtering rule.

After setting the parameters, click Apply to save the settings.

URL Filtering

URL filtering function is used to block some websites that you do not want the LAN users to access.

Choose ADVANCED > Access Control > URL Filtering to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	URL FILTERING				Helpful Hints
Access Control	This page allows you t	o block websites. If enab	led, the websites listed he	ere will be denied	Create a list of websites that you would like the
Advanced Wireless	access to clients trying		devices on your network to be denied access to.		
Advanced Network					More
PLC Setting	ENABLE UKL FILTE	RING	_		
Logout	1	Enable URL Filtering			
		(Apply)	Cancel		

Check Enable URL Filtering, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	URL FILTERING				Helpful Hints
Access Control	This page allows you t	o block websites. If enabl	ed, the websites listed he	ere will be denied	Create a list of websites
Advanced Wireless	access to clients tryin	g to browse that website.			devices on your network to be denied access to.
Advanced Network		ED THO			More
PLC Setting	ENABLE UKL FILT	EKING			
Logout		Enable URL Filtering	V		
		Apply	Cancel		
	URL FILTERING LI	51			
	URL	Comment	Edit	Delete	
		A	bl		

Click Add to display the following page.

	SETUP ADVANCED MAINTENANCE STATUS	HELP
DoS Protection	URL FILTERING	Helpful Hints
Access Control	This page allows you to block websites. If enabled, the websites listed here will be denied	Create a list of websites that you would like the
Advanced Wireless	access to clients trying to browse that website.	devices on your network to be denied access to.
idvanced Network	ENABLE URLETLERING	More
2LC Setting		
ogout	Enable URL Filtering	
	URL FILTERING LIST	
	URL Comment Edit Delete	
	Add	
	URL FILTER	
	URL : http://	
	Comment :	
	Apply Cancel	

The following table describes parameters in this page:

Field	Description
URL	Enter the URL that needs to be filtered.
Comment	Enter the comment about the URL filtering rule.

After setting the parameters, click Apply to save the settings.

Advanced Wireless

Usually, it is not recommended to modify the default settings of advanced wireless configuration page. The default settings can provide the optimal wireless performance. Improper modifications may influence the wireless performance.

Choose ADVANCED > Advanced Wireless, and the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
DoS Protection	ADVANCED WIRE	Helpful Hints				
Access Control	This section allows yo	u to configure advanced f	eatures of the wireless.		If you are not familiar with the following functions	
Advanced Wireless		keep the default				
Advanced Network	ADVANCED				cases, incorrect settings may reduce wireless	
PLC Setting	Allows you to configu	re advanced features of th	ne wireless LAN interface.		performance.	
Logout		More				
	ADVANCED SECUR	RITY				
	Allows you to configu	re security of the wireless	LAN interface.			
		Advanced	d Security			
	ACCESS CONTROL					
	Allows you to configu	re access control of the w	ireless LAN interface.			
		Access	Control			

Advanced Wireless Settings

Choose Advanced Wireless > Advanced on the left pane or click Advanced in the ADVANCED WIRELESS page to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	ADVANCED SETT	Helpful Hints			
Access Control	Allows you to configu	ire advanced features of :	the wireless I AN interface.		It is recommended that
Advanced Wireless					parameters at their default values. Adjusting
Advanced Network	SSID				them could limit the performance of your
PLC Setting	Enat	ble SSID 1			wireless network.
Logout	SSID 1 :		Powerline		More
	Visibility	Status :	⊙ Visible ○ Invisible		
	User Isola	ation :	Off 💌		
	Disable V	/MM Advertise :	Off 🗸		
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
Enable Wireless	Enable or disable the wireless function.
Wireless Network Name (SSID)	Set the network name. The SSID can contain up to 32 characters and can be letters, numerals, underlines, and any combinations of them. The SSID is case-sensitive.
Visibility Status	If Visible is selected, the PLC wireless router broadcasts its SSID on the wireless network, and the clients can scan the SSID. If Invisible is selected, the PLC wireless router does not broadcast its SSID on the wireless network and the clients cannot scan the SSID.
User Isolation	On indicates that the computers wirelessly connecting to the same SSID cannot communicate with each other. Off indicates that the computers wirelessly connecting to the same SSID can communicate with each other.
Disable WMM Advertise	This function is not available.

After setting the parameters, click Apply to save the settings.

Caution



The settings in this page only apply to professional users who have deeper understanding in the wireless LAN. If you are not aware of the impact caused by the modification, please do not modify the settings in this page.

Advanced Security

Choose Advanced Wireless > Advanced Security on the left pane or click Advanced Security in the ADVANCED WIRELESS page to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	WIRELESS SECUR		Helpful Hints		
Access Control	To protect your privat	device supports	If you have enabled Wireless Security, make		
Advanced Wireless	three wireless security	VPA2 Mixed. WEP is ecurity	sure you write down WEP or Passphrase Key that		
Advanced Network		concyr	you have configured. You will need to enter this		
PLC Setting	WIRELESS SSID				information on any wireless device that you
Logout	Select SS	ID :	Powerline 💌		network.
					More
	WIRELESS SECUR	ITY MODE			
	Wireless	Security Mode :	WPA/WPA2-PSK		
	WPA/WPA2MIX		6		
	mode uses WPA or WPA2 in mode uses WPA for le WPA2 capable. Also th security, use WPA2 O allowed access with W	tations that are used. For best egacy stations are not Dnly . This mode use			
	TKIP cipher. Some ga				
	To achieve better win cipher).	eless performance use W	PA2 Only security mode (or in other words AES	
	WPA Moo	le :	WPA/WPA2 Mixed-Personal	*	
	Encryptio	n Mode :	◯ TKIP ◯ AES ④ Both		
	Group Ke	y Update Interval :	100 (6	0 - 65535)	
	PRE-SHARED KEY				
	Pre-Share	ed Key :	1234567890		
			The pre-shared key should be hexadecimal numbers.	8 to 63 ASCII, or 64	
		Apply	Cancel		

For the parameters in this page, refer to 0 Wireless Security Settings.

Access Control

Choose Advanced Wireless > Access Control on the left pane or click Access Control in the ADVANCED WIRELESS page to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	ACCESS CONTROL				Helpful Hints
Access Control	Allows you to configu	re access control of the v	vireless LAN interface.		Create a list of MAC addresses that you would
Advanced Wireless					either like to allow or deny users access to the
Advanced Network	MODE				wireless Router.
PLC Setting	Wir	eless SSID :	Powerline 🗸		More
Logout	Acc	ess Control Mode :	Disable 💙		
		Apply	Cancel		
	WLAN FILTER LIS	т			
	М	AC	Comment	Edit Delete	
		A	dd		

In this page, you can configure the access control settings of the wireless LAN interface.

Click Add to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	ACCESS CONTROL	L			Helpful Hints
Access Control	Allows you to configu	re access control of the v	vireless I AN interface.		Create a list of MAC
Advanced Wireless					either like to allow or deny users access to the
Advanced Network	MODE				wireless Router.
PLC Setting	Wi	reless SSID :	Powerline 🔽		More
Logout	Ac	cess Control Mode :	Disable 💙		
	WLAN FILTER LIS	т			
	Μ	IAC	Comment	Edit Delete	
		A	dd		
	INCOMING MAC F	ILTER			
	MA	AC :	(xx:	xxxxxxxxxxx)	
	Co	mment:			
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
Wireless SSID	Select a port name of wireless SSID from the drop-down list.
Access control Mode	You can select Disable, Allow or Deny.
MAC	Enter the MAC address that needs to be filtered in the WLAN.
Comment	Enter the comment about the filtering rule.

After setting the parameters, click Apply to save the settings.

Advanced Network

Choose ADVANCED > Advanced Network, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	ADVANCED NETWO	DRK			Helpful Hints
Access Control	This section allows you	to configure advanced fi	eatures of the network.		Click the button to go to the detail setting page.
Advanced Wireless		-			More
Advanced Network	STATIC ROUTEING				
PLC Setting	This page allows you t	o add a specific route inte	erface. If you are not fami	liar with these	
Logout	Advanced Network se	ttings, please read the he	lp section.		
		Static F	Routeing		
	UPNP				
	UPnP is used for many your device on the ne to disable it here.				
		UP	'nP		
	IGMP				
	IGMP contains IGMP S	nooping and IGMP Proxy.			
		IGI	MP		
	DDNS				
	Click the button of DD	NS you can set up ddns i	n the detail setting page.		
		DD	NS		

Static Routing

Static routing is a special routing type. Applying proper static routing rules on a network can reduce the routing problems, improve the overload of routing traffic, and increase the forwarding speed of data packets. You can set the destination IP address, subnet mask, and gateway to specify a routing rule. The destination IP address and subnet mask are used to determine a destination network or a host. Then, the router sends the data packets to the specified destination network or host through the gateway.

Choose Advanced Network > Static Routing on the left pane or click Static Routing in the ADVANCED NETWORK page to display the following page.

	SETUP	ADVANCE	D	MAINTEN	ANCE	ST/	ATUS	HELP
DoS Protection	STATIC ROUTE							Helpful Hints
Access Control	This page allows you t	o add a specific ro	ute interfac	e. If you an	e not familiar i	with the	se.	
Advanced Wireless	Advanced Network se	ttings, please read	the help se	ction.				More
Advanced Network	A maximum 16 entr	ies can be config	ured.					
PLC Setting				_		_		
Logout	ROUTING STAT	IC ROUTE						
	Destination	Subnet Mask	Gateway	Metric	Interface	Edit	Delete	
			Add					

In this page, you can set the static routing rules.

Click Add to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	STATIC ROUTE				Helpful Hints
Access Control	This page allows you t	o add a specific route int	erface. If you are not fam	iliar with these	
Advanced Wireless	Advanced Network se	ttings, please read the he	elp section.		More
Advanced Network	A maximum 16 entr	ies can be configured.			
PLC Setting					
Logout	ROUTING STATI	IC ROUTE			
	Destination	Subnet Mask Gatew	vay Metric Interfa	ce Edit Delete	
		A	dd		
	STATIC ROUTE AD Destinatic Subnet M Use Gatew Forwardin Use Interf	np Network Address : ask : yay IP Address : gMetric : ace : Apply	2_INTERNET_R V		

The following table describes parameters in this page:

Field	Description
Destination Network Address	Set the IP address of destination network.
Subnet Mask	Set the subnet mask of the destination IP address.
Use Gateway IP Address	Set the IP address of host or router that data packets are sent to.
Forwarding Metric	Set the number of forwarding hops that network data packets are forwarded by the router.

Field	Description
Use Interface	Select a local legal interface for the routing rule.

After setting the parameters, click Apply to save the settings.

UPnP

By using the Universal Plug and Play (UPnP) protocol, a host on the LAN side can require the router to realize the conversion of specific port, so that an external host can access resources on the internal host when necessary.

For example, if MSN Messenger is installed on Windows ME and Windows XP operating systems, UPnP can be used for audio and video conversations. In this way, functions restricted by NAT can work properly.

Choose Advanced Network > UPnP on the left pane or click UPnP in the ADVANCED NETWORK page to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	UPNP CONFIGURA	TION			Helpful Hints
Access Control	Click the checkbox to	enable UPnP Device.			UPnP is used for many types of popular Audio
Advanced Wireless					Visual software. It allows the auto discovery of your
Advanced Network	ENABLE UPNP				device on the network. If you feel that UPnP is a
PLC Setting	Enable U	JPnP			security concern, we offer the option to disable it
Logout					here.
	WAN Co	nnection :	2_INTERNET_R		More
		Apply	Cancel		

In this page, you can enable the UPnP function and select a WAN connection.

After setting the parameters, click Apply to save the settings.



UPnP is widely used in video and audio software. It can automatically search a device on the network. If you worry about the security problems caused by UPnP, you may disable UPnP.

IGMP

IGMP snooping is used to manage and control multicast. When a layer-2 Ethernet switch receives an IGMP message transmitted between a host and the router, IGMP Snooping analyzes the message to establish and maintain MAC multicast address list, and the multicast message issued by the router will be forwarded according to the list. This decreases traffic flooding at the port of receiver that has not registered as a multicast group.

IGMP Proxy enables the device to capture IGMP messages from the host machine via Ethernet interfaces and send the messages via the WAN interface. When this function is enabled, this device acts as a proxy agent of the host machine.

Click Advanced Network > IGMP on the left pane or click IGMP in the ADVANCED NETWORK page to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	IGMP PROXY				Helpful Hints
Access Control	Transmission of identia	al content, such as multi	medial from a source to a r	number of recipients	IGMP proxy enables the
Advanced Wireless	IGMP proxy enables th	ne system to issue IGMP h	nost messages on behalf of	hosts that the	messages on behalf of hosts that the system
Advanced Network	system discovered thr	ough standard IGMP inte	faces.		discovered through standard IGMP interfaces.
PLC Setting					With IGMP Snooping
Logout	IGMP SNOOPING				enabled, the device (L2 switch) can make
		intelligent multicast forwarding (only) toward those hosts, i.e. IPSTBs			
	IGMP PROXY				etc., which request to join (as members of) a specific
		Enable I	GMP Proxy 🗌		multicast group, i.e. an IPTV channel etc., within the broadcast domain
	En	abled	WAN Conne	ection	(same PVC/VLAN). As a result, it significantly
			2_INTERNE	ET_R	reduces traffic flooding upon interfaces which are
	L	Apply	Cancel		not registered as receivers of specific multicast group. More

In this page, you may choose to enable or disable IGMP Snooping and IGMP Proxy. When IGMP Snooping is enabled, only the host machines in multicast groups receive multicast packets. Once the host machines are not in the groups, they no longer receive multicast packets.

When IGMP Proxy is enabled, you may choose to enable or disable IGMP proxy of WAN connection.

After configuration, click Apply to save the settings.

DDNS

DDNS service realizes the mapping of dynamic IP addresses to a fixed host name. All users on the Internet may access this host using the name. The ISP assigns IP address via DHCP, therefore it is difficult to find a specific host in a LAN via DNS.

For example, when you use a public Web server or VPN server in a LAN, you can ensure a host be found when its IP address changes through using DDNS service.

Click Advanced Network > DDNS on the left pane or click DDNS in the ADVANCED NETWORK page to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DoS Protection	DYNAMIC DNS				Helpful Hints
Access Control	The Dynamic DNS feat	ure allows you to host a	server using a domain nam	e that you have	DDNS - This stands for Dynamic DNS By creating
Advanced Wireless	purchased (www.xxx.	com) with your dynamica	ally assigned IP address. Mo	st broadband Internet	a static hostname, users will be able to point to this
Advanced Network	friends can enter your	host name to connect t	o your server no matter w	hat your IP address is.	in order to access a dynamic IP address from
PLC Setting					anywhere in the world.
Logout	DYNAMIC DNS SET	TUP			To use this feature, you must first have a Dynamic
	Enable Dynamic	DNS			DNS account from one of the providers in the drop down menu
	Server Address :	oray.cn	1		Note: In some cases DDNS service requires you to
	Hostname :				open the WAN http service in Maintenance ->
	Username :				Services.
	Password :				More
	Confirm Passwor	•••••••			
		Apply	Cancel		

In this page, you can configure DDNS parameters.

The following table describes parameters in this page:

Field	Description				
Enable Dynamic DNS	Enable or disable dynamic DNS.				
Server Address	Select a DDNS provider from "oray.cn" and "dyndns.org" according to your actual server.				
Hostname	Input the host name used to register to the DDNS supplier.				
Username	Input the username of your DDNS account.				
Password	Input the password of your DDNS account.				
Confirm Password	Input your DDNS password again.				

After setting, click "Apply" to save the settings.

PLC Setting

Choose ADVANCED > PLC Setting, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
DoS Protection	POWERLINE SETTI	NGS			Helpful Hints	
Access Control	Change Powerline sett	Change Powerline settings.				
Advanced Wireless		enunge i entenne decengu				
Advanced Network	LOCAL DEVICE CO	NFIGURATION			More	
PLC Setting	Configure Local Net	work Password				
Logout	Network Password:	HomePlugAV				
	Local Device MAC:	00:1e:e3:f2:b9:7f				
	Model:	F@ST PLUG 502W				
	Firmware Version:	MAC-QCA7420-1.1	.0.844-01-20120919-FIN/	AL		
	Low Power Mode:	Normal				
	WAN PORT SWITC	n				
	Please slect WAN	port :	Ethernet port I	PLC Power line		
	effective.	witch the WAN port, the	device will be restarted to	o make the function		
	REMOTE DEVICE C	ONFIGURATION				
	Powerline Devices D	etected				
	Alias	MAC	TX(Mbps)	RX(Mbps)		
		No Devic	e Found			
		Sc	an			
	Change Remote Net					
	ADVANCE CONFIGU	JRATION				
	Show Adv	anco Configration				
	- Show Adv.					
		Apply	Cancel			

In this page, you can configure the parameters of PLC settings.

Local Device Configuration

The Local Device Configuration allows you to configure the local network password and to view the information of the local device such as MAC, and firmware version.

WAN Port Switch

WAN port switch function is used to switch the WAN interface of the PLC router. Check the Ethernet Port, and then the LAN2 interface serves as a WAN interface. Check PLC Power Line, and the two LAN interfaces still serve as the LAN interfaces, and the power line interface serves as a WAN interface.

Remote Device Configuration

The Remote Device Configuration allows you to view the configuration of the remote PLC devices and to set the network passwords of the remote devices.

You can search current remote PLC devices by clicking the Scan button.

Select Enable from the drop-down list of Change Remote NetworkPwd to display the following page.

Change Remote NetworkPwd Enable 💌					
Device Name	Remote MAC	Password(DEK)	Remote NetworkPwd		

You can set the passwords of remote PLC devices according to their MAC addresses and DEKs (Device Equipment Key).

The following table describes parameters in this page:

Field	Description
Device Name	Enter the names of the remote devices.
Remote MAC	Enter the MAC addresses of the remote devices.
Password (DEK)	When you set the parameters of the remote devices, you need to
Passwolu (DEK)	enter this password for authentication.
Remote NetworkPwd	Set the network passwords for the remote PLC devices.

Note



You can set up to 8 network passwords for the remote PLC devices. You can access the Internet by network password synchronization. But network passwords of the two devices for password synchronization must be the same, and either of the PLC devices must be connected to the Internet.

Advanced Configuration

	ADVANCE CONFIGURATION < Hide Advance Configration									
QOS P	RIORIT	y setti	NG							
If both both,V	VLAN T LAN Tag	ags and s will ov	TOS erwr	Bits an	re enableo S Bits.	d and a fra	ame is fou	nd	that cont	tains
VLAN Tags	Byte O	Byte 1	E	Byte 2	Byte 3	Byte 4	Byte 5		Byte 6	Byte 7
	Normal	✓ Low	v	Low	V Normal	✓ High	∨ High	V	Highest 🗸	Highest 🗸
Tos Bits	Normal	✓ Low	V	Low	V Normal	✓ High	✓ High	V	Highest 🗸	Highest 🗸
					Apply	Cancel				

QoS priority settings in this page only apply to PLC data stream. QoS function contains VLAN tag and ToS tag. Each VLAN tag or ToS tag contains 8 bits and defines 4-level QoS priority settings.

By default, QoS priority settings are hidden.

After setting the parameters, click Apply to save the settings.

Logout

Choose SETUP > Logout to log out of the Web configuration page, and the following page appears.

Sag	Sagemcom		
	LOGIN		
	Welcome to Web Management		
	Username : admin 💌 Password :		
	Remember my login info on this computer		
	Login		

Maintenance

Device Management

Choose MAINTENANCE > Device Management, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Device Management	DEVICE MANAGEM	IENT AND SERVICE			Helpful Hints	
Backup and Restore	It is highly recommend	er secure.	For security reasons, it is recommended that you			
Firmware Update					change the password for the Admin and User	
Configuration Update	ACCOUNT PASSW	ORD			accounts. Be sure to remember the new	
Log Settings	Userna	Username : admin 🗸				
Diagnostics	Curren	t Password :			will need restore the router.	
Logout	New P	assword :			Enabling Remote Management allows you or	
	Confin	m Password :			others to change the router configuration from	
		a computer on the Internet.				
	WEB IDLE TIME O	UT SETTINGS			More	
	Web I	dle Time Out :	5 (5 ~ 30 minutes)		
	SERVICES					
	Select	WAN Connections :	2_INTERNET_R			
	Se	rvice	WAI	l I		
	F	PING				
	V	IWW				
	TE	LNET				
	1	FTP				
	L	Analy				
		Apply	Cancel			

In this page, you can modify the password for logging in to the PLC wireless router, set Web idle timeout, and enable or disable the WAN connection service.

Account Password

In order to ensure the network security, it is recommended that you change the default login password. Please remember the new password if you change the default password. You may write it down and keep it well for future use. If you forget the login password, you need to restore the factory default settings of the PLC wireless router. After the default settings are restored, the PLC router will lose the new settings that you configure.

Note

For the sake of network security, it is strongly recommended to change the password of admin. If you forget the login password, please restore the factory default settings of the PLC wireless router. The default user name and password of the super user are admin.

Web Idle Time Out

Web idle timeout setting is used to set the time for system automatically exiting the Web configuration page. The range is 5~30 minutes.

<u>Services</u>

If you have established some WAN connections, you may enable or disable the service types of the selected WAN connections. You can also enable or disable the service types of remote hosts. For example, enable the Telnet service, and then the remote host can log in to the PLC wireless router by the Telnet service.

After setting the parameters, click Apply to save the settings.

Note

If HTTP service is disabled, you are not allowed to log in to the Web configuration page of the PLC wireless router.

Backup and Restore

Choose MAINTENANCE > Backup and Restore, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Device Management	BACKUP AND RES	BACKIID AND RESTORE				
Backup and Restore	Through this page, yo	ou can backup the current	configuration or restore t	the router to factory	Once your router is configured the way you	
Firmware Update	configuration.			,	want it, you can save the configuration settings to a	
Configuration Update					configuration file.	
Log Settings	REBOOT				You might need this file so that you can load your	
Diagnostics	Click the button below	w to reboot the router.			configuration when you need.	
Logout		Rel	poot		This page allows you to	
					Save the Setting of your router configuration or	
	BACKUP SETTING	S			Restart your router.	
	You can save your roo	uter configurations to a file	e on your PC.		More	
		Backup	Setting			
	RESTORE DEFAUL	T SETTINGS				
	Restore router setting	gs to the factory defaults.				
		Res	tore			

In this page, you can reboot the router, backup the configuration file, and restore the factory default settings of the router.

<u>Reboot</u>

Click Reboot to reboot the router.

Backup Settings

Click Backup Setting and select the path to save the configuration file of the router to your local PC.

Restore Default Settings

Click Restore to restore the factory default settings of the router. You may also press the Reset pushbutton on the front panel for 3 seconds to restore the factory default settings of the router.

Caution



When a configuration file is being loaded, do not power off the router. Otherwise, the router may be damaged and fail to work.

When operating in this page, do not press the Reset pushbutton.

Firmware Update

Choose MAINTENANCE > Firmware Update, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	FIRMWARE UPDA	TE			Helpful Hints
Backup and Restore	The Firmware Upgrad	e section can be used to	update to the latest firms	are code to improve	Firmware updates are released periodically to
Firmware Update	functionality and perfe	ormance.			improve the functionality
Configuration Update	NOTE: The update pr Please DO NOT powe	rocess takes about 2 mir r off vour device before	utes to complete, and your the update is complete.	r router will reboot.	features. If you run into a problem with a specific
Log Settings		,	· · · ·		feature of the router, check if updated firmware
Diagnostics					is available for your router.
Logout	Fi	irmware Version : pgrade Mode :	F502W.1.2		More
	s	elect File : ☑ Clear Config		Browse	
		Apply	Cancel		

In this page, you can update the firmware version of the PLC wireless router. You may obtain the firmware from the local server or remote server.

Local Upgrade Mode

Usually, you can upgrade firmware from the local server.

If you select LOCAL from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	FIRMWARE UPDA	TE			Helpful Hints
Backup and Restore	The Firmware Upgrade	e section can be used to	update to the latest firmw	vare code to improve	Firmware updates are released periodically to
Firmware Update	functionality and perfo	ormance.			improve the functionality of your router and to add
Configuration Update	NOTE: The update pr Please DO NOT powe	ocess takes about 2 minu r off your device before t	utes to complete, and your the update is complete.	r router will reboot.	features. If you run into a problem with a specific
Log Settings					feature of the router, check if updated firmware
Diagnostics					is available for your router.
Logout	Fi	rmware Version :	F502W.1.2		More
	U	pgrade Mode :	LOCAL 💌		
	S	elect File : Z Clear Config		Browse	

The following table describes parameters in this page:^

Field	Description
Firmware Version	Display current firmware version.
Upgrade Mode	Select LOCAL.
Select File	Click Browse to navigate to the latest firmware.
Clear Config	If you check Clear Config, the PLC router restores to the default settings after upgrade. Otherwise, the PLC router keeps the current settings.

TFTP Upgrade Mode

If you select TFTP from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	FIRMWARE UPDA	TE			Helpful Hints
Backup and Restore	The Firmware Upgrad	e section can be used to	undate to the latest firm	ware code to improve	Firmware updates are
Firmware Update	functionality and perfo	ormance.			improve the functionality of your router and to add
Configuration Update	NOTE: The update pr Please DO NOT powe	ocess takes about 2 min	utes to complete, and you the undate is complete.	ur router will reboot.	features. If you run into a problem with a specific
Log Settings					feature of the router, check if updated firmware
Diagnostics					is available for your router.
Logout	Fi	rmware Version :	F502W.1.2		More
	U	pgrade Mode :	TFTP 🔽		
	s	erver IP Address :			
	s	erver Port :	69 (1 - 65535)	
	U	ser Name :			
	P	assword :			
	D	irectory :	/image.img		
	B	Clear Config			
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
Firmware Version	Display current firmware version.
Upgrade Mode	Select TFTP.
Server IP Address	Enter the IP address of TFTP server.
Server Port	Enter the port number of TFTP server.
Directory	Enter the firmware directory.
Clear Config	If you check Clear Config, the PLC router restores to the default settings after upgrade. Otherwise, the PLC router keeps the current settings.

FTP Upgrade Mode

If you select FTP from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	FIRMWARE UPDATE				Helpful Hints
Backup and Restore	The Firmware Upgrad	The Firmware Ungrade section can be used to update to the latest firmware code to improve			
Firmware Update	functionality and performance.				improve the functionality of your router and to add
Configuration Update	NOTE: The update p	rocess takes about 2 min	nutes to complete, and yo the update is complete	ur router will reboot.	features. If you run into a problem with a specific
Log Settings					feature of the router, check if updated firmware
Diagnostics					is available for your router.
Logout	F	irmware Version :	F502W.1.2		More
	. u	Ipgrade Mode :	FTP 💌		
	s	erver IP Address :			
	s	erver Port :	21	(1-65535)	
	. u	Iser Name :			
	F	assword :			
		Directory :	/image.img		
		 Clear Config 			
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description		
Firmware Version	Display current firmware version.		
Upgrade Mode	Select FTP.		
Server IP Address	Enter the IP address of FTP server.		
Server Port	Enter the port number of FTP server.		
User Name	Enter the username for connecting to the FTP server.		
Password	Enter the password for connecting to the FTP server.		
Directory	Enter the firmware directory.		
	If you check Clear Config, the PLC router restores to the		
Clear Config	default settings after upgrade. Otherwise, the PLC router		
	keeps the current settings.		

HTTP Upgrade Mode

If you select HTTP from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Device Management	FIRMWARE IIPDATE				Helpful Hints	
Backup and Restore	The Firmware Ungrade	The Firmware Henride section can be used to undate to the btact firmware code to improve				
Firmware Update	functionality and perfo	The minimale objects section can be used to object to one aces in minimale object on prove the far functionality and performance. NOTE: The update process takes about 2 minutes to complete, and your router will reboot. robbins of the section of t				
Configuration Update	NOTE: The update pr					
Log Settings	Please DO NOT power	on your device before c	ne upuace is complete.		feature of the router, check if updated firmware	
Diagnostics					is available for your router.	
Logout	Fi	rmware Version :	F502W.1.2		More	
	U	ograde Mode :	HTTP 💙			
	Se	erver IP Address :				
	Se	erver Port :	80 (1 - 65535)		
	Us	er Name :				
	Pa	assword :				
	Di	rectory :	/image.img			
		Clear Config				
		Apply	Cancel			

The following table describes parameters in this page:

Field	Description		
Firmware Version	Display current firmware version.		
Upgrade Mode	Select HTTP.		
Server IP Address	Enter the IP address of HTTP server.		
Server Port	Enter the port number of HTTP server.		
User Name	Enter the username for connecting to the HTTP server.		
Password	Enter the password for connecting to the HTTP server.		
Directory	Enter the firmware directory.		
	If you check Clear Config, the PLC router restores to the		
Clear Config	default settings after upgrade. Otherwise, the PLC router		
	keeps the current settings.		

HTTPS Upgrade Mode

If you select HTTPS from the drop-down list of upgrade mode, the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Device Management	FIRMWARE UPDA	TE			Helpful Hints	
Backup and Restore	The Firmware Upgrad	The Simulare Lingrade section can be used to undate to the latest firmulare code to improve				
Firmware Update	functionality and perfo	improve the functionality				
Configuration Update	NOTE: The update pr Please DO NOT powe	ocess takes about 2 min r off your device before	utes to complete, and you the undate is complete.	r router will reboot.	features. If you run into a problem with a specific	
Log Settings	These bothor pone	on your dence before			feature of the router, check if updated firmware	
Diagnostics					is available for your router.	
Logout	Fi	rmware Version :	F502W.1.2		More	
	U	pgrade Mode :	HTTPS 💌			
	s	erver IP Address :				
	s	erver Port :	443 (:	1 - 65535)		
	U	ser Name :				
	P	assword :				
	D	irectory :	/image.img			
	E	Clear Config				
		Apply	Cancel			

The following table describes parameters in this page:

Field	Description		
Firmware Version	Display current firmware version.		
Upgrade Mode	Select HTTPS.		
Server IP Address	Enter the IP address of HTTPS server.		
Server Port	Enter the port number of HTTPS server.		
User Name	Enter the username for connecting to the HTTPS server.		
Password	Enter the password for connecting to the HTTPS server.		
Directory	Enter the firmware directory.		
	If you check Clear Config, the PLC router restores to the		
Clear Config	default settings after upgrade. Otherwise, the PLC router		
	keeps the current settings.		

Click Apply, and then system begins to upgrade firmware.

After upgrade completes, the PLC wireless router automatically reboots.

Caution	
\bigwedge	To avoid losing previous configuration of the router, save the configuration before upgrade. During upgrade, do not power off the PLC wireless router or press the Reset pushbutton. The default upgrade mode is Local, and it supports only the firmware with the format '.img'.

Configuration Update

Choose MAINTENANCE > Configuration Update, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	CONFIGURATION U	IPDATE			Helpful Hints
Backup and Restore	The Configuration Upo	The Configuration Upgrade section can be used to update to the bitest configuration code to			Configuration updates are
Firmware Update	improve functionality a	improve functionality and performance.			
Configuration Update	NOTE: The update pro	ocess takes about 2 minu	ites to complete, and your	Router will reboot.	features. If you run into a problem with a specific
Log Settings	Please DO NOT power	on your device before c	ne apuace is complete.		feature of the router, check if updated
Diagnostics					configuration is available for your router.
Logout	U	ograde Mode :	LOCAL 💌		More
	Se	elect File :		Browse	
		Apply	Cancel		

In this page, you can update the configuration file of the PLC wireless router. You may obtain the configuration file from the local server or remote server.

Local Upgrade Mode

Usually, you can upgrade configuration file from the local server.

If you select LOCAL from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	CONFIGURATION	JPDATE			Helpful Hints
Backup and Restore	The Configuration Upgrade section can be used to update to the blast configuration code to				Configuration updates are released periodically to improve the functionality
Firmware Update	improve functionality a				
Configuration Update	NOTE: The update pr Please DO NOT powe	ocess takes about 2 minu r off your device before t	tes to complete, and you he update is complete.	r Router will reboot.	features. If you run into a problem with a specific
Log Settings					feature of the router, check if updated
Diagnostics					configuration is available for your router.
Logout	U	pgrade Mode :	LOCAL 💌		More
	S	elect File :		Browse	
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
Upgrade Mode	Select LOCAL.
Select File	Click Browse to navigate to the latest configuration file.
TFTP Upgrade Mode

If you select TFTP from the drop-down list of upgrade mode, the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Device Management	CONFIGURATION U	JPDATE			Helpful Hints	
Backup and Restore	The Configuration Up	arade section can be user	to update to the latest	configuration code to	Configuration updates are	
Firmware Update	improve functionality a	and performance.		comgaración code co	improve the functionality	
Configuration Update	NOTE: The update pr	ocess takes about 2 minu	tes to complete, and you	ur Router will reboot.	features. If you run into a problem with a specific	
Log Settings	Please DO NOT powe	r on your device before c	ne apaze is complete.		feature of the router, check if updated	
Diagnostics					configuration is available for your router.	
Logout	U	pgrade Mode :	TFTP 💙		More	
	S	erver IP Address :				
	s	erver Port :	69	(1-65535)		
	U	ser Name :				
	Pa	assword :				
	D	irectory :	/config.xml			
	L					
		Apply	Cancel			

The following table describes parameters in this page:

Field	Description
Upgrade Mode	Select TFTP.
Server IP Address	Enter the IP address of TFTP server.
Server Port	Enter the port number of TFTP server.
Directory	Enter the directory of configuration file.

FTP Upgrade Mode

If you select FTP from the drop-down list of upgrade mode, the following page appears.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	CONFIGURATION U	PDATE			Helpful Hints
Backup and Restore	The Configuration Upgr	ade section can be user	d to update to the latest	configuration code to	Configuration updates are
Firmware Update	improve functionality an	id performance.		,	improve the functionality of your router and to add
Configuration Update	NOTE: The update pro	cess takes about 2 minu	ites to complete, and you	r Router will reboot.	features. If you run into a problem with a specific
Log Settings			and applace is complete.		feature of the router, check if updated
Diagnostics					configuration is available for your router.
Logout	Upg	grade Mode :	FTP 💌		More
	Ser	ver IP Address :			
	Ser	ver Port :	21 (1 - 65535)	
	Use	er Name :			
	Pas	sword :			
	Dire	ectory :	/config.xml		
		Apply	Cancel		

The following table describes parameters in this page:

Field	Description
Upgrade Mode	Select FTP.
Server IP Address	Enter the IP address of FTP server.
Server Port	Enter the port number of FTP server.
User Name	Enter the username for connecting to the FTP server.
Password	Enter the password for connecting to the FTP server.
Directory	Enter the directory of configuration file.

HTTP Upgrade Mode

If you select HTTP from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP	
Device Management	CONFIGURATION	JPDATE			Helpful Hints	
Backup and Restore	The Configuration Up	arade section can be use	d to update to the latest	configuration code to	Configuration updates are	
Firmware Update	improve functionality	and performance.			improve the functionality of your router and to add	
Configuration Update	NOTE: The update pr	ocess takes about 2 minu r off your device before t	ites to complete, and you	ır Router will reboot.	features. If you run into a problem with a specific	
Log Settings	Please bo not powe	r on your device before t	and appare is complete.		feature of the router, check if updated	
Diagnostics					configuration is available for your router.	
Logout	U	pgrade Mode :	HTTP 🔽		More	
	s	erver IP Address :				
	s	erver Port :	80 (1 - 65535)		
	U	ser Name :				
	Р	assword :				
	D	irectory :	/config.xml			
		Apply	Cancel			

The following table describes parameters in this page:

Field	Description
Upgrade Mode	Select HTTP.
Server IP Address	Enter the IP address of HTTP server.
Server Port	Enter the port number of HTTP server.
User Name	Enter the username for connecting to the HTTP server.
Password	Enter the password for connecting to the HTTP server.
Directory	Enter the directory of configuration file.

HTTPS Upgrade Mode

If you select HTTPS from the drop-down list of upgrade mode, the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP		
Device Management	CONFIGURATION	JPDATE			Helpful Hints		
Backup and Restore	The Configuration Up	arade section can be used	to update to the latest	configuration code to	Configuration updates are		
Firmware Update	improve functionality a	and performance.			improve the functionality		
Configuration Update	NOTE: The update pr	ocess takes about 2 minu	tes to complete, and yo	ur Router will reboot.	features. If you run into a problem with a specific		
Log Settings	Please DO NOT powe	r on your device before d	re apare is complete.		feature of the router, check if updated		
Diagnostics					configuration is available for your router.		
Logout	U	pgrade Mode :	HTTPS 💌		More		
	S	erver IP Address :					
	s	erver Port :	443	(1-65535)			
	U	ser Name :					
	P	assword :					
	D	irectory :	/config.xml				
	L	Apply	Cancel				

The following table describes parameters in this page:

Field	Description
Upgrade Mode	Select HTTPS.
Server IP Address	Enter the IP address of HTTPS server.
Server Port	Enter the port number of HTTPS server.
User Name	Enter the username for connecting to the HTTPS server.
Password	Enter the password for connecting to the HTTPS server.
Directory	Enter the directory of configuration file.

Click Apply, and then system begins to upgrade configuration file.

After upgrade completes, the PLC wireless router automatically reboots.

Caution

During upgrade, do not power off the router or press the Reset pushbutton. The PLC wireless router supports only the firmware with the format *'.xml'*.

Log Settings

Choose MAINTENANCE > Log Settings, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	SYSTEM LOG				Helpful Hints
Backup and Restore	The System Log opti	ons allow you to send log	information to a system lo	a Server.	A System Logger (syslog) is a server that collects
Firmware Update					the logs in one place from different sources. If the
Configuration Update	ENABLE LOG				LAN includes a syslog server, you can use this
Log Settings		Enable Log			option to send the router's logs to that server.
Diagnostics					More
Logout		Mode :	Local 🗸		
		Server IP Address :			
		Server UDP Port :			
		Apply Cancel	View System Log		

In this page, you can enable or disable the log function. After enabling the log function, you can set 3 types of system log modes. The log modes contain Local, Remote, and Both.

- When you select Local, the events are recorded in the local memory.
- When you select Remote, the events are sent to the remote system log server with specified IP address and UDP port.
- When you select Both, the events are recorded in the local memory or sent to the remote system log server with specified IP address and UDP port.

Click the View System Log button to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	LOGS VIEW				Helpful Hints
Backup and Restore	This page allows you	to view system logs.			The system log will record activities of the router.
Firmware Update					Depending on the amount of detail you include in the
Configuration Update	SYSTEM LOG				log, your router can only keep a limited number of
Log Settings	Manufacturer:	Sagemoom PLC Device		~	log entries due to router memory constraints.
Diagnostics	ProductClass:	500M PLC WIFI			You can configure the
Logout	IP: 192.168.1.	1 1			details you want to include in Maintenance -> System
	HWVer: Gpn2.8P	61A-C_WIFI-V0.02 .2	sh	×	Log. Hore

In this page, you can view the system log.

Click Refresh to refresh system log.

Diagnostics

Choose MAINTENANCE > Diagnostics, and the following page appears.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	DIAGNOSTICS				Helpful Hints
Backup and Restore	This section allows you	u to test status of the net	twork.		Click the button to go to the detail setting page.
Firmware Update					More
Configuration Update	PING				
Log Settings	Ping diagnostics sends	"ping" packets to test a	computer on the Internet	.	
Diagnostics		Di	20		
Logout			ng		
	TRACEROUTE				
	Traceroute diagnostics	s sends packets to determ	nine the routers on the Inf	ternet.	
		Trace	eroute		

<u>Ping Diagnosis</u>

The ping diagnosis allows you to test a connection between 2 hosts in the same network or in different networks in simple ways. If the command ping is successful, it means that there is a correct physical as well as a logical connection between 2 hosts on any network. (Unless if there is a firewall interfering somewhere in between.)

Choose Diagnostics > Ping on the left pane or click Ping in the DIAGNOSTICS page to display the following page.

///	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	PING DIAGNOSIS				Helpful Hints
Backup and Restore	Ping Test sends "ping"	" packets to test a com	outer on the Internet.		"Ping" checks whether a computer on the Internet
Firmware Update					is running.
Configuration Update	PING HOST				More
Log Settings		Ping Host :	192.168.1.1		
Diagnostics	1	Number of Ping :	5	(1-100)	
Logout		Ping Packet Size :	56	(1 - 5600 bytes)	
		WAN Connection :	2_INTERNET_R 💌		
		Test	Stop		
	RESULT				
				<	

In this page, you can set the parameters of Ping diagnosis.

Field	Description
Ping Destination	Enter the IP address of the host that connects to the LAN interface of the PLC wireless router.
Number of Ping	Set the number of ping packet.
Ping Packet Size	Set the length of the ping packet.
WAN Connection	Select a WAN interface for ping diagnosis.

The following table describes parameters in this page:

After finishing the settings, click the Test button, and then the result of ping diagnosis is displayed in the page. Click Stop button to stop ping diagnosis.

Traceroute Diagnosis

Traceroute diagnosis is used to find out which path a packet takes to reach its destination. It is a nice way to see which router it passes and which network it crosses to reach its destination.

Choose Diagnostics > Traceroute on the left pane or click Traceroute in the DIAGNOSTICS page to display the following page.

	SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
Device Management	TRACEROUTE DIA	Helpful Hints			
Backup and Restore	Traceroute diagnostics	s sends packets to deter	mine the routers on the	Internet	"Traceroute" checks
Firmware Update					the Internet is running.
Configuration Update	TRACEROUTE HOS	т			More
Log Settings		Host :	192.168.1.1		
Diagnostics	1	Max TTL :	30	(1-128)	
Logout		Wait times :	5	(2-60s)	
	RESULT	Tracerou	ite Stop		
				×	

In this page, you can set the parameters of Traceroute diagnosis.

The following table describes parameters in this page:

Field	Description					
Host	Enter the IP address of host that performs the operation of tracing					
HUSI	routing.					
	Set the maximum TTL (Time to Live). You can estimate the					
Max TTL	number of routers that data packet passes from the source host to					
	the destination host according to the TTL value.					
Wait times	Enter the waiting time.					

After finishing the settings, click the Traceroute button, and then the result of Traceroute diagnosis is displayed in the page. Click Stop button to stop Traceroute diagnosis.

Logout

Choose MAINTENANCE > Logout to log out of the Web configuration page, and the following page appears.

Sagemcom	
LOGIN Welcome to Web Management Username : admin V Password : Remember my login linfo on this computer Login	

Status

Device Information

Choose STATUS > Device Info, and the following page appears.



In this page, you can view basic information of the PLC wireless router, such as the information of WAN and LAN interfaces, wireless LAN information and DHCP server Information.

Click Refresh to refresh the information in this page.

LAN Client

Choose STATUS > LAN Clients, and the following page appears.

///	SET	UP	ADVAN	ICED	MAINT	ENANCE	STATUS	HELP
Device Info	LAN CLI	ENT						Helpful Hints
LAN Clients	In this see	tion you car	n see what LAI	N devices :	are currently	leasing IP addres	ises.	This is a list of all LAN dients that are currently
Routing Table		,						connected to your wireless Router.
Logout	WIRELE	SS CLIENT	ſS					More
	SSID	Packets Sent	Packets Received	Errors Sent	Errors Received	Discard Packets Sent	Discard Packets Received	
	Powerline	23220	48	0	0	64	0	
	ETHERN Device Name	ET CLIENT Packets Sent	S Packets Received	Errors Sent	Errors Received	Discard Packets Sent	Discard Packets Received	
	LAN1	1663	1758	0	0	0	0	
	LAN2	188	0	0	0	0	0	
	DHCP C	LIENTS						
	Host	name	IP Address		MAC Add	ess	Live Time (s)	
	unkn							
				Re	fresh			

In this page, you can view the status information of wireless clients, Ethernet clients, and DHCP clients.

Click Refresh to refresh the information in this page.

Routing Table

Choose STATUS > Routing Table, and the following page appears.

///	SETUP	ADVAN	ICED	MAIN	TENANCE		STATUS	HELP
Device Info	ROUTING TABLE							Helpful Hints
LAN Clients	This table is showi	na you the router	forwards list.	Routina '	Table enal	oles you to y	view the	Displays the list of the
Routing Table	information create	information created by the router that displays the network interconnection topology.						
Logout								FIORCIA
	DEVICE INFO	- ROUTE						
	Destination	Netmask	Gateway	Flags	Metric	Service	Interface	
	192.168.1.0	255.255.255.0	0.0.0.0	U	0	0	br 1	
			Refre	sh				

In this page, you can view the routing information of the PLC wireless router.

Click Refresh to refresh the information in this page.

Logout

Choose STATUS > Logout to log out of the Web configuration page, and the following page appears.

Sa	GEMCOM
	LOGIN Welcome to Web Management
	Username : admin 💌 Password :
	Login

Help

Viewing the help information can help you know more about each configuration page of the PLC wireless router.

Choose HELP, and the following page appears.



In this page, you can click the menu that you are interested in to view the detailed information.

Using the Security Pushbutton

This chapter describes how to add new devices to, or remove old devices from a HomePlug AV logical network (AVLN). Both can be accomplished by using the Security (NMK) pushbutton.

Operation progress and outcome can be monitored by observing the behaviors of the Power and Data LED indicators.

Forming a HomePlug AV Logical Network

By default ,the deveic is not in any network , When two devices (A and B) connect to the same power line, you want them to form a logical network. Do as follows:

- **Step 1** Press the Security pushbutton on the first device A for less than 3 seconds.
- **Step 2** Press the Security pushbutton on the second device B for less than 3 seconds. Press the pushbutton on B within 2 minutes
- **Step 3** Wait for the connection to complete.

The Power LED indicators on both devices will flash evenly at 1-second interval until the operation succeeds or fails. If the connection is successful, the Power and Data LED indicators on both devices illuminate steadily. If the connection is failed, the Power LED indicators on both devices still illuminate steadily, but the Data LED indicators on both devices go out. In that case, please repeat Step1 to Step3

Joining an AVLN Network

Assume that a network exists, a new device, the 'joiner', wants to join the network. Any device on the existing network can become the 'adder'.

- **Step 1** Press the Security pushbutton on the 'joiner' for at least 10 seconds. The device will reset and restart with a random NMK.
- **Step 2** Press the Security pushbutton on the 'joiner' for less than 3 seconds.
- **Step 3** Press the Security pushbutton on any network device for less than 3 seconds,
- making it the 'adder'. Please press this pushbutton within 1 minute.
- **Step 4** Wait for the connection to complete.

The Power LED indicators on both devices will flash at 1-second interval until the process succeeds or fails. If the connection is successful, the Power and Data LED indicators on both devices illuminate steadily. If the connection is failed, the Power LED indicators on both devices still illuminate steadily, but the Data LED indicators on both devices go out. In that case please repeat Step1 to Step4.



Leaving an AVLN Network

Assume that a network exists. If you want to remove one device, the 'leaver' from an AVLN network, or remove the device from the existing network and have it join another logical network, do as follows:

Step 1 Press the Security pushbutton on the 'leaver' for more than 5 seconds. The device will reset and restart with a random NMK.

Step 2 Wait for reset to complete.

The Power LED indicator on the 'leaver' will momentarily extinguish during reset and flash during restart, then illuminate steadily. The 'leaver' is removed from the existing network successfully.

Once the process completes, you may disconnect the device from the medium or join it to another logical network on the same medium.



Troubleshooting

Why all the LED indicators are off?

- Check the connection between the power adapter and power socket.
- Check whether the device is turned on.

Why the Ethernet indicator is off?

- Check the connection between your PLC wireless router and the computer, hub, or switch.
- Check the running status of your computer, hub or switch, and verify whether they run normally or not.
- Check the network cable that is connected to the PLC wireless router and other devices.

Why you fail to access the Web page?

Follow the steps below to check the connection between the computer and the device:

- Click start > Run and enter ping command ping 192.168.1.1 (the IP address of PLC wireless router).
- If you fail to access the PLC wireless router, check the following settings:
 - The network cable type
 - The connection between your router and the computer
 - TCP/IP settings of PC

How to restore factory defaults after carrying out the incorrect configuration?

- Press the Reset pushbutton for 3 seconds and then release it. The PLC wireless router restores the factory default settings.
- The default IP address of the PLC wireless router is 192.168.1.1 and the subnet mask is 255.255.255.0.
- The user name and password of the super user are both admin.
- The user name and password of the common user are both user.

Specifications

PLC Module Specificatio	n .					
Chip	Qualcomm ATHEROS AR7420/AR1540					
Firmware	Support North America/Europe/APAC/Japan					
	HomePlug AV					
Protocol	IEEE1901					
PTOLOCOI	IEEE 802.3 10/100 Ethernet (100 Mbps)					
	IEEE 802.3u Fast Ethernet					
PLC Rate	500 Mbps					
Signal Band	2~68 MHz					
Modulation Made	Support OFDM 4096/1024/256/64/16/8-QAM, QPSK, BPSK,					
	and ROBO					
Encryption	128-bit AES					
	Support four-level QoS					
QoS	Support VLAN priority					
	Support ToS and CoS packet classifications					
Operation Mode	Support priority-based CSMA/CA channel access scheme					
Multicast	Support IGMP management multicast session					
Wi-Fi Module Specification	on					
Chip	Qualcomm Atheros AR9341					
Flash Memory	64 Mbps					
DDR SDRAM:	256 Mbps					
Protocol	IEEE 802.11b/g/n					
FIOLOCOI	IEEE 802.3/3x/3u					
Wireless Frequency	2 4 GHz~2 484 GHz					
Range						
Channel	1~13					
	11b: 11/5.5/2/1 Mbps					
Wireless Signal Rate	11g: 54/48/36/24/18/12/9/6 Mbps					
Whereas orginal rate	11n: up to 300 Mbps in 40 MHz mode and up to 144.4 Mbps					
	in 20 MHz mode.					
	11b: 16~17 dBm					
Output Power	11g: 14~17 dBm					
	11n: 11~16 dBm					
	11b: 11 Mbps/-76 dBM					
Receiving Sensitivity	11g: 54 Mbps/-65 dBm					
	11n: 150 Mbps/-64 dBM					
Operation Mode	21x/2Rx					
Multiple SSID						
	WEP, WPA, WPA2 and WPA/WPA2 Mixed					
Security Authentication						
	MAC address access control list					
System Specification						
	Power: Indicate power status.					
	LAN1/LAN2: Indicate the connection status of LAN1					
LED Indicator	Interface or LAN2 Interface.					
	Data: Indicate PLC rate.					
	VVLAN: Indicate WLAN ON/OFF status and WPS connection					
	status.					
Power Socket	Support power sockets of English-style and European-style					

Ethernet Port	2 x RJ45 for 10/100 Ethernet (Auto MDI/MDI-X)
Antenna	PCB-Antenna x 2
	Security: Set the status of device members.
	Reset: Restore factory default settings.
Button	WPS: Press this pushbutton for less than 3 seconds to
	enable the negotiation of PBC mode. Press this pushbutton
	for more than 5 seconds to enable or disable WLAN.
Software Upgrade	Support software upgrade by Web page.
Consumption	6.5 W
Environment Requiremer	nts
Operating Temperature	0~40°C
Storage Temperature	-10~70°C
Operating Humidity	10%~85%, non-condensing
Storage Humidity	5%~90%, non-condensing
Rated Input	100~240 V AC, 50/60 Hz
EMC and Safety	
Compliance	FCC Part 15 Class B, CE
Safety Authentication	UL
Green Standard	RoHS
Physical Characteristics	
Dimension	L × W × H: 107 mm × 62 mm × 48.5 mm
Weight	180 g



All rights reserved. The information and specifications included are subject to change without prior notice. Sagemcom Broadband SAS tries to ensure that all information in this document is correct, but does not accept liability for error or omission.

Non contractual document. All trademarks are registered by their respective owners. Simplified joint stock company - Capital 35 703 000 Euros - 518 250 360 RCS NANTERRE.

Sagemcom

Sagemcom Broadband SAS Headquarters: 250, route de l'Empereur 92848 Rueil-Malmaison Cedex - FRANCE Tel : +33 (0)1 57 61 10 00 - Fax : +33 (0)1 57 61 10 01 www.sagemcom.com